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AIR RESOURCES BOARD

AIR RESOURCES BOARD  
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1 PROCEEDINGS

2 CHAIRPERSON LLOYD: Good morning, the January  
3 25th, 2001 public meeting of the California Air Resources  
4 Board will now come to order.

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

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

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

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

15 CLERK KAVAN: Dr. Burke?

16 BOARD MEMBER BURKE: Present.

17 CLERK KAVAN: Mr. Calhoun?

18 BOARD MEMBER CALHOUN: Here.

19 CLERK KAVAN: Ms. D'Adamo?

20 BOARD MEMBER D'ADAMO: Here.

21 CLERK KAVAN: Supervisor DeSaulnier?

22 BOARD MEMBER DeSAULNIER: Here.

23 CLERK KAVAN: Professor Friedman?

24 BOARD MEMBER HUGH FRIEDMAN: Here.

25 CLERK KAVAN: Dr. Friedman?

1 BOARD MEMBER WILLIAM FRIEDMAN: Here.

2 CLERK KAVAN: Mr. McKinnon?

3 BOARD MEMBER MCKINNON: Here.

4 CLERK KAVAN: Supervisor Patrick?

5 BOARD MEMBER PATRICK: Here.

6 CLERK KAVAN: Mrs. Riordan?

7 BOARD MEMBER RIORDAN: Here.

8 CLERK KAVAN: Supervisor Roberts?

9 BOARD MEMBER ROBERTS: Here.

10 CLERK KAVAN: Chairman Lloyd?

11 CHAIRPERSON LLOYD: Here.

12 Thank you very much. Again, I thank my  
13 colleagues we've got the full house today on this  
14 important issue.

15 First item on thre agenda is 00-1-1, proposed  
16 amendments to the ZEV Regulation. In preparing for this  
17 Board hearing, I have asked myself what is it about this  
18 issue that makes it so difficult? The answer I think is  
19 that zero emission vehicle programs have such tremendous  
20 potential to help address the variety of issues yet fully  
21 realizing that potential always seems to be just beyond  
22 our reach. I think public health, global climate change,  
23 energy diversity, energy efficiency. All of these  
24 significant problems could be mitigated by the switch to  
25 zero emission vehicles.

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

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

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

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

25           We also, however, directed staff to work with the

1 automakers and other interested parties to develop  
2 modifications to the program to address some of the  
3 implementation challenges facing ZEVs. In directing staff  
4 to propose changes, we acknowledge the clean vehicle  
5 technology is progressing on the variety of fronts, and  
6 that our program needs to take full advantage of recent  
7 advances in near zero approaches.

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

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

20           In fact, it goes beyond that when we look at the  
21 technology forcing actions in California from the  
22 seventies. And as we've seen recently, indeed, the path  
23 to clean air is paved with advanced technologies, and that  
24 was started by this Board in the nineties, and we can see  
25 how technology is helping us get there. But we feel that



1 encouragement, if you like that push, has played the  
2 critical role in our progress.

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

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

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

23           Speaking for myself, I believe the staff proposal  
24 does the good job of providing flexibility to pursue the  
25 wide range of options. But I admit the some concerns the

1 proposal may not be as aggressive as it could be in  
2 pushing the continued advancement over the long term.  
3 Personally, I will be evaluating the testimony and probing  
4 the witnesses to see where we can be more aggressive  
5 without unduly upsetting the balance provided in the staff  
6 report.

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

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

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

1 initial cost of vehicles and batteries.

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

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

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

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

22 (Thereupon an overhead presentation was  
23 presented as follows.)

24 VEHICLE PROGRAM SPECIALIST SHULOCK: Good  
25 morning, Mr. Chairman and Members. To provide background

1 for your consideration of the issues before you today, I  
2 will outline what we have done and why since the September  
3 board meeting. I will start by referring back to the  
4 Board's direction to staff.

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

11 --o0o--

12 VEHICLE PROGRAM SPECIALIST SHULOCK: At the  
13 September 7 board meeting, you considered the status of  
14 the Zero Emission Vehicle Program. As has been mentioned  
15 that meeting followed up on the year long review of the  
16 various issues conducted by staff with the active  
17 participation and involvement of many interested parties.

18 After extensive testimony and public comment the  
19 Board adopted the resolution affirming that the ZEV  
20 Program is an essential component of the State's long-term  
21 air quality strategy. The Board further resolved that the  
22 basic ZEV requirements be retained and implemented in  
23 California.

24 --o0o--

25 VEHICLE PROGRAM SPECIALIST SHULOCK: Finally, the

1 Board directed staff to develop and propose regulatory  
2 modifications and other steps that address the challenges  
3 associated with the successful long-term implementation of  
4 the program.

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

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

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

16   --o0o--

17           VEHICLE PROGRAM SPECIALIST SHULOCK: Since that  
18 time, we've been hard at work trying the develop  
19 recommendations that make sense both now and in the long  
20 term. A ombudsman statement will cover our outreach  
21 activities in more detail. I will just note that we've  
22 been in almost continuous discussion with interested  
23 parties. We held the workshop in October to discuss  
24 concepts. Our staff proposal was released on December 8th  
25 of last year, which set off the new round of discussions.

1           Last week we released the set of additional  
2 modifications to the staff proposal. Meanwhile, we have  
3 also been actively investigating what we can do to enhance  
4 the support system through the ZEV regulations, the  
5 incentives, infrastructure and outreach efforts that also  
6 need to be in place for this program to succeed.

7                               --o0o--

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

16                              --o0o--

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

25           From our standpoint, there are the few key

1 conclusions, observations on the state of the world, if  
2 you will, that drive the rest of what follows. Those  
3 conclusions bring with them certain implications for  
4 policy.

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

9   --o0o--

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

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

22           Given this conclusion, what does it suggest for  
23 policy? For us it means two things. First we need the  
24 maintain pressure to force ongoing technology improvement,  
25 so that future iterations continue to improve. You made

1 this clear in your direction to staff that the core  
2 requirement be maintained.

3 --o0o--

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

9 Thus, the resulting recommendation is that the  
10 mandate be maintained at the reduced level as compared to  
11 the current program. What is the optimum level? That, of  
12 course, is literally where the rubber meets the road.  
13 Again, our staff proposal represents our best effort to  
14 define the sustainable pathway.

15 --o0o--

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

25 But relatively quickly, such vehicles will be



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

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

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

22           Given this situation in our previous point that  
23 the number of ZEVs should be reduced, our recommendation  
24 is to allow advanced technology PZEVs to count as the  
25 further offset against the portion of the ZEV requirement.

1 --o0o--

2 VEHICLE PROGRAM SPECIALIST SHULOCK: Our final  
3 overarching conclusion is that it is absolutely essential  
4 to eliminate the uncertainty that has been associated with  
5 this program since its inception. If you think of the ZEV  
6 Program as the TV show, we want it to stop being the cliff  
7 hanger drama, complete with ominous music and instead  
8 become the Ken Burns documentary.

9 (Laughter.)

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

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

23 A resulting recommendation is that we provide the  
24 ramp up that is ambitious, that recognizes the risk and is  
25 sustainable over the long term.

1 --o0o--

2 VEHICLE PROGRAM SPECIALIST SHULOCK: That is how  
3 we look at the world. Putting all of it together, we  
4 developed the staff proposal with several key elements.  
5 Maintain the core technology forcing ZEV mandate, phase in  
6 the ZEV and PZEV requirements, allow further ZEV  
7 reductions if offset with advanced technology PZEVs, and  
8 gradually increase the future ZEV requirement.

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

14 --o0o--

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

23 Grid connect hybrids are split. With sufficient  
24 range, they're considered full ZEV allowance vehicles and  
25 go the top, otherwise they're treated as PZEVs in the

1 bottom six percent. All other vehicles, hybrid electric  
2 vehicles, CNG vehicles, reformer fuel cells, gasoline  
3 internal combustion PZEVs, go into the bottom six percent.

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

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

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

25 Finally, because of the reduced battery pack

1 size, the vehicle can be produced at the lower cost than  
2 the pure battery EV. We, therefore, see grid connect  
3 hybrids as the promising way to introduce additional zero  
4 emission travel into the fleet.

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

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

16   --o0o--

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

24   --o0o--

25           VEHICLE PROGRAM SPECIALIST SHULOCK: This slide

1 illustrates the PZEV phase-in. As you can see, the staff  
2 proposal calls for reduced numbers in the early years,  
3 2003 through 2005, but catches up by 2006.

4 --o0o--

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

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

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

24 As you can see, the staff proposal starts off at  
25 the reduced level compared to the regulation, then

1 increases over time. This is the embodiment of the  
2 sustainable ramp that I mentioned earlier in the staff's  
3 proposal.

4 --o0o--

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

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

16 --o0o--

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

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

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

4 --o0o--

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

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

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

23 --o0o--

24 VEHICLE PROGRAM SPECIALIST SHULOCK: This final  
25 view of the vehicle numbers looks at the cumulative effect



1 of all parts of the program ZEVs, PZEVs and advanced  
2 technology PZEVs. In other words, this tracks the  
3 introduction of new super clean vehicles into the  
4 California fleet, as the result of the ZEV Program, under  
5 the current regulation and under the staff proposal.

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

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

19 --o0o--

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

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

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

8   --o0o--

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

16   --o0o--

17           VEHICLE PROGRAM SPECIALIST SHULOCK: A first  
18 several specific changes have already been mentioned, so I  
19 will touch on them quickly. This slide shows the PZEV  
20 phase-in, which is 25 percent in 2003, 50 percent in 2004,  
21 75 percent in 2005 and 100 percent thereafter.

22   --o0o--

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

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

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

13 --o0o--

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

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

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

5 A NEV credit declines from 1.25 in 2003 down to  
6 0.15 in 2006. A bars which tie to the scale on the left  
7 show the number of NEVs that manufacturers would need to  
8 produce to comply with the regulation. Current regulation  
9 on the left, staff proposal at the two percent level on  
10 the right.

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

17 --o0o--

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

23 --o0o--

24 VEHICLE PROGRAM SPECIALIST SHULOCK: These next  
25 two changes have also already been mentioned. We propose

1 that hybrid electric vehicles with an all-electric range  
2 of 20 miles or more be treated as ZEVs. Such vehicles  
3 would earn credit based on their ZEV range with their  
4 tested range multiplied by 3.5 to account for the fact  
5 that such hybrids could be used on the larger number of  
6 trips.

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

10 --o0o--

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

22 --o0o--

23 VEHICLE PROGRAM SPECIALIST SHULOCK: We also  
24 propose the modification of the ZEV range credit. Direct  
25 comparison of our proposal and the current regulation is

1 complicated by the fact that under the current regulation  
2 the range multiplier and the early introduction multiplier  
3 are combined into the single measure, while under our  
4 staff proposal, these two factors have been separated.

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

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

20   --o0o--

21           VEHICLE PROGRAM SPECIALIST SHULOCK: One other  
22 wrinkle of the range credit relates to the quick refuel  
23 provisions. Under the current regulation, ZEVs that can  
24 fully refuel or recharge in ten minutes earn the maximum  
25 range credit. This encourages quick charging and also

1 encourages hydrogen fuel cells due to their fast refuel  
 2 capability. We retained the provision in our staff  
 3 proposal.

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

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

13                                       --o0o--

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

21           As you can see, the number drops significantly.  
 22 In order to avoid this outcome, staff proposes to  
 23 eliminate the quick refuel provisions beginning in 2009.  
 24 A result is illustrated by the third line, which the  
 25 really super imposed on the pink line, which tracks with

1 the full function EV line. What this says is that given  
2 our most recent recommended change, the number of fuel  
3 cell vehicles would be about the same as the number of  
4 full function EVs. This calculation assumes the fuel cell  
5 range of about 110 miles.

6 --o0o--

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

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

22 --o0o--

23 VEHICLE PROGRAM SPECIALIST SHULOCK: We propose  
24 to increase the allowance earned by vehicles that use  
25 advanced ZEV componentry. Under the existing regulations,



1 such vehicles earn an additional allowance of 0.1. A  
2 purpose of this provision is to reward vehicles that use  
3 components, such as batteries, regenerative braking or  
4 electric drive that are used on ZEVs. By increasing the  
5 production level of such components, it will help bring  
6 down the cost for ZEVs.

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

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

19 --o0o--

20 VEHICLE PROGRAM SPECIALIST SHULOCK: We propose  
21 to provide the multiplier based on vehicle efficiency.  
22 This multiplier would apply both to ZEVs and to advanced  
23 technology PZEVs. Conventional internal combustion  
24 gasoline PZEVs are not eligible to earn an efficiency  
25 multiplier under our proposal.

1           A purpose of this multiplier the recognize that  
2 increased vehicle efficiency has multiple benefits. It  
3 increases the range of battery electric vehicles. It  
4 reduces upstream emissions from all vehicles, regardless  
5 of fuel source. And it reduces the multi-media  
6 environmental problems associated with fuel production and  
7 transfer.

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

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

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

21           A efficiency score earned by the vehicle is the  
22 vehicle's fuel economy divided by 1.5 times the baseline.  
23 What this means is that the vehicle needs to exceed the  
24 average fuel economy for its class by 50 percent in order  
25 the earn any score. We anticipate that vehicles earning

1 efficiency scores will primarily use electric or hybrid  
2 electric drive.

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

7 --o0o--

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

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

23 --o0o--

24 VEHICLE PROGRAM SPECIALIST SHULOCK: As was  
25 mentioned earlier, we propose to require that vehicles be

1 placed in service in order the earn multiple credits. A  
2 vehicle that is offered for sale but not actually placed  
3 would earn just one credit.

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

7 --o0o--

8 VEHICLE PROGRAM SPECIALIST SHULOCK: We also  
9 propose the few administrative adjustments. A first of  
10 these the provide certainty regarding the sales volume  
11 number used to determine the manufacturer's ZEV  
12 obligation. Under the current regulation the  
13 manufacturer's obligation in 2003 is based upon sales in  
14 2003. We received some comment that this sets up the  
15 moving target that complicates compliance planning.

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

23 --o0o--

24 VEHICLE PROGRAM SPECIALIST SHULOCK: We're almost  
25 through.

1           A final set of changes relate to determining  
2 which manufacturers need to comply with the regulation in  
3 the first place. Under the current regulation, large  
4 manufacturers are defined as those with California sales  
5 greater than 35,000. We propose to increase this  
6 threshold to 60,000 and also to provide additional lead  
7 time for compliance when the manufacturer moves from  
8 intermediate to large.

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

19           Finally, we propose to define the new  
20 manufacturer category consisting of independently owned  
21 manufacturers with California sales of less than 1,010  
22 Such manufacturers would not be subject to the ZEV  
23 regulation. Under the current regulation, the sales  
24 cutoff for small manufacturers the 4,500, regardless of  
25 ownership status. What we do here is we say if the

1 manufacturer is independently owned and not part of some  
2 larger group, their threshold would be 1,010?

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

7                               --o0o--

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

14                              --o0o--

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

22           There has also been concerns raised regarding the  
23 treatment of various vehicle types, including grid connect  
24 hybrid electric vehicles and neighborhood electric  
25 vehicles. Are we handling them correctly in our staff

1 proposal, I'm sure you'll hear suggestions later on.

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

8   --o0o--

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

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

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

1 is the desirable course of action.

2 --o0o--

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

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

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

24 By 2010 we expect that the electricity shortfall  
25 will be the thing of the past. Nevertheless, we looked at



1 the implications of the ZEV fleet of about 77,000 vehicles  
 2 in 2010. This number represents meeting the ZEV  
 3 requirement with full-function vehicles at the four  
 4 percent, not the two percent -- plus two percent of other  
 5 things, but at the four percent level, so this is the  
 6 fairly ambitious target.

7           What we found is that the annual energy use for  
 8 these 77,000 vehicles would be about fourteen  
 9 one-hundredths of the percent of the statewide total in  
 10 2010 and the peak demand, again assuming 80 percent  
 11 off-peak, would be about twelve one-hundredths of the  
 12 percent.

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

19           In summary, we understand that there may be  
 20 questions on this matter, but we believe that the facts do  
 21 not support any cause for concern.

22   --oOo--

23           VEHICLE PROGRAM SPECIALIST SHULOCK: We next  
 24 would like to briefly run through our efforts in several  
 25 areas that support and encourage ZEV introduction. We are

1 entering the new era now, with ZEV sales about to ramp up  
2 again after several years of little activity. As the  
3 result, we've been taking another look at what we should  
4 be doing with regard to incentives, infrastructure and  
5 public outreach in order the keep pace with the rest of  
6 the program.

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

11           AIR POLLUTION SPECIALIST YEE: Thank you, Chuck.  
12 Currently over 2,300 ZEVs are on the road in California.  
13 In many cases consumer costs for these vehicles was  
14 reduced by incentives. A incentive package that they  
15 received may have included automaker discounts, federal  
16 tax credits and the local 5,000 vehicle buy down.

17           A consumer may have also received incentives that  
18 reduced the costs for infrastructure, that electric  
19 charger at home or at the peak refueling center.

20           Currently the program implemented and funded by  
21 several local air agencies with matching funds from the  
22 California Energy Commission are winding down. A limited  
23 number of 5,000-vehicle buy downs remain, about the dozen  
24 in the bay area, the half the dozen in Ventura county and  
25 perhaps about 70 in the south coast.

1           The Energy Commission also has an interest in  
2 moving on and implementing the broader program based on  
3 vehicle efficiency, with perhaps the deemphasis on ZEVs.  
4 Last month, the Board approved guidelines for the new \$18  
5 million statewide incentive program that was created by AB  
6 2061. On the first come first served basis the consumer  
7 may receive grants totaling up to \$9,000 for the freeway  
8 capable ZEV. This program provides incentives to  
9 encourage availability of ZEVs, more than 2,000 ZEVs  
10 through the end of 2002.

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

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

18                                       --oOo--

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

22           Staff proposes that the statewide stakeholders  
23 working group be formed to address these questions. Staff  
24 received valuable input from an informal working group  
25 consisting of State agencies, local air agencies

1 automakers and dealers, fleet administrators and bill  
2 sponsors when we worked on the guidelines for the AB 2061  
3 program.

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

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

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

23   --o0o--

24           AIR POLLUTION SPECIALIST YEE: Staff is currently  
25 working on the ZEV incentives report that will lay out our

1 recommendations for the statewide working group and the  
2 schedule. A report will also provide the survey of  
3 current and federal California and other states incentive  
4 programs. Staff expects that the report will be available  
5 in the week or so.

6 Next, Ms. Gail Swaggart will address  
7 infrastructure issues.

8 --o0o--

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

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

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

24 The lack of the single standard is likely to  
25 create concerns among consumers and therefore limit the

1 marketability of electric vehicles in the future. In  
2 addition, the lack of the standard substantially increases  
3 the cost of installing public charging, as both charger  
4 types have to be installed.

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

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

23             Next slide, please.

24   --o0o--

25             MS. SWAGGERT: ARB staff recommends, as I

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

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

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

23           It may be necessary for stakeholders to  
24 investigate new programs or perhaps insurance funds to  
25 support repairs to public chargers.

1           And finally incentives. Incentives to offset the  
2 costs of infrastructure also need to be thoroughly  
3 investigated. A particular focus or concern the needed  
4 incentives to support workplace charging. Workplace  
5 charging has many benefits. It allows employees to  
6 double -- effectively double the range of their vehicle by  
7 charging their vehicle at both ends of their trip at work  
8 and at home.

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

13   --o0o--

14           MS. CASPER: Thank you, Gail. Good morning.

15           In order to build the sustainable market for  
16 ZEVs, it is clear that the ARB must work to expand its  
17 current outreaching and public education efforts.

18 However, we realize we cannot do this on our own. We  
19 believe it is important to work with all the ZEV

20 stakeholders in the collaborative effort to develop and  
21 implement the comprehensive outreach and public education  
22 plan for ZEVs.

23   --o0o--

24           MS. CASPER: The ARB recognizes that the lot has  
25 already been done by the ZEV stakeholders to promote ZEVs.



1 Therefore, it is our goal to work with them to build on  
2 what has been done in the current and past efforts.

3 A few ideas brought up to date include expanding  
4 the [www.zevinfo.com](http://www.zevinfo.com) web site to feature multimedia  
5 technologies that will replicate the experience someone  
6 has when they approach an EV driver and start asking them  
7 questions about their vehicle.

8 It may also include building on past efforts of  
9 the California Electric Transportation Coalition to  
10 promote ZEVs, such as using their draft EV consumer  
11 awareness campaign. This draft plan was developed in late  
12 1998 and we believe might be the good foundation for  
13 moving forward to develop the plan.

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

18 Thank you.

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

21 --o0o--

22 VEHICLE PROGRAM SPECIALIST SHULOCK: More  
23 information on these topics is contained in reports that  
24 were recently released on infrastructure and on outreach.  
25 And an additional report on incentives will be released

1 shortly.

2           In conclusion, I'd like to return to the  
3 directive that you, as the board, gave to staff last  
4 September. We feel that the staff proposal addresses the  
5 issues that you raised. We encourage vehicle availability  
6 with the use of increased early introduction credits.

7           We enhance market stability by removing program  
8 uncertainty in providing the smooth ramp. We have  
9 described an expanded publication -- excuse me, public  
10 education and outreach effort. And we've reduced cost in  
11 the program by phasing in both ZEV and PZEV production.

12           A bottom line result is that we believe that the  
13 staff proposal provides the framework to achieve the  
14 result that you seek, the sustainable market for ZEVs both  
15 now and in the long term.

16           That concludes our presentation.

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

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

25           OMBUDSMAN TSCHOGL: I will cover that. Mr.

1 Chairman and members of the Board, in developing these  
2 regulatory amendments, ARB staff embarked on the thorough  
3 and coordinated -- am I not on?

4           Mr. Chairman and Members of the Board, in  
5 developing these regulatory amendments ARB staff embarked  
6 on the thorough and coordinated effort to solicit input  
7 from stakeholders interested parties. Throughout the  
8 existence of the ZEV mandate, staff has continuously  
9 sought to involve stakeholders.

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

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

20           To seek input, staff conducted the public  
21 workshop on October 25th. A workshop notice was  
22 distributed via the ZEV list and served by US mail and the  
23 ARB web site. More than 125 people attended this all-day  
24 event in El Monte, many of whom provided comments on  
25 various aspects of the proposal.

1           On December 6th, the notice for this public  
2 hearing was made available. Staff posted the notice  
3 on-line, E-mailed it to 400 people and mailed it to an  
4 additional 1,400 people. Two days later the staff report  
5 was released to the same groups I just mentioned.

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

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

17           In spite of this, consensus was not reached on  
18 several issues. As recently as Friday, January 19th,  
19 staff released the set of proposed changes to the  
20 amendments under consideration. These changes are the  
21 result of comments staff received. It is important to  
22 note that these suggested changes will be subject to the  
23 15-day comment period to ensure that the public has the  
24 opportunity to provide input.

25           In conjunction with the effort to develop these

1 amendments, ARB staff has been conducting educational  
2 outreach. Staff developed several formal programs  
3 including the EVs for Education and the EV loan program.  
4 Staff used these events to answer questions, not only  
5 about the EVs but also about the regulations and where  
6 they are headed.

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

12           This concludes my comments regarding stakeholder  
13 outreach for this item.

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

16           Ms. D'Adamo.

17           BOARD MEMBER D'ADAMO: I had the question  
18 regarding the numbers. It was my recollection at the  
19 September hearing that several board members raised the  
20 issue of inclusion of SUVs in the base line. And I note  
21 that that appears to be absent in the staff's  
22 recommendation. I was wondering if you could address  
23 that. And also if you could provide us with information  
24 as to what the figures would look like if you did include  
25 SUVs in the base line.

1 EXECUTIVE OFFICER KENNY: I'll try to address the  
2 first part and then I'm going to actually ask staff to  
3 help with the the second part in terms of the numbers.

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

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

15 In terms of assistance with the numbers.

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

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

1           BOARD MEMBER D'ADAMO: Perhaps we can explore  
2 this issue as the day progresses, but I'd like to maybe  
3 see some information if we were to start it in the year  
4 2003, 2004 et cetera. Maybe, we could --

5           Is this better? I'm kind of short, so I'll try  
6 to scoot forward here. I was suggesting that if staff  
7 could provide us with some information as the day  
8 progresses regarding what those figures would look like if  
9 SUVs were included in the base line in various years  
10 starting of 2003, perhaps maybe consideration of startup  
11 in 2009 or some future date.

12           EXECUTIVE OFFICER KENNY: Okay.

13           CHAIRPERSON LLOYD: Thank you. Mr. McKinnon.

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

20           However, there's kind of the set of vehicles that  
21 didn't make it in that I'd be interested in how -- in the  
22 discussion about how we include them. And that would be  
23 I've been struggling the last several days with the way to  
24 categorize them, but I would think that they would be  
25 something like electric motorcycles that are freeway

1 capable.

2           And what I'm really seriously getting at are  
3 vehicles similar to the Sparrow that the commuter can use  
4 to get the work and back that's the ZEV, that's the zero  
5 emission vehicle. And I'm not sure, given that they're  
6 single passenger and there are some limits, that they  
7 ought to get huge credits, and there's also some -- we  
8 would have to have the discussion about how credits are  
9 transferable or bought and sold. But I'm really  
10 interested if there's any thought into how we would  
11 include that category of vehicles.

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

19           Additionally, we were concerned about the fact  
20 that if you go into the motorcycle credit proposal, the  
21 production costs, the certification costs, the safety  
22 issues associated with those are far different than with  
23 the vehicle, and so the costs overall basically come down.  
24 And it could be potentially the very low-cost compliance  
25 strategy which was of concern to us.



1           However, as we have looked at it, as we have  
2 actually heard of this issue, there may be ways to try the  
3 address this in the context of actually, you know, credit  
4 that would actually be at fairly low levels to reflect, in  
5 fact, sort of that differential between production of the  
6 vehicle and production of that type of the transportation  
7 thing.

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

13           CHAIRPERSON LLOYD: Dr. Burke.

14           BOARD MEMBER BURKE: Before I even get to the  
15 merit of the staff's proposal, I'd like to congratulate  
16 the ombudsman on setting the record on the outreach.

17           What concerns me is what I see today. And I'd  
18 like to just maybe get some input, because when you talk  
19 about stakeholders and concerned citizens, I assume that  
20 those people who are environmentally justice challenged  
21 should be as concerned about this issue as any other group  
22 in the State of California.

23           And yet, as I look out over the audience today of  
24 those people who were going to testify before us, I see  
25 the puzzling lack of minorities in the audience. And I

1 just wondered if it's the failing of us or the failing of  
2 them that they're not here. Can you help me out with  
3 that?

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

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

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

1           I know we have those programs, I just -- is there  
2 the reason why there is the lack of representation today?  
3 And if you don't know, we don't know.

4           Mr. Kenny?

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

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

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

21           CHAIRPERSON LLOYD: I would also like the comment  
22 there. And I know your comment, Dr. Burke. I know you've  
23 made significant efforts in South Coast with your  
24 leadership to get out in the communities. We have also  
25 held three workshops down there. And we're doing -- not

1 three workshops, three outreach efforts. And we also have  
2 board meetings down there as the result of the resolution  
3 from Assemblyman Firebaugh.

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

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

18           Mr. McKinnon.

19           BOARD MEMBER MCKINNON: Board Member Burke, as  
20 the labor leader, I'll throw an observation I have when it  
21 comes to kind of addressing this question with working  
22 people is that very, very often with working people when  
23 the meeting is held the the middle of the day and people  
24 are hourly workers, it's very, very unlikely that they're  
25 going to attend the meeting in the middle of the day.

1           And I think, you know, at South Coast you have  
2 some evening meetings. We're going to have some evening  
3 meetings and I think that's real important. And I know,  
4 at least one of the ZEV review meetings, that I attended,  
5 we went till almost 9:30 at night to make sure that there  
6 was an opportunity for people that maybe are working  
7 during the day to get to the meeting.

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

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

13           Thank you very much, Mr. McKinnon.

14           CHAIRPERSON LLOYD: Mr. Calhoun.

15           BOARD MEMBER CALHOUN: I guess I had the couple  
16 of questions to ask relative to the comment that Dr. Burke  
17 made. Usually the largest black newspaper in Los Angeles  
18 County is the LA Sentinel. And I never see any notices of  
19 hearings from the Air Resources Board published in that  
20 newspaper. I see notices from the South Coast District.  
21 And I've mentioned this once before at one of our  
22 meetings, and so that's something I think we ought to take  
23 the real good look at.

24           CHAIRPERSON LLOYD: How long has this paper been  
25 around.

1 BOARD MEMBER CALHOUN: Before you and I were  
2 born.

3 (Laughter.)

4 CHAIRPERSON LLOYD: Obviously.

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

7 (Laughter.)

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

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

15 CHAIRPERSON LLOYD: So okay.

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

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

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

22 I want to talk the little bit about the market  
23 for these vehicles and this is going to come up anyway and  
24 you brought it up in the terms of the fair market test  
25 that the automotive industry raised. What is our

1 knowledge of the market for these vehicles, in particular,  
2 battery powered electric vehicles?

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

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

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

24 And to the great extent that's why you've seen  
25 the staff propose numbers that are at lower levels than

1 the existing regulation, because we think it's also  
2 important to essentially build this market. And the way  
3 we think we can build this market, and, again, I would, I  
4 guess, highlight the fact they we are selling 1.4 million  
5 vehicles the year in California.

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

18           And that really is our goal and our effort here  
19 today. But we can't guarantee essentially where that  
20 market might be. And so what we've tried the do with the  
21 staff report, and you see it the little bit in the  
22 complexity of the staff report, is provide the opportunity  
23 for diversity of opportunity with regard to the  
24 technologies. So that as we move down the road ten years,  
25 15 years, we will have the diversity of technologies that



1 are satisfying our transportation needs the California.

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

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

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

24 EXECUTIVE OFFICER KENNY: Yes. With regard to  
25 the first point, we have also heard from some of the

1 manufacturers that, in fact, they think there's absolutely  
2 no market for electric vehicles. However, we have heard  
3 from other manufacturers the contrary opinion. And so we  
4 do see, essentially, the variety of opinions with regard  
5 to the opportunities for battery electric vehicles in the  
6 marketplace.

7           And to the extent that we have that variety of  
8 opinions, I think it does basically say that no one knows  
9 the exact answers to this particular issue and that what  
10 we need to do is take the shot with the market and see  
11 what the market actually determines the answer to be.  
12 With regard to the second issue, of not giving multiple  
13 credits unless the actual vehicle is placed for sale,  
14 actually placed into the marketplace.

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

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

1 benefits of them.

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

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

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

22           We thought it was the flawed proposal. We  
23 thought that what it did was, essentially, eliminated PZEV  
24 technology and advanced technology PZEVs that we do think  
25 are quite viable right now today, and I took them off the

1 regulatory agenda.

2           We also thought that, in fact, it was important  
3 to maintain the regulatory drive for these vehicles. We  
4 thought that that was important for technology forcing and  
5 also for the integrity and credibility of the California  
6 program. We were also concerned about the fact that the  
7 fair market test had an independent panel, which was going  
8 to essentially make the determination as to whether or not  
9 the market accepted or rejected the vehicles based on the  
10 set of criteria, which we actually thought was going to  
11 result in the designed failure.

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

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

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

25           Supervisor DeSaulnier.

1           BOARD MEMBER DeSAULNIER: Mike, I think we all  
2 have grown to appreciate that sensitivity of -- I'm  
3 talking just in terms of the goal standard of the pure  
4 ZEV, in the early years. But could you talk the little  
5 bit about what your staff discussion was like in terms of  
6 the ramp up and what we might look at in terms of any kind  
7 of movement in that and why you chose the numbers you did,  
8 particularly in the years -- the mid-years say six to  
9 2010, and what kind of effect that might have on the  
10 development of fuel cell technology?

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

20           We thought trying the do that with large numbers  
21 right now in the 2003 context would potentially result in  
22 substantial problems. And we thought that because of the  
23 fact that we don't have any vehicles really being offered  
24 for sale right now, because the market is essentially not  
25 being taken advantage of by the auto manufacturers.

1           So we thought it was important to, sort of, get  
2 the market going again, kind of build that market. We  
3 also thought it was important the build it at least  
4 initially somewhat slowly, and that's why you see the  
5 numbers that we have put forward.

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

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

21           In the outer years I guess with, you know, the  
22 benefit of, you know, looking at this, it's possible that  
23 maybe we could have gone the little bit further. And I'm  
24 thinking about in terms of years beyond 2008. But what we  
25 were trying to do is essentially be cautious, conservative

1 and ensure that, in fact, what we did is built demand and  
2 not really come into the market too early on with  
3 oversupply.

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

6 EXECUTIVE OFFICER KENNY: Tom reminded me of that  
7 also.

8 BOARD MEMBER DeSAULNIER: Thanks, Tom.

9 (Laughter.)

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

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

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

25 (Laughter.)

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

8           EXECUTIVE OFFICER KENNY: You and I have talked  
9 about essentially the station car concept. And actually  
10 we do agree with you, that it's the very good proposal.

11           And so we would like to, essentially, work toward  
12 that with you in terms of trying the figure out how we can  
13 implement that as effectively as possible. One of the  
14 things that we've tried to do with this proposal is to  
15 take the ZEV Program out of the every two-year focused  
16 spotlight where it became, kind of, the cause celeb for  
17 the moment and it generated the kind of attention that  
18 really was more, you know, good and bad.

19           It's either people love the program or people  
20 hate the program, and try the move it instead into more of  
21 the routine program, in which what we're doing is we're  
22 moving it forward progressively and then we bring back to  
23 you, kind of, the routine modifications that need to be  
24 made to reflect implementation issues.

25           That really has probably been the thing that this



1 program has most lacked. I mean, over the last several  
2 years, we've done these biennial reviews. And every time  
3 we do the biennial review, the program comes to somewhat  
4 of the halt. Everybody then stops, they watch and they  
5 see whether or not we're going the continue with the  
6 program or whether we're going to just simply end the  
7 program.

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

18           BOARD MEMBER DeSAULNIER: Thank you.

19           CHAIRPERSON LLOYD: Supervisor Roberts.

20           BOARD MEMBER ROBERTS: Thank you, Mr. Chairman.

21 First of all, just as an observation, Mr. Kenny, when you  
22 started out you made the comment that we provide the lot  
23 of options. There's the lot of complications in this.

24           Somehow we have taken the dream of electric  
25 vehicles and clean air and we've turned it into the

1 Internal Revenue Code here today.

2 (Laughter.)

3 A complexities in this and the various  
4 permutations and combinations are very difficult to  
5 follow. I may be among the minority on this board that  
6 does not have the real clear picture of what happens in  
7 2010, but I guess there are so many options, we don't  
8 know, other than we know perhaps the result, at least the  
9 hopeful result with respect to clean air. But what that  
10 is going to look like, I wouldn't want to begin to explain  
11 to anybody.

12 I'll have other questions later, but one of the  
13 things that struck me as I looked at the current  
14 regulation and the staff proposal, the grid connected  
15 hybrid electric vehicles, you ended up putting those in  
16 the top category. And yet that from the technology  
17 standpoint seemed to me to be not on the same level with  
18 the battery EV's and hydrogen fuel cells. And I was  
19 wondering what the rationale was for that.

20 EXECUTIVE OFFICER KENNY: Sure. A rationale we  
21 had was that we actually thought that that technology was  
22 the very valuable one. We saw it as the technology in  
23 which the vast majority of trips by the person who owned  
24 that kind of the vehicle would occur on the electric  
25 range, whether they're commuting back and forth to work or

1 whether they're doing short trips on the weekend.

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

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

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

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

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

25           EXECUTIVE OFFICER KENNY: A difficulty that we

1 saw is that we are trying the basically provide, going  
2 back to your earlier comments, kind of the diversity of  
3 opportunities for the marketplace, so that as we do go out  
4 into the future, we won't have just simply the simple  
5 technology, which is providing the transportation needs.

6 I think that is part of the dream that we see.  
7 But at the same time what happens is that there are  
8 engineering resources that are necessary to make that  
9 dream come true. A difficulty is that unless we provide  
10 substantial incentives for different types of  
11 technologies, those engineering resources may not exist,  
12 and then they therefore may not be utilized for these  
13 kinds of technologies that we think have benefits.

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

18 (Laughter.)

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

23 CHAIRPERSON LLOYD: Professor Friedman.

24 BOARD MEMBER HUGH FRIEDMAN: I just want to  
25 follow up on Supervisor Roberts' question. I'm still not

1 entirely clear as to why the plug in hybrid with the  
2 20-mile electric range is the gold standard as opposed to  
3 the silver standard and why that wouldn't be sufficient  
4 incentive.

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

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

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

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

25 EXECUTIVE OFFICER KENNY: That is correct.

1           BOARD MEMBER HUGH FRIEDMAN:  And the gold  
2 standard is zero emissions.

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

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

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

21           EXECUTIVE OFFICER KENNY:  We would hope not.  I  
22 mean, and part of the reason that we tried -- part of the  
23 way we tried to address the is we tried to essentially  
24 provide for the fact that they would not get the same  
25 credit, for example, as the fuel cell vehicle or the

1 battery electric vehicle would get in the context of that  
2 particular category.

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

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

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

24           And I think on that part of it, we lose site of  
25 the most immediate impacts that we have when we're looking

1 away from the gasoline. So I think it's important, so I  
2 share with my colleagues the idea of trying to keep that  
3 thought pure.

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

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

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



1 better than that.

2 But I think --

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

5 (Laughter.)

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

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

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

25 And then we listen to some of the technology

1 developers involved with that and they also paint the much  
2 rosier picture, so I'll be very interested to see what  
3 comes forward there.

4 Mr. McKinnon.

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

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

21 It's, I think, the close comparison. People buy  
22 vehicles with four-wheel drive and they pay extra for the  
23 four-wheel drive and they don't run in four-wheel drive  
24 but the few times the year. And so I think the plug-in  
25 hybrid has the chance, if anybody pursues that technology,

1 of being the popular technology, because it will do both  
2 things for families.

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

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

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

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

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

23 CHAIRPERSON LLOYD: Thank you.

24 Any other questions?

25 With that, I'd guess we move into the witness

1 list. I would like to -- we have the number of witnesses,  
2 so I'm going to limit those to about three minutes.  
3 Obviously, I'll use the Chair's discretion depending on  
4 the witness list. We do have two Assemblymen signed up to  
5 speak. We have Assemblyman Tony Cardenas and Assemblyman  
6 Marco Firebaugh. So if they're here, we will certainly  
7 be -- like the hear from them. If they're not, and they  
8 come up during the time, then I will obviously interrupt  
9 the witness list to make sure that they get the chance to  
10 testify.

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

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

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

1 Welcome Carl from New York.

2 MR. JOHNSON: Thank you Dr. Lloyd. Thank you  
3 members of the Board, CARB staff. My name is Carl  
4 Johnson. I'm not sure if I'm getting this well enough for  
5 the folks in the back. I am the Deputy Commissioner for  
6 Air and Waste Management at the New York State Department  
7 of Environmental Conservation.

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

16 I also want to thank California for its overall  
17 leadership on air quality issues. A Authority in Section  
18 177 of the Act has allowed us to adopt the LEV program for  
19 light-duty vehicles and we have benefited greatly from  
20 that ability.

21 Your leadership on diesel issues, which is when I  
22 was last before this board, is also to be commended. And  
23 we look forward the working with you on air quality issues  
24 and contributing our resources to that effort. And I  
25 think over the past couple of years, special compliments

1 to the staff of the Board. We've really brought the  
2 coasts together on air quality, and I think that the  
3 Nation is going the benefit as the result.

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

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

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

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

25           Few would argue that the mandate has not had an

1 impact on the evolution of these technologies. We would  
2 not be talking about hybrids today if we did not have  
3 California's ZEV components.

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

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

18           That flexibility is also important to the states  
19 outside California that have adopted this program.  
20 Climatic differences, vehicle sale mix and use are  
21 different in the northeast than in California. And the  
22 flexibility of the program that's before you today will  
23 allow our state to provide additional flexibility as we  
24 work with the automobile industry to assure successful  
25 implementation of the ZEV Program.

1           We have spoken to industry members and we've  
2 asked them to tell us what they really need to make ZEV  
3 implementation work in the northeast and we're awaiting  
4 their answers. And we stand willing to work within the  
5 constraints of the program and the Clean Air Act to ensure  
6 that we're all successfully going together.

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

13           Thank you.

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

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

22           MR. JOHNSON: We are working on the number of  
23 efforts with New York City's Metropolitan Transportation  
24 Authority, the largest bus fleet in the country. They  
25 have primarily focused, and much of the local focus, has



1 been on converting the significant portion of the fleet to  
2 compressed natural gas vehicles. At the same time, we  
3 have been driving them through the research effort and  
4 we've been sharing this information with the staff on the  
5 tremendously promising diesel retrofit technology, which  
6 our initial investigation really shows is going to bring  
7 existing diesel buses into the same range, very close or  
8 even exceeding where we are with the new CNG bus. So by  
9 the year 2003, the entire fleet will be as clean as the  
10 CNG bus.

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

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

21           Thank you very much, Carl.

22           Just the heads up for the staff here. I'm  
23 certainly interested in how we might factor zero emission  
24 buses, whether they're battery electric, fuel cells,  
25 hybrids into our program to give some additional

1 flexibility there, but we'll get back to that maybe and  
2 explore that.

3 BOARD MEMBER BURKE: Mr. Chairman.

4 CHAIRPERSON LLOYD: Yes, Dr. Burke.

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

9 DEPUTY EXECUTIVE OFFICER CACKETTE: Yes, we have.  
10 As you know, the Board adopted the retrofit trap system  
11 for all transit buses starting in 2003 and I believe  
12 ending three or four year later. Actually, what I  
13 understand New York has adopted is more aggressive.  
14 They'll be done in the year that we start.

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

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

20 DEPUTY EXECUTIVE OFFICER CACKETTE: Yes.

21 BOARD MEMBER BURKE: We are testing the same  
22 traps?

23 DEPUTY EXECUTIVE OFFICER CACKETTE: Yes.

24 BOARD MEMBER BURKE: We are. Okay, great.

25 CHAIRPERSON LLOYD: Thank you. We're going the

1 take one more witness before we give our court reporter  
2 the ten-minute break. So Kelly Brown from Ford.

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

5 (Thereupon an overhead presentation was  
6 presented as follows.)

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

9 (Laughter.)

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

12 (Laughter.)

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

15 (Laughter.)

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

19 --o0o--

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

22 Thank you.

23 CHAIRPERSON LLOYD: I don't think that light  
24 works. And it's not the conservation measure, I don't  
25 know what happened.

1 (Laughter.)

2 MR. BROWN: Maybe ask the Governor to unplug his  
3 toaster.

4 (Laughter.)

5 CHAIRPERSON LLOYD: Can we have somebody look at  
6 that light?

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

14 --o0o--

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

22 --o0o--

23 MR. BROWN: Next I want to move into our position  
24 on pure ZEVs, PZEVs, other states and finally what we  
25 need.

1                                   --o0o--

2                   MR. BROWN: Staff has laid out the complex  
3 regulation, which provides flexibility in meeting the  
4 requirements and credits that ramp up ZEV introduction.  
5 And despite the considerable risk, we accept the challenge  
6 to meet the proposed requirements in California, at least  
7 in the near term up through the first three years, 2005.

8                   Decisions on requirements for 2006 and later are  
9 more speculative and we believe should be delayed.

10                                   --o0o--

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

19                                   --o0o--

20                   MR. BROWN: Just briefly through our products,  
21 this is the Ranger EV. We've sold about the little over  
22 1,200 of those in 25 states since '98, nearly half in  
23 California. A bottom picture is another version of the  
24 Ranger, the first of the 500 Postal utility body versions  
25 that are going to be delivered in Los Angeles next week.

1 --o0o--

2 MR. BROWN: Next in our product lineup is the  
3 Think City, the European version is now being demonstrated  
4 in California and other areas. It has the 50-mile range,  
5 highway capable, two passenger and its niche the probably  
6 as the station car and shared car applications, as well as  
7 traditional users.

8 The US version goes on sale in spring of 2002.

9 --o0o--

10 MR. BROWN: This is the Think Neighbor. It's the  
11 low speed electric vehicle. It's available this year.  
12 It's the two or four passenger vehicle. And other  
13 versions are possible to be derived from that. It has the  
14 25-mile per hour governed top speed, 30-mile driving  
15 range, and it's legal for the street in many states  
16 including California. Many of the -- it has the lot of  
17 opportunity to replace gasoline vehicle trips.

18 --o0o--

19 MR. BROWN: Next, and the little farther out, the  
20 Focus Fuel Cell vehicle that we just unveiled here in  
21 California. That prototype the demonstration service in  
22 California and pilot production is announced at low  
23 volumes for 2004. Volumes will probably be limited for  
24 some time, depending on how we do in getting the cost  
25 down.

1 --o0o--

2 MR. BROWN: Next, Escape HEV. It doesn't have  
3 the plug. It's not the grid hybrid. It's self contained.  
4 It's targeted at 40-miles per gallon, SULEV emissions,  
5 possibly PZEV 500-mile range on the tank of fuel, and it  
6 has an I-4 engine with the performance of the V6.

7 --o0o--

8 MR. BROWN: With respect to PZEVs, the staff  
9 proposed credit of PZEVs allows for the much more  
10 reasonable introduction of new technology. The remaining  
11 issues relate to OBD requirements and zero evaporative  
12 emissions requirements we believe have been worked out.

13 The goal now is robust PZEV design. It's still  
14 not the done deal, however we have high confidence that we  
15 will succeed.

16 --o0o--

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

23 A cold weather concerns in the northeast present  
24 an additional challenge for electric vehicles. We're the  
25 little disheartened that all of New York's neighbors don't

1 share in New York's enthusiasm. And as you'll see in the  
2 minute, we believe that the failure anywhere the going to  
3 be the failure everywhere.

4 --o0o--

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

14 --o0o--

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

17 Yes Ms. D'Adamo and Mr. McKinnon.

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

24 Thank you.

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



1 one.

2 (Laughter.)

3 CHAIRPERSON LLOYD: Mr. McKinnon.

4 BOARD MEMBER McKINNON: Yeah. Mr. Brown, the  
5 same for me. You know, you've -- your company has worked  
6 diligently to prepare for the future, and I am very, very  
7 interested in, kind of the progress of the northeast  
8 states issue, and I'll say the state, Massachusetts. And  
9 I would like to stay advised if there's difficulties,  
10 Mike. And I think this board needs to kind of track that.

11 To the extent that Ford is working at it, you  
12 should not have the lot of obstacles put before you or the  
13 delayed process.

14 Thanks.

15 CHAIRPERSON LLOYD: Supervisor DeSaulnier.

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

19 (Laughter.)

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

21 (Laughter.)

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

25 Mike, maybe you could respond that we've got this

1 letter from Massachusetts. Supervisor Roberts and I as  
2 natives of Massachusetts understand the politics the  
3 little bit there.

4 BOARD MEMBER ROBERTS: Not me.

5 (Laughter.)

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

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

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

24 Both New York and Vermont were actually very  
25 constructive in terms of trying the look for ways to make

1 this work. Massachusetts was not present at the meeting,  
2 but shortly after the meeting, I did contact Massachusetts  
3 again and ask them if they were willing to be flexible in  
4 terms of how the program was essentially implemented in  
5 the State of Massachusetts.

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

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

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

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

19 CHAIRPERSON LLOYD: One of the things I would  
20 like to do, if possible, Kelly, with your indulgence here,  
21 we do have David Freeman, who just came in, but he's  
22 basically on loan to us for the limited time helping the  
23 Governor solve our energy crisis. So maybe, if you could  
24 take the minute the read that stuff, and after the break  
25 come back and maybe comment on that.

1           Court reporter, also, I'm going to take one more  
2 witness. So if you wouldn't mind, Kelly, and we might  
3 have some more questions.

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

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

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

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

25           I had the privilege as the head of the Sacramento

1 Municipal Utility District to appear before you in 1990,  
2 at the historic hearings where the CARB Board adopted the  
3 ZEV standard.

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

11           (Laughter.)

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

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

23           Now, I am just going to be very blunt. I think  
24 it is outrageous for people to come in here and try the  
25 take advantage of the electricity crisis that we face

1 right now, as an excuse for slowing down the advance of  
2 progress in electric vehicles.

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

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

13 (Laughter.)

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

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

20 (Applause.)

21 MR. FREEMAN: Now, in terms of the fact that we  
22 have the family of cleaner cars coming, hooray, you should  
23 be proud of that. You should claim credit for the fact  
24 that you have, by the force of your regulation, inspired  
25 the best in the automobile industry.

1           But that's no reason the throw out the cleanest  
2 of them all or delay. A automobile industry has had 11  
3 years of clear notice from this agency to get electric  
4 cars on the road. I'm driving one. They've got some  
5 great products. In Los Angeles, there is the one-year  
6 waiting period to buy an electric car.

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

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

20           It is not an excuse for not dealing with all the  
21 toxic problems and all of the problems that affect the  
22 lower income people, but do not trifle with something  
23 that's serious. Do not try the take advantage of the good  
24 feelings that people have and the guilt feelings that we  
25 should have. Let us just be straightforward, and I just

1 heard this morning before the Ford Motor Company, who I  
2 congratulate, and has been the leader, say that they can  
3 meet the 2003 requirements. It will be time enough in  
4 2003 to reassess what the industry needs to do in 2004, 5  
5 and 6.

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

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

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

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



1 Thank you.

2 (Applause.)

3 CHAIRPERSON LLOYD: Thank you very much, David.

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

5 (Thereupon the brief recess was taken.)

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

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

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

13 Questions from the Board?

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

18 MR. BROWN: No, no. It's beyond 2005.

19 CHAIRPERSON LLOYD: 2005, okay.

20 MR. BROWN: What we said the we have -- we're  
21 comfortable, in the early years, that we can comply, but  
22 we'd like the go through those early years first and  
23 decide where the market is going and what the plans are.  
24 Once you get beyond 2005, that actually goes beyond the  
25 solid portion of our cycle plan, so I can't sit -- you

1 know, 2008 I hope to be with Sam.

2 (Laughter.)

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

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

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

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

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

23 MR. BROWN: To be honest with you, I think the  
24 numbers you put in the rules -- I understand you're trying  
25 to send the message back to our companies that you want

1 us to do something. My only point is, the fact that you  
2 write them down, that doesn't mean they're going the  
3 happen. They're only going the happen if in those first  
4 few years of the program, we're successful and we found  
5 out the right combination of what's going to work, and if  
6 we make more progress on batteries, and we'll know better  
7 at the end of that time period where fuel cells are going  
8 to be.

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

11           CHAIRPERSON LLOYD: I hear you on that.

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

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

24           CHAIRPERSON LLOYD: Well, though, actually we  
25 were helping you meet your Chairman's objectives, look at

1 it that way.

2 (Laughter.)

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

5 CHAIRPERSON LLOYD: We'd like the do that too.

6 MR. BROWN: Yeah. What you write down doesn't  
7 make it happen. You've got the get the things built.  
8 You've got the make something the customers want. You've  
9 got to have them at the price they're willing to pay and  
10 to put them out.

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

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

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

24 So once you get beyond 2005, I don't know what  
25 our base product is going to be.

1 CHAIRPERSON LLOYD: Okay.

2 Questions from the Board?

3 Supervisor DeSaulnier.

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

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

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

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

23 Just one other question, you mentioned Station  
24 Cars. What are the prospects for Ford doing Station Cars  
25 in the near term.

1           MR. BROWN: Oh, I think that's the perfect use of  
2 the City Car. And, again, that's another reason for our  
3 uncertainty. If that program takes off, that could be the  
4 big program in the out years.

5           BOARD MEMBER DeSAULNIER: Thanks.

6           CHAIRPERSON LLOYD: Yes, Mr. Calhoun.

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

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

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

20           Yes, Professor Friedman.

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

1 that you will see that.

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

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

17           Secondly, I think we need to do some monitoring.  
18 Obviously, the staff indicated in their report I heard,  
19 the plan to continually monitor and to continue the  
20 dialogue with all of the stakeholders, but we don't want  
21 the formal review, where it's all up for grabs again. And  
22 so status monitoring and status report and, of course, the  
23 staff has reserved in the plan the right the come as  
24 needed back to the Board with suggested changes or  
25 modifications.

1           Because I have no doubt that technological  
2 changes will occur that we can't even now envision. And  
3 that will necessitate further adjustment, potential  
4 adjustment. So I think that's built into it.

5           EXECUTIVE OFFICER KENNY: Yes.

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

11           Any other questions from the Board?

12           Thank you very much.

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

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

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

23           I would like to thank the Board for allowing me  
24 this opportunity. It's really great to see that when we  
25 do choose the interact, the Legislature, various boards,



1 various different levels of government, that we give each  
2 other the respect and attention that each of us deserves,  
3 so I appreciate this opportunity to address you.

4 I'd like to begin by reading the piece of law  
5 that was passed in SB 115. I'll read out Section 2, part  
6 3 and also section 2 part 3(c)

7 Section 2 part 3, "The California  
8 Environmental Protection Agency shall  
9 conduct its programs, policies and  
10 activities that substantially affect  
11 human health or the environment in the  
12 manner that ensures the fair treatment  
13 of people of all races, cultures and  
14 income levels including minority  
15 populations and low-income populations  
16 of the state."

17 Part 3(c) also reads, "...to ensure  
18 greater public participation in the  
19 Agencies's development, adoption and  
20 implementation of environmental  
21 regulations and policies."

22 It is the spirit of that law that I'd like to  
23 address today. And we all know that sometimes laws and  
24 reality don't converge as well as we intend. But my  
25 purpose today is to remind the Board that we need to keep

1 in mind that spirit of the law and we need the make that  
2 extra effort sometimes to make sure that we give that law  
3 the opportunity to play out in real life.

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

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

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

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

24           What I want you to hear today is that I care very  
25 much about whether the children and seniors of my district

1 and the people of the State of California are getting the  
2 most effective policy for protecting their health and  
3 well-being.

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

13           Members of the Board, that which I've just  
14 described about that community, is the very community that  
15 my parents, as immigrants, moved into in 1955. I'm the  
16 youngest of 11 children who traversed those streets and  
17 had to deal with that environment all of my life. I now  
18 am very proud to say that I represent that community.

19           There has been changes in the community. I think  
20 the most profound change the will and the activity of poor  
21 communities the get involved once they understand that  
22 they are welcome and that people outreach to them. Their  
23 involvement is profound and their efforts and their  
24 energies are appreciated when that opportunity the  
25 realized.

1           We're all highly sensitive to environmental  
2 agency rule-making processes like this one that do not  
3 actively seek the input of those who have historically  
4 been discriminated against.

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

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

22           That's why I'm asking you today to delay the vote  
23 on this item for at least the next four months and also  
24 support the proposal to combine the interests of the CARB,  
25 environmental justice groups and industry. I want

1 whatever the Board proposes to be acceptable by those who  
2 should be participating in this process.

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

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

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

24 As the Budget Chairman of the State Assembly, I  
25 have the support of the Speaker and also of many of my

1 colleagues that we try our best to work together and  
2 outreach to these communities. And that is the reason we  
3 request that you delay this motion for just the few more  
4 months, so that we can give many more communities the  
5 opportunity to give their input, to give of themselves and  
6 to show that they want to be responsible and they are  
7 willing to be responsible and they will participate and  
8 they will contribute.

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

16           Thank you.

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

20           Dr. Burke.

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

24           ASSEMBLYMAN CARDENAS: No, we haven't.

25           BOARD MEMBER BURKE: But you gave my speech. You

1 just did it better than me. I didn't ask for the  
2 four-month extension, because I didn't know that was even  
3 an issue. But mine is the continuing search, because I  
4 look from this position and I look out at that audience  
5 and I see the great part of California which is not  
6 represented out there.

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

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

20           But if the people are really to be served, access  
21 has got to be provided. And I just agree with you on that  
22 400 percent.

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

25           CHAIRPERSON LLOYD: Yes.

1 ASSEMBLYMAN CARDENAS: I thank you, Dr. Burke.

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

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

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

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

23 CHAIRPERSON LLOYD: Thank you.

24 Mr. McKinnon.

25 BOARD MEMBER MCKINNON: Yeah. Assemblyman, it's



1 great to hear you speak today. And I had my comments  
2 earlier kind of encapsulated, but I'd like to kind of  
3 speak for myself. As the labor leader, I think that in  
4 the meeting like this there is also oftentimes the class  
5 difference, wage earners, hourly workers tend not to be  
6 able to make the trip to Sacramento or tend not to be able  
7 to attend the daytime meeting.

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

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

25           But one of the very interesting things when I

1 first became the board member, I was being lobbied by the  
2 Automotive Alliance about the fuel content after we took  
3 MTBE out. And I asked the Alliance how many plants were  
4 left in California. And they said one.

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

9           So while we're talking about economic justice,  
10 environmental justice, there's the whole set of variables  
11 that include good jobs, big plants that can do things  
12 environmentally more sound sometimes than small business.  
13 And I have been mused at some of the, kind of, lobbying  
14 tactics that have been used here by the automotive  
15 industry, when in terms of economic justice in the  
16 community where my family immigrated to this country and  
17 your family immigrated to this country, their solution to  
18 their plant's problems was to leave and take those jobs  
19 with them, Van Nuys, Southgate, on down the list, San  
20 Leandro.

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

23           CHAIRPERSON LLOYD: Thank you very much.

24           Any other comments?

25           Well, thank you very much. And clearly, the

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

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

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

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

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

25           You know, I, like my colleague, Tony Cardenas,

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

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

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

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

1 at this issue.

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

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

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

25           So I don't know what the answer is. I don't know

1 whether, you know, this is the right rule. I'm simply  
2 saying that, you know, consistent with the dialogue we had  
3 before, with the resolution that you agreed to participate  
4 in before, with respect to MTBE, let's do that again.  
5 Let's do that again. Let's make sure that there's an  
6 opportunity for the robust debate.

7           And if we arrive at the same conclusion, then I'm  
8 prepared to support that. But I think that there may be  
9 an opportunity for greater flexibility, for greater  
10 effectiveness in achieving what I think is our common  
11 purpose of better quality of air.

12           Thanks.

13           CHAIRPERSON LLOYD: Thank you very much.

14           Yes, Dr. Burke.

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

23           And on behalf of the South Coast District, I  
24 just, at every opportunity, would like to say thank you  
25 very much Assemblyman and the State needs more people like

1 yourself. And we really appreciate your efforts as it  
2 concerns air quality and other items also.

3 ASSEMBLYMAN FIREBAUGH: Thank you very much.

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

15 So thank you very much.

16 ASSEMBLYMAN FIREBAUGH: Thank you for your time.

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

21 MS. COOPER: Good morning. Thank you, Mr.  
22 Chairman and members and staff. I'm Josephine Cooper and  
23 I'm President and CEO of the Alliance of Automobile  
24 Manufacturers, which is comprised of 13 global companies,  
25 BMW Group, Daimler Chrysler, Fiat, Ford Motor Company,

1 General Motors, Isuzu, Mazda, Mitsubishi Motors, Nissan,  
2 Porsche, Toyota, Volkswagen, and Volvo. And I take my  
3 time, because I want to say them in alphabetical order  
4 very correctly.

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

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

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

21           It's unfortunate that during the course of the  
22 debate on electric cars all parties involved seem to have  
23 lost sight of the very key point that our goals are the  
24 same. Everyone wants cleaner air. A automakers want  
25 cleaner air. A ARB does. Environmentalists want cleaner



1 air. California citizens, all of California citizens want  
2 cleaner air. And everyone agrees that advances in  
3 automotive technology are one of the ways the get there.  
4 We just have different views of the ways the get there and  
5 how we achieve our common goal.

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

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

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

20 Each of these companies is constantly striving to  
21 outdo the other in the field of advanced technology and  
22 environmentally friendly motor vehicles. In fact, all of  
23 the money that we've invested collectively as an industry  
24 over the last dozen years or more has yielded  
25 unprecedented advancements, I know you'd agree.

1 Advancements in emission controls, cleaner engines,  
2 cleaner fuels, advancements in integrated systems, fuel  
3 cell technology, hybrid vehicles, alternative vehicles,  
4 and others.

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

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

18           The fact is that our companies have explored the  
19 path of battery electric vehicles with the same  
20 competitive zeal that they use when they approach any  
21 potential new technological breakthrough. They've worked  
22 diligently and creatively to try the find the way to make  
23 electric cars competitive with conventional vehicles.

24           We all hoped advancements in battery technology  
25 would decrease costs and refueling time while increasing

1 vehicle range necessary for something other than the niche  
2 vehicle market. However, much to everyone's  
3 disappointment, these advances in battery technology have  
4 just not come to fruition as we would have wished.

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

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

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

23           In 2001, however, electric cars with broad  
24 consumer appeal are an idea whose time has come and gone,  
25 much like eight-track tapes and Betamax and New Coke.

1           But that doesn't mean that this is the time for  
2   recriminations and blame. It simply means that there is  
3   the time and the place to explore the different path.  
4   Over the last few weeks the Alliance and its member  
5   companies have worked with the ARB staff on alternatives.  
6   One of these is the fair market test. Another is the  
7   staff's proposal, which as we heard this morning contains  
8   the menu of technology options and flexibility.

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

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

25           As you know, and as you heard earlier, the

1 automakers and senior ARB staff met with some states  
2 considering California's regulations just last week.  
3 Although the automakers and the ARB have discussed  
4 options, we've not been able to reach the resolution  
5 before the Board hearing today. Time simply ran out.

6 We, therefore, request that the Board delay its  
7 decision on the ZEV mandate for 60 days while the ARB  
8 staff and industry continue working to resolve these  
9 issues. We're so close. We have an opportunity, all of  
10 us, today. We can say, yes, to the promising technologies  
11 of the future and not be held back by yesterday's promise.

12 Let's make the right decision. Let's delay final  
13 action for 60 days. Then let's prove the technologies,  
14 lets prove the market and then choose the right path for  
15 California.

16 Thank you very much, Mr. Chairman.

17 Thank you very much members.

18 CHAIRPERSON LLOYD: Yes. Thank you.

19 Matt.

20 BOARD MEMBER MCKINNON: I guess, I want you to  
21 understand, for me, after going through almost well over  
22 the year of this process and going to El Monte in this  
23 last phase and hearing one, maybe two manufacturers even  
24 speak, the time running out argument falls short on me. I  
25 was there, and I was astonished that there weren't

1 proposals at the El Monte meeting in the process that are  
2 most current. I was astonished. I think Kelly -- I think  
3 Ford and Chrysler spoke in terms of kind of concrete  
4 forward proposals. So you know, I have difficulty with  
5 that.

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

10           (Applause.)

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

16           So just one member's thoughts.

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

25           So from the perspective of our members, I think

1 individually they have been able to share the lot of that  
2 information with the ARB staff and Board. But at the same  
3 time, I think you also can recognize that bringing  
4 together the various companies that come under the  
5 Alliance umbrella, each of them has the different vision  
6 for the future, each of them does have the different  
7 product plan.

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

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

25           So I would really say to all of you that that's

1 the very important element, and you may not hear that over  
2 the course of the day, but it certainly is an important  
3 element in these deliberations, because you all, as I  
4 think David Freeman said, my career at EPA, said  
5 California is the trend setter, California is the leader,  
6 but our companies also have the be leaders.

7           So I think we share the lot of common and mutual  
8 goals. And I think we need the build on that and not  
9 always focus on the areas where we may not agree and where  
10 there are differences.

11           Thank you, Mr. Chairman.

12           CHAIRPERSON LLOYD: Well, I would also like the  
13 compliment you, Jo, you and Greg, and Steve Doulgas,  
14 again, for the efforts that you've made the try the get  
15 all the parties together. I realize now you have the  
16 tough job. We all have the tough job there, but I know  
17 that the spirit in which you conducted this, I appreciate  
18 very much.

19           I would say, I'd go back to my opening comments  
20 when I talked about the 60 days. I think you should look  
21 back at the period from September 8th for about those 60  
22 days there I think there was an opportunity, that now  
23 you're saying we need.

24           Fortunately, our staff was working feverishly  
25 with little information, even though it was confidential



1 at that time, and whether it was state of shock or  
2 whatever, but I think, you know, I'm not that sympathetic  
3 to that particular issue there.

4 MS. COOPER: Well, I think in our judgment, the  
5 60 days would really allow us to continue the discussions  
6 with New York and the northeast states, because it is the  
7 very valid point, I think you'd agree, that if the  
8 regulation does go forward, then the northeast states can  
9 adopt it in toto. And notwithstanding the letter today  
10 and discussions, I think it puts our companies in the very  
11 substantial dilemma, and that's really what we're  
12 concerned about.

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

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

20 EXECUTIVE OFFICER KENNY: I'm sorry?

21 CHAIRPERSON LLOYD: The issue was, Mr. Kenny,  
22 that the travel issue would also, if we delay 60 days,  
23 allow more time to come to some conclusion to the states.  
24 And I thought that within the current, if we go ahead  
25 taking some action today or tomorrow, that there is that

1 opportunity, which I know you and the Secretary made the  
2 commitment, to work on that issue during and before the  
3 rule is finalized.

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

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

15 CHAIRPERSON LLOYD: Yes.

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

19 CHAIRPERSON LLOYD: Yeah. Ms. D'Adamo.

20 BOARD MEMBER D'ADAMO: Just really the comment  
21 because I know we have the lot of witnesses that still  
22 haven't had an opportunity to come up here. And on the  
23 issue of the fair market test, I have to say that I am  
24 just absolutely amazed that the Alliance is coming in and  
25 some other automakers on this point, and you would expect

1 us to take you seriously when the very -- some of the very  
2 companies that you're representing would go out there and  
3 try and market these vehicles as -- compared it to an  
4 eight-track tape or the Betamax or the dinosaur.

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

13           CHAIRPERSON LLOYD: Yes, Mr. Calhoun.

14           BOARD MEMBER CALHOUN: You mentioned something  
15 about the --

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

19           BOARD MEMBER CALHOUN: You mentioned the fact  
20 that individual manufacturers have had discussions with  
21 the staff regarding the use of MOAs as the means of  
22 complying with the regulation. And were you thinking of  
23 that in terms of something that would happen during the 60  
24 days, or I guess I'm trying the get the better feel for  
25 where you're headed with that.

1 MS. COOPER: Yes, one of the alternatives that we  
2 talk with the staff about last week was to have the  
3 individual manufacturers, and this was really as much as  
4 anything, to try to address the issue of other states,  
5 wholesale adopting the California, the entire staff  
6 proposal as the California regulation -- if it went  
7 forward as the regulation.

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

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

17 EXECUTIVE OFFICER KENNY: I'm happy to.  
18 Essentially, federal law allows other states to copy this  
19 program. Federal law provides California as the only  
20 state in the country with the ability to adopt the Mobile  
21 Source Program.

22 A manufacturers are essentially asking us to work  
23 around federal law and to duplicate something that we did  
24 five years ago that resulted in the exact position we're  
25 in today, which is the problem. We had MOUs with the

1 manufacturers that we entered into in 1996. They did not  
2 work. They were the failure.

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

5 EXECUTIVE OFFICER KENNY: Pardon me?

6 BOARD MEMBER CALHOUN: Did they comply with the  
7 MOAs?

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

9 BOARD MEMBER CALHOUN: I'm asking --

10 EXECUTIVE OFFICER KENNY: My answer would be no.  
11 And my answer would be no because the MOAs also  
12 anticipated that we would have essentially the response to  
13 market demand. We do not have that. We do not have  
14 market -- we do not have vehicles being offered into the  
15 market today, and so that is the problem. The MOAs have  
16 been utilized once and they did not work.

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

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

24 EXECUTIVE OFFICER KENNY: A MOAs essentially had  
25 very specific obligations and then they had more general

1 obligations. The specific obligations with regard to the  
2 actual number or specific number of vehicles that had to  
3 be provided for in specific time frames have been complied  
4 with.

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

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

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

22           And so we were put into the situation in which we  
23 had an MOA. We could go into court presumably and  
24 essentially get into the long legal battle, but obviously  
25 we didn't see the benefit in that. And so what we've

1 chosen to do is to essentially not respond positively to  
2 the repeat of an MOA experience which we don't think was  
3 positive.

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

10 Professor Friedman do you have the question?

11 Mr. McKinnon and then Supervisor DeSaulnier.

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

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

23 So, you know, an MOU, for me, is the nonstarter  
24 because we need those relationships with states. If one  
25 State is really dragging it out and causing the problem,

1 you know, I'm sure Kelly Brown is going to call me and  
2 you should feel free to call me or the Chair or Mike or  
3 anybody, we want to help.

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

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

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

13 BOARD MEMBER DeSAULNIER: Was that the yes?

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

16 BOARD MEMBER DeSAULNIER: Okay.

17 BOARD MEMBER BURKE: Mr. Chairman?

18 CHAIRPERSON LLOYD: Yes, Dr. Burke.

19 BOARD MEMBER BURKE: One quick question. Mr.  
20 McKinnon made the really good point when he went down to  
21 the Southgate meeting, why wasn't the MOU issue discussed  
22 down there by the majority of your members if that's what  
23 they wanted to pursue?

24 MS. COOPER: I believe the view at that time was  
25 that we were going to work through the issues with the



1 other states and come to the workable arrangement, but we  
2 have not been able to do that to date, Dr. Burke. I think  
3 it would have been difficult to do that kind of  
4 arrangement without seeing the staff proposal, which came  
5 out in December, so that we saw the full complexion and  
6 comprehensive nature of the staff proposal, that's  
7 correct.

8 CHAIRPERSON LLOYD: Thank you very much.

9 Is that it?

10 Thank you, Jo.

11 MS. COOPER: Thank you.

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

18 (Thereupon an overhead presentation was  
19 presented as follows.)

20 MR. AUSTIN: Thank you, Mr. Chairman. I'll  
21 abbreviate my testimony. I'm Tom Austin, senior partner  
22 at Sierra Research. What I'll be presenting to you today  
23 are the results of the study that was just finished  
24 earlier this week conducted by Sierra Research and  
25 National Economic Research Associates.

1           As in the analysis done by the ARB staff, we  
2 projected emissions using ARB's latest emission factors  
3 model. However, unlike the staff analysis, we made  
4 adjustments necessary to account for the range limitation  
5 of electric vehicles and to account for the reduced rate  
6 of vehicle scrapage that we believe will be caused by the  
7 slight increase in new vehicle prices necessary to recover  
8 the cost of the ZEV mandate.

9   --o0o--

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

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

24   --o0o--

25           A next figure shows the somewhat different

1 perspective, looking at the benefits of the mandate  
2 compared to other control measures that have been adopted  
3 by the Air Resources Board in the past.

4           We're showing the tons per day of hydrocarbon  
5 and/or hydrocarbon plus NOx emissions in the South Coast  
6 Air Basin for the reformulated gasoline regulations in  
7 2010, spark ignited marine engines and the portable gas  
8 can regulation showing that they all have substantially  
9 greater benefits than the 1.3 ton per day benefit in  
10 emissions associated with the ZEV mandate.

11                               --o0o--

12           MR. AUSTIN: Figure 3, the next figure, shows the  
13 cost effectiveness ratio estimated for the same control  
14 measures as shown in the previous figure. And here the  
15 situation is completely reversed. A electric vehicle  
16 portion of the ZEV mandate is projected to cost over \$1.7  
17 million per ton of hydrocarbon and NOx emissions reduced  
18 using the ARB staff's assumption regarding the emissions  
19 benefits. That's more than 100 times higher than the cost  
20 of other, almost other control measures adopted by ARB.

21           And you can see, I've had the adjust the scale  
22 here to be able to actually show any height of the bars  
23 for the other measures. On the same scale, they would not  
24 show up. They'd be about the height of the line running  
25 along the X axis.

1           A staff's estimates of -- or under these  
2 circumstances, it's apparent that the rationale for  
3 pursuing the mandate is that it could potentially provide  
4 greater in the longer term. However, the staff's emission  
5 reduction estimates are based on two assumptions that we  
6 believe are clearly wrong.

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

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

25           A conclusions that we've reached in this regard

1 are consistent with what the Board heard during the  
2 testimony of Dr. Howard Grunspect, the noted economist  
3 from Resources For The Future, who said essentially the  
4 same thing.

5           A increase in vehicle prices needed to recover  
6 the costs of the ZEV mandate, even when you account for  
7 the subsidies that we think will be made available under  
8 current and proposed legislation, are still going to  
9 amount to the slight increase in the cost of conventional  
10 gasoline vehicles, maybe only \$300 or \$400 per vehicle.

11           And superficially, this may not appear to be  
12 enough to have any meaningful effect on new vehicle sales.  
13 However, the potential benefits of the ZEV mandate are so  
14 small that only the small effect on vehicle sales is  
15 sufficient to more than offset the theoretical benefits of  
16 the mandate.

17                               --o0o--

18           MR. AUSTIN: Now the last figure shows our  
19 projection compared to the staff projection of what  
20 happens to emissions in the South Coast Air Basin during  
21 2010 under what we think is the most likely response to  
22 the staff proposal.

23           As shown in the figure, there is the slight loss  
24 in new car sales, which results in older vehicles staying  
25 on the road longer, combined with the fact that EVs can't

1 fully replace gasoline vehicles, results in emissions due  
2 the mandate going up by about 4.3 tons per day in 2010  
3 instead of going down by 1.3 tons per day as estimated  
4 using the staff's assumptions.

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

17           When you look at the effect the these two  
18 assumptions, it becomes clear that the ZEV mandate can be  
19 expected to have an adverse effect on emissions unless the  
20 staff's assumptions are absolutely correct and our  
21 assumptions are way off. Gasoline fueled vehicles are  
22 getting so close to zero emissions that anything that even  
23 slightly slows the replacement of older vehicles with new  
24 lower emission gasoline vehicles has an adverse effect on  
25 air quality.

1           The decision facing the Board is the difficult  
2 one because electric vehicles symbolize environmentally  
3 benign transportation. Perceptions about the polluting  
4 nature of gasoline fueled vehicles die hard. However, the  
5 realistic forecast of the effect of the mandatory EV  
6 production indicates that continuation of the ZEV mandate  
7 would place symbolism ahead of the best interests of air  
8 quality.

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

11           CHAIRPERSON LLOYD: Thank you very much.  
12 Comments from the Board?

13           Yes, Professor Friedman.

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

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

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

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

24           MR. AUSTIN: The Alliance of Automobile  
25 Manufacturers and the Association of International

1 Automobile Manufacturers.

2 BOARD MEMBER HUGH FRIEDMAN: Thank you.

3 CHAIRPERSON LLOYD: Thank you. A other thing,  
4 Tom, when you're addressing the air quality issues, as you  
5 know, from the lawsuit which was filed yesterday on the  
6 MTBE issue, the lot of issues surrounding, you know, the  
7 gasoline vehicles. While they're getting cleaner, there  
8 are still issues with respect to the fuel there that,  
9 again, we're trying to address some of those and we're  
10 trying to address the small part.

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

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

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

24 When costs go up, we know the prices are going to  
25 go up even slightly. And I hope we haven't created the



1 impression that we think that this mandate the going to  
2 have some kind of devastating effect on new vehicle sales.  
3 We don't. It takes less than the one percent drop in new  
4 vehicle sales to completely offset the theoretical  
5 benefits of electric vehicles.

6 CHAIRPERSON LLOYD: Professor Friedman.

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

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

15 A part that I think causes us not to go back and  
16 try to readjust numbers to reflect this kind of scenario  
17 was one that we view this as a long-term proposal,  
18 something that, in the future, we will have all clean  
19 vehicles or almost all clean vehicles. And maybe there is  
20 a blip now and for some time, I don't know about up to  
21 2020, we just saw the graph for the first time now today.

22 But, you know, there certainly may be some blips.  
23 But our, you know, experience has been that it's hard to  
24 try to nail down these kind of assumptions with the  
25 specificity that Mr. Austin has presented, because, you

1 know, a lot of stuff changes. I mean, we had estimates of  
2 the cost of low-emission vehicles that were \$1,000. It  
3 turned out they were \$100. And if I based it on \$1,000, I  
4 would have been -- we would have been, which was testimony  
5 presented to the Board, we would be making exactly these  
6 kind of claims that my God at \$1,000 for every vehicle  
7 going up nobody is going to buy these.

8           And, instead, you know, they turned out to be  
9 \$100 and we have, you know, record all time sales of  
10 vehicles up to at least the last few months. So it's very  
11 difficult to look at well, what's it going to be in 2003,  
12 what's it going to be in 2004, and what's a small  
13 percentage increase or decrease in sales or do we get or  
14 actually not get the emission reductions till a couple  
15 years later.

16           I'm not sure how much merit you can put into the  
17 accuracy of those kind of assessments. And what gave us  
18 comfort, I think, in the long-term is that, you know, we  
19 believe that this mandate has brought us way, way cleaner  
20 vehicles than we ever blended into our calculations in  
21 1990, and that it will do the same thing as we get out  
22 towards 2010 here if the Board adopts the proposal we've  
23 seen today.

24           So it's a little bit more of a, not that we're  
25 trying to put our heads in the sand or that we're getting

1 ready to float away because we don't have our gravity  
2 boots on --

3 (Laughter.)

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

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

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

23 CHAIRPERSON LLOYD: Thank you very much. We have  
24 Jim Olson, Reg Modlin, Ben Knight. I'll just announce for  
25 the Board Members that the box lunches are here. I

1 propose that we just sequentially go or whatever, get our  
2 lunch and keep going until the court reporter tells us.  
3 We can hear the testimony in the back, so that will work  
4 pretty well.

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

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

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

24           The proposed modifications coupled with the  
25 creation of an independent technology assessment panel

1 could help the ARB staff and other interested parties  
2 evaluate propulsion technologies and can help set a new  
3 direction and lend great effectiveness to the ZEV Program.

4           Toyota has demonstrated our commitment to clean  
5 air with a recent introduction of the PREIS, a hybrid that  
6 delivers more than 80 percent better fuel economy and 90  
7 percent fewer emissions than a comparable internal  
8 combustion vehicle. Like other hybrids, Preis relies  
9 partially on electric power, but it remains affordable  
10 because it also incorporates very clean gasoline power.  
11 Given the current state of the technology, it is the best  
12 of both worlds and we believe a best available bridge to  
13 even cleaner vehicles incorporating fuel cells and other  
14 advanced technologies.

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

23           For that investment, you get a vehicle that  
24 travel 100 miles at most before needing at least six hours  
25 to recharge. Then you must find a place to plug it in.

1 There are only 400 public charging stations in the entire  
2 State, compared with more than 12,000 gas stations. The  
3 staff of the Air Resources Board has labored valiantly to  
4 address the shortcomings by cutting back the requirement  
5 for pure zero emission vehicles to less than 5,000 in 2003  
6 and filling out the rest of the requirement with PZEVs and  
7 advanced technology PZEVs.

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

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

22 Second, California is not an island. If you  
23 approve this regulation, it will be adopted by New York,  
24 Massachusetts and many other states, vastly increasing our  
25 costs and siphoning resources away from the development of

1 more promising cleaner air technologies here in  
2 California.

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

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

14           Despite the remaining problems I have called out  
15 and this is the commitment part of my testimony, if you  
16 approve this regulation Toyota will do its best to comply.  
17 In closing, let me add these thoughts. The public  
18 entrusts you, the Board, with the responsibility to  
19 preserve and improve the air we breath, the stuff of life.  
20 The same public entrusts Toyota and the other automakers  
21 to provide safe, reliable and affordable passage to  
22 school, to work, to the market and home again, to soccer  
23 games, and dances, weddings funerals and vacations. In  
24 its way that too is the stuff of life.

25           And this is Toyota's dilemma. We believe in

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

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

11           Thank you for listening.

12           CHAIRPERSON LLOYD: Thank you very much.

13           Questions by the Board?

14           Thank you very much.

15           Reg Modlin, Ben Knight, Al Weverstad.

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

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

24           For the record, I acknowledge I signed up as a  
25 witness in opposition. Please understand that the



1 position is merely traditional.

2 (Laughter.)

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

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

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

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

24 We accepted your challenge in September to create  
25 one more old American try to address issues with the

1 mandate. We will continue in that effort, but today the  
2 staff has presented a proposal that does not address the  
3 cost of electric vehicles and batteries. It fails to  
4 address the issue of a sustainable electric vehicle  
5 market.

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

12           The staff's proposal, though well intended,  
13 continues to attempt to force expensive technologies into  
14 an unprepared market. Recent events illustrate how  
15 unintended consequences can flow from well intended  
16 regulatory programs. Arizona adopted a program that  
17 offered substantial refunds to those who bought vehicles  
18 designed or converted to run on alternative fuels.

19           The Legislature estimated the program would cost  
20 the State approximately \$10 million. In the end, the cost  
21 ballooned to over six hundred million. And in December  
22 Arizona was forced to deal with a budget crisis resulting  
23 from this well-intended initiative.

24           California, too, is currently suffering under an  
25 unintended consequence of a well intended effort to

1 deregulate electric utilities. The recent power shortage  
2 that stems from deregulation has left Californians with  
3 the unpleasant choice of higher electric rates or bankrupt  
4 utilities.

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

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

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

22           Consideration of time is one issue.  
23 Manufacturers at least cannot use some of the changes  
24 suggested by staff in cases where manufacturers have  
25 established their plans to meet -- to attempt to comply

1 with California's existing mandate. The 2003 model year  
2 is under one year away. For a manufacturer to have a  
3 product available for the 2003 model year, production  
4 plans have to be completed by mid-2001. To support  
5 production, the engineers had to complete their work by  
6 mid last year.

7           Therefore, my comment is that an option suggested  
8 by staff cannot be used by a manufacturer within the early  
9 years of a modified program, unless the manufacturer  
10 already had the technology in place for other reasons.

11           Let's save the inherent competitiveness of this  
12 business. Or how about the example observed today.  
13 Electric vehicles sold off of a dealer's lot under the  
14 staff's proposal can receive four credits in some cases.  
15 But if no customer can be found, a manufacturer must be  
16 forced to place three additional unsalable vehicles onto  
17 that dealer's lot in an effort to remain compliant. Talk  
18 about an unintended consequence.

19           There are alternatives to the risk and expense of  
20 regulatory experiments. One alternative is for government  
21 and the auto industry to work cooperatively as we have  
22 demonstrated under the California fuel cell partnership.  
23 Manufacturers have proposed to cooperate with the State to  
24 seek a solution under such a framework. A cooperative  
25 effort would provide for the Board and manufacturers to

1 join in determining whether there is a sustainable market  
2 for electric vehicles and other technologies.

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

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

16           Thank you for your attention.

17           CHAIRPERSON LLOYD: Thank you very much.

18           Any question or comments?

19           Ben Knight, Al Weverstad, Bahram Fazeli.

20           MR. KNIGHT: Good afternoon members of the Board.

21 I'm Ben Knight, vice president at Honda. I was  
22 uncomfortable this morning with the sign-in choices. I  
23 could either favor or oppose, but that doesn't fit our  
24 position. We're for some changes that would benefit the  
25 program and make it a success.

1           Over the ten-year history CARB's ZEV mandate has  
2 been an important catalyst in the development of zero and  
3 near zero emission vehicles. Part of its success is that  
4 it has been a dynamic process. CARB has recognized the  
5 need to make changes when the technology and the  
6 opportunity warranted them.

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

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

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

25           Honda has been a pioneer in the design,

1 manufacture and marketing of an advanced battery EV.  
2 After bringing the technology to a high level, we are  
3 firmly convinced that a sustainable consumer market simply  
4 does not exist for a vehicle with the range, cost and  
5 recharge time characteristics available to best meet  
6 current and foreseeable battery technology.

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

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

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

24           One option would be for a pure battery EV  
25 program. Another option, a program for the fuel cell

1 vehicles, developed around a set of performance based  
2 parameters and milestones. Progress would be measured  
3 against these parameters and milestones and demonstrated  
4 to the public.

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

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

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

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



1 significant and not-to-be-anticipated breakthroughs in  
2 battery performance.

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

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

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

19           Thank you.

20           CHAIRPERSON LLOYD: Thank you, Ben.

21           Questions?

22           Dr. Burke.

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

25           DEPUTY EXECUTIVE OFFICER CACKETTE: I think the

1 key, as I understand it, were the words performance of the  
2 vehicles. In other words, the ZEV option under his -- or  
3 the battery electric vehicle option would be something  
4 like is proposed and the fuel cell option would be a  
5 relatively small number of vehicles which have performance  
6 targets that are, I guess, designed to get us a  
7 substantial number of vehicles sometime after the turn of  
8 the next decade.

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

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

22           BOARD MEMBER BURKE: But he's saying that fuel  
23 cell technology is going to be inherently slower. I want  
24 the words from your mouth, that's what I understood you to  
25 say.

1           DEPUTY EXECUTIVE OFFICER CACKETTE: I think the  
2 key there is that no one is saying that commercial volumes  
3 of fuel cell vehicles at any cost would be viable in the  
4 same time frame that BEVs are available.

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

7           DEPUTY EXECUTIVE OFFICER CACKETTE: Meaning 2003  
8 in that case.

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

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

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

25           Thank you.

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

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

13           CHAIRPERSON LLOYD: Has the message changed?

14           (Laughter.)

15           MR. WEVERSTAD: Well, you judge for yourself.  
16 You'll judge that for yourself as we go forward here.

17           I would only ask that you be kind as I'm a new  
18 kid here. My comments are indeed brief. I would start  
19 out that one of General Motors environmental principles  
20 states that we will continue to work with all governmental  
21 entities for the development of technically sound and  
22 financially responsible environmental laws and  
23 regulations. That principle has guided our efforts  
24 related to the ZEV mandate and is the basis for my  
25 comments today.

1 GM supports the goal of improved air quality. GM  
2 supports the focus on technological innovation to achieve  
3 that goal. And GM believes that improved air quality and  
4 technological innovation must be pursued in the most cost  
5 efficient manner.

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

11 Knowing this, GM has devoted its efforts to  
12 developing alternative approaches to the ZEV mandate.  
13 Working with industry, GM developed the fair market test  
14 that is described in the Alliance written comments. I  
15 recognize the fair market test is not your favorite, but I  
16 want you to know that we consider it a unique  
17 nonregulatory approach to resolving the complex issue of  
18 whether a sustainable market exists for electric vehicles  
19 that would enable manufacturers to meet the ZEV mandate.

20 We felt that it provided an objective approach to  
21 the resolution of the issues accommodating the interests  
22 of CARB and the other interested stakeholders. Now,  
23 perhaps we missed the message, but the intent was clearly  
24 to address the concerns that you had.

25 CHAIRPERSON LLOYD: I'd agree with you when you

1 say unique, that's about as much as I will agree with.

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

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

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

24 Still another program could involve a cooperative  
25 effort with the State to fund distribution of new gasoline

1 storage cans, thereby helping to decrease the nearly 80  
2 tons per day of ozone-forming emissions by 2010 that CARB  
3 has estimated will result from the continued use of old  
4 containers of this type.

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

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

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

23           This useful life extension alternative would  
24 provide emission benefits greater than the current ZEV  
25 mandate or the staff proposal and costs substantially

1 less. In short GM and industry have made several, what we  
2 consider, good faith efforts to work with the staff and  
3 interested parties to develop mutually acceptable  
4 alternatives to the current ZEV mandate and the staff's  
5 proposal.

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

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

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



1 that are more likely to succeed in the long term.

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

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

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

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

22           We are at a fork in the road to improve air  
23 quality and technological innovation, and we want to do it  
24 in the most cost effective manner. One road continues  
25 with the ZEV mandate. The other road holds possibilities

1 and promise of alternative programs, both regulatory and  
2 nonregulatory. GM urges the Board to join industry on an  
3 approach to develop these alternatives.

4 Thank you your consideration.

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

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

22 (Applause.)

23 CHAIRPERSON LLOYD: In terms of costs in that  
24 case, you know, and I don't know how much it costs, but I  
25 bet you could fund that program with the effort that

1 you've made to actually defeat the mandate. I would like  
2 to see you using those resources positively. We want to  
3 work with you and with great sincerity.

4           You've got great products there. I've been back  
5 to your technical center to see that. I don't see them  
6 coming forward. I don't see them coming out. I don't see  
7 this two-way street. It's delay. It's diversionary  
8 tactics. Definitely, we'd like to work with you, but  
9 let's see if we can work in a more proactive way.  
10 Clearly, the son of sam is here.

11           Thank you.

12           (Laughter.)

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

20           MR. WEVERSTAD: Can I answer that question?

21           BOARD MEMBER WILLIAM FRIEDMAN: Not yet.

22           MR. WEVERSTAD: Okay.

23           (Laughter.)

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

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

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

9 (Applause.)

10 BOARD MEMBER WILLIAM FRIEDMAN: And I don't  
11 know -- you know, I've been sitting here today listening  
12 to people tell me why we should delay our determination.  
13 We've been talking about this for 10 or 11 years. And  
14 I've been hearing things about environmental justice as a  
15 reason to delay something that would clean the air for  
16 everybody. And I'm hearing arguments for 60 day delays,  
17 when we've been delaying for a decade what we ought to do.

18 And it is just -- it disturbs me. I mean the  
19 reasons that so much progress has been made in cleaning  
20 the air with respect to cars is because we have taken a  
21 tough line and we have compromised in the past. And to  
22 compromise the MOA my dear friend, when you talked about  
23 compliance with the MOA, I mean, I sat there in September  
24 and heard all the ways in which there was no compliance  
25 with the intent of that MOA. The specifics maybe, but not

1 the intent.

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

10           (Applause.)

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

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

23           We intended to make that open to input from all  
24 stakeholders in looking for help. I would submit to you  
25 that while we might not be perfect, we certainly have

1 tried and we do feel that we're good corporate citizens.

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

8 Mr. Calhoun.

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

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

22 The key to me is how do we move things along such  
23 that we can get participants from the various interested  
24 stakeholders and from the auto industry, being one of the  
25 stakeholders, to get that acceptable to the State. And

1 we've done a lot of this in the past. And the very  
2 thought of not being able to work cooperatively together  
3 in the future really disturbs the hell out of me.

4           And I have to admit that it's frustrating at  
5 times, but we've made a lot of progress. And I think that  
6 is the only way we're going to continue to make the kind  
7 of progress that's needed. Thank you.

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

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

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

23           And I do think it's fair to applaud the State and  
24 its agency, the Air Resources Board, and credit it for  
25 much of this, as I think you did, and I think the speaker

1 before you did. I don't think the stork delivered what  
2 happened. And I don't think the automakers themselves  
3 alone would have brought us to the point we're at with  
4 whatever competition and forces are at work, as was  
5 described earlier.

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

22           I still hear people talk about it, rave about it  
23 and prize what they have. So I guess what I'm trying to  
24 say to you is I'm hoping that despite what I'm hearing  
25 from the manufacturers, some of them, others have been a



1 little more willing to say we will make it work if we have  
2 to, I'm really hoping that General Motors, which in many  
3 ways has been a leader in the past can resume some kind of  
4 leadership role.

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

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

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

18 BOARD MEMBER HUGH FRIEDMAN: And I don't think  
19 that in terms of marketing, you mentioned that and then  
20 I'll end. As I've said with Mr. Brown and others, I think  
21 that we need to -- and if it's appropriate to formalize  
22 it, I will propose that to build into our action that we  
23 take, that we commit and we will do our best to, with  
24 whatever persuasion we have, to enlist the kinds of  
25 participants and stakeholders that you had proposed and

1 others in the fair market test so-called to help market  
2 them and help educate the public about them.

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

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

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

15           CHAIRPERSON LLOYD: He may be listening.

16           BOARD MEMBER BURKE: Yes, I know.

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

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

21           (Laughter.)

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

1 CHAIRPERSON LLOYD: Disappointed is the word.

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

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

8 (Laughter.)

9 BOARD MEMBER BURKE: You want all those kudos.

10 (Laughter.)

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

22 But I don't think that those people who have used  
23 that as a, for whatever perspective, used it out today, I  
24 don't think they did that lightly. And they may have been  
25 not correct in their assessment in your view, but in their

1 view, we know that I think that they were speaking from  
2 the heart also.

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

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

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

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

24           BOARD MEMBER BURKE: So what you're telling this  
25 board is that -- you see South Coast could use a \$100

1 million. I mean, you know, you might get me to change my  
2 mind a little if we were going to do a pilot program for  
3 South Coast for 100 million. But are you saying to this  
4 board that for some figure north of \$100 million, General  
5 Motors would provide air quality mandated by this board in  
6 areas required by this board so we could meet this  
7 environmental justice issue?

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

24           Mr. Kenny, you have heard this before?

25           EXECUTIVE OFFICER KENNY: Actually, I just walked

1 in, I missed the offer.

2 (Laughter.)

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

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

16 (Laughter.)

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

20 BOARD MEMBER WILLIAM FRIEDMAN: Bill, now you're  
21 really confusing me, because my whole point about  
22 environmental justice is that the way to deal with that  
23 issue has to do precisely with diesel issues, with  
24 factories and so forth and so on, and I fully subscribe to  
25 that. Am I hearing that we can buy out of the ZEV mandate

1 instead --

2 BOARD MEMBER BURKE: I didn't say that.

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

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

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

19 And I thought the issue here had to do with  
20 electric vehicles. And it's becoming a little more clear  
21 to me why we've been asked by Legislators to delay this.  
22 I don't understand what exactly the agenda is here. I  
23 thought that the agenda was pretty clearly that we carry  
24 forward from the September meeting some modifications to  
25 the ZEV mandate and see where we stand. And I've seen in

1 the newspapers arguments about electricity, which, thank  
2 heavens, Mr. Freeman was here to put the kibosh on a most  
3 absurd kind of editorial articles and so forth.

4           And I still, my comment earlier about  
5 environmental justice, of what it was doing as part of  
6 this discussion, I'm still confused by why it surfaced  
7 now. I've taken care of people my whole life. I don't  
8 care whether they're here legally, illegally, poor, rich,  
9 whatever, what color they are, and so forth and so on, and  
10 I can't imagine why that is a concern over ZEV. I mean  
11 it's a concern for everyone in a million other ways.

12           (Applause.)

13           BOARD MEMBER WILLIAM FRIEDMAN: But how it  
14 surfaced at this meeting is beyond me. You know, I'm not  
15 a politician. Maybe there's something going on that I  
16 should know about, but I don't know about it.

17           BOARD MEMBER BURKE: If you know why they're  
18 asking for a two month delay, you've got to explain it to  
19 me, because I really don't understand that one either.

20           BOARD MEMBER WILLIAM FRIEDMAN: Well, I don't  
21 either. To me -- look, I went. I've been in those  
22 communities. I see what the problem is. I see smoke  
23 stacks spewing into school yards and so forth and so on.  
24 And we've got the do something about that. That's also  
25 true. But now we're dealing with an issue that we've been



1 dealing with for 11 years. And all of a sudden there's  
2 three or four more elements that are --

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

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

24 CHAIRPERSON LLOYD: Can I just -- I'd like to  
25 move on. I know I've got two of my colleagues there. But

1 point of clarification, I think my understanding from our  
2 long debate on school buses that a \$150 million, even if  
3 it's \$150 million, would not cure the issue unless you  
4 went to one approach there. And obviously, because school  
5 buses don't operate for long hours, that takes care of a  
6 piece of the problem, but maybe, Mr. Kenny, a  
7 clarification on that.

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

20 CHAIRPERSON LLOYD: Thank you.

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

23 EXECUTIVE OFFICER KENNY: Retrofit, retrofit is  
24 substantially cheaper. And, in fact, one of the things we  
25 had talked about last month was that if we had used all of

1 the money for retrofit purposes, we could have gotten  
2 approximately half of the school buses retrofitted.

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

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

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

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

25 Now, I don't think it's funny at all to equate

1 buying out environmental justice issues for 100 million  
2 bucks. I find it insulting. I have found this campaign  
3 to be outrageous in talking about things in that way. But  
4 one thing is assured, one thing is assured, there were two  
5 very fine men that were here, the State Assemblymen, and  
6 there are more State Assemblymen that environmental  
7 justice just went to the top of their page to look at.

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

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

24           So I would love you to go back to those State  
25 Assemblymen and tell them you know if I had a plant, my

1 idea of environmental justice is I'd close the plant. I  
2 am real, real angry about the direction this debate has  
3 taken. I want to try to be respectful that your company  
4 did the best job in the early days. I did follow it. We  
5 were very interested -- I was an aerospace worker. We  
6 were very interested in how aerospace materials were going  
7 to fit into the new technologies involved in electric  
8 cars, very interested. I followed what you did.

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

13           CHAIRPERSON LLOYD: Supervisor DeSaulnier.

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

24           We just wanted to show flexibility. And I'm  
25 sorry if somehow you have connected that with something

1 else. That was certainly not the intention.

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

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

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

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

25 CHAIRPERSON LLOYD: Supervisor DeSaunlier.

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

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

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

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

25           BOARD MEMBER DeSAULNIER: Thank you.

1           CHAIRPERSON LLOYD: Thank you very much, Al.  
2 Now, we've got Bahram Fazeli from the Communities for a  
3 Better Environment. And I would hope that we can move on.  
4 After that we're going to take a half hour break for the  
5 court reporter and eat lunch and we do have to give you a  
6 chance to do that.

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

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

17           I just want to say to the representative from  
18 General Motors that they are very welcome to contribute to  
19 the environmental justice cause in California. I would  
20 suggest that even if they contribute one thousandth of one  
21 percent of their profit annually to the cause of  
22 environmental justice in California, we would be content.  
23 And I don't think that anybody is stopping General Motors  
24 from being ahead of regulation. So if they, in fact, do  
25 care about clean air, I would suggest that they take the



1 initiative instead of being on the defensive all the time.

2 I'm going to read a letter written by Carlos  
3 Perez, Executive Director of Communities for a Better  
4 Environment, addressed to Dr. Lloyd and distinguished  
5 members of the Board.

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

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

18 "I was very alarmed to see that some members of  
19 the industry have relied on a campaign of misinformation  
20 by exploiting the theme of environmental justice in order  
21 to advance their self interest in delaying the ZEV  
22 Program. Let me assure you that a speedy adoption and  
23 implementation of the ZEV Program would benefit all  
24 Californians, including members of our communities  
25 consisting of lower income people of color, who have

1 suffered from a disproportionate impact of the stationary  
2 and mobile sources of pollution throughout the years."

3 (Applause.)

4 The ZEV Program must be implemented alongside  
5 other policies that rely on the precautionary principle  
6 and a vision that takes a preventative approach to public  
7 health. One of those policies the implementation of a  
8 comprehensive statewide environmental justice program that  
9 can reverse the course of years of environmental inequity.

10 The neighborhood assessment program has the  
11 potential to achieve this goal and CBE is working with ARB  
12 in the front. We hope to see a strong support from the  
13 Board in this endeavor as well.

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

21 Signed Carlos Perez.

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

1 Stempel and Steve Kirsch being the first two after lunch.

2 (Thereupon a lunch recess was taken.)

3

4 AFTERNOON SESSION

5 CHAIRPERSON LLOYD: Who's going to speak first,

6 Sonia Felix.

7 MS. JENNIE LAGUNAS: Bella Lagunas is here.

8 CHAIRPERSON LLOYD: Okay, Bella Lagunas and

9 Jennie Lagunas.

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

13 CHAIRPERSON LLOYD: Thank you.

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

25 We see it as the air solution for rich people,

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

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

20           But I'm sure that there's other minority  
21 communities that are having the same problem, but they  
22 haven't been spoken for, so we need the get together with  
23 them also and they need to have their voice heard.

24           So we're not opposed to it. We think it's a  
25 great idea, but we just are asking for possibly more time

1 for maybe more to help us, because it isn't, you know --  
2 it's hard for us because, you know, we're from -- we have  
3 lower incomes.

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

5 CHAIRPERSON LLOYD: Thank you very much.

6 Mr. McKinnon.

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

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

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

24 So what I wanted to make sure that your mother  
25 knew is that this is sort of -- the electric car is sort

1 of like the long vision, but there are much shorter-term  
2 things that we have to be doing all the time and  
3 improving. That's one thing I want to be sure you knew.

4           The other thing we should make sure we know is  
5 how to get ahold of you and your organization and your  
6 community to make sure that when we do have hearings in  
7 Los Angeles, you hear about it. And actually this woman  
8 Kathleen, right here, is the person who's responsible for  
9 making sure that all the stakeholders are engaged in our  
10 processes. And we heard a little bit earlier that we may  
11 have some weakness at how we're doing that. And to the  
12 extent we do, it would be real important to make sure we  
13 know how to get ahold of you and to include you. I think  
14 we're going to have a meeting in Los Angeles fairly soon.

15           MS. JENNIE LAGUNAS: That would be great.

16           BOARD MEMBER MCKINNON: Thank you for coming all  
17 this way.

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

21           (Laughter.)

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

24           Okay, so this is Margarita?

25           MS. SANCHEZ: Margarita Sanchez.

1 CHAIRPERSON LLOYD: Pleased to see you.

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

4 Dr. Lloyd, you did receive a letter from our  
5 organization. And from the get-go we are supporting a  
6 90-day postponement of the decision on this. We feel that  
7 there are issues that need to be addressed. And the first  
8 issue, of course, is one of the heavy difficulty of having  
9 the presence of minority people and poor communities  
10 represented the some of these hearings. It's very  
11 difficult for us just to get here, much less to be invited  
12 here. We just found out a week ago and not through your  
13 sources, although we have been dealing with the ARB and  
14 the SB 25, thank you for our monitor that we'll be  
15 getting.

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

1 process due to the the historical factors.

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

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

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

25           You may get a small decrease in pollution because



1 of the overall work that you do, and we still get an  
2 increase in pollution. This is a fact of life with us.

3           We have illnesses. We can't even keep our homes  
4 clean. Everyday the the is permeated through our homes no  
5 matter how tightly we try to the our windows. The the is  
6 horrendous. We can't sleep. Our kids are irritated.  
7 They can't study. We can't keep the windows open during  
8 the summertime. Our cars are filthy. Every day, you  
9 know, you wash your car, the next day it's just got all  
10 this grime on it.

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

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

25           That is all we have been able to achieve. No

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

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

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

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

20           MS. SANCHEZ: A little more.

21           So we definitely would like the 90-day extension.  
22 Please give it to us. We would like stakeholders  
23 participation. We need our poor communities involved and  
24 we need some immediate results, things like filtration on  
25 the buses. Tap into some of the automotive industry money

1 for things like that. And there's some other creative  
2 solutions that are in the air. That's what we're here  
3 for.

4 And we thank you very much for your attention.

5 CHAIRPERSON LLOYD: Thank you for taking the  
6 time. And I think, as Ms. McKinnon said, we are down in  
7 the community next month in Southgate. We'll make sure  
8 you get that information. The the thing I think on it,  
9 while it's called a Zero Emission Vehicle Problem. It  
10 includes a lot more technology than battery electrics.  
11 But we clearly need to get that information to you and  
12 explain it to you in a better way.

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

18 CHAIRPERSON LLOYD: Mr. McKinnon.

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

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

24 BOARD MEMBER MCKINNON: Did they. Yeah, yeah. I  
25 think --

1 MS. SANCHEZ: The same city, just different  
2 situation.

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

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

7 CHAIRPERSON LLOYD: We are doing it.

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

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

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

16 MS. SANCHEZ: That and heavy equipment and --

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

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

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

24 Now, we have Elsa Lopez and then Dr. Thomas  
25 Dailey and Robert Stempel and Steve Kirsch.

1 MS. LOPEZ: Hi. I'm Elsa Lopez. I'm the  
2 Executive Director for or Mothers of East LA Santa Isabel.  
3 We're a womens' community based organization. And we have  
4 always supported the ZEV Program. The the thing that we  
5 don't like is that we were never included.

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

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

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

22 And for anyone out here to say that our  
23 organization sells out to anybody, we don't. If GM comes  
24 in and says they have incentives, have them do the the  
25 they've been doing and more and give the incentives, take

1 them on then, but include them in those electric cars for  
2 the the that can't afford them, because I know the people  
3 in my community can't.

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

13           Thank you.

14           CHAIRPERSON LLOYD: Thank you for coming.

15           Dr. Thomas Dailey.

16           Thomas Dailey?

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

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

24           I am also here on behalf of more than 40  
25 physicians and medical professionals who have signed a

1 letter specifically calling on your board to adopt the  
2 strongest possible Zero Emission Vehicle Program and more  
3 specifically to strengthen the the recommendation to  
4 increase the the of ZEVs that auto makers are required to  
5 produce over the the decade.

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

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

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

25           Two years ago I biked across the country from

1 Seattle to Washington D.C. to raise money for the American  
2 Lung Association. Increasingly, however, I find it  
3 necessary to balance the benefits of exercise with the  
4 deleterious effects of air pollution in California, both  
5 in managing my patients and my own asthma. I cannot  
6 safely advise my patients to take advantage of exercise on  
7 days when ozone reaches unhealthy levels and increasingly  
8 frequent occurrence.

9           Asthma sufferers will benefit from a strong ZEV  
10 Program. Today, there are more than two and a half  
11 million Californians who suffer from asthma, including  
12 half a million children. For them, exposure to air  
13 pollution can exacerbate their asthma and trigger asthma  
14 episodes. In California, the the rate for childhood  
15 asthma has increased by an astounding 75 percent between  
16 1980 and 1993, 75 percent.

17           Asthma sufferers are among the most sensitive  
18 individuals who are hit the hardest by air pollution  
19 episodes. While asthma is a widespread problem, it is  
20 particularly prevalent in central California as  
21 demonstrated by the the facts.

22           Fresno county has the the highest death rate from  
23 asthma in the The, third highest in the The. Among  
24 chronic illnesses, asthma is the the one cause of school  
25 absenteeism in central California. Asthma is the the one



1 disease related cause of emergency room visits in central  
2 California.

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

10           We know that the the of children in highly  
11 polluted areas actually develop more slowly and have less  
12 lung capacity, making them more vulnerable to the theset  
13 of lung illnesses or chronic respiratory disease.

14           Your board recently heard research findings  
15 showing an 83 percent increase in school absenteeism for  
16 children living in high ozone areas in southern  
17 California. As we begin to the more clearly the chronic  
18 effects of smog on children's lungs, it becomes more  
19 imperative for your board to press for the technology  
20 breakthroughs needed to dramatically reduce vehicle  
21 pollution in our communities. We need a strong ZEV  
22 Program now more than ever.

23           The outcome of this hearing will affect me both  
24 personally and professionally. Your decision will help  
25 determine how many Californians will develop lung disease

1 in the the decade. Your decision will help determine how  
2 much lung disease I will diagnose in my career, and how  
3 many patients I will treat for lung disease in my  
4 lifetime.

5           On behalf of the American Lung Association and  
6 the the 40 physicians and medical professionals who signed  
7 our letter to your board, I urge you to do everything  
8 possible to launch a successful ZEV Program. Adopting the  
9 strongest possible ZEV Program is critical to improving  
10 public health for communities throughout California. It's  
11 a matter of life and breath.

12           Thank you.

13           (Applause.)

14           CHAIRPERSON LLOYD: Yes. Thank you. A question,  
15 Dr. Dailey.

16           BOARD MEMBER RIORDAN: Dr. Dailey, thank you very  
17 much for your excellent testimony. I'm interested because  
18 I think this is a significant statistic about the the rate  
19 for childhood asthma, and it goes to 1993. Could you  
20 estimate what may have happened between 1993 and today in  
21 terms of that?

22           DR. DAILEY: The the statistics that we have, it  
23 obviously takes years to go through the data and confirm  
24 what was truly asthma death, but the best statistics that  
25 we have suggest that this epidemic is continuing and there

1 are a variety of theories as to why, but certainly the  
2 most prevalent theory is that there is a significant  
3 contribution from air pollution exposure in terms of  
4 children's lungs being exposed to air pollution and  
5 therefore developing an increased incidence of asthma and  
6 an increased incidence of asthmatic attacks in our very  
7 youngest citizens.

8 BOARD MEMBER RIORDAN: Thank you.

9 CHAIRPERSON LLOYD: Thank you very much.

10 Mr. Stempel, Steve Kirsch, Paul Lancaster.

11 Sorry to keep you there with a couple of false  
12 starts, but I appreciate your patience.

13 MR. STEMPEL: No problem. Thank you, Mr.  
14 Chairman and board members for the opportunity to appear  
15 today before this board considering the amendments to the  
16 California Zero Emission Regulations. I'm chairman of  
17 Energy Conversion Devices Incorporated in Troy, Michigan.  
18 We manufacture and sell advanced energy storage products,  
19 such as metal hydride batteries and solid hydrogen storage  
20 systems as well as advanced energy generation products,  
21 such as thin film photo takes.

22 My last appearance before this Board was the  
23 review hearing on September 7th, 2000 where I outlined the  
24 various factors, the cost to manufacture EVs and HEVs, the  
25 energy level and costs associated with our advanced nickel

1 metal hydride battery products, the production volumes  
2 needed to economically produce these batteries and the  
3 actual mileage achieved with nickel metal hydride  
4 batteries.

5           And, at that time, I urged the Board to keep the  
6 mandate with the volume adjustment to assure a smooth  
7 startup and incentives to increase the volume in EVs every  
8 year after 2003.

9           We're all aware of your charge to the staff and  
10 the the very thoughtful and positive response. Now, the  
11 ZEV era is about really to begin and is it going to just  
12 be slow or is it really going to take off?

13           We're pleased to see the recent HEV introductions  
14 from Honda and Toyota and hear about the the HEV  
15 introductions from GM, Ford and Chrysler. But on zero  
16 emission, HEVs can reduce fuel consumption, lower exhaust  
17 emissions and reduce greenhouse gas emissions.

18           As you might expect, I would like to the less  
19 credit for HEVs with conventional technology, that is lead  
20 acid batteries and current emission controls, more credit  
21 for advanced batteries and advanced IC engine controls.  
22 The hybrid vehicle is a really good transition vehicle to  
23 battery EVs or fuel cell EVs.

24           Since it gets electric drive on the vehicle along  
25 with the controls, it's an important first step towards

1 zero emissions. We're especially pleased to see staff's  
2 support of the plug-in hybrid with a minimum of 20-mile EV  
3 range. For most daily trips, that car will operate as a  
4 ZEV vehicle.

5           At ECD we share this Board's vision for ZEVs,  
6 more people driving more miles even with cleaner gas  
7 engine cars. Personal transportation with zero emission  
8 is absolutely necessary within the central city and  
9 metropolitan areas where pollution pockets are the  
10 greatest. We need to encourage high volume, affordable  
11 introduction of battery EVs and fuel cell EVs to maintain  
12 this transportation system. We don't need another  
13 demonstration program. We don't need another hundred  
14 vehicles. We need thousands of these vehicles that will  
15 serve customer's needs at an affordable price.

16           We also need delivery and utility vehicles that  
17 are cost effective for postal delivery, service cars and a  
18 multitude of public service vehicles that operate in the  
19 the, relatively few miles every day but lots of hours of  
20 operation.

21           Now, since the September 7th hearing, it's been  
22 interesting to hear the different OEM comments on the  
23 volume of product needed to make advanced vehicles  
24 practical and affordable, EVs, HEVs fuel cell EVs.

25           To me it's been a great interest to hear the auto

1 makers confirm that until we're talking 100,000 to 200,000  
2 vehicles a year, the typical economies of scale that make  
3 autos affordable for the average customer just are not  
4 there.

5           During the recent North American international  
6 auto show on January 9th in Detroit, Mr. Pierce, the vice  
7 chairman of GM introduced the GM Paradigm hybrid system  
8 starting in production in 2004, initially at a volume of  
9 7,000 per year but rising to a hundred thousand a year in  
10 just a few years. Mr. Pierce opined that 100,000 vehicles  
11 per year, the the of the hybrid system would be about the  
12 the as a regular SUV or full-sized truck equipped with an  
13 IC Engine meeting future emission standards.

14           It was very interesting to me since it added two  
15 electric motors, controls and a battery. I think volume  
16 does make a difference. After the show you were contacted  
17 by some potential battery customers who also told us that  
18 volumes in the the range would be necessary.

19           Now, why do I continue to the the volume issue in  
20 these hearings? Volume is the key to cost. Yes, we have  
21 to simplify the design, reduce the the of parts, eliminate  
22 expensive materials, but volume is the ultimate key to the  
23 reduction.

24           2003 may be the theing point, but by 2006, 2007  
25 our suppliers need to the we're planning typical high

1 volume automotive components. That's necessary to make  
2 the capital investments now that lower the the in the  
3 future.

4           When we ask for quotes on parts for 500 or 1,000  
5 vehicles, our suppliers look at the order and don't  
6 consider it very worthwhile. They have to interrupt  
7 regular production, time to the up, modify and then shut  
8 down. It interrupts them. On the other hand, if you're  
9 talking 100,000 vehicles that use maybe a 15 module  
10 battery pack with ten cells and each battery has two  
11 fittings on it, all of a sudden we're talking 30 million  
12 parts.

13           Well, that let's us go from dollars per fitting  
14 to pennies per fitting. The higher volumes also allow  
15 most importantly forward pricing. If we know the volumes  
16 in year three are 100,000 or so, and we get past the ramp  
17 up, startup and acceleration, we could begin to the at  
18 this over a five, six year base. If we do that, we can  
19 average those costs, and those very high initial first  
20 costs can be balanced off with the the we're going to be  
21 running for many years.

22           This allows us to put the the front capital in to  
23 reduce the the and it's the basic approach the industry  
24 uses to bring in new models.

25           Now, in addition to volume considerations that

1 help lower costs, the durability and life-cycle costs are  
2 also important. And on a life-cycle basis, that is the  
3 original batteries, for example, plus the replacement  
4 batteries, we're competitive with lead acid batteries  
5 today. The nickel metal hydride batteries are a robust  
6 design with long cycle life and we plan to take advantage  
7 of the staff's suggestion that extended warranties be  
8 given credit. We think some of our customers will like  
9 that feature.

10           Most of the OEMs agree that the nickel metal  
11 hydride battery is a preferred battery and we continue to  
12 simplify the design and reduce parts at their request.  
13 When we started our joint venture in '94, the battery had  
14 100 different part numbers in it. There were multiple  
15 pieces in some cases, but over 100 part numbers. Our  
16 latest design we've just showed the OEMs, has a total of  
17 27 part numbers. So we are effectively bringing down the  
18 cost through design.

19           Now, since my last appearance before this board,  
20 the future of our joint manufacturing venture to  
21 manufacture these batteries in high volume for EVs, HEVs  
22 and fuel cell cars has become very clear. On October  
23 10th, GM and Texaco signed an MOU for Texaco to acquire  
24 GM's share of the GM Ovonic manufacturing business.

25           On the same day, concurrent with that signing, we



1 signed an agreement with Texaco to continue the the of GM  
2 ovonic on a 50/50 basis. And with the recent announcement  
3 of the Chevron, Texaco merger Texaco has advised the joint  
4 venture will continue. We're in the the completing the  
5 final agreements.

6 We're actively working with several OEM customers  
7 to finalize their requirements for batteries. Now,  
8 obviously our customers, our partners Texaco and Chevron  
9 our employees are waiting for the Board's final decision  
10 on the future of the ZEV mandate to see if we go forward  
11 with full production tooling.

12 Well, as I said at the beginning, now is the  
13 time. No matter what this Board decides, I'm afraid  
14 everyone of us will be a little bit unhappy. We can't  
15 please everybody, but the Board can make a difference, a  
16 change that will continue a viable, personal  
17 transportation system while reducing air pollution,  
18 greenhouse gas emissions and reducing fuel consumption.  
19 We urge the Board to the with the mandate for 2003  
20 including a sufficient volume of ZEVs, and the incentives  
21 are credit for the introduction of advanced technologies  
22 to make it worthwhile for the OEMs to produce ZEVs.

23 There should be sufficient credits to promote  
24 increasing ZEV volume after the introductory year and an  
25 ongoing availability after introduction. Less credits for

1 HEVs with conventional technology, and, of course, we  
2 would like more with HEVs and advanced technology,  
3 expansion of the education information program on the  
4 benefits of EVs and HEVs for consumers as proposed by  
5 staff, and most importantly add certainty to the fact that  
6 EVs are indeed part of the solution and part of our  
7 future.

8 I thank you very much for the opportunity to  
9 present these comments.

10 CHAIRPERSON LLOYD: Thank you very much.

11 (Applause.)

12 CHAIRPERSON LLOYD: Questions from the Board?

13 Mr. Calhoun.

14 BOARD MEMBER CALHOUN: I can't let you get away,  
15 Bob, without asking one simple question. First of all,  
16 I'd like you to go back and repeat the statement that you  
17 made about Harry Pierce's comment relative to the  
18 introduction of the hybrid, that its -- at a volume of  
19 7,000 and compare that to the advice of --

20 MR. STEMPEL: Harry was asked a question -- Mr.  
21 Calhoun and I worked together for awhile. He was asked a  
22 question by the the about the the And they noted it had  
23 two electric motors and controls. And obviously the press  
24 is the with some of the things they've heard here. We had  
25 California press as well as international press and they

1 pushed them on the cost. And Harry said, by the time we  
2 get to 100,000 vehicles per year, we'll have a volume that  
3 we think, when you look at the IC engine truck, with the  
4 controls needed to the whatever the ultra low emissions  
5 are, versus the hybrid truck, we think the the are going  
6 to be pretty close to equal.

7           And for those of us in the audience, there was a  
8 hooray.

9           BOARD MEMBER CALHOUN: I think that is a good  
10 point. You also mentioned the the that at the extended  
11 volume or high volume you can sort of take out or make  
12 amends for the the during -- in the early years that  
13 you've averaged that out. I think that's a very important  
14 point also.

15           MR. STEMPEL: Yes, forward pricing basically  
16 allows you to look over a five, six year period. In our  
17 case the batteries might even look a little longer, but  
18 you would then take that initial tooling, which the first  
19 year is, of course, very high. But if it's going to the  
20 you for that period of time, you'd spread that over the  
21 the Likewise, we can also offer to our material suppliers  
22 long-term contracts.

23           This is extremely important where we buy things  
24 like nickel and people would like to sell us tons, and  
25 we're buying pounds. And if we get a long-term contract,

1 they can automate, they can go to additional equipment and  
2 begin to the at us as a study supply, something they can  
3 run eight hours a day, seven days a week and so the prices  
4 the come down very quickly.

5 CHAIRPERSON LLOYD: Thank you very much. Thank  
6 you, Mr. Stempel.

7 Steve Kirsch. Welcome Steve and I appreciate  
8 your leadership on trying to get the money for this issue  
9 and your commitment to EVs.

10 MR. KIRSCH: Thanks, Allan. Hi. I'm Steve  
11 Kirsch. I'm the CEO of four startup companies in Silicon  
12 Valley, but only one at a time.

13 I've been involved in various ZEV legislation.  
14 I've been involved in the passing of AB 71 and AB 2061.  
15 My picture has appeared in the EV-1 ads which used to run.  
16 And my foundation was involved in designing the theirs  
17 that go on qualifying the the to allow them to drive in  
18 the carpool lane.

19 I am an EV-1 driver. I'm a user of the nickle  
20 metal hydride batteries. It's a gen 2 EV-1. And my wife  
21 drives a Toyota RAV4 electric, so we both have nickel  
22 metal hydride units. We are not a niche market. We use  
23 these vehicles all the the They're very practical. In  
24 fact, I have to force myself to drive my Acura NSX gas  
25 vehicle about once every three months so the batteries

1 don't discharge.

2           They basically have almost fully replaced my gas  
3 vehicle. And we drive them to do our part in cleaning up  
4 the environment. And we drive them because, basically,  
5 it's cheaper not to be in the the place than to spend  
6 money downstream trying to clean up the the that we've  
7 done.

8           There's no doubt it's a difficult decision for  
9 all of you in terms of what to do about the the in front  
10 of you. And I certainly don't have all of the answers for  
11 you, but I can give you my perspective. And what I've  
12 learned is that the the must involve ZEVs. It's not a  
13 question of if, it's a question of how many and how soon  
14 we get into compliance, because I ask the the what if  
15 every single new vehicle in California were a zero  
16 emission vehicle? How many years would it take for  
17 California to come into compliance with State and federal  
18 clean air guidelines?

19           And I asked a number of experts this question,  
20 how many years, if we had nirvana, if the ZEV mandate were  
21 a hundred percent, how long would it take? The the is we  
22 don't know. It may be never. So the the is not whether  
23 we need ZEVs. The the is how many and how soon can we get  
24 there.

25           And, you know, I heard the testimony from Tom

1 Austin earlier when he said that these new cleaner cars  
2 will do, but I didn't see how we could get into compliance  
3 that way, because we've had 30 years of regulation, and  
4 we've had ten years of these cleaner cars and we're still  
5 far away. And I wonder how many people in this room would  
6 volunteer to stand in a closed garage with one of these  
7 nice clean air vehicles and breathe?

8 I'm not sure we'd find too many volunteers for --

9 Do you work for a car manufacturer?

10 So as CEO from a financial perspective I can tell  
11 you that without serious investment, this program can't  
12 succeed. These vehicles are expensive, because they are  
13 not made in volume. And we have a chicken and egg  
14 problem, which basically you have to break because there  
15 is no incentive on the part of the car makers to break  
16 that for you.

17 Bob Stempel testified that the the in volume of  
18 these ZEVs will be comparable to gas cars. And as an  
19 example of that, we have the Selectria, which is a  
20 hand-made conversion selling for about \$20,000, a little  
21 bit more than \$20,000 in low volume hand-made today.

22 So what would happen if we had our major  
23 manufacturers manufacture this many in high volume? You  
24 think that they should be able to do it for a lot less  
25 than this company is the it for.

1           We have poor marketing. In fact, a senior GM  
2 official who is in charge of the EV-1 program admitted  
3 that to me. But the EV-1 drivers love them, but the the  
4 they can't get them. And I don't know -- I don't think  
5 there's anybody in this room who can tell me where I can  
6 get a ZEV today, because people come to me all the the and  
7 say where can I get one? And I have to say, I don't know.  
8 There is no supply. There are no ZEVs on the car lots  
9 waiting to be taken.

10           In fact, GM called me and said they had two  
11 reserve -- they had two vehicles, two EV-1s reserved for  
12 high-profile individuals set aside and did I know anyone  
13 who wanted them? So I contacted about 50 people, 20  
14 percent of those people wanted them, only two were allowed  
15 to get them.

16           Furthermore, we have these monetary and  
17 noneconomic incentives with AB 2061 and AB 71, but we have  
18 no marketing of that fact. There are no marketing  
19 brochures. There is no ad that I have ever seen that  
20 talks about any of these incentives. And in order for the  
21 incentives to work, people have to know about them.

22           There's been absolutely no promotion, whatsoever,  
23 of these incentives that we put into place. And if we  
24 actually assess the the environmental impact of the the  
25 vehicles and applied that environmental the to subsidizing

1 these pollution friendly vehicles, we'd have more than  
2 enough economic incentive to do that. But California  
3 happens to be a free lunch State, where we have subsidized  
4 electrical rates. And if you buy a car in California,  
5 you're allowed to the for free, no economic cost for that,  
6 whether you run it one day or whether you run it the the  
7 year.

8 I think that ZEVs -- you look at hybrids, the  
9 hybrids are not clean enough. You look at the greenhouse  
10 gas emissions, they are not substantially reduced from  
11 standard gas cars. They're not the solution. And if we  
12 look at the current electrical, the government mandated  
13 temporary electrical crisis in California, I think that's  
14 a poor way to make a long-term decision, which is what  
15 we're making here today.

16 In fact, the CEO of PG&E actually called me up  
17 and asked me whether he could buy power from me because  
18 what I can do is I can store power at night. His hydro  
19 plants run 24 hours a day. I can store his power that he  
20 generates at night and I can return 80 percent of that  
21 power to him in the the when he needs it.

22 So I act as a big battery for him. In effect, if  
23 ten percent of us all had EVs, we wouldn't have the the  
24 crisis today. As far as the arguments about the  
25 theeconomic return on investment in the short-term, I



1 think that misses the the because you can't get to where  
2 we want to go under some sort of alternate path.

3           So I urge you not to settle for half a business  
4 plan to ensure that ZEVs are part of the mix and all of us  
5 will benefit equally from clean air, regardless of our  
6 economic status.

7           Thank you.

8           CHAIRPERSON LLOYD: Thank you very much. You  
9 point out a good point. We need to ramp up our education  
10 there on the incentives. I think we're doing that.

11           Thank you very much.

12           Question from the Board?

13           We'll take two minutes while we change court  
14 reporters.

15           (Thereupon a short recess was taken.)

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1           CHAIRMAN LLOYD: I'd like to ask my colleagues to  
2 take their seats.

3           I'd like to continue with Paul Lancaster.

4           Could people take their seats, please.

5           I'd like to restart with Paul Lancaster from  
6 Ballard Power Systems.

7           MR. LANCASTER: Good afternoon. My name is Paul  
8 Lancaster, vice president finance, of Ballard Power Systems,  
9 the company that's been recognized as the world leader in  
10 developing proton exchange membrane fuel cell technologies.

11           The world is watching California today. Will  
12 California continue to lead in the development of solutions  
13 to the serious air quality issues that concern all of us?

14           Hundreds of millions of dollars of investment  
15 capital and the people and facilities to put it to work is  
16 waiting to see how you decide to move forward with the zero  
17 emission vehicle regulations that were enacted so long ago.

18           The stakes today are high, not just the health of  
19 the citizens of California, but the fundamental principle  
20 that the ZEV regulations would result in the mass market  
21 commercialization of practical zero emission vehicles to  
22 such an extent that automobile air pollution is eliminated,  
23 and the regulations themselves become historical curiosities  
24 to our children.

25           From Ballard's perspective, the ZEV regulations

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1 have been an overwhelming success.

2 As a catalyst to zero emission technology  
3 development, ten years ago fuel cells would, at best, have  
4 been associated with the space program.

5 Today, as a direct result of ZEV regulations,  
6 every major automobile manufacture is researching how fuel  
7 cells can replace the internal combustion engine across  
8 their product lines.

9 Even Sacramento, the California Fuel Cell  
10 Partnership, has its facility where eight major auto makers  
11 are cooperating with fuel providers, government agencies and  
12 fuel cell technology developers like Ballard, to identify  
13 and implement the solutions that will lead to the successful  
14 commercial introduction of fuel cell vehicles.

15 Huge progress has been made, but the speed at  
16 which successful commercialization of fuel cell vehicles  
17 will take place is dependent upon two commercial realities.

18 The first is that while dramatic steps forward are  
19 being made, fuel cells are a technology revolution, and  
20 naturally the automobile industry, as do we at Ballard, want  
21 to ensure a successful market introduction.

22 For this reason, Ballard generally supports the  
23 direction of the Air Resources Board's staff recommendations  
24 making it easier to meet the ZEV mandates in the early years  
25 by allowing more technology alternatives.

1           However, we believe that between 2006 and 2008  
2 fuel cell vehicles will have sufficiently proven and  
3 accepted that the automobile industry will have in hand a  
4 technology that will allow them to meet the ZEV requirements  
5 without significant credit multipliers.

6           Therefore, a greater number of zero emission  
7 vehicles could be on the road than would result through the  
8 staff proposals.

9           The second commercial reality is that investment  
10 in zero emission technologies, and therefore the speed of  
11 progress, is directly related to the extent of the pressing  
12 need of the automobile industry for zero emission solutions.

13           Take away the pressing need and dollars, people  
14 and resources will be reassigned to other activities.

15           For this reason, Ballard proposes three  
16 modifications to the staff recommendations.

17           First, keep the top two percent of the mandate as  
18 pure ZEV and remove the plug-in hybrids from this category.  
19 This will continue the need to develop true zero emission  
20 technologies.

21           Second, do not allow vehicles in the next two  
22 percent of the mandate that do not influence the development  
23 of alternative fuels infrastructures. This can be done by  
24 either excluding vehicles using gasoline or diesel fuel, or  
25 by raising the requirement to 0.5 credits from 0.45 credits

1 for vehicles to be counted in this two percent.

2 The development of an appropriate fuel  
3 infrastructure is critical to the commercialization of fuel  
4 cell vehicles.

5 Third, phase out the 0.25 credit bonus for  
6 vehicles displaying advanced technology componentry between  
7 2006 and 2008, as we believe that it is not necessary to  
8 encourage the development of such components after that  
9 date.

10 In addition, we believe that the definition of  
11 advanced technology componentry needs to be clarified to  
12 include only components that will lead to true zero emission  
13 vehicles.

14 Thank you for your consideration of Ballard's  
15 suggestions today.

16 With fuel cells we have never been closer to the  
17 goal of providing consumers with zero emission vehicles that  
18 meet all of their needs and expectations.

19 The world and the people of California are  
20 watching.

21 I am certain that you will find the balance  
22 between the need to protect the health of the citizens of  
23 California, the practical requirements to commercialize zero  
24 emission vehicles, and the impact that the ZEV regulations  
25 have to speed up the commercialization of practical zero

1 emission technologies like fuel cells.

2 Thank you.

3 CHAIRMAN LLOYD: Thank you very much.

4 Questions?

5 Yes, Professor Friedman.

6 BOARD MEMBER C.H. FRIEDMAN: Could I ask the staff  
7 to address the suggestions, the affirmative recommendations?

8 MR. KENNY: Let me start.

9 With regard to the first suggestion about removing  
10 the plug-in hybrids from the top two percent, I think we did  
11 have a discussion about that earlier, so I'm going to move  
12 on.

13 With regard to the next two percent and the idea  
14 that we should only basically credit vehicles that  
15 contribute to the infrastructure, what that would do is  
16 essentially take out some of the hybrids.

17 What we are trying to do with the proposal that we  
18 made is essentially provide for a diversity of vehicle  
19 technologies that would provide for the maximum number of  
20 benefits.

21 So what we think the benefit of what our proposal  
22 is that it doesn't bank simply on a single technology,  
23 despite its great promise, but in fact it relies upon a  
24 whole host of technologies, and we think that is probably a  
25 better course to choose.

1           With regard to the last one, with regard to  
2 phasing out the advanced technology componentry multiplier,  
3 I'm going to turn to my right and ask Mr. Cackette to answer  
4 that.

5           MR. CACKETTE: I guess first I can tell you that  
6 the reason that we have it in there is because vehicles that  
7 have gold standard-like componentry in them that emit more  
8 like silver standard vehicles, we thought should get some  
9 additional encouragement, because it would benefit a fuel  
10 cell vehicle, it would benefit a battery electric vehicle,  
11 it would benefit any kind of pure ZEV vehicle that we know  
12 about now.

13           And while it may make sense that once that  
14 everyone, or not everyone, but a number of people have large  
15 numbers of these HEVs driving on the road, you might say,  
16 well, what do we need the extra credit for. But I don't  
17 think I can envision that there won't be other technologies  
18 with other good componentry that may ultimately benefit  
19 another ZEV technology down the road.

20           So I think at least for now it makes sense to  
21 leave it in there, and it does encourage, you know, major  
22 piece of this proposal that we've come with up since  
23 September is to encourage the near zero emission  
24 technologies that have a lot of these other good features,  
25 like lower petroleum use, lower CO2 emissions and things



1 like that, and I'm kind of afraid that along the lines of  
2 what Mr. Stempel said is that we want to keep that clear for  
3 a long enough period of time so that people continue to  
4 invest, and they don't see that technology or that benefit  
5 incentive we offer going away in the near-term future,  
6 because that will, I think, have a cooling effect on  
7 investment.

8 CHAIRMAN LLOYD: Thank you.

9 Supervisor Roberts.

10 BOARD MEMBER ROBERTS: Could I follow up on that.

11 If we were to keep those credits, but increase the  
12 number of units required in the out years, would that have a  
13 similar effect as what's being sought here?

14 MR. CACKETTE: Can I hold on for one second,  
15 because one of my -- Chuck's whispering like I'm missing  
16 something here.

17 MR. SHULOCK: I apologize for creating a diversion  
18 here.

19 MR. CACKETTE: I'm going to ask Chuck to -- I  
20 think I may have missed part of what the witness said, and  
21 so if there's one aspect he wants, Chuck will elaborate.

22 MR. SHULOCK: I understood that there was one more  
23 component to your recommendation was to clarify exactly what  
24 it means to meet that 0.25.

25 MR. LANCASTER: That's correct.

1           MR. SHULOCK: And we're aware of that issue.  
2 That's something that we believe for our own reasons needs  
3 to be done, and so I think we would be planning to further  
4 develop that.

5           MR. CACKETTE: I think that doesn't address the  
6 issue, if I understood your comment correctly, was that  
7 Supervisor Roberts is asking about, is phasing down the  
8 credit per vehicle and keeping the standard or requirement  
9 the same means that there would have to be essentially more  
10 vehicles in that category.

11          MR. LANCASTER: That's right.

12          MR. CACKETTE: And your question --

13          BOARD MEMBER ROBERTS: What if we, in the out  
14 years, were to increase the number, but kept the credit  
15 situation, wouldn't we achieve, with maybe a little more  
16 flexibility, because it would be across the board in terms  
17 of the things that could benefit from it, a similar type  
18 of --

19          MR. CACKETTE: Yeah. I think that would,  
20 obviously, would increase the number of the HEV  
21 technologies, but I think what perhaps the testifier was  
22 getting at was that his suggestion would sort of cause the  
23 credits or incentives to -- like a gasoline HEV and a fuel  
24 cell vehicle to diverge a little bit, so there would be a  
25 growing incentive to move towards vehicles with more of the

1 zero capability. Isn't that --

2 MR. LANCASTER: That's correct.

3 MR. CACKETTE: So right now we kind of have a  
4 ratio between a, let's say, a Toyota Prius non-plug-in type  
5 hybrid and let's say a fuel cell vehicle, a non-hydrogen  
6 fuel cell vehicle, like a methanol reformer one, for  
7 example, and then this suggestion would with time make that  
8 methanol reformer vehicle more valuable relative to the  
9 Prius and provide an incentive to move from the Prius type  
10 technology of -- using a name for clarity only -- but  
11 towards the more advanced reformer fuel cell technology.

12 Is that correct?

13 MR. LANCASTER: Right.

14 MR. CACKETTE: I think that's where it's going to,  
15 more than volume, was the shift towards the emerging  
16 technologies.

17 MR. LANCASTER: The volume is more to phase out  
18 multipliers generally after -- between 2006 and 2008, to  
19 advance the number of vehicles.

20 MR. CACKETTE: Did that answer your question,  
21 Supervisor Roberts?

22 BOARD MEMBER ROBERTS: Yeah. I'm just exploring  
23 something else here, I think.

24 Is Mr. Lancaster's testimony available to us or --  
25 the chart would indicate it is, but I haven't seen it.

1           CHAIRMAN LLOYD: Mr. Lancaster, do we have a copy  
2 of your testimony?

3           MR. LANCASTER: We did submit a letter, which I  
4 think --

5           CHAIRMAN LLOYD: Which incorporates --

6           MR. LANCASTER: Yes.

7           CHAIRMAN LLOYD: Okay. I had one question too.  
8           You talk about the 2006 to 2008 time frame. And  
9 obviously I know, I guess, I expect I know the answer you're  
10 going to give, but I just want to ask you anyway, how  
11 confident are you that in fact these fuel cells, obviously  
12 you provide the fuel cell stack of the system, how confident  
13 are you that they will be commercially available in that  
14 time frame?

15           MR. LANCASTER: We at Ballard are actually very  
16 confident about it. That's not to say that there's not a  
17 lot of work to do. It's a lot of engineering work.

18           But the issues related to commercializing fuel  
19 cells and the related vehicle systems today are well  
20 understood and so far we haven't seen any absolute show  
21 stoppers. There's things that need engineering activity on,  
22 there's things that certainly the vehicle manufacturers --  
23 and I don't want to speak for them -- have to go through  
24 their testing phase. They have a lot of work to do, a lot  
25 of investment to do. But everything is on the path to see

1 that.

2 Now, nothing in this world is absolute, but  
3 it's -- I can be as confident as I possibly can be.

4 CHAIRMAN LLOYD: Thank you.

5 MR. LANCASTER: Thank you.

6 CHAIRMAN LLOYD: Thank you very much.

7 Dan Kelly from IFC.

8 And maybe, Dan, in preparation, you could also --  
9 well, I guess I'll listen to what you have to say, first of  
10 all, in terms of the time frame.

11 MR. KELLY: Thank you, Mr. Chairman, members of  
12 the board, for the opportunity to speak here today. It's  
13 been an experience for me. It's my first time out in the  
14 audience.

15 I'm Dan Kelly. I'm vice president of  
16 transportation business at International Fuel Cells. It's a  
17 division of United Technologies, which is a world leader in  
18 high-technology manufacturing company here in the US.

19 I'm proud to say we're also a member of the  
20 California Fuel Cell Partnership, helping to make ZEV  
21 vehicles a reality.

22 I want to begin by stating that International Fuel  
23 Cells is opposed to any change to the current regulation  
24 that would remove or delay the requirement for pure ZEV  
25 vehicles.

1           Fuel cells have been identified as a technology  
2 that may someday provide clean, efficient vehicle power we  
3 desire. We heard today it's the technology that every six  
4 years is six years away.

5           Representing the most experienced fuel cell  
6 company in the world, I can clearly state that the  
7 technology is not just promising. Commercially available  
8 fuel cells exist today.

9           The challenge is, as we've heard from many of the  
10 presenters, is the cost-effective integration of that  
11 technology into the vehicle.

12           The Air Resources Board leadership in this area  
13 has enabled the progress that was demonstrated last November  
14 at the opening of the Fuel Cell Partnership down the road.

15           But I want to caution the board that any change  
16 that would allow all ZEV requirements to be achieved through  
17 PZEV credits or non-ZEV vehicles will substantially slow the  
18 pace of fuel cell vehicle introduction.

19           I represent a company that's been making fuel  
20 cells for over 35 years. All the fuel cells that have been  
21 in space from Apollo through the Shuttle today come from  
22 IFC.

23           We also market a 200 kilowatt stationary fuel cell  
24 power plant. Of the over 200 that have been delivered,  
25 eight are operating today providing clean, efficient power

1 right here in California. They range from being at  
2 hospitals to jails. They are a very efficient, clean  
3 device.

4 Those 200 units have supplied over 3.8 million  
5 hours of operation.

6 The issue they face really is a cost issue, and  
7 I'll address that in second.

8 They're very clean. They're clean even running on  
9 a hydrocarbon fuel, which is what the early units in a  
10 vehicle might be. They're so clean that the US EPA last  
11 year awarded us one of their Climate Protection Awards, and  
12 the South Coast District has exempted our units from certain  
13 permitting requirements.

14 My point is that fuel cells provide a real  
15 solution today, not just a potential solution in the future,  
16 for those serious environmental problems that we've heard  
17 about and that we're all concerned about.

18 Fuel cell market growth is paced not just by  
19 technology, but by economics.

20 The performance and benefits of fuel cells have  
21 been demonstrated, but their cost is too high, and the  
22 volume is too low.

23 The auto market holds the key to reduced costs  
24 since it offers the substantial volume.

25 The auto suppliers invest in fuel cell technology

1 due in part to the board's ZEV mandate. They will achieve  
2 sufficient volume to reduce the cost, not just for mobile  
3 fuel cell applications, but also for stationary  
4 applications. All eyes are on CARB. If you waiver in your  
5 commitment to pure ZEV mandate at this crucial juncture, the  
6 supplier and auto community will follow suit.

7           The significant fuel cell progress demonstrated to  
8 date is the result of the effort of the numerous suppliers  
9 that have the hope of securing a position on the production  
10 fuel cell vehicle.

11           If the pure ZEV mandate is eliminated or delayed,  
12 the progress will significantly slow.

13           The auto industry efforts have far-reaching effect  
14 and they will pay emissions dividends in multiple markets,  
15 not just in the automobile market.

16           Commercial and residential markets will be  
17 serviced much sooner by the clean air and the emissions  
18 reductions as we pursue the automobile market.

19           And this is due in large extent to the leadership  
20 that this board has shown.

21           In summary, fuel cells are not a possibility, they  
22 are a reality.

23           With the board's reaffirmation and committing to a  
24 minimum of two percent pure ZEVs, the successful deployment  
25 of a large number of viable commercial ZEVs also will become



1 a reality in the near term. A delay in ZEVs, even  
2 momentarily, could severely hinder the implementation of  
3 this technology, not only for cars, but for buses, fleet  
4 vehicles and stationary applications as well.

5 Thank you.

6 BOARD MEMBER C.H. FRIEDMAN: Thank you, Mr. Kelly.

7 Any questions?

8 Thank you.

9 MR. KELLY: Thank you.

10 CHAIRMAN LLOYD: Mr. Brooks is next, I believe.

11 Alec Brooks.

12 MR. BROOKS: Thank you, Professor Friedman and  
13 members of the board. My name is Alec Brooks. I'm with AC  
14 Propulsion, Southern California.

15 I'm going to speak to you about the electric  
16 vehicles and the power crisis, but in a way that you may not  
17 have expected.

18 Next slide.

19 The old way of thinking is, and we saw this in the  
20 newspaper last week from the Alliance, was electric vehicles  
21 are an unnecessary burden to the overtaxed electricity grid,  
22 and the new way of thinking is that electric vehicles or  
23 electric drive vehicles, which I also include hybrid and  
24 fuel cell vehicles, can be part of the solution to  
25 California's power problems.

1           When you think about it, we have in this program,  
2 and the ZEV program will have lots and lots of extremely  
3 clean vehicles, battery fuel cell and hybrid, all with good  
4 power capability and very clean emissions, if they do have  
5 any emissions. And those vehicles are used about one hour a  
6 day on average and they sit doing nothing for 23 hours a  
7 day. If there was some way to harness the capabilities of  
8 those vehicles both in their energy storage and their power  
9 generating capacity, there's a significant benefit available  
10 to the power grid.

11           Next.

12           Vehicles will be in large number, and I'm not  
13 talking about in the 2005, I'm talking about 2010, 2020, but  
14 there's a huge potential power and energy potential there in  
15 all of the vehicles in the state.

16           And imagine that EV charge stations are really  
17 grid connection points for power delivery as well, you can  
18 take power from it or you can put power back to the grid.

19           Vehicles can provide all kinds of services to the  
20 grid, extra power during peak demands or you can have an  
21 uninterruptible rate for your home or business and power  
22 your home or business through the forced reduction.

23           There's another thing called grid regulation that  
24 is a service to the ISO, the California ISO. They paid a  
25 billion dollars for regulation last year. This is a service

1 that EVs could provide to the grid.

2 Uninterpretable power, demand charge reductions  
3 for businesses, and one idea we're looking at is active  
4 stability control for transmission grids to improve the  
5 power capacity, so we get more capital on our lines.

6 Next.

7 And some of the enabling technologies that will  
8 allow this to happen are wireless Internet so we can talk to  
9 all the cars; global positioning system so that cars, you  
10 know where the cars are; integrated vehicle-to-grid power  
11 interface, which allows the vehicle to couple power both  
12 ways in and out of the grid, and this would be for any of  
13 those vehicles, not just for battery electric; and finally  
14 e-commerce systems for large-scale microtransactions.  
15 You're going to be doing lots and lots of transactions, but  
16 each one of them will be fairly small, not too much  
17 different from the cell phone transaction system.

18 Next.

19 I'll briefly describe how each of the types of  
20 vehicles could be of service.

21 BOARD MEMBER C.H. FRIEDMAN: I'm going to just  
22 remind you that the warning light is on, and at least while  
23 I'm here, we're going to try to stay with the three minutes.

24 MR. BROOKS: I'll move fast.

25 EVs can provide peak power during the peak of the

1 day and charge at night.

2 Next.

3 Grid-connected hybrid vehicles could power  
4 generation while they're connected to the grid while they're  
5 not being driven. And that chart, you may not be able to  
6 see it, but it shows the NOx emissions per kilowatt hour  
7 comparing a Toyota Prius operating at a steady state low  
8 load, which is where it's at its very best, compared to a  
9 capstone turbine. You can see the Toyota Prius can produce  
10 electric power with NOx emissions only one-tenth as much as  
11 a capstone turbine.

12 Next.

13 Fuel cell vehicles provide even more interesting  
14 with the grid-connected fuel cell vehicle you have zero  
15 emission range and provide power to the grid if you have a  
16 hydrogen hookup. Now, imagine 20 years in the future, one  
17 million fuel cell vehicles all producing power to the grid.  
18 You could have ten gigawatts of capacity added to the grid  
19 with zero emissions.

20 Next.

21 So vision for the infrastructure for all of these  
22 vehicles is that vehicle-to-grid connection points are  
23 everywhere. Some cities in Canada already have this for  
24 block heaters to keep their engines warm.

25 We also would need a commerce system to enable

1 these transactions for buying, selling power at any point on  
2 the grid and grid interconnection standards.

3 Next.

4 This is not an idea that we have come up with  
5 alone. There are other folks that are looking at it. We  
6 know that Ford, DaimlerChrysler, Honda have some interest in  
7 this. EPRI, Electric Power Research Institute, and we  
8 ourselves.

9 Next.

10 So our vision for 2020, 20 years hence, is that  
11 all new passenger vehicles come with grid-power connection  
12 as standard equipment and that because of this program  
13 emissions from cars are no longer a problem.

14 Most of California's peak power needs can be met  
15 with vehicle-based generation.

16 And that vehicles can provide valued ancillary  
17 services to the grid, offsetting the cost of ownership and  
18 value, meaning that you get paid for what your vehicle does  
19 while it's not being driven.

20 And vehicles can participate in what's all the  
21 five nines power quality that some of our high-tech  
22 industries want for very high-quality power and  
23 uninterruptible, and also can provide uninterruptible power  
24 source for even your house, so any blackouts you can  
25 instantly switch to your vehicle if your vehicle is at home

1 with you.

2 Next.

3 So today I would ask you to ignore any last-gasp  
4 EV bashing. I haven't heard quite as much of it today as we  
5 did last time.

6 Take the long view. Provide 20-year solutions for  
7 40 years into the cleanup effort for cars. This is not  
8 another three-year program. This is a 20-year program.

9 And I would ask the board and staff to help look  
10 into this concept further by helping to pull together a  
11 multi-agency working group that would include the staff, the  
12 Energy Commission, the Fuel Cell Alliance, the ISO, the  
13 Public Utilities Commission, the Infrastructure Working  
14 Group and various stakeholders in the private sector.

15 So stay the course with the mandate.

16 CHAIRMAN LLOYD: Thank you very much.

17 MR. BROOKS: Happy to answer any questions.

18 CHAIRMAN LLOYD: Thank you very much.

19 And thank you for your leadership and AC  
20 Propulsion to helping us fulfill the vision here and to fill  
21 that out. I think on the last point, I think we will  
22 eagerly take you up on that and start to work, because I  
23 think it's a really exciting possibility there.

24 MR. BROOKS: Thank you very much.

25 CHAIRMAN LLOYD: Any questions?

1 Thank you very much.

2 Now we're going to go back to some of the people  
3 who are here from the air quality districts. And Barbara  
4 from CAPCOA, Barbara Lee, Dr. Chung Liu, and Ellen Garvey.

5 MS. LEE: Good afternoon, Chairman Lloyd and  
6 members of the Air Resources Board. My name is Barbara Lee,  
7 and I'm the air pollution control officer in the Northern  
8 Sonoma County Air Pollution Control District.

9 I want you to know that I drove here this morning  
10 from my district in the district's Honda EV Plus.

11 I'm also here as the president of the California  
12 Air Pollution Control Officers Association, and I'm here on  
13 their behalf to give you our strongest support in continuing  
14 a strong zero emission vehicle program mandate.

15 In the interest of time, I'm going to quickly  
16 summarize the four points we would like to recommend in  
17 terms of changes to the staff proposal.

18 We recommend that you modify the long-term ZEV  
19 requirement to increase the number of pure ZEVs beyond the  
20 staff proposal, between 2005 and 2010, by reducing the  
21 multiplier.

22 We also would like you to promote more diversity  
23 in available pure ZEVs, to ensure adequate production of  
24 full-function EVs by either, one, adjusting the multiplier  
25 for full-function EVs, or by capping the credit that is

1 available for neighborhood and city EVs.

2 We recommend that you make a smaller decrease in  
3 the short-term pure ZEV targets so consumers will be able to  
4 take advantage of the many incentive packages that are  
5 available today.

6 And, finally, we are very concerned about the  
7 credit given to plug-in hybrids in the pure ZEV category and  
8 we recommend that those be removed.

9 As the staff proposal says, electric vehicles are  
10 the gold standard of the motor vehicle world.

11 There is demand. There is incentive funding. We  
12 urge the board to remain committed to a strong program for  
13 zero emission vehicles.

14 Thank you.

15 CHAIRMAN LLOYD: Thank you very much, Barbara.

16 Question or comments?

17 Professor Friedman.

18 BOARD MEMBER C.H. FRIEDMAN: I just missed the  
19 third point. Could you just repeat it, if you would.

20 MS. LEE: My third point was to make a smaller  
21 decrease in the near-term pure ZEV targets. We understand  
22 that some decrease is necessary in those target levels  
23 because of market constraints, but we think that the  
24 decrease in the targets that is in the staff proposal is  
25 larger than it needs to be and that the assessment of the



1 vehicles, the pure ZEVs that will be available on the market  
2 is perhaps overly large.

3 CHAIRMAN LLOYD: Thank you very much, Barbara.  
4 Dr. Chung Liu, Ellen Garvey.

5 DR. LIU: Good afternoon, Chairman Lloyd and  
6 members of the board.

7 My name is Chung Liu. I'm the deputy executive  
8 officer for the South Coast Air Quality Management District.

9 To save some of the time here, but I certainly  
10 didn't want to short sell South Coast, which represents 15  
11 million people here, but I'll keep in my time frame.

12 You have my written testimony, but I want to  
13 emphasize a few points.

14 This morning there's a lot of discussion on the  
15 emission that can be achieved from electric vehicle  
16 directly, but I want to say that it also the size of the  
17 accelerating improvements of all gasoline-powered vehicles,  
18 for that I think the mandate that saved the purpose in the  
19 past will save a good purpose in the futures.

20 And I also want to thank ARB staff to incorporate  
21 quite a few our inputs in the previous board hearings,  
22 namely they put lot of emphasize on the fuel cell vehicles.  
23 They're now in the first four percent categories.

24 However, that flexibility provided so far by the  
25 staff could end up in a very disaster pictures here. Let me

1 point out that it could end up there are only two percent  
2 neighborhood EV, and two percent hybrid and six percent  
3 gasoline, SULEV. If that's really truly -- if that's  
4 allowed in the staff proposal, and if that's truly the case,  
5 that's really short of what we want to achieve. There's  
6 actually nothing there to promote technology advancement,  
7 which is originally the purpose, one of major reason for the  
8 ZEV programs.

9           And we support the CAPCOA general suggestions here  
10 and want to reemphasize the district's strong points.

11           First, these allow credit for non-plug-in hybrids  
12 against four percent full staff requirements. We know those  
13 cars can sell. They don't need to occupy the precious few  
14 percent we want to retain.

15           Secondly, we want to decrease, totally eliminate  
16 early introduction credit for low-speed neighborhood  
17 vehicles. We really don't want the two percent to end up  
18 two percent low-speed neighborhood EVs. That's really not  
19 what we're looking for.

20           And lastly we want to also strongly push that we  
21 consider increase the future ZEV requirement, the cap  
22 percentage.

23           With that, I'm going to end my presentation here.  
24 I'd be glad to answer any questions.

25           CHAIRMAN LLOYD: Thank you very much. Again,

1 thank you for your continued support. The district is great  
2 to work with there.

3 I did have -- well, I had a question, but maybe  
4 Mr. McKinnon has a question.

5 BOARD MEMBER MCKINNON: For all of the kind of  
6 regional air regulators, I'm interested in what your comment  
7 is regarding including something like the Sparrow or the  
8 electric motorcycles that are freeway capable.

9 And I'm sorry, I didn't do that while Barbara was  
10 up.

11 But if, you know, if you do have a comment on that  
12 inclusion of that -- sort of my reaction to NEV is that  
13 there's long-range possibility and I'm interested in your  
14 comment on that.

15 DR. LIU: At least the South Coast certainly  
16 there's a role there, but if that happen to take place to  
17 replace all the full-function ZEVs, that would be very  
18 disastrous.

19 CHAIRMAN LLOYD: Chung, I did have one, just for  
20 clarification, unfortunately Dr. Burke is not here, but I  
21 know my colleagues had a letter from Dr. Burke basically  
22 talking about the energy issue and maybe we should look at a  
23 delay and that was -- I was confused because that, I thought  
24 that was coming from the South Coast Board, and your  
25 testimony from the board I presume makes no mention of that.

1 DR. LIU: Our staff presentation here is  
2 basically -- is address our long-term district policy. The  
3 letter we actually we sent it to the staff also, the letter  
4 was generated by one of our board meeting, because recent  
5 energy crisis was implication on the ZEV programs, so our  
6 staff did some study at the same time we sent a letter for  
7 clarifications.

8 CHAIRMAN LLOYD: I was wondering whether --

9 DR. LIU: We already receive quite a lot of  
10 comments back and also the staff address that question  
11 adequately.

12 CHAIRMAN LLOYD: I guess I'll wait until Dr. Burke  
13 gets back to see whether that was a board request or whether  
14 it was a Dr. Burke request, I guess.

15 DR. LIU: That was addressing a board meeting to  
16 direct staff to ask ARB and also the district staff to  
17 address that question.

18 CHAIRMAN LLOYD: Yes. Ms. D'Adamo.

19 BOARD MEMBER D'ADAMO: You're satisfied at this  
20 time and you wouldn't be seeking a delay?

21 DR. LIU: No, we're not seeking a delay.

22 BOARD MEMBER D'ADAMO: I would like for staff to  
23 comment on the witness' suggestion regarding NEVs.

24 MR. KENNY: With regard to NEVs, we actually were  
25 not, I guess -- I guess the general reaction to the witness'

1 comments on NEVs is that we would disagree. And I guess for  
2 a fundamental fairness reason.

3 NEVs are allowed under the existing regulation,  
4 and we are only two years away from the launch, and the  
5 difficulty for us is that although we do have some concerns  
6 along the same lines as Chung's, it's still basically a  
7 fairness issue in terms of people who have basically relied  
8 upon the existing regulations to put together compliance  
9 plans. So we did not want to essentially pull the rug out  
10 from any particular company right now.

11 What we thought was the fair way to try to respond  
12 to this was the way that we have proposed, which is that we  
13 do reduce the credits associated with NEVs fairly  
14 substantially, such that by 2006 they are only worth .15 of  
15 a credit, and that was a way that we thought we could  
16 address the issue reasonably, fairly and not, again, pull  
17 the rug out.

18 BOARD MEMBER D'ADAMO: Thank you.

19 CHAIRMAN LLOYD: Thank you very much.

20 Ellen Garvey.

21 Then we have Christian St. Pierre, and Cece  
22 Martin.

23 MS. GARVEY: Chairman Lloyd and members of the  
24 California Air Resources Board, good afternoon.

25 First, thank you for rearranging us on the witness

1 schedule. I was just over in the Capitol and I can attest  
2 that it is raining sideways outside, so that little squishy  
3 noise you heard when I walking to the podium was my shoes.

4 Good afternoon. My name is Ellen Garvey, and I am  
5 the executive officer at the Bay Area Air Quality Management  
6 District in San Francisco, and I appreciate the opportunity  
7 to testify before you this afternoon.

8 I'm here today, as I was last September, to urge  
9 you to stand firm and to continue with a strong ZEV mandate.

10 I was very heartened by your unanimous decision  
11 last September to support the mandate, as well as heartened  
12 by staff comments last October at the workshop in El Monte.

13 Thus, I was surprised, in fact I was very  
14 surprised, by the staff proposal before you, in which we see  
15 a significant backing away from what we hope is a shared  
16 goal of pollution-free transportation.

17 I'm here today to urge you to act in the public  
18 interest, to protect the public health of our citizens and  
19 to adopt a strengthened version of the staff proposal.

20 There are a number of specifics that the Bay Area  
21 advocates to strengthen the ZEV mandate, and they have been  
22 articulated very clearly by Barbara Lee, the president of  
23 CAPCOA, and in the interest of time I won't repeat those.

24 But I do want to focus my remarks on the press  
25 that I've been reading and on some of the comments that I

1 have been hearing today, especially from the folks who have  
2 been offering a number of alternatives to the ZEV mandate.

3 I am delighted at all of the interest and  
4 discussion at improving the air quality, not only in the Bay  
5 Area, but in California, and I am very happy to look at  
6 these alternatives and see what they might be able to do to  
7 further that cleaning up of our air.

8 Many of the ideas that have been put forth are  
9 good ones.

10 We in the Bay Area are very supportive of cleaning  
11 up emissions from school buses.

12 We are also very supportive of cleaning up  
13 emissions and reducing emissions from gas cans.

14 These are good short-term complements to the ZEV  
15 program, but they cannot replace a strong ZEV program. In  
16 my opinion, the ZEV program is the linchpin for cleaning up  
17 all of California's cars and eventually our trucks.

18 The final point I want to make is on environmental  
19 justice. A number of speakers this morning have spoken on  
20 the relationship and the link between the ZEV mandate  
21 program and environmental justice.

22 I want to be very clear, the ZEV mandate is not  
23 only a program for the drivers, it's a program for the  
24 breathers.

25 I'm someone who personally believes that many

1 low-income communities are often disproportionately impacted  
2 from emissions from motor vehicles. This is certainly true  
3 in the Bay Area where many of our low income and minority  
4 communities are located near freeways, or they're located  
5 near major oil refineries.

6 The ZEV mandate directly helps these communities.  
7 It helps in two ways.

8 First, we are cleaning up the cars that are  
9 driving on our freeways, so that those that live near the  
10 freeways enjoy breathing cleaner air.

11 And, secondly, it reduces the emissions from  
12 refineries, because these refineries do not have to process  
13 or distill the gasoline necessary to fuel these cars.

14 And a word about affordability. If everyone in  
15 California is to be able to afford a clean vehicle, we need  
16 the ZEV mandate. It's very simple and it's very clear.

17 Price is tied to volume. The more cars there are  
18 available, the more affordable they will become, and the  
19 more citizens of California and in the Bay Area will be able  
20 to afford to purchase one.

21 The mandate before you today is reasonable. It  
22 offers a variety of options for compliance and gives credits  
23 to a wide range of vehicle types and alternatives.

24 Californians need clean air. We don't need  
25 backsliding. We don't need procrastination. Don't put this



1 critical program in reverse. Don't put this critical  
2 program in neutral. Please stay committed to your goal and  
3 put the ZEV program back in gear.

4 Thank you very much.

5 CHAIRMAN LLOYD: Thank you very much.

6 (Applause.)

7 CHAIRMAN LLOYD: Christian St. Pierre, Cecile  
8 Martin, Bonnie Holmes-Gen, Roland Hwang, Jason Mark.

9 MR. ST. PIERRE: Good afternoon. My name is  
10 Christian St. Pierre. I'm the director of marketing at the  
11 Avestor Corporation.

12 Avestor is developing and commercializing the LMP  
13 battery for automobile and stationary application. Today I  
14 would like to explain how we can contribute to the  
15 commercialization of EV in large volume and how the mandate  
16 is important for us.

17 The major barrier to commercialization of EVs is  
18 the energy storage cost. Batteries are the single most  
19 expensive components of electric vehicles.

20 And Avestor can bring a solution to this problem.

21 I would like to state that the environmental  
22 battery is ready. We have batteries in field tests for  
23 telecom applications since 1999 in real installation.

24 Last year we have integrated the battery in the  
25 electric battery for 14 city, and a battery in a hybrid

1 electric vehicle on the inside. These two integration shows  
2 the functionality of the LMP for automotive application.

3 We will start commercial production in 2002 for  
4 teleom application and in 2004 for automobile application.

5 On this table you can see how our EV production  
6 schedule in 2002 and 2003 we have a small number of units  
7 per year produced in our power plant and then from 2004 we  
8 start into a large volume to produce in large volume.

9 One of the main challenge we have ahead of us is  
10 to reduce the price. We are developing this technology for  
11 selected application, telecommunication, electric utilities  
12 and automotive.

13 The telecommunication and electric utility market  
14 are existing market, and they can pay a premium price for  
15 the battery.

16 The automotive market is very small, but it can  
17 generate, it has a huge potential.

18 All of the battery that we use for these different  
19 application are very similar. They are -- by combining them  
20 we can increase the volume and reduce the cost of the  
21 battery.

22 When it comes to manufacturing electric vehicles,  
23 we face a manufacturing cost barrier. The cost is very  
24 high, especially the batteries, because of the low volume,  
25 and the low volume -- the volume does not increase because

1 of the high cost.

2 In order to break the price barrier, Avestor is  
3 proposing a leasing program for its battery. Basically  
4 starting in 2003, we want to offer this leasing program, and  
5 as we move forward and the volume of production increase,  
6 the leasing premium will go down.

7 As you can see, in 2005 we will ask for premium of  
8 \$2,000 plus \$110 per month, and by 2010 and earlier, if the  
9 volume goes high fast enough, we will be at the leasing  
10 terms of \$100 per month. All of these data are for 18  
11 kilowatt hour pack for a 36-month period.

12 The advantage of such a program is that it reduces  
13 the risk to the car manufacturer and to the end user. We  
14 will support our batteries.

15 And also it lowers the up-front cost of the  
16 battery, making EVs more affordable.

17 Breaking the volume barrier --

18 BOARD MEMBER C.H. FRIEDMAN: Your time is expired.  
19 Could you conclude?

20 MR. ST. PIERRE: Yes.

21 What we need from CARB basically is a guaranteed  
22 volume.

23 According to the proposed requirements, at the  
24 beginning of the mandates the volume of electric -- of ZEV  
25 EV required would be -- a pure ZEV would be about 5,000 unit

1 per year. This is too low to sustain a good battery  
2 business.

3 We would recommended that this number be at least  
4 double.

5 That could be achieved by maintaining the pure ZEV  
6 requirement at four percent.

7 And also we would like to recommend that the  
8 ramp-up of the requirement of a pure ZEV EV be done faster.

9 The combined effect of these two action, lowering  
10 the price and increasing the volume, would be a faster  
11 commercialization of electric vehicle.

12 So in conclusion, I would like to say that the LMP  
13 is ready, it's going to be commercialized in 2004 for  
14 electric vehicle.

15 Avestor will reduce the price by offering a  
16 leasing program for its battery.

17 And the California ZEV EV program regulation are  
18 very important to ensure a minimum volume and also we  
19 strongly recommend that the EV volume be maximized in the  
20 regulations.

21 BOARD MEMBER C.H. FRIEDMAN: Thank you,  
22 Mr. St. Pierre.

23 Any questions from the board?

24 Thank you.

25 Cecile Martin.

1 MS. MARTIN: Good afternoon. My name is Cecile  
2 Martin, and I'm representing the California Electric  
3 Transportation Coalition.

4 In the interest of time, I'll just say that my  
5 opening comments really echo the comments that you've heard  
6 several times is that we were very encouraged by the board's  
7 vote, and we were a little surprised at the staff report.

8 I could talk more about that. I think you've  
9 heard many of the arguments that I would probably make, so I  
10 want to kind of cut to the chase and say that we think that  
11 the numbers in the staff proposal fall short of creating a  
12 sustainable ZEV program.

13 You've heard some of the reasons why. It goes to  
14 volume. It goes to reducing the costs and making vehicles  
15 available to a wider market.

16 We also -- we would urge the board to consider  
17 including the full range of passenger vehicles as a baseline  
18 for ZEV production. That is, to consider as this program  
19 moves forward to consider including the light-duty 2 trucks  
20 and the SUVs. I think they're on the same similar chassis,  
21 as part of the whole population of vehicles, because, as we  
22 see, those are the vehicles that are growing in volume sales  
23 as new vehicles.

24 And we support many of the ideas in the staff  
25 report that the staff came up with. We thought they had a

1 creative combination of credits. So we support these  
2 advantages given to auto makers that place and fully support  
3 their vehicles and the advantages given to fully functioning  
4 EVs in the staff proposal.

5 We believe, though, that after the first few years  
6 of the program, the markets will be defined such that  
7 further advantages to one type of vehicle over another  
8 probably won't be necessary.

9 Therefore we believe that a phase-out of the  
10 multipliers, beginning in the middle of this decade, as a  
11 tool to increase the numbers of vehicles would enhance the  
12 program.

13 We also have a concern about the grid-connected  
14 hybrid electric vehicles. And our main concern is that they  
15 be significantly advantaged over other technologies like the  
16 gasoline hybrids, such that the cost of compliance for  
17 plug-in vehicles is equalized with the competition. The  
18 additional benefits from significant electric miles should  
19 be recognized in the final program.

20 I know the board's discussed that a little bit  
21 today, whether they should be in and out of the two percent,  
22 but wherever they end up, we think that it needs to be  
23 recognized that they have extraordinary benefits.

24 So we would urge in general the board to restore  
25 some of the original volume to the program. We believe a

1 combination of the inclusion of SUVs and large trucks in the  
2 baseline, in combination with a phase-out of the credit  
3 multipliers, will come close to the volume and ramp-up we  
4 need for a successful program.

5 And I think you all have copies of my written  
6 testimony.

7 BOARD MEMBER C.H. FRIEDMAN: Thank you,  
8 Ms. Martin.

9 As I understand the staff's explanation of the  
10 reduction in the volume, it mostly had to do with the  
11 concern that there might be unplaced in-service vehicles.  
12 And the idea was to start with the success, rather than a  
13 possible marketing failure.

14 Do you or any of your colleagues who jointly  
15 signed this letter that we've just received, are you  
16 prepared to make any kind of commitment or statement of  
17 willingness to participate in bona fide marketing efforts to  
18 make sure that this time around there's no question that  
19 they could be placed or that everybody did the best they  
20 could to sell the vehicles or lease them, whatever the case  
21 may be?

22 MS. MARTIN: I can speak for the California  
23 Electric Transportation Coalition, and that is our goal to  
24 assist in marketing and to do public education and to help  
25 develop incentives.

1           BOARD MEMBER C.H. FRIEDMAN: You are going to  
2 communities, aren't you, government agencies, trying to --

3           MS. MARTIN: We have been in the past. I would  
4 say that our work has slowed dramatically in that vein in  
5 the past year, because it's been very difficult to tell  
6 people about a technology that they can't have. It's been a  
7 little discouraging. But we're certainly willing to  
8 continue that work.

9           I should say, too, that I think we have some  
10 agreement with staff about those initial couple of years.  
11 Yes, let's get this off the ground, but it's the middle  
12 years of the decade that really need to take off, because  
13 what we end up with this program is, you know, after 15  
14 years or so of a program is the requirement that's less than  
15 the first year of the existing regulation, and I don't think  
16 that's going to build the kind of program that we want.

17           BOARD MEMBER C.H. FRIEDMAN: Mr. Cackette, are you  
18 in a position to refresh my understanding, if I ever had  
19 one, as to why we are not including in the baseline the SUV  
20 passenger vehicles? And I realize they weren't around, I  
21 guess, in 1990, at least not in any significant quantity.

22           MR. CACKETTE: Yes. I think going back to 1990  
23 the reason was that they were not as significant of a --  
24 they didn't have such a significant portion of the market  
25 share.



1           And in general when we looked at electric vehicles  
2 we tended to think of smaller vehicle rather than bigger  
3 ones in terms of feasibility. And so I think we just chose  
4 the car and smaller light trucks as the basis for the  
5 program and that's how we developed it.

6           In terms of changing it, now, of course, what it  
7 changes is it changes the baseline so it could have the  
8 effect of increasing the number of ZEVs or any of the  
9 vehicles to meet a given percentage, and then it does have  
10 some implications, which we have looked at and can get into  
11 if you want, about how it affects one manufacturer versus  
12 the other, because some of them, for example, make very few  
13 in this what we call the T-2 category, and others are almost  
14 specialists in that area. And so it shifts people around  
15 and potentially adds manufacturers to the -- but we heard  
16 your interest in this last time, and at the appropriate  
17 time, maybe now or later, we're prepared to give you a more  
18 quantitative feel of what it means.

19           BOARD MEMBER C.H. FRIEDMAN: Yeah. Because how do  
20 you answer the argument that's been advanced that,  
21 theoretically at least, it encourages manufactures to make  
22 more SUVs and the more they make and the higher percentage  
23 of their sales are in California, then as compared to  
24 passenger vehicles, then the lower their percentage of ZEV  
25 mandate?

1           MR. CACKETTE: I can only answer to I guess that's  
2 probably true. You know, a manufacturer may choose to do  
3 that. And whether this is enough of a force to cause  
4 someone to quit making smaller cars, for example, in order  
5 to reduce the number of vehicles that are in the  
6 denominator, and therefore reduce the number of ZEVs  
7 required, I don't know.

8           I will tell you --

9           BOARD MEMBER C.H. FRIEDMAN: I wouldn't want to do  
10 the deduction that they would only sell SUVs, but  
11 conceivably in marketing strategies, especially if this is  
12 terrorizing a given manufacturer, this kind of mandate, they  
13 could begin to develop a strategy to really push and market  
14 SUVs or what qualifies, and these are the big polluters.

15           MR. CACKETTE: The reason I answered it the way I  
16 did was because there seems to be an economic incentive  
17 right now to make all the SUVs they can possibly make,  
18 because they're highly profitable and people are buying  
19 them.

20           What we heard from as maybe it was a veiled  
21 threat, or not, from at least one manufacturer, was that  
22 they would consider not making some of the smaller vehicles  
23 in California or offering them in California in order to  
24 reduce the number that's in their denominator, and therefore  
25 reduce what two percent and four percent means to them.

1 BOARD MEMBER C.H. FRIEDMAN: Thank you.

2 BOARD MEMBER BURKE: Mr. Chairman, either one.

3 CHAIRMAN LLOYD: Yes.

4 BOARD MEMBER C.H. FRIEDMAN: I'm only temporary.

5 BOARD MEMBER BURKE: If in fact ARB had a rule  
6 similar to South Coast's 1190 series only for electric  
7 vehicles, instead of CNG vehicles, would that not dispel in  
8 its entirety the market demand for these vehicles?

9 I just saw him take a deep breath.

10 MR. CACKETTE: Well, we are -- we have been  
11 thinking about the issue, for example, we have developed a  
12 model rule that local governments could use to mandate --

13 BOARD MEMBER BURKE: Maybe you should tell those  
14 in the audience who don't -- who are not familiar with our  
15 1190 series.

16 MR. CACKETTE: Yeah. Well, you're probably better  
17 to do that if you like, but I'd be glad to.

18 BOARD MEMBER BURKE: In a capsule, what we did was  
19 we were looking for a way to encroach on CARB's power.

20 MR. CACKETTE: Wouldn't have been my answer.

21 BOARD MEMBER BURKE: So we found this old, and I  
22 accidentally found it, I swear, I swear on the Bible this is  
23 how it happened. I accidentally found in the statute that  
24 we have been granted forever ago the right to regulate some  
25 mobile sources that used -- was it methanol, Alan, methanol.

1           So what we did was we started this whole series of  
2 rules and it was divided into public and private sector. We  
3 could do it either one. We could take -- we can make all  
4 the public sector vehicles in our area use methanol or CNG  
5 and then subsequently we could consider going into private  
6 sector.

7           But the purpose was to make government responsible  
8 for taking a leadership role in the acquisition of new  
9 vehicles so that the technology was pushed, and it was never  
10 a question about demand. I didn't have to go out and ask  
11 Eddie Jones or Mary Franco, or whoever, if she was going to  
12 buy one, because I had the government who had to buy it.

13           Now, the mayor of Los Angeles almost made we move  
14 out of the city, but it created a demand, so there was  
15 never -- automobile manufacturers could not come to me and  
16 question is there a demand, because there's an automatic  
17 demand.

18           It would seem to me that if CARB had the authority  
19 to mandate that five percent -- two percent, one percent,  
20 whatever the number is, of the state, just the state  
21 vehicles, where there is an appropriate electric vehicle  
22 that serves that purpose, be mandated to be purchased to  
23 replace retired vehicles, the question of market share  
24 becomes mute, because we got more than enough vehicles being  
25 replaced throughout the state, where if the public never

1 bought a vehicle we'd still probably meet our ZEV mandate  
2 with ease.

3 Do we have the capability of doing that?

4 MR. CACKETTE: Yes. I mean we do have a fleet  
5 rule authority and in fact one of the areas that we plan on  
6 exercising that is in the area of the trap retrofits for  
7 municipal vehicles, for example, on diesels. So I'm pretty  
8 confident --

9 BOARD MEMBER BURKE: That's diesels.

10 MR. CACKETTE: I know. I'm just saying we have  
11 the authority to do that kind of rule.

12 BOARD MEMBER BURKE: Forget market studies and all  
13 that kind of stuff. Now you go and you say how many do you  
14 want to buy, how many do you want to sell and then we figure  
15 out what we mandate and it fits the number and all of a  
16 sudden the market share is there.

17 MR. CACKETTE: I think Ms. D'Adamo talked about  
18 this at the September meeting and the idea of creating a  
19 floor. We had not been thinking about it in terms of a  
20 mandated rule, but we've done these model ordinances,  
21 Supervisor DeSaulnier has passed an ordinance in Contra  
22 Costa County, I think, requiring a certain fraction of the  
23 vehicles in their county fleet to be ZEVs, and, you know, a  
24 lot of cities supported this. And so it's something we can  
25 look at.

1           BOARD MEMBER BURKE: We're not talking about  
2 putting it on other people, we're talking about the people  
3 who are responsible for making the decision, keeping it in  
4 house. It's a state thing. If we mandated only state  
5 vehicles, because we don't want to hear hue and cries from  
6 the city of whatever and whatever.

7           But if the state vehicles that we purchase every  
8 year, because if we believe in this enough, you would assume  
9 that we would believe in it enough so that we would use it  
10 ourselves.

11           MR. CACKETTE: There is an Executive Order from  
12 the Governor to purchase alternative fuel and zero emission  
13 vehicles. I think there's actually a statute.

14           BOARD MEMBER BURKE: There's some wiggle room in  
15 there.

16           MR. CACKETTE: There is in terms of I think it's  
17 conditioned upon do you have the money to buy the vehicles.  
18 But in fact we have a lot of vehicles in there that are on  
19 the state bid list, you want to go over and get both the  
20 gold or the silver category vehicles from our Department of  
21 General Services, they are available to people.

22           And but what you're suggesting is something maybe  
23 a little more bolder than that.

24           BOARD MEMBER BURKE: I would think if we believe  
25 in this, we ought to put -- like Ms. D'Adamo said, put a

1 floor and then you guarantee the auto -- they can't come  
2 back here and say there's no market.

3 MR. CACKETTE: I think the requirement is actually  
4 that it's 75 percent of the vehicles that the state buys  
5 under the energy policy and it's EPAC it's called, act,  
6 federal law, have to be alternative fuel or low emission  
7 vehicles and some fraction of those under state law have to  
8 be ZEV vehicles.

9 So maybe we can get back to you with a better  
10 quantification than I was able to offer as to how much is  
11 happening now.

12 But the point is well taken that the leadership  
13 needs to be demonstrated.

14 CHAIRMAN LLOYD: I know you've been working with  
15 Caltrans, Tom, also on this as a part of this issue, I  
16 guess.

17 MR. CACKETTE: Yeah. A number of the agencies,  
18 virtually everybody, and all the state vehicles in Cal EPA  
19 are ZEVs --

20 BOARD MEMBER BURKE: But you don't have work with  
21 all the agencies. If you mandate it, they got to buy it.  
22 That's what we did in Southern California.

23 CHAIRMAN LLOYD: Ms. D'Adamo.

24 BOARD MEMBER D'ADAMO: I think that Dr. Burke  
25 raises a valid point, and I do recall raising this issue at

1 the September hearing that everyone needs to be accountable  
2 here, not just the auto makers, but the groups that have  
3 come and asked us to hold firm, the environmental groups and  
4 others in terms of outreach programs, and I do remember  
5 mentioning the issue of government participation as well.

6 I wasn't aware of this rule, and I think that this  
7 would be something worth pursuing, perhaps not today.

8 I have a couple of questions about the executive  
9 order, how long has it been in place, and how does it work  
10 as a practical matter, how many electric vehicles has the  
11 state purchased, since the enactment of the Executive Order.  
12 I don't know have if you have those figures before you.

13 MR. CACKETTE: The Executive Order has been around  
14 quite a while, because it was in response to an energy  
15 policy act that was passed federally, I think maybe in the  
16 mid '80s or so, if I recall correctly.

17 And I don't recall when the law that sort of  
18 encouraged or required the state to buy a certain percentage  
19 of that number as EVs, or I think what they call ILEVs,  
20 which would be CNG vehicles, passed.

21 But the Department of General Services has been  
22 very aggressive at doing that, and I know we have close to a  
23 hundred EVs in the state fleet right now in state service.

24 And how many other ones I know -- I'm not quite  
25 sure.



1           Surprisingly, the state doesn't buy that many cars  
2 a year. You think it would be thousands, but in fact it's  
3 typically something like six or seven hundred is all they  
4 buy.

5           So some fraction of that, albeit I guess right now  
6 fairly small.

7           Of course in the last year we haven't been able to  
8 buy anything. They're on the state bid list, you can -- the  
9 state can buy them, a county government buys off the state  
10 bid list, EVs are there and all these vehicles, but  
11 unfortunately there's no vehicles to buy, so it hasn't  
12 expanded in the last year.

13           BOARD MEMBER D'ADAMO: Hundred doesn't seem  
14 terribly high, so without inviting this issue to come back  
15 before us in terms of biennial reviews, which is something I  
16 would not support, I'm just wondering if this limited issue  
17 could come back before the board for further consideration.

18           MR. CACKETTE: Certainly. It sounds like we would  
19 owe you a report on more specifics than I was able to give  
20 off the top of my head.

21           BOARD MEMBER BURKE: I'd be glad to have my staff  
22 forward to all the board members what we did, two-pager on  
23 what we did in South Coast, and how it's working so far,  
24 blah blah blah like that, so you get an idea of what we're  
25 doing.

1           CHAIRMAN LLOYD: As you recollect, Dr. Burke, when  
2 we were down there on the transit bus rule, that issue came  
3 up, do you have the authority to set your own rules, and we  
4 said yes.

5           Professor Friedman.

6           BOARD MEMBER C.H. FRIEDMAN: I just want to make  
7 sure I understand the basis on which the three-year to  
8 three-year ladder, increasing ladder of volume was set.

9           I got the impression it was set in dialogue with  
10 the auto manufacturers at the level, and this is about a 75  
11 percent reduction from the existing already reduced mandate  
12 of 1996, or '8, that it was set as what was best guesstimate  
13 realistic placement to put in service, so that it was not  
14 designed to fail, but had every chance of being a sellout.

15           In calculating that, were you just going on what  
16 you were worried about manufacturing costs and so forth, or  
17 did you actually take a look at what the potential for the  
18 state and other governmental agency fleets might be,  
19 whether mandated or based on moral persuasion or whatever,  
20 as sort of a baseline? I'm just curious how that was  
21 arrived at.

22           MR. CACKETTE: Yes. We looked at a couple of  
23 different considerations.

24           Some of the information we got was just because we  
25 have some understanding of how cars are designed and

1 therefore what kind of lead times before numbers could go  
2 up. That's where the three-year window came from for each  
3 step.

4           The other one was, as Mr. Kenny said, we wanted to  
5 make sure we had a program that succeeded. We did have the  
6 confidential business plans from all the manufacturers  
7 required under the MOAs and we used those to sort of look at  
8 what realistically looked like a soft start in the  
9 marketplace would be.

10           And then the third factor was the fact that under  
11 the MOAs we had hoped to go from 2,000 vehicles to a nice  
12 smooth ramp-up towards 2003, and it ramped down to zero.

13           So we found ourselves starting from zero from not  
14 being able to do any marketing, the manufacturers not doing  
15 any marketing, because there's no product available.

16           So here we're going to have to start up all over  
17 again, almost put us back to 1998 time frame.

18           So with those, we looked -- shared the collective  
19 wisdom of our staffs and discussions we had with other  
20 people, and we had a range of numbers that fell in between  
21 maybe half and the ultimate quarter in terms of battery  
22 electric vehicles. And I think we decided that if it was to  
23 be some conservatism added here, it was conservatism to  
24 assure success rather than -- and that was more important  
25 than saying, for example, well, if we got 5,000 vehicles,

1 wouldn't it be better to get 8,000, because 5,000 or 8,000  
2 doesn't really make a lot of difference in the end result.  
3 What makes a difference is having a sustainable market that  
4 can grow into the tens and hundreds of thousands.

5           So we took more of a conservative approach and  
6 decided to go with cutting it in half and then allowing the  
7 flexibility to use the ATP ZEVs for half of that again.

8           So that was the logic that we used.

9           BOARD MEMBER C.H. FRIEDMAN: If I understand the  
10 first three years, I understand the rationale, but in light  
11 of these comments, Dr. Burke and Ms. D'Adamo, it seems to me  
12 that we ought to be able fairly soon to get a reckoning, a  
13 handle on just what the market may be for placement.

14           MR. CACKETTE: For fleets.

15           BOARD MEMBER C.H. FRIEDMAN: Either under the  
16 exercising authority to mandate or fleet purchases or  
17 acquisitions and the help of people like the last witness  
18 who, and others, the coalition, who have been going around  
19 to the local communities and trying and getting commitments  
20 to purchase, and we might be able to get a feel for it.

21           I'm wondering whether in the intermediate years  
22 then there isn't an opportunity, except for the problem of  
23 planning, advance planning, to ratchet up more quickly in  
24 volume.

25           MR. CACKETTE: Yeah.

1           BOARD MEMBER C.H. FRIEDMAN:  If we learn, for  
2  example, and we can tell the manufacturers we believe you  
3  can sell more than those in the second three-year period,  
4  and we learn that soon enough, what would be the opportunity  
5  to raise that as a goal?

6           MR. CACKETTE:  Let me complete the answer I guess  
7  that I didn't answer on the first question, which was sort  
8  of this floor level of vehicles that perhaps government  
9  fleets, not just state, but state, municipal, local  
10 government fleets could do.

11           We did try to do an assessment of that -- and  
12 they're whispering the numbers -- I think I got them right,  
13 we thought that a fairly successful effort might get you in  
14 the 3,000 or so a year level.

15           Now, again, it probably isn't going to jump from  
16 zero to 3,000 or the level it is now, but you could get to  
17 that kind of a floor.

18           BOARD MEMBER BURKE:  I don't understand the basis  
19 of that.  Our role, we mandated that all new car -- that's  
20 got to be some fractional portion --

21           MR. CACKETTE:  25 percent.

22           BOARD MEMBER BURKE:  What we did was we mandated a  
23 hundred percent of new vehicle purchases.

24           Now, the problem is going to be with electric.  
25 Obviously that the use of the vehicle may not fit electric

1 propulsion systems. So 25 percent may in fact be -- but,  
2 you know, for me to imagine in a two-year period that only  
3 3,000 vehicles in the State of California are purchased by  
4 municipalities, 3,000, if it was 25 percent, is 12,000  
5 vehicles. Now, I think there's more than that.

6 MR. CACKETTE: That's in the light-duty category.

7 BOARD MEMBER C.H. FRIEDMAN: I don't think this  
8 is -- for my purposes of my question, I don't think we need  
9 to speculate. I just wanted to lay out a possible line of  
10 approach here to get these things placed and in greater  
11 numbers, and I'm hoping this program will allow for that.

12 MR. CACKETTE: I think the reason we went and did  
13 the exercise was because of the discussion the board had  
14 suggesting that this fair share needs to happen, fair share  
15 participation. And we felt that, well, if 3,000 or so a  
16 year was a fair number, not under the mandate scenario, but  
17 under more voluntary encouragement approach, that the kind  
18 of numbers we were talking about, which is somewhere between  
19 five and ten thousand full-function EVs during this decade  
20 per year, that that was kind of a fair share. We wanted  
21 that number certainly to be bigger than just what the fleets  
22 could do, because we don't want it to be a fleet-only  
23 program.

24 And on the other hand it sounded like that kind of  
25 number is a reasonable percentage of the total, which would

1 be the state doing its share, especially for these certain  
2 kinds of vehicles that would do well in the fleet market.

3 CHAIRMAN LLOYD: I think we should move on.  
4 Clearly that's an issue we need to come back to staff.

5 Ms. D'Adamo.

6 BOARD MEMBER D'ADAMO: I apologize. I just have  
7 one other question.

8 Obviously, local municipalities, city councils,  
9 et cetera, would be able to impose a rule of this nature on  
10 themselves, but what about other air districts? Does South  
11 Coast have sort of a special status that they can do this,  
12 or do other air districts have the ability to do so?

13 MS. WALSH: There are other air districts who have  
14 the authority to do this under the California Clean Air Act  
15 and that would be districts that are serious or severe  
16 non-attainment areas for state ambient air quality  
17 standards, and that would include a number of the larger  
18 districts, San Joaquin and the like.

19 BOARD MEMBER D'ADAMO: Thank you.

20 CHAIRMAN LLOYD: Mr. McKinnon.

21 BOARD MEMBER McKINNON: Yeah. I'll let it go in a  
22 second, but I think why this is a really important question  
23 is there has to be some cars available to the public. This  
24 isn't going to work if the public doesn't at some point  
25 start buying zero emission vehicles, so if government

1 entities and, say, utilities and other businesses that can  
2 use them buy up all the electric cars and there are none  
3 available.

4           So, you know, we should have some good guess at  
5 what that baseline number, foundation number, is when we're  
6 looking at the other numbers.

7           And I assume you worked on that, but assume is a  
8 dangerous word.

9           MR. CACKETTE: That's to our best guess that's the  
10 number is something around 3,000 or so. And so that gives  
11 you an idea.

12           And all our mandated numbers per year are higher  
13 than that, so that there is a public or non-government piece  
14 here and of course the numbers, remember, those are  
15 full-function EVs, remember, these numbers go up if there's  
16 a mix of city cars, and so we expect there will be a mix of  
17 city cars.

18           BOARD MEMBER C.H. FRIEDMAN: But the first year I  
19 think is 4750?

20           MR. CACKETTE: That's full-function EVs only.

21           BOARD MEMBER C.H. FRIEDMAN: And 3,000 of those  
22 could be potentially --

23           MR. CACKETTE: Potentially, but I think --

24           BOARD MEMBER C.H. FRIEDMAN: That's not leaving a  
25 lot for the public.



1           MR. CACKETTE: I think we don't expect that local  
2 government, unless we had a mandate across the board, would  
3 jump immediately to 3,000 either. So they're going to  
4 have -- they're just as tough a sell as the public is and  
5 the learning curve --

6           BOARD MEMBER BURKE: There's tougher.

7           MR. CACKETTE: Maybe tougher, right.

8           BOARD MEMBER BURKE: One thing, Mr. McKinnon.

9           Also if the government has some really  
10 specific-interest use in vehicles, like I've heard some  
11 complaints by other board members about the little Ford  
12 things that looks like a golf cart. I forget what you call  
13 it.

14          CHAIRMAN LLOYD: Think.

15          BOARD MEMBER BURKE: They say this, but let me  
16 tell you, that would make a perfect meter maid car. It  
17 would make a perfect meter maid car.

18          CHAIRMAN LLOYD: Or a meter man.

19          BOARD MEMBER BURKE: Or a meter man. Or a meter  
20 person. A meter person car.

21          And so -- and after my dad lost his job at the  
22 factory, Matt, he became a meter man. So he would have  
23 loved to have one of those.

24          But anyway you see we can find some purposes for  
25 some of these that we really want to test out and maybe

1 mandate a little portion of each one to make sure that they  
2 all get used and get some real testing on the road.

3 CHAIRMAN LLOYD: Before we get too excited about  
4 what we're doing, let's get through, there's a lot of  
5 witnesses to cover yet to see where we're going.

6 Bonnie Holmes-Gen, Roland Hwang, Jason Mark, and  
7 Janet Hathaway, Enid Joffe.

8 MS. HOLMES-GEN: Dr. Lloyd, board members, I'm  
9 Bonnie Holmes-Gen with the American Lung Association of  
10 California.

11 Pleased to be here today.

12 And I have a follow-up to Dr. Dailey's  
13 presentation, our lung specialist who was here today and  
14 testified on the health reasons for a strong ZEV program.

15 I'm going to be presenting the specific  
16 recommendations of the Lung Association and Zero Emission  
17 Vehicle Alliance, but I have a couple of comments I want to  
18 make before I do that.

19 First of all, I want to be clear with you again,  
20 as I testified in September, that the American Lung  
21 Association is fully committed to a successful ZEV program,  
22 and we have been conducting a lot of outreach efforts to  
23 that end.

24 And some of what you've been discussing just in  
25 the previous conversation is very relative to what we've

1 been doing.

2           We have been conducting outreach with local  
3 governments and community organizations around the state in  
4 support of zero emission vehicles, and we have identified  
5 overwhelming support from local government and government  
6 organizations and elected officials to preserve and  
7 strengthen the zero emission vehicle program.

8           I have copies and a list of more than 60 local  
9 governments, and government organizations in California that  
10 have passed resolutions or sent letters to the Air Resources  
11 Board in support of the zero emission vehicle program and  
12 this has been over the period of about the past nine months.

13           Just for your information, about 47 of those  
14 cities and counties and local government organizations are  
15 in the Southern California region, and they include cities  
16 such as City of Chino, City of Cudahy, City of El Segundo,  
17 Huntington Park, Maywood, City of west Hollywood, the  
18 Western Riverside Council of Governments, City of Redlands  
19 and the City and County of Riverside, just to give you a  
20 quick snapshot of those cities and counties.

21           Of course, that's in addition to the three local  
22 governments that have passed ordinances, which I know you're  
23 already familiar with, and those ordinances actually give  
24 preference to the purchase of zero emission vehicles in  
25 making fleet purchases for those governments.

1           As part of our outreach throughout the state we  
2 have also conducted meetings with statewide environmental  
3 justice and local community organizations on the zero  
4 emission vehicle issue, and many of these meetings have  
5 resulted in letters of support to your board for the ZEV  
6 regulation, and these letters have come from diverse groups  
7 such as the Latino Issues Forum, the Watts Century Latino  
8 Organization, Angelinos Unidos, and Public Allies. Three of  
9 those organizations are in Los Angeles. Latino Issues Forum  
10 is based in San Francisco.

11           I just want to read a couple of comments in a  
12 couple of these letters to show the strength of the support  
13 for the zero emission vehicle program.

14           From the Latino Issues Forum, one comment, as a  
15 policy and advocacy group for the Latino population in  
16 California, we see the implementation of the ZEV program as  
17 crucial to beginning a reversal of environmental policies  
18 that have thus far been detrimental to the health and  
19 well-being of all Californians.

20           From the Watts Century Latino organization, if the  
21 future price of gasoline and other petroleum-based fuels is  
22 to be reasonable and within reach of working families, it's  
23 imperative that we develop alternative technologies to  
24 compete with gasoline powered vehicles.

25           And from in Angelinos Unidos, upstream emissions

1 from gasoline, including those from refineries and diesel  
2 trucks and from evaporating the spilled fuel are significant  
3 contributors to unhealthy air.

4           So just so you know, I'm not suggesting that this  
5 replaces in any way the outreach efforts of the board is  
6 doing and should be doing, and I hear from your board a  
7 commitment to continuing to do outreach and conducting new  
8 outreach efforts in communities throughout the state.

9           The specific recommendations I'd like to present  
10 on behalf of the American Lung Association and the Zero  
11 Emission Vehicle Alliance for strengthening the program  
12 that's proposed in the staff report are the following.

13           First of all, we would like to increase the number  
14 of zero emission vehicles recommended in the staff proposal  
15 and establish a much steeper ramp-up of pure ZEVs to be  
16 produced in the 2006 to 2010 time frame.

17           And we are urging you to establish a goal of at  
18 least 40,000 full-function zero emissions vehicles by 2010.

19           I recognize this is a substantial step up from  
20 what you have in the staff report, and we believe you need  
21 to take a substantial step up to get the volumes up and to  
22 get the volumes necessary to spur investment in these  
23 technologies and rapid development, not just of battery, but  
24 of fuel cell technologies.

25           And I want you to recognize that this number is an

1    incredibly small number in relation to the 1.7 million  
2    vehicles that are sold in California each year.  1.7 million  
3    vehicles.  Let's keep that in mind when we're looking at the  
4    numbers of zero emission vehicles that are required.

5            You can increase the number of ZEVs in a couple  
6    different ways.

7            One way is to phase out the credit multipliers  
8    allowed in the staff proposal by 2010, and there's going to  
9    be further testimony going into more specifics as to how to  
10   do that and what that would look like.

11           Another is to increase the percentage requirement  
12   for production of pure ZEVs, from 2006, 2010 beyond the two  
13   percent.

14           Second major recommendation, we, this has been  
15   discussed earlier today, we urge you to recognize the  
16   reality of the passenger vehicle marketplace in California  
17   and include all SUVs and other light trucks in the total  
18   number of vehicles from which the ZEV percentages are  
19   calculated.

20           There's been a lot of discussion about this.  We  
21   think this certainly makes sense, and the percentage of ZEVs  
22   should be accounted against all the vehicles that are  
23   purchased as passenger cars in California.

24           Third, we're asking you to eliminate multiple  
25   credits for early introduction of neighborhood electric

1 vehicles and to phase out all the ZEV program credits for  
2 neighborhood electric vehicles by 2005.

3 We don't believe these types of low-speed vehicles  
4 were intended to play a major role in the program and giving  
5 them multiple credits in especially in the early years seems  
6 really inconsistent with the goals of the ZEV program in our  
7 minds.

8 And, fourth, we're asking you not to allow plug-in  
9 hybrids to qualify for the two percent pure ZEV category.  
10 And there has been discussion about that. We think that  
11 incentives for plug-ins can be incorporated into the AT,  
12 advanced technology, category rather than granting them  
13 credits towards the pure ZEV category.

14 Those are our specific recommendations.

15 I'm probably over the three minutes.

16 CHAIRMAN LLOYD: What do you mean probably? Way  
17 over.

18 MS. HOLMES-GEN: Way over? I tried, I cut so much  
19 out of this.

20 Thank you for your consideration of our proposals.  
21 We believe they will help clean up the air on behalf of all  
22 Californians.

23 CHAIRMAN LLOYD: I would appreciate -- thank you,  
24 Bonnie -- but before any question, I would appreciate people  
25 following you who are from the community who have similar

1 recommendations, rather than repeat those or if they're  
2 different --

3 MS. HOLMES-GEN: My job was to present them first  
4 and then others will have different testimony to follow.

5 CHAIRMAN LLOYD: Hopefully short.

6 Any questions?

7 Thank you very much.

8 Roland Hwang and Jason Mark, Janet Hathaway, Enid  
9 Joffe.

10 MR. HWANG: I will do my very very best to keep it  
11 short.

12 CHAIRMAN LLOYD: That's all I ask.

13 MR. HWANG: Okay. As Bonnie said, some of us are  
14 now going to present the more specific details about what  
15 the environmental community is proposing in order to  
16 strengthen and improve this program.

17 I'm going to present, which is one of our highest  
18 priorities, is to get the volumes up of pure zero emission  
19 vehicles in the 2010 time frame.

20 What we're going -- what this proposal is is a way  
21 to phase out the pure ZEV range and efficiency multipliers  
22 in order to establish a sustainable ramp to 2010.

23 Here's a problem we have.

24 The current program in black shows up by 2010 we  
25 were going to have 40,000 full-function EVs or fuel cell



1 vehicles.

2 In red and yellow is the current staff proposal,  
3 the number of vehicles we would have.

4 As you can see, if the red line is -- if all the  
5 vehicles were fuel cell vehicles at 275-mile range, we would  
6 actually have about ten times less vehicles in the current  
7 program. If there are full-function EVs, the number is  
8 about six times less.

9 This is our major concern. The numbers are simply  
10 too small, the ramp too shallow, in order to sustain a drive  
11 towards mass commercialization of zero emission vehicle  
12 technology.

13 I'll skip the slides, basically describes what I  
14 just said, but again a tremendous reduction, the 2010 time  
15 frame, and very very shallow ramp.

16 Our proposal is a very specific targeted proposal.  
17 We would like to see the multiple credits given to pure zero  
18 emission vehicles be phased out completely by 2010.

19 And the phase-out we think in order to get a  
20 realistic ramp to 2010 we think that phase-out needs to  
21 begin in 2006.

22 This is a single change that would be required, a  
23 very simple modification of the current phase in multiplier  
24 that apply to a pure ZEV category only.

25 Now, the -- whoops, I went backwards. Go forward.

1           This is the impact of what we are proposing.

2           In the green and blue is the impact of phasing out  
3 the multipliers. As you can see, by 2010 phasing out the  
4 range multipliers for pure ZEV would get us up to a full  
5 25,000 vehicles.

6           As you can see, our proposal is suggesting that  
7 the ramp begin in 2006 in order to achieve that 25,000 by  
8 2010.

9           Our conclusion is that higher numbers of pure zero  
10 emission vehicles are needed in 2006, the 2010 time frame to  
11 maintain momentum towards commercialization of ZEVs,  
12 especially fuel cells.

13           We are very concerned if our ramp, a significant  
14 ramp starts beyond the 2010 time frame, that will not have  
15 nearly as much impact on maintaining the drive towards  
16 commercialization as a ramp that would start in the latter  
17 part of this decade. Post-2010 is simply too far off.

18           Pure zero emission vehicle multiplier phase-out is  
19 a simple, effective and transparent method to increase the  
20 pure zero emission vehicle numbers.

21           The proposed multiplier phase-out results in a  
22 reasonable zero emission vehicle ramp that is achievable by  
23 battery electric vehicles and fuel cells in 2006 and 2010  
24 time frame. We think the 25,000 is a very reasonable  
25 number, particularly when you factor in the fact that many

1 auto companies are talking about significant numbers of fuel  
2 cells in that period.

3 My colleague, Jason Mark, would, I believe is  
4 going to speak a little bit more detail on what he believes  
5 is a reasonable ramp for fuel cells.

6 Finally, I'd like to point out that a SUV  
7 phase-in, which we do vigorously support, should be done in  
8 addition, not instead of, a multiplier phase-out. Including  
9 the SUVs essentially would increase the numbers by our  
10 calculations by about 50 percent, and therefore in 2010 if  
11 we are just including SUVs only get our fuel cell numbers up  
12 to about 5,500 vehicles in 2010, essentially the same number  
13 as would be required in 2003, no ramp.

14 A multiplier phase-down would increase the fuel  
15 cell numbers to a full 25,000 in 2010.

16 So we would like to see both occur, multiplier  
17 phase-out and an SUV inclusion.

18 Thank you. That's my presentation.

19 I think, Alan, I think I might have even kept to  
20 three minutes.

21 CHAIRMAN LLOYD: Thank you.

22 BOARD MEMBER D'ADAMO: Question.

23 CHAIRMAN LLOYD: Yes, Ms. D'Adamo.

24 BOARD MEMBER D'ADAMO: Could you go to either the  
25 second slide or the fifth, the charts.

1 MR. HWANG: Sure. Assistance from staff here.

2 BOARD MEMBER D'ADAMO: I'm wondering if staff  
3 could prepare a chart that -- both of your charts, Roland,  
4 assume full-function EVs. And we know that that's not going  
5 to be the case.

6 I'm wondering if staff has a chart based upon what  
7 you anticipate to be the case with the various mix, and if  
8 we could see what that looks like, see what the comparison  
9 looks like, and then if we could add in the SUVs into the  
10 mix, at a time frame that staff would recommend, on the  
11 SUVs.

12 MR. KENNY: We can prepare that. We'll try to  
13 have it ready in the next -- in a short period of time.

14 BOARD MEMBER D'ADAMO: Thank you.

15 CHAIRMAN LLOYD: Questions from the board?

16 Thank you very much, Roland. Thank you for  
17 suggestions.

18 Jason Mark. Now, I notice, of course, both of you  
19 represent different organizations.

20 MR. MARK: That's right. We're divide and  
21 conquer.

22 My name is Jason Mark, and I'm the director of the  
23 Clean Vehicles Program at the Union of Concerned Scientists,  
24 and I'm here to clarify what I think is the impact of the  
25 staff's proposal on the development of fuel cell vehicles,

1 the technology that I think everyone, environmentalists,  
2 auto, oil industry alike, have heralded as the technology to  
3 replace the internal combustion engine.

4 I'm quite concerned that in fact the staff  
5 proposal doesn't get us on the path to zero, and that in  
6 fact does pour cold water on the development of this  
7 exciting and promising technology.

8 Auto companies worldwide have clearly articulated  
9 strong, I think, promise for fuel cell vehicle technology.  
10 In the last year we have heard commitments to bring early  
11 market vehicles to the roads, starting in the years 2003 and  
12 2004.

13 They have also articulated, I would suggest, large  
14 potential beyond that. For example, and I'm just looking  
15 here at public statements, DaimlerChrysler is quoted as  
16 saying around 2010 fuel cell vehicles could match  
17 traditional cars in performance and cost, and that the  
18 potential market for fuel cell vehicles could be up to 25  
19 percent of the global market by 2020.

20 Similarly, General Motors Global Alternative  
21 Propulsion Center in Europe has estimated that fuel cells,  
22 and I quote, share of specific markets could reach -- or to  
23 reach ten percent by 2010, ten percent in 2010. This is  
24 General Motors European Alternative Propulsion Center.

25 With that background, I think we have a sense for

1 what's possible and that's this chart here.

2           The upper line suggests, starting in early market  
3 commercialization between 2003 and 2005, this is market  
4 introduction, this is what the auto companies have already  
5 committed to do, in small numbers. Obviously, we're  
6 guesstimating at what potential numbers look like, but this  
7 is a path towards getting to ten percent of the California  
8 market, the ten percent in 2010 that GM has articulated for  
9 specific markets. We certainly think California could be  
10 just one of those specific markets. So ten percent of the  
11 California would be roughly hundred thousand.

12           What's critical, I think, in this chart is the  
13 recognition that if we're going to get to such large --  
14 achieve this potential in the 2010 time period, we have to  
15 move fast. We actually have to have this critical, what I  
16 would suggest, critical hurdle stage volume ramp-up. We  
17 need to start making decisions in the short term.

18           And you can see, based on the very bottom line  
19 there, the one with the squares on it, the staff proposal  
20 doesn't get us anywhere towards that volume ramp-up.

21           So the gap between those two suggests that fuel  
22 cell technology investment could really falter.

23           What we're proposing, and that's the middle line  
24 with the triangle, under the phase-down would at least  
25 provide a floor for getting that ramp-up moving.

1           Again, I want to be quite clear, if we don't start  
2 the ramp-up for fuel cell vehicle technologies around the  
3 2006 to 2007 time frame, I'm extremely concerned that the  
4 decisions that are vital to going into volume ramp-up aren't  
5 going to get made.

6           In other words, we have already made the decision  
7 to do market introduction.

8           The next key decision is two, three years down the  
9 line. That's volume ramp-up. If there isn't a clear signal  
10 from this board that large numbers of fuel cell vehicles  
11 need to be on the road in California, my fear is that those  
12 decisions over volume ramp-up get delayed substantially.  
13 Under the staff's proposal those decisions may never get  
14 made.

15           Finally, I want to clarify numbers for 2010. I  
16 think this may get to some of the questions that Ms. D'Adamo  
17 was asking about the impact of rolling and sport utility  
18 vehicles.

19           This is what ZEV sales requirements look like in  
20 the year 2010 by our estimates, looking at all the different  
21 multipliers and percentages.

22           On the left-hand side is the current program, or  
23 the left-hand bar is full-function electric vehicles. The  
24 right-hand bar is fuel cell vehicles. That's 40,000 in the  
25 current program.

1           Second set of bars is the staff proposal from  
2 December 2000, 7300 full-function EVs, less than 4,000 fuel  
3 cell vehicles. In other words, as my colleague mentioned, a  
4 factor of ten reduction in the requirement.

5           We strongly support adding SUVs to the mix, but it  
6 is not by any stretch of the imagination enough to get to  
7 the types of fuel cell vehicle numbers that we think are  
8 both needed and send a strong signal to keep fuel cell  
9 investment going.

10           The numbers, if you estimate, as we have, that  
11 SUVs add about 50 percent to the market, these are the T2  
12 category, recognizing that the T1, the smaller SUVs, are  
13 already in the million or so vehicles part of the  
14 requirement, you'll only get 5600 fuel cell vehicles in  
15 2010, far from enough.

16           Again, we recommend critical to add the SUVs, but  
17 you need to do more in order to get the sales requirements  
18 up.

19           Although I'll skip my last chart in the interest  
20 of time, I just want to say that I think this board holds,  
21 to some extent, the future of fuel cell technology in your  
22 hands how fast we move, and how many we get.

23           We urge you to get as close to the real two and a  
24 half percent or four percent in the 2010 time frame and  
25 start in 2006 to preserve a path to zero emissions.



1           Thanks.

2           CHAIRMAN LLOYD: Thank you.

3           From what I see you have there, Jason, the fuel  
4 cell vehicles will be about, if you assume, you're assuming  
5 in this case that all the ZEVs are fulfilled by fuel cells.

6           MR. MARK: Right.

7           CHAIRMAN LLOYD: Which obviously is not -- but  
8 what I was going to ask you, and you were saying that might  
9 be about 25,000 in 2010, one of your scenarios, the road  
10 mapping study that's being looked at under the California  
11 Fuel Cell Partnership, I think the two scenarios there are  
12 40,000 and 100,000 in 2010.

13           So your numbers are well after, you're below that  
14 one scenario there, which is regarded as at least the 40,000  
15 would presumably be not an unreasonable number, maybe  
16 100,000 may be looked at as optimistic.

17           So I was trying to get a feel that you're in  
18 range, anyway, a bit lower than that.

19           MR. MARK: We're in that range and I guess I'm  
20 proposing just given the sort of clean and simple strategy  
21 of phasing out the credits that we're proposing, it's the  
22 simplest thing you can be doing right now at this sort of  
23 late date, the best we can do is get to 25,000, unless you  
24 do other things like increase the percentages.

25           This chart actually suggests, gets to the point

1 that you were suggesting, which is obviously not all the  
2 vehicles put on the road will be fuel cell vehicles.

3 What we've done here is assumed -- looked at that  
4 25,000 in 2010, split it up among full-function EVs. This  
5 would be sort of the what I think would be possible in 2010.  
6 This is the base full-function EVs that the staff recommends  
7 and then the additional increment under our phase-down  
8 proposal might be met through fuel cells, and you can see  
9 that we're actually under the 20,000 mark.

10 We suggest that obviously a very conservative  
11 strategy. We'd like to see much larger. We see this as a  
12 regulatory minimum. It's the floor.

13 CHAIRMAN LLOYD: Thank you.

14 Comments, questions of the board?

15 Thank you very much.

16 Do you have copies?

17 MR. MARK: We're just trying to sort that out. I  
18 have electronic copies.

19 CHAIRMAN LLOYD: All right, Janet. Good to see  
20 you.

21 MS. HATHAWAY: It's nice to see you.

22 Chairman Lloyd and members of the distinguished  
23 panel, my colleagues have already presented the most  
24 important points, so I just want to get into a little bit  
25 more detail on only two points.

1           One is the importance of having a pure ZEV  
2 category that truly is only zero emission technologies.  
3 Currently the staff proposal does not achieve that. It puts  
4 a certain kind of hybrid, the hybrids that can be plugged in  
5 and have a certain limited range into that category.

6           And the reason that is so problematic for us is  
7 there are many other technologies that may have similar or  
8 even superior in some amount, I can imagine, emissions  
9 consequences relative to that kind of plug-in hybrid. We  
10 don't know how those hybrids will be used. We don't know  
11 how many people will on occasion not plug in and use the  
12 gasoline, ICE engine. We don't know how they'll deteriorate  
13 over time. It is speculative to put it into a ZEV category  
14 when truly it is a gasoline plug-in hybrid.

15           So our concern is to really ensure that there is a  
16 category that really is set aside as the gold standard for  
17 the fuel cell, the hydrogen fuel cell, battery electric type  
18 technologies, and that isn't achieved unless we move that  
19 plug-in hybrid into the silver category.

20           But we understand staff's concern about giving  
21 appropriate credit, and by giving a multiplier that would  
22 help to take care of the differential in costs that is  
23 likely because plug-ins do have heavier batteries, larger  
24 batteries. We think that that could be accomplished well.

25           Secondly, I think that a number of people have

1 mentioned that we have real concerns about neighborhood  
2 electric vehicles being in this program and especially being  
3 able to qualify for four times credit in the early years.

4           We could see a real unfortunate consequence of  
5 that. These are clearly the cheapest technology to make in  
6 order to comply with the mandate. They truly would  
7 reinforce the impression -- the misimpression that many  
8 people have that electric vehicles are nothing more than  
9 golf carts, because these truly are golf carts.

10           And I don't know about your neighborhood, but my  
11 neighborhood, these would not be safe, because most streets  
12 that I'm on people do not only go at 30 miles per hour. I  
13 mean, it's that may be unfortunate, but it's just the case  
14 that for many applications, many localities, they will  
15 simply not suffice as an alternative to gasoline  
16 transportation.

17           So we're worried that not only could you flood the  
18 market with something that gives a misimpression, but it  
19 distorts the credits, because clearly that is a cheaper  
20 route than continuing with a full-function battery electric  
21 technology program, or a fuel cell technology program, which  
22 is what we really need for the state.

23           So we urge you to eliminate multipliers for those.  
24 We understand that staff and board members may want to give  
25 a little bit of credit just in the early years, but

1 multipliers clearly are a distorting influence.

2 And I thank you very much.

3 CHAIRMAN LLOYD: Thank you for your written  
4 comments and thank you for keeping it short there.

5 Questions from the board?

6 Thank you very much.

7 I'll take one more witness, Enid Joffe, before we  
8 need to give the court reporter a ten-minute break.

9 So, Enid.

10 And then we'll follow after the break with  
11 Bob Graham, Kevin Finney, Susan Stephenson, and Sandy  
12 Spelliscy.

13 MS. JOFFE: Hi. I'm Enid Joffe from Clean Fuel  
14 Connection.

15 As I've testified at earlier hearings, I am an  
16 owner of a business that was started to install, sell and  
17 install EVK charging infrastructure. And my company has  
18 staked its future on the future of the EV infrastructure  
19 market. We have created new jobs and we have a network of  
20 electrical contractors that have put in the charging, about  
21 70 or 80 percent of the charging infrastructure in  
22 California, including that for many of the people here in  
23 the room.

24 And so as a small business we don't have the  
25 luxury of waiting a large number of years for the market to

1 ramp-up. We need to know that there is certainty, that  
2 there's predictability in terms of the numbers and that  
3 there's growth, so that we can implement our business plan.

4           Therefore, I was kind of disappointed when I read  
5 the staff report to see that how drastic the reduction in  
6 the number of vehicles was.

7           And rather than reiterate a lot of the points that  
8 I wanted to make were made earlier, so I'll just simply  
9 summarize the areas where I really support some of the  
10 recommendations that have been articulated very well by  
11 previous speakers.

12           First of all, I think we need a faster ramp-up, as  
13 I call it, an increase in the slope of the curve, that we  
14 get more cars into the market and sooner, and several  
15 approaches have been recommended in great detail, and I  
16 think some of them are very very good.

17           I also support the recommendation that the plug-in  
18 hybrid electrics be excluded from the gold standard. I  
19 think it tarnishes the gold standard category to include  
20 them there, and I really think that that should be kept for  
21 pure ZEVs.

22           I would also have some concerns about the mix of  
23 vehicles that is being proposed or could be implemented  
24 under the program, and I would ask that the board ensure  
25 that if there be a mix of full-size, full-function EVs and

1 smaller EVs, and part of that concern is that the auto  
2 makers claim that they have had such difficulty in finding  
3 markets for a few hundred full-function EVs, which the  
4 drivers, as we know, absolutely love, why do we think that  
5 we're going to be able to find markets for 10,000 city EVs,  
6 for 30,000 neighborhood electric vehicles?

7 So I think we have to look at reality and look at  
8 what the mix needs to be, and make sure that there is a mix,  
9 and we do test those other new markets.

10 I also want to address the issue of  
11 infrastructure, which is certainly the one I'm most familiar  
12 with.

13 And I'm very concerned about the fact that we have  
14 about a thousand public chargers out in California now.  
15 Many of those chargers are coming out of warranty. And if  
16 we don't see a significant increase in the number of  
17 vehicles in the near future, there's absolutely no incentive  
18 for the businesses and city governments that invested in  
19 that infrastructure to keep it functioning, and I'm very  
20 concerned about seeing rusting chargers sitting out there  
21 and that become a testimony to our folly instead of a  
22 testimony to our vision.

23 Then in closing I just wanted to mention that I do  
24 have a lot of experience working with local governments, and  
25 I've worked with many of the governments helping them

1 implement EV programs and install their infrastructure.

2           There's tremendous support among local governments  
3 for electric vehicles and there are a lot of good  
4 applications for them, both full-size and the smaller  
5 vehicles.

6           There are two main issues that need to be  
7 addressed. The availability of cars, because many city  
8 governments have not been able to get cars when they were  
9 ready to purchase them, and the cost.

10           And I think if you address those two issues of  
11 helping them buy down the cost of the vehicles, you will  
12 find local governments willing to be very very good partners  
13 with you in implementing the ZEV program.

14           CHAIRMAN LLOYD: Thank you.

15           Any questions?

16           As I indicated, we're going to take a ten-minute  
17 break until, well, say 5:20.

18           For the audience, just to let you know, we've got  
19 about 30 more witnesses to cover. We do intend to finish  
20 the hearing this evening. So just to give a feeling of  
21 what's going on there.

22           (Thereupon a short recess was taken.)

23           CHAIRMAN LLOYD: I'd like to start, please. If  
24 people can take their seats again.

25           We've got Bob Graham from EPRI.



1           MR. GRAHAM: Mr. Chairman, thank you. Members of  
2 the board. I appreciate being able to start the evening  
3 session out, specially since I get to start it and not  
4 complete it, so it's my pleasure to do that.

5           EPRI, as you know, has been actively involved in  
6 the electric vehicle business for a very long time, and we  
7 and our utility funding partners have spent a great deal of  
8 money on batteries, on electric vehicle infrastructure, and  
9 we have not moved away from that commitment.

10           However, over the last two years, under my  
11 leadership, we have begun to look aggressively at plug-in  
12 hybrid vehicles, and our plug-in hybrid vehicle program  
13 ranges from electric buses, hydroelectric buses that we're  
14 doing in New York City, to shuttle vehicles, to step vans to  
15 automobiles.

16           And what I wanted to talk to you about today is  
17 our plug-in hybrid program, just briefly to alert you to the  
18 fact that we're very strongly supportive of the staff's  
19 putting plug-in hybrid vehicles into the mandate.

20           I think all of you know what a plug-in hybrid  
21 vehicle is, so I will move on beyond that.

22           We think it's an idea worth pursuing and the  
23 reason it's worth pursuing is, I don't need to read all of  
24 these issues, but primarily for two reasons.

25           One, we think there's a dramatic increase in

1 volume once the customers learn the benefits of a hybrid  
2 electric vehicle. Once they learn those benefits, they will  
3 be pleased to move forward to acquire them.

4 More importantly, because they're going to be  
5 charging at night, they will also move to reduce petroleum  
6 consumption.

7 Another interesting linkage that we see is that  
8 there's been a lot of discussion about fuel cells today. We  
9 believe that the plug-in hybrid electric vehicle is a  
10 logical first step to fuel cells. If you have a very strong  
11 plug-in hybrid, you can replace the internal combustion  
12 engine on a plug-in hybrid with a fuel cell. So we think  
13 there's a logical move in that direction.

14 We also recognize there's significant risks that  
15 need to be addressed as we move forward, and I think these  
16 risks can be addressed from the fact that next generation  
17 batteries that we have spent a lot of money on, as have you,  
18 can -- the plug-in hybrid vehicles are a perfect application  
19 for the next generation batteries, as you've heard a little  
20 bit today. We think there will be a strong market pull when  
21 we think about all of the millions of people that drive less  
22 than 20 miles a day. We believe those individuals will  
23 be -- are strong candidates for plug-in hybrid vehicles.

24 We also believe there's a very strong synergy.  
25 All the vehicles we heard talked about today that were

1 developed, the hybrid vehicles, the electric vehicles, the  
2 plug-in hybrid electric vehicles, we think there's a strong  
3 synergy between their technologies, and we can use those  
4 technologies to reduce the cost.

5           And ultimately we think that the manufacturers  
6 will come along with us to make a decision to participate in  
7 plug-in hybrid vehicle development, even though, as you've  
8 heard today, they have not stepped up to the plate as yet.

9           So what are we doing about it at EPRI besides  
10 spending our money, traveling around the country promoting  
11 plug-in hybrid electric vehicles and urging people to  
12 participate?

13           We are creating an alliance for plug-in hybrid  
14 electric vehicles, an alliance very similar to the  
15 Infrastructure Working Council that was created at EPRI a  
16 number of years ago that many of you have participated in.

17           We also are looking to the members of the  
18 consortia that we started last year to develop an automotive  
19 component, which was our hybrid electric vehicle working  
20 group.

21           We're urging that group to move on into phase 2,  
22 and it's a difficult project in that you need to do more  
23 than just say that you're going to develop a vehicle. You  
24 need to truly look at what the market pull is going to be,  
25 need to figure out where that market is going to come from

1 so you can persuade somebody there truly is a market. You  
2 need to analyze carefully what the configuration design  
3 should be and you need to understand very carefully what the  
4 production costs are.

5 Costs include the cost of the battery, the cost of  
6 the integration, the cost of the subsystems, and including  
7 one small component that's in the current rules before you  
8 that you're deliberating is a 15-year warranty on the  
9 battery for plug-in hybrid electric vehicles. We would like  
10 to see that considered.

11 And finally there needs to be a strong government  
12 commitment to support plug-in hybrid electric vehicles and  
13 we're trying to make that happen.

14 EPRI has a very long-time strategic focus, and  
15 part of that focus looks at economic productivity and  
16 prosperity, resolving the energy carbon conflict, worried  
17 about global sustainability, and we strongly urge you that  
18 plug-in hybrid vehicles should be a component when you're  
19 thinking about your future mandate.

20 So we thank you for the opportunity.

21 CHAIRMAN LLOYD: Thank you very much, Bob.

22 Questions, comments?

23 Thank you very much.

24 BOARD MEMBER PATRICK: Mr. Chairman, if I can just  
25 make a comment.

1           I really appreciate your very succinct testimony,  
2 and several of the people who gave succinct testimony  
3 before. I really appreciate it when people come up and they  
4 tell me exactly what they want and why, because it helps me  
5 to know in my mind the direction that this board needs to go  
6 in.

7           So I just wanted to say thank you.

8           MR. GRAHAM: Thank you.

9           CHAIRMAN LLOYD: I know I've got a failing grade  
10 from my colleagues for not enforcing the three-minute time  
11 thing very strongly.

12           So next we have Kevin Finney.

13           MR. FINNEY: Yes. I'm Kevin Finney with the  
14 Coalition for Clean Air. Thank you for this opportunity.

15           Let me just quickly address two policy points in  
16 the broader set of issues that the ZEV Alliance has been  
17 presenting today.

18           On the inclusion of SUVs and the larger SUVs and  
19 light trucks in the program, it would be really an irony if  
20 a program designed to promote zero emission vehicles,  
21 instead created a perverse incentive for auto makers to  
22 produce more large SUVs and light trucks.

23           We all know that those are not only more  
24 polluting, but emit more greenhouse gases, and so we think  
25 that a first step down the road to changes to the staff

1 proposal that this board should take would be to make the  
2 base of the vehicles against which the program is applied,  
3 all of the passenger car vehicles, all of the light trucks  
4 and SUVs.

5           Secondly, neighborhood electric vehicles. I just  
6 want to add to what's been said, that I think there is a  
7 basis to question staff's argument that auto makers really  
8 have a reasonable expectation that these are included in the  
9 program. It's only been within the last year or two that  
10 these vehicles have been legal on the streets of California  
11 as a result of legislative action basically in response to  
12 folks in Palm Springs who wanted to use their golf carts to  
13 get to the country club.

14           But so, you know, the expectation certainly hasn't  
15 been there very long.

16           There's certainly no reason that you shouldn't be  
17 completely phased out of the program no later than 2005, and  
18 I don't see any reason they should be given multiple credits  
19 in the near term.

20           Finally, let me just add quickly a kind of  
21 personal perspective on this. Many people have been  
22 involved with this program dating back to 1990. This is the  
23 first time I've been involved in one of these reviews. I  
24 want to compliment the staff. I don't agree with everything  
25 in their proposal, but they've been serious, articulate,

1 dedicated and have done an excellent job.

2           But I think all of us as we're involved in this  
3 process have a tendency to adjust our expectations to what  
4 the balance of competing political and technological forces  
5 seems to allow, and I think as we think about the changes  
6 that have occurred since this program was first passed in  
7 1990, it's important to realize that one of the changes is  
8 that we have much more firmly documented evidence now about  
9 the seriousness of global warming.

10           The international governmental --  
11 Intergovernmental Panel on Climate Change, has now reached a  
12 consensus that we're likely to see four- to 11-degree  
13 increases in the global temperature over the next 50 to  
14 hundred years.

15           This is much more documented today than it was  
16 ten, 15 years ago.

17           Also many of the serious health impacts of air  
18 pollution, of particulates, of toxic air pollution, are much  
19 better documented now than they were at the beginning of  
20 these programs.

21           So I think it's important to keep those changes in  
22 mind as we reflect on how high the numbers should be.

23           So, yes, our group is joining in calling for  
24 increases up to a level of 25 or 40 thousand vehicles by  
25 2010, but what we really think is that that should be at

1 least 100,000 vehicles by then. We have adjusted to the  
2 realities by maybe too much. Maybe too much.

3 Thank you very much.

4 CHAIRMAN LLOYD: Thank you, Kevin.

5 Supervisor, DeSaulnier, I know you --

6 BOARD MEMBER DeSAULNIER: Unfortunately, I have to  
7 leave. A very dear friend died in an auto accident just a  
8 few days ago, so I have to be back to be part of her  
9 memorial service in the Bay Area. So I apologize for having  
10 to leave.

11 I thought before I leave I'd share some of my  
12 thoughts with my colleagues, and you can call me,  
13 Mr. Chairman, if you're still at it at 10:00 or 11:00, and  
14 I'll think about coming back.

15 And if not, Kelly Brown has offered to be my  
16 alternate. It's an opportunity for him to be even more  
17 popular with his colleagues, I think.

18 I have six things that I hope will be incorporated  
19 in the direction the board takes when I'm gone.

20 From my perspective the plug-in electric hybrids,  
21 I think it would be best if those were out of the gold  
22 standard. If there's something we can do to be creative to  
23 give them credits, that's fine, but I don't think they  
24 belong there.

25 The idea of the ramping up that Mr. Stempel talked



1 about, I think it would be helpful, I've got some  
2 suggestions, but maybe even if staff were given the  
3 opportunity to work on that particular thing, to be able to  
4 do something, and I do think working with the multipliers is  
5 the cleanest way to do that to decrease it, to get higher  
6 numbers in the out years.

7 And I think it's really important to work with the  
8 northeast states to allow for the program to be successful  
9 here first, so I hope there's a way that we can do that.

10 CHAIRMAN LLOYD: Mark, when you talk about out  
11 years, can you define that a bit better?

12 BOARD MEMBER DeSAULNIER: I would think in terms  
13 of the cycles for the manufacturers, 2006 or '7 to 2011 or  
14 '12 to start to really see those number maybe come up  
15 significantly. Maybe double in those years.

16 And then the issue of environmental justice that  
17 the two members of the Assembly were here. It is very  
18 difficult, I think, at least for myself, who I acknowledge  
19 that because of my race and gender, I have had been the  
20 beneficiary of some of the things in our culture that are  
21 things that we continue to work on in terms of making a  
22 truly equal society. So it's always dangerous, I think, I  
23 feel uncomfortable venturing in, but I do think we have to  
24 do a better job, and I don't know if it's just specific to  
25 this issue. I think it's everything.

1           So I hope what we come out of here is that we can  
2 direct staff to create an aggressive community outreach  
3 program to minority communities and work with local  
4 districts. I know in the Bay Area we need to do a better  
5 job at the Bay Area district too, so we actually  
6 institutionalize and staff some of the things that Dr. Burke  
7 has been talking about, and get better at that.

8           And then, lastly, my interest about sustainability  
9 and smart growth and the coupling of many of the sustainable  
10 things that we have to deal with in California because of  
11 our projected growth and the change in how we live our lives  
12 around all fuels and energy, but how we plan for the future.  
13 And this goes to station cars, but specific things we can do  
14 to implement this program is to create something like the  
15 Fuel Cell Partnership, but more of an implementation  
16 partnership where we develop a partnership where we don't  
17 just sit here and say we're not marketers, that's their job  
18 and vice versa, that we actually come up with things.

19           For instance, station cars where we have some  
20 control with other public agencies and transit agencies to  
21 actually develop programs or fleet purchases.

22           So it would be my hope we create something like  
23 that to as an ongoing sort of institutionalized program to  
24 work with all the things that we're going to find over the  
25 next two decades that are going to happen around this

1 direction.

2           So those are just some thoughts.

3           And in closing, I just say I've -- I hate to  
4 leave, because this is one of those moments in this  
5 appointment that really is a defining moment for the  
6 organization, for the state and for the country, and it's  
7 always rewarding to get to the point where you feel like  
8 you've done something that will make a difference, but will  
9 be successful.

10           And this is really an important ruling, and I  
11 honestly wish I could be with you at the end, even if Matt  
12 starts to lose his temper.

13           But I'm not leaving because I sit next to him.  
14 I'm not afraid of it.

15           I wish you well.

16           In conclusion, I think what happened with one of  
17 the auto manufacturers was unfortunate earlier, but truly  
18 what's good for California should be good for GM and vice  
19 versa, and I really believe that this program, if we do it  
20 right, is the best thing for California.

21           So thanks for indulging me, and I'll be thinking  
22 of you the next two or three hours.

23           CHAIRMAN LLOYD: Thank you, Mark.

24           Mark, and I also follow up and impose on you, or  
25 this is an offer, in September I asked you to lead a

1 transportation thing. When you talk about this  
2 implementation partnership, which I think is a great idea,  
3 would you be willing to take a lead and chair that?

4 BOARD MEMBER DeSAULNIER: I don't know. The last  
5 one went so well.

6 CHAIRMAN LLOYD: It's really painless.

7 BOARD MEMBER DeSAULNIER: I asked Chairman Lloyd  
8 after that meeting, I said what is it exactly you expect me  
9 to do, and Catherine Weatherspoon said, don't worry, staff  
10 will make you look good. And I, after being an elected  
11 official for ten years, I should have known then that you  
12 never wait for staff to make you look good.

13 I'd be happy to serve in any function, if you'd  
14 like me to, as long as I can rely on myself to make me look  
15 good or bad.

16 CHAIRMAN LLOYD: I think with that sort of  
17 challenge, I'm sure that staff will respond.

18 BOARD MEMBER DeSAULNIER: Good luck.

19 CHAIRMAN LLOYD: I think it's commensurate with  
20 what we heard today, so I really appreciate your offer  
21 there, Mark, and your leadership and your comments. And I  
22 know it's only something like that you go to a death of a  
23 friend here and a colleague that you would depart here too.

24 BOARD MEMBER DeSAULNIER: I appreciate that, Alan.  
25 Just one last comment.

1           And being from a county that has four refineries  
2 in it, some of the comments about energy and our capacity  
3 for energy and multiple levels, I've seen colleague -- or  
4 constituents die in those plants when their capacity was  
5 being pushed, and that's going to happen again.

6           So the idea of having alternative fuels, I think,  
7 is absolutely necessary. And for me that's one of the main  
8 motivators that I think this program has to continue.

9           CHAIRMAN LLOYD: Thank you very much.

10          We have Sandy Spelliscy, Ed Huestis, and then  
11 Dr. Andrew Frank.

12          MS. SPELLISCY: Thank you, Mr. Chairman. Sandra  
13 Spelliscy with the Planning and Conservation League.

14          It's been a long 18 months, and I really want to  
15 thank the staff and all the board members who have opened  
16 their offices to us to listen to our concerns and work with  
17 us. We really appreciate it.

18          I'm only going to address one single  
19 straightforward issue tonight, and that's the issue of the  
20 number of pure ZEVs in the staff proposal.

21          We need to have more cars, more pure zero emission  
22 cars, in this program, and we need to have them in this  
23 decade. We can't wait until the next decade to get this  
24 program moving and to get a sustainable zero emission  
25 vehicle market.

1           If I can borrow from the analogy that was used  
2 this morning, you can't smother a fire by putting too much  
3 fuel on it too quickly, but you can also snuff out a fire by  
4 not giving it enough fuel in the first place, and we really  
5 fear that the numbers in the staff proposal will do that  
6 latter.

7           So that's where I really urge you to take a hard  
8 look tonight. I know that staff is urging caution here in  
9 terms of the numbers, but the ZEV program has never been  
10 about taking a safe route. Big ideas call for bold  
11 leadership, and that's what brought us this far, and we are  
12 confident that the board will continue to show the  
13 leadership that's brought us to this day.

14           And we pledge to continue to work with you to  
15 bring a pollution-free transportation system to California.

16           CHAIRMAN LLOYD: Thank you very much, Sandy.

17           Ed Huestis. Sorry if I mispronounced your name.  
18 I apologize.

19           MR. HUESTIS: Huestis.

20           Chairman Lloyd, board members, my name is Ed  
21 Huestis. I'm the transportation systems manager for the  
22 City of Vacaville, between here and the Bay Area on 80.

23           And I wanted to just provide a quick update on  
24 where we are at with our electric vehicle program.

25           Right now currently this week we are installing

1 additional \$75,000 worth of charging infrastructure at city  
2 hall, both of our community centers, our waste water  
3 treatment plant and our corp yard, the last two being for  
4 our city fleet vehicles, if and when we can get them.

5 That's in addition to 35,000 that's already  
6 installed at city hall in a park and ride lot.

7 And I have funding that I'm starting the paperwork  
8 for, it's already funded, but I have to do paperwork for an  
9 additional quarter million dollars of charging  
10 infrastructure at ten to 12 additional sites in Vacaville to  
11 support the I-80 corridor.

12 I mentioned the city fleet situation, because I  
13 still have Toyota RAV 4's on order since April, have not  
14 received them yet.

15 I have two Ranger EVs on order since May. Have  
16 not received them yet.

17 I have funding for an additional six to eight that  
18 we want to get, but I don't dare cut a purchase order until  
19 I show some results of getting vehicles in place.

20 So I talk about infrastructure and our city fleet  
21 program, our biggest -- well, the piece that has brought us  
22 the most attention is our residential incentive program, to  
23 where we offer \$6,000 buydown off of the capital lease cost  
24 for initially it was 35 individuals and we just have  
25 recently approved another 55 individuals that can take

1 advantage of that opportunity.

2 We have eight EV 1 drivers in town -- this is a  
3 town of 90 --000, four Ford Ranger EV owners, and that all  
4 happened around the first quarter of last year before the  
5 supply dried up.

6 We have many people chomping at the bit. I keep  
7 them updated on email, trying to appease them to hold them,  
8 keep them on a list until we can get the vehicles in the  
9 stream so they can take advantage of this program.

10 More than hundred people on the waiting list.  
11 These are not people that have just called up and said I  
12 want a vehicle, put me on a list. I've actually had them  
13 come down and meet with me for at least a half hour, maybe  
14 45 minutes, to an hour, depending on how many questions  
15 they've had, to educate them on the benefits of electric  
16 vehicles and the limited choices that are available.

17 They have also submitted a survey with some basic  
18 information that I can capture as far as how they found out  
19 about it. In most cases it was word of mouth. We haven't  
20 spent a dime on advertising. It was word of mouth referrals  
21 and positive press coverage in our local newspapers.

22 And then I refer them to either GM or to Ford to  
23 get on their list for the vehicles.

24 We are also expanding into the City of Dixon. I'm  
25 going to help them out, a neighboring city, as part of this



1 expansion program, so they can have a mini-program of what  
2 we're doing.

3           And by the way, we did pass a resolution, our city  
4 council, a few months back that essentially directs staff to  
5 replace all vehicles that are due for replacement with  
6 alternative fueled vehicles, if at all possible, and  
7 primarily CNG or electric CNG, because we just built a  
8 Cadillac of a facility at our corp yard, electric, because  
9 of the electric vehicle program that we're running.

10           Finally, we're featured on the current issue on  
11 the back page of the ZEVolutions put out by the Planning and  
12 Conservation League.

13           In this week off of the MoJo wire, I want my ZEV.  
14 I'm not sure how many of you have seen this, by Mother  
15 Jones. We're referenced in there.

16           As well as a survey that talks about a sampling  
17 survey of fleet operators where there could be, it says  
18 buying, let's see, expressed interest in buying up to 9,000  
19 vehicles over the next few years from this sampling of fleet  
20 operators and that there are obviously dozens of other  
21 fleets across the state too as well.

22           So I respectfully request that you maintain a very  
23 strong ZEV mandate so I can get some vehicles in town.

24           Thank you.

25           CHAIRMAN LLOYD: Thank you very much indeed.

1 Dr. Andrew Frank, then Tom Corbin, Anthony Luzi.

2 DR. FRANK: Hello, board, again. I get to speak  
3 on these things frequently.

4 This of, course, is a plug for plug-in, pardon the  
5 expression. It's late in the day, so.

6 Plug-in hybrids have a place in the ZEV mandate.

7 I think we should encourage the car companies to  
8 build enough plug-in HEVs to make a business case, and that  
9 enough is the number enough as stated by Bob Stempel is  
10 about 100,000 units a year.

11 Now, all right. Should be 100,000 units a year.

12 I should remind the board that if ten percent of  
13 the vehicles were plug-in and each vehicle has a minimum of  
14 ten kilowatt hours stored in the car and it's equipped with  
15 a bidirectional charger, a number of people alluded to that,  
16 that's one that can take energy out of the wall or put  
17 energy back into the wall. Under utility company control,  
18 then after five years with a million cars out there, and  
19 trucks, you would have ten thousand megawatt hours of energy  
20 available at 5,000 megawatts of power. That's enough to  
21 take care of any rolling blackouts that we have had in the  
22 past.

23 And most important, the power is distributed so  
24 you don't have to -- so, now plug-in gasoline hybrids with  
25 either a gasoline engine or a fuel cell, a fuel cell can go

1 into a plug-in hybrid just as well, will provide much  
2 cleaner, higher performance, two and a half times more fuel  
3 efficient than conventional cars.

4 Additional first dollar cost is within reach of  
5 new technology. We just finished a study with EPRI. Within  
6 reach, I mean 15 to 20 percent if you have a 60-mile range,  
7 ten, 15 percent if you have a 20-mile range. So it is  
8 possible.

9 We'll allow overall energy management to  
10 transportation and a social system if you have a  
11 bidirectional charger.

12 Plug-in gasoline hybrids will provide transition  
13 to a much more efficient car, such as advanced internal  
14 combustion engines. We're not done researching internal  
15 combustion engines. There's much more efficiency and much  
16 cleaner possibility out of that. That's yet to be explored.

17 And of course fuel cells in the HEVs, in plug-in  
18 HEV.

19 And it allows the development of an energy fuel  
20 infrastructure. Everybody has talked, many people have  
21 talked about fuel cells, but they have not talked about an  
22 infrastructure.

23 Plug-in hybrids, auto makers can do it now.  
24 Renault has already got one in production. Mitsubishi  
25 looked at it some years ago, Volvo, many other companies

1 have skunk works going on.

2           Grid charge can be done at 120 volts. That means  
3 you don't need a special electrical infrastructure.

4           Near-term transition to fuel cell plug-in in HEVs  
5 and that is we can -- it's a near-term transition towards  
6 fuel cells and true EVs. We can use all the existing energy  
7 infrastructure without any new infrastructure, and it's  
8 commercially possible now.

9           So, finally, we can -- we should encourage the car  
10 companies to build enough plug-in HEVs to make a business  
11 case and let the utility system manage the energy.

12           Setting manufactured numbers high enough to allow  
13 companies to make -- car companies to make money, let the  
14 electric power companies manage battery energy  
15 bidirectionally when the vehicle is plugged in.

16           And the most important thing is the owner of the  
17 plug-in HEV will be guaranteed no blackouts.

18           Encourage the fuel companies to supply energy to  
19 both the electric utilities and the gasoline vehicle and  
20 that means the fuel companies win as well.

21           The result is the entire society improves and it's  
22 a win-win-win-win situation.

23           Now, specifically what I'd like to suggest in  
24 terms of mandate changes, first thing is I think staff  
25 has -- there's been a number of discussions about the

1 numbers of vehicles that will -- that are in the mandate is  
2 far too small.

3 I would suggest to staff instead of starting with  
4 credits and building up to some number, why don't you start  
5 with a total number of EVs or ZEV vehicles that you would  
6 like to see per year and work yourself down backwards and  
7 then arrange your credits so that let's say in three years  
8 you want 100,000 vehicles, you start with 100,000 vehicles  
9 to be manufactured, and then you let the manufacturers  
10 decide how to apportion that between fuel cells, electric  
11 and so on. That way you'll be guaranteed to have 100,000  
12 vehicles in three years. So working it backwards is one  
13 way.

14 CHAIRMAN LLOYD: Dr. Frank, if you can move along.

15 DR. FRANK: A few more points.

16 We should include SUVs, the plug-ins. Should be  
17 because the plug-ins use 90 percent electricity and ten  
18 percent gasoline for 60-mile range, then that should be a 90  
19 percent gold standard and a ten percent silver standard.  
20 Not taken out of the gold standard, but it should be  
21 proportioned accordingly.

22 The warranty on vehicles should be all the same.  
23 You should have the same warranty for fuel cell vehicle, for  
24 battery EV, for plug-in. And the warranty should not start  
25 at 15 years. Some of these new technologies hasn't even

1 been around for 15 years. You can't start with a 15-year  
2 warranty when you don't even know how it's going to act in  
3 15 years. So the warranty issue has got to start at  
4 three-year warranty, I would suggest, and then evaluate that  
5 yearly to see how you might increase it as time goes on.

6           Finally, the infrastructure issue should have a  
7 multiplier on any fuel that's being used, whether it be  
8 methanol or a hydrogen or electricity. The way to figure  
9 that is an infrastructure factor should be the ZEV credit  
10 times the number of methanol stations divided by the number  
11 of gas stations.

12           After all, we're looking for clean air and if you  
13 don't -- if you can't find a fuel station to use that  
14 vehicle, it's not much use.

15           So this infrastructure factor will even the  
16 playing field with all technologies, and I think it's very  
17 important that we include something like that.

18           Thanks.

19           CHAIRMAN LLOYD: Thank you very much indeed.

20           Mr. Calhoun.

21           BOARD MEMBER CALHOUN: I want to mention that I  
22 went out to visit Professor Frank yesterday out at UC Davis,  
23 and they're doing a lot of good work there, and I'm very  
24 impressed. Appreciate the offer to come out. Thank you.

25           CHAIRMAN LLOYD: Continuing good work. It's

1 excellent.

2 DR. FRANK: Thanks.

3 CHAIRMAN LLOYD: Thank you very much.

4 Tom Corbin, Anthony Luzi and Marco Piffaretti.

5 MR. CORBIN: Hi. Tom Corbin, Corbin Motors, and I  
6 have a small visual handout for the board.

7 Corbin Motors, a California corporation, located  
8 in California, Hollister. 90 percent of our employees are  
9 Hispanic, and our county, 50 percent of the population is  
10 Hispanic.

11 We're the largest manufacturer of zero emission  
12 freeway-worthy vehicles in the world currently.

13 I am getting 40 to 50 thousand hits per day on my  
14 Web site.

15 I have 1,000 orders for cars, backed by \$1,000  
16 deposits.

17 I've been to Europe meeting with the government  
18 issues. Been in United Kingdom. I just got back from  
19 Montreal, talking to Dominos Pizza, Starbucks, extremely  
20 large fleet orders.

21 I think this year we'll probably make between two  
22 and four thousand zero emission freeway-worthy vehicles in  
23 the State of California.

24 I have not come to these meetings in the past,  
25 because I have contacted staff, and Sparrow owners have

1 contacted staff, and they were afraid to include us in any  
2 of the legislation interpretations, and for various reasons  
3 their fear stems from the fact that they feel that the big  
4 seven would then use our vehicle classification as a way to  
5 skirt the law.

6 But as you can see, they are now allowing golf  
7 carts as credits for vehicles.

8 Now, there's a big change going on in the world  
9 and people don't really see it. The change is it's no  
10 longer going to be feasible to take a 4,000-, 5,000- or  
11 6,000-pound vehicle into the urban environment. Forget  
12 about if it's fuel cell, hybrid electric, electric, gas or  
13 whatever, we don't have the room for it.

14 So you're looking at a paradigm shift in  
15 transportation. There's other ways of personal mobility.

16 You heard that a lot, personal vehicle, personal  
17 this, personal that. 87 percent of Americans travel less  
18 than 18 miles one way to work. 93 percent of the time  
19 they're alone.

20 I'm not saying sell your sport utility. If you've  
21 got your sport utility, keep it. You need it on the  
22 weekends for the soccer games. You need it to go to Home  
23 Depot and buy some fence materials on the weekend so you can  
24 build yourself a new fence.

25 But I'm saying a single person, specifically



1 designed electric vehicle, can replace 90 percent of the  
2 trips that people would normally have to take in their sport  
3 utility or passenger car.

4 We did not embark upon our program because of a  
5 government mandate. We used our private family money. We  
6 spent \$5 million of our family money in the first three  
7 years of development, which started January of '96, and last  
8 24 months I personally raised 7.8 million of private  
9 investment capital.

10 Every single day I get an e-mail being asked why  
11 are we not included in any of the state programs.

12 And I can't answer them. I have to say, well, you  
13 know, when the laws were invented and written, nobody  
14 encountered the idea of looking at things new, new forms of  
15 transportation. When they wrote the motor vehicle laws and  
16 they wrote the rules, they weren't thinking of personal  
17 vehicles.

18 But now that we have them, all's I'm asking is for  
19 one simple amendment to your law, and if you just took this  
20 one page and added one sentence, I would not have all these  
21 people calling me.

22 We don't even care if we don't get any of the  
23 grant money, but I still think we should get some. The  
24 customers are buying the cars for 14,900. I'm making two  
25 per day now. I'm ramping up to one car a day per month. By

1 the end of the year I'll be making 20 cars per day, and I  
2 have orders and the people want to buy them with no  
3 incentives.

4 So I would like it to say on page one of the  
5 proposed regulation, zero emissions standards section A, the  
6 executive officer shall certify new 2003 subsequent model  
7 passenger cars, light-duty trucks, medium-duty vehicles, as  
8 EVs and fully enclosed three-wheel single-passenger  
9 freeway-worthy vehicles.

10 We would like to be included in the program.

11 BOARD MEMBER CALHOUN: What page are you reading  
12 from?

13 CHAIRMAN LLOYD: Thank you.

14 MR. CORBIN: That's it.

15 CHAIRMAN LLOYD: Any question or comment from the  
16 board?

17 As you probably heard, this issue has come up, and  
18 I'm sure it will come up in our discussion.

19 MR. CORBIN: Thank you.

20 CHAIRMAN LLOYD: Thank you very much.

21 Do I assume that the other representative from  
22 Corbin needn't come up?

23 Thank you.

24 Marco Piffaretti, Henriette Schoen and Graham  
25 Hill.

1           MR. PIFFARETTI: Mr. President, ladies and  
2 gentlemen, it's a pleasure to be here. I will give you a  
3 couple of information about the true market test of  
4 Mendrisio, which has some similarity to what you are doing  
5 in California.

6           When we started in Mendrisio, we looked for eight  
7 percent. Why? Because eight percent was the goal of your  
8 first mandate.

9           We reached that goal in simulation in a town of  
10 7,000 inhabitants and this shows how what you are doing down  
11 here is important to Europe and to Switzerland as well.

12           I hope that you will have important goals for the  
13 next year, because otherwise I have less to do in simulating  
14 smaller goals in the next years over in Switzerland.

15           A couple of informations about what happened there  
16 in regard to market and cost.

17           Market is what we are discussing. Is there a  
18 market or not? We had, and remember in a town of 7,000  
19 inhabitants, 400 EVs right now on the road and we have 300  
20 more frozen requests because we've reached already the goal  
21 of eight percent, but they want more.

22           66 percent of these peoples are private clients  
23 and 98 percent of those are very happy. The other two  
24 percent never tried the vehicle before buying. This is the  
25 reason.

1           And the interesting thing which relates to the  
2 whole population is that at the beginning we had 63 percent  
3 of people in Switzerland, and which was in favor to support  
4 EVs and this percentage is 96 percent where EVs actually  
5 run.

6           And I could feel that in a lot of places in  
7 California this is exactly the same.

8           I want to say the market is there because there is  
9 a demand. There is a request for these vehicles.

10           In our case, sales is preferred instead of  
11 leasing, but this is not so important.

12           One interesting figure, we have Peugeot dealer,  
13 which is the champion down there among the different brands,  
14 he sells 30 percent of his vehicles electric and he lease  
15 with electric vehicles. He's a normal dealer. This could  
16 happen here as well.

17           Up to now we had 60 percent of subsidy for the  
18 purchase of the cars and the future will use a CO2 related  
19 subsidy structure.

20           But how could it happen that we reached 400? It's  
21 exactly the problem you have in the California. The price.

22           We tried for four years. The first four years --  
23 by the way, the red line is the goal we have to reach, 350  
24 vehicles, eight percent. We tried it during the first four  
25 years to convince people that the smaller running costs

1 would compensate the higher investments, but it was hard to  
2 do.

3           And then the first black line, vertical black line  
4 shows when we started it was possible to introduce a renting  
5 system for batteries, which made the cost structure exactly  
6 the same than for conventional petrol vehicles. So they  
7 invest the same money then on a better car and the running  
8 costs or monthly fee is exactly the same for the petrol.

9           The goals is to have equivalence in investment and  
10 running costs. People will hardly understand a different  
11 scheme than this one. I strongly believe that the same will  
12 happen also in California.

13           If it would be possible, and we have seen some  
14 proposal this morning, to introduce a scheme like that.

15           By the way, there are some small things about  
16 amortization of batteries -- you will have these in my  
17 documents I leave here -- to make in possible to offer  
18 different type of battery. Practical modernization depends  
19 on the quality of the battery. If you can give seven years  
20 of battery guarantee, which is the case for some of those  
21 types, then you will have a rate which is down to \$120 per  
22 month and this works and for the battery company.

23           Right now the company doing this leasing is the  
24 leasing structure, the leasing brand over car manufacturer,  
25 but in the near future there will be more bank-oriented

1 companies doing this and companies belonging to power  
2 utilities.

3 To come to the conclusion, to the staff proposals,  
4 I think that the market is there. The request is there.  
5 Therefore, short term we have to ask OEMs to simply to  
6 produce and to market these vehicles. The request is there.

7 But in the meantime we also need and we also need  
8 it in Switzerland and Europe, we need a long-term goal.  
9 It's hard to change from eight to four to two percent and  
10 then back to three or whatever every two years. We would  
11 very much appreciate if it would have a clear figure for  
12 2016, for instance, which is also part of the proposed  
13 amendments of the staff.

14 And last suggestion is that there is, and I try to  
15 demonstrate it with this Swiss case, there is this financial  
16 possibility to solve the cost problem for electric vehicles  
17 if we return the battery costs and the running costs.  
18 Please try to do it also in California. You will see the  
19 cost issue will work out very well.

20 Thank for your patience.

21 CHAIRMAN LLOYD: Thank you very much for coming  
22 here. Very informative. Maybe staff could take a look at  
23 some of the ideas there. Maybe that includes a site visit,  
24 I'm not sure.

25 BOARD MEMBER C.H. FRIEDMAN: Quick question.

1           My grandson could tell me, he's eight, but he has  
2 a talking globe, but I honestly don't know where Mendrisio  
3 is in Switzerland. Can you tell me?

4           MR. PIFFARETTI: Yes. Mendrisio is the in  
5 southern part of Switzerland where the language is Italian.  
6 It's very close to --

7           BOARD MEMBER C.H. FRIEDMAN: I gathered that.

8           MR. PIFFARETTI: Very close to --

9           BOARD MEMBER C.H. FRIEDMAN: Lugano?

10          MR. PIFFARETTI: Lugano. 15 minutes from Lugano.

11          CHAIRMAN LLOYD: Mr. McKinnon.

12          BOARD MEMBER McKINNON: Short questions.

13          Who produces the cars that the Peugeot dealer  
14 sells?

15          MR. PIFFARETTI: Peugeot, but we have a lot of  
16 brands there, Peugeot is simply one of those. The first one  
17 introducing battery rental. It's not the only one.

18          BOARD MEMBER McKINNON: And the other question,  
19 how do the petrol prices and the electricity prices compare  
20 with California?

21          MR. PIFFARETTI: The delta in the two, comparing  
22 the two costs, is more in favor for electric vehicles in  
23 Europe and in Japan than in California. This is true.

24          But there is still an important delta in  
25 California, and the states, to have a transformation from

1 investment to running costs.

2 CHAIRMAN LLOYD: Thank you very much.

3 I think we have Graham Hill, Greg Hanssen, Steven  
4 Dibner.

5 MR. HILL: Good evening, board. My name is Graham  
6 Hill. I'm the manager of government and industry relations  
7 for Dynasty Motorcar. We're manufacturers of neighborhood  
8 electric vehicles.

9 Let me start out by saying there's been numerous  
10 comparisons to neighborhood electric vehicles as golf carts.  
11 Take a look at ours, [dynastymotorcar.com](http://dynastymotorcar.com), it looks like a VW  
12 Bug.

13 The CARB's ZEV mandates represents an evolved  
14 regulation whose time has come. The constant pressures on  
15 urban air quality, land use and livability standards make  
16 the cleaner ZEV the appropriate standard for the majority of  
17 urban trips.

18 Never has it been so apparent that the progressive  
19 battery EV can serve many of our personal mobility demands.

20 A growing number of large European and Asian  
21 cities are banning gas cars in the urban core areas. They  
22 have taken action to remedy poor air quality.

23 Imagine downtown Davis, Union Street in San  
24 Francisco or South Central LA with stealth-like EVs cruising  
25 by a much improved dynamic, and it should be delayed no



1 further.

2           One such impact would be to continue to  
3 incentivize neighborhood electric vehicles. These urban EVs  
4 represent an ideal match for a great number of our trip  
5 demands. Home charging, affordability, and appropriate  
6 scale design best describe the advantages of this  
7 mission-specific vehicle.

8           By reducing the NEV credit too early in the ZEV  
9 program, we are reducing a reliable mode incentive.

10           NEVs need to be a mainstay for a busy  
11 pedestrian-friendly areas where they are most accepted.

12           They also represent a potential for significant  
13 use in transportation hubs, intermodal facilities and car  
14 sharing applications.

15           By reaching transit locations via a NEV, you  
16 showcase a passage for seamless smart mobility.

17           Smart growth initiatives, mixed-used communities  
18 and other VMT reduction strategies are becoming growing  
19 trends of how Americans live, travel within close proximity  
20 to housing, jobs and services.

21           Obviously, these are locations where the NEV will  
22 thrive.

23           We don't go fast and we don't go far and it's  
24 okay.

25           Thank you.

1           CHAIRMAN LLOYD: Thank you very much. And  
2 appreciate consideration of time. Thank you.

3           Greg Hanssen, Steven Dibner, and Alec Proudfoot,  
4 and Bill Mason.

5           MR. HANSSSEN: Good evening. I'm Greg Hanssen from  
6 the Production Electric Vehicle Drivers Coalition.

7           Make a business out of it. This is what we heard  
8 from GM several years ago, before they would stoop so low as  
9 to use the California energy crisis or rustle up people to  
10 speak on entirely different but very important environmental  
11 issues in other neighborhoods, as an excuse to sidetrack us  
12 from the true goal of future fuel, very efficient zero  
13 emission vehicles.

14           When it comes to making a business out of it, I'm  
15 talking about a sustainable ZEV program here.

16           Of course the most obvious thing we can do for  
17 sustainability is to get the volume up, to get the costs  
18 down, and other people have already spoken on this today.

19           I talked to one foreign battery manufacturer who  
20 said that by reducing the volume from 20,000 EVs to 4,000  
21 EVs, we could be looking at a price increase for nickel  
22 metal batteries of 70 to 80 percent.

23           Of course he asked to remain nameless there.

24           On the sustainability side, I see even if we had  
25 20,000 vehicles, as Fritz Kolhammer did in his study, we

1 would still have a cost of around \$10,000 for nickle metal  
2 hydride battery pack.

3           And that's why in conjunction with partners in  
4 Europe, like Marco, and people at the California Energy  
5 Commission, we are pursuing a battery rental, battery  
6 leasing company here in California. We see this as being a  
7 vital addition to the ZEV program of sorts, because it will  
8 remove the up-front costs burden from the auto manufacturers

9           As a matter of fact, I have to give credit for  
10 this to my friend, Al Weaverstad, who at the second workshop  
11 talked to me in the cafeteria at Diamond Bar and suggested  
12 that if the auto makers did not have to worry about the  
13 battery costs in selling their EVs, they could sell the  
14 electric vehicles without batteries at a lower cost than a  
15 gasoline car.

16           So I started thinking about this and started  
17 talking to other people. And, of course, this has been  
18 pursued in the past, usually in the frame of reference of  
19 the utility companies, which, of course, are in no position  
20 to do this now.

21           So in talking with Marco and some other people,  
22 we're looking into proposals for a battery renting, battery  
23 leasing company, which would then put out bids for large  
24 quantities of batteries for a number of different  
25 applications and handle secondary use issues. For example,

1 a battery that might serve five or six years in an EV, might  
2 still have several years of use in another application to  
3 help amortize the cost.

4           Initially we have a huge program or a potentially  
5 huge program here in California using the California energy  
6 crisis as a means of using very affordable lead acid  
7 batteries for peak shifting and power backup applications.  
8 This could be the goal or this could be the initial drive  
9 for the battery renting leasing company that gets it off the  
10 ground.

11           Of course, ultimately my goal is to see this  
12 company succeed with large volumes of batteries such that we  
13 can have more advanced batteries, nickle metal, lithium for  
14 use in electric vehicles, because as long has this cost  
15 burden is there and the auto makers are fighting it because  
16 of the cost burden, we cannot see any success.

17           Even if the auto makers never produce the vehicles  
18 for sale to the consumer, simply being able to rent or lease  
19 the battery pack and then pass on that lease cost to the  
20 consumer would be beneficial for the auto makers because  
21 they no longer have to pay the up-front capital for the  
22 batteries and they no longer have to deal with what to do  
23 when the battery is done in the vehicle or where the  
24 secondary use is for the battery is, et cetera, et cetera.

25           CHAIRMAN LLOYD: Greg, can you wrap up there.

1 MR. HANSEN: Absolutely.

2 So I am mainly saying that we are pursuing this  
3 right now with various agencies, and hopefully this will be  
4 the key to solving some of the cost problems for electric  
5 vehicles and the warranty issues for the batteries for  
6 electric vehicles. With the system like this, we would not  
7 have special credits beyond three or four years that would  
8 ultimately diminish the volume of vehicles because this  
9 would all be covered between the battery rental company and  
10 the battery manufacturers.

11 CHAIRMAN LLOYD: Thank you very much.

12 MR. HANSEN: Any questions?

13 CHAIRMAN LLOYD: Thank you, Greg.

14 Steven Dibner.

15 MR. DIBNER: Hello. My name is Steven Dibner.

16 I'm a musician in the San Francisco Symphony and I drove my  
17 EV 1 here just specifically to see the board members in  
18 person.

19 I am very impressed with the work that you've done  
20 over the years, and I really commend you for the efforts  
21 that you've made.

22 And I hope very strongly that you will hold to  
23 what you said at the September meeting, et cetera,  
24 et cetera.

25 Just a few things.

1           One is I feel very proud to -- I moved for the  
2 symphony job from New York, but I feel very proud to be from  
3 California for several reasons, and a few have to do with  
4 the laws related to clean air.

5           When the law was passed about the commuter high  
6 occupancy vehicle lane, to me that was a huge thing. Now,  
7 not only when I drive my EV 1, you know, people stop me  
8 every two blocks, and based on the design they ask what kind  
9 of car is that, I've never seen one, even though I've been  
10 driving one for three years now. And when I start to talk  
11 to them and I tell them about the carpool lane, they say  
12 where can I sign up.

13           And then, as you know, the frustration, well, you  
14 have to go into -- the contrast between what the GM  
15 sometimes says no customer demand and the waiting list, to  
16 me, those two don't go together too well.

17           The other thing I just want to say quickly about  
18 California law has to do -- I put solar panels on my roof  
19 now, so I'm charging my EV from the sun's energy and, you  
20 know, as of January 1st the AB 918, I think it is, having to  
21 do with PG&E paying back for the energy that I feed back  
22 into the public grid, et cetera.

23           I just want to say one other thing. Somebody  
24 representing the auto industry talked about -- I thought it  
25 was an interesting way of starting out, that we share the

1 same goals. And that was a nice attitude, and it's true  
2 that goals of cleaner air and advancing technologies, but  
3 then the phrase was that it must be done in the  
4 cost-effective manner.

5 To me, it's more a question that has a little bit  
6 of question of priorities. I think it's very important for  
7 this board to stick to what is truly important and to  
8 represent the health and well being and the future of the  
9 citizens of California and therefore pushing along those who  
10 have other interests, financial and otherwise, to do the  
11 right thing, and to make ways to find it happen.

12 To me, the fact that the EV 1 appeared in 1998 is  
13 no mystery. It had to do with the concerted efforts and  
14 pressure put on this board for people to do the right thing.

15 So I thank you very much.

16 CHAIRMAN LLOYD: Thank you. Thank for coming  
17 here.

18 Alec Proudfoot, Bill Mason, Jerry Pohorsky.

19 MR. PROUDFOOT: Hello. I submitted written  
20 comments about two weeks ago, so I'll be really brief.

21 CHAIRMAN LLOYD: Credits go up for brevity.

22 MR. PROUDFOOT: I think that there's been a lot of  
23 discussion about the place of hybrids and the four percent  
24 ZEV requirements. I just want to make a few comments.

25 Advanced technology PZEVs do not belong there.

1 There's a real fundamental difference between advanced  
2 technology PZEVs and grid recharge hybrid. It all comes  
3 down to grid rechargeability. If you have grid  
4 rechargeability, then you'll get many true electric miles,  
5 and the 20-mile range hybrid will have, in order to be a  
6 viable vehicle, will actually have quite a bit of battery  
7 and will be a good viable car.

8           There's just one problem with it, and therefore I  
9 support having extended range hybrids in the four percent.

10           However, there's a problem and there's a loophole  
11 in that the definition of the all-electric range is not  
12 sufficient for defining extended range hybrid.

13           The proper definition for an extended range hybrid  
14 should be it's operated in a normal -- when it's operated in  
15 a normal mode, the range is when the APU kicks in.

16           Right now the way that the definition is in the  
17 emission requirements is that APU is explicitly turned off  
18 and then the test is run. In that situation you could have  
19 a Prius with a slightly larger battery, the APU is  
20 artificially turned off and the test is run, and in normal  
21 operating modes it would operate just like any so-called  
22 advanced technology PZEV.

23           Staff has told me that they're looking at this  
24 definition and they may deal with it in the LEV 2  
25 discussions later in the summer, but I wanted to bring that



1 up.

2           And finally I think that there needs to be similar  
3 language to the language in for the sort of weaker hybrid,  
4 which says that the extended range hybrids need to be  
5 designed with -- to encourage charging and they also --  
6 there also really should be the fact that a charger needs to  
7 be included with the purchase of a car. If there's no  
8 charger, it either needs to be built into the car or if it's  
9 an external charger, it needs to be included, otherwise the  
10 whole thing is completely moot.

11           So I hope you consider that and thanks for letting  
12 me testify.

13           CHAIRMAN LLOYD: Thank you very much.

14           Bill Mason.

15           Thanks, Bill, for continuing to contribute.

16           MR. MASON: Sure thing.

17           I had some great visuals prepared, but since I'm  
18 retired and PowerPoint disadvantaged, you won't be able to  
19 see them other than in your package there.

20           The ZEV mandate currently calls for about 22,000  
21 true ZEVs starting in 2003.

22           The Battery Technology Advisory Panel and 2000  
23 report it was determined that nickle batteries were ready  
24 with regard to technology and life, but that a volume of  
25 about 20,000 packs a year would be necessary to achieve any

1 economy of scale.

2           In its final staff report last August, staff  
3 revised its conservative sales estimate downward from  
4 29,400, to 20,400 potential applications, but still  
5 consistent with the current mandate volume for true ZEVs and  
6 with the volume needed to achieve economy of scale for  
7 nickel metal hydride batteries. In other words, an initial  
8 volume of 20,000 makes sense from several points of view.

9           The staff proposals on the table will cut the  
10 volume of true ZEVs by 58 percent to 9300 or by 80 percent  
11 to 4650 with the advanced technology PZEV option.

12           In 2008 the percentage reductions are even  
13 greater. 70 percent by proposal 1 and 80 percent by  
14 proposal 2. These cuts in true ZEV volume partially are  
15 rationalized by staff based on assumed cost savings to the  
16 auto manufacturers.

17           It's true that if the auto makers take full  
18 advantage of the advanced technology PZEV option in 2003,  
19 they would achieve a cost savings of 43.7 million over doing  
20 all over four percent as true ZEVs.

21           Chuck Shulock stated this morning that this  
22 savings diminishes over time, but what he didn't say was  
23 that in 2004 that savings drops to only 8.1 million, and by  
24 2005 and continuing through 2008 the ATP ZEV option would  
25 actually cost 43.3 million more each year than doing all

1 four percent true ZEVs.

2 And between 2003 and 2008 the total cost of taking  
3 full advantage of the ATP ZEV receive option would actually  
4 be 105.3 million more by staff's own estimates.

5 Staff's latest estimate of potential applications  
6 for true ZEVs in 2003 breaks down into 16,000 fleet sales  
7 and 4400 retail sales.

8 If the mandate for true ZEVs is cut to either 9300  
9 or 4650 vehicles, there's the danger that the fleet demand  
10 may overwhelm the available supply of EVs, especially if  
11 some or all of the auto manufacturers decide not to make  
12 their EVs available to the public.

13 As already happened during the MOA period for  
14 similar reasons, retail customers may again find it  
15 difficult, if not impossible, to lease or buy an EV.

16 Longer term, staff's proposals are even more  
17 unacceptable. The first proposal doesn't exceed 20,000 true  
18 ZEVs until 2015, and the second proposal peaks out at only  
19 14,000 in 2018, never reaching the 20,000 volume needed for  
20 economy of scale for nickel metal hydride batteries.

21 While the ZEV mandate is proposed to increase the  
22 16 percent in 2018 under proposal 1, the true ZEV  
23 requirement only increases from four to ten percent, and  
24 under proposal 2 only from two to five percent.

25 In 1990 your vision was ten percent true ZEVs in

1 2003. Proposal 1 delays that vision by 15 years, and  
2 proposal 2 not only delays it by 15 years, but it also cuts  
3 it in half, both unacceptable.

4 To summarize, we find proposal 2 unacceptable. If  
5 ATP ZEVs need to be incentivized, they should be  
6 incentivized within the six percent PZEV requirement, not  
7 within the four percent true ZEV requirement.

8 And also because proposal 2 in actuality, by  
9 staff's own figures, it's actually more expensive than  
10 proposal 1.

11 We also find the volume reductions under proposal  
12 1 to be unacceptable. We think a quicker ramp-up to 20,000  
13 a year is needed and that can be done by adjusting the  
14 phase-in multipliers and the credit schemes, and we'd like  
15 to see more volume long term.

16 Thank you.

17 CHAIRMAN LLOYD: Thank you very much.

18 (Applause.)

19 CHAIRMAN LLOYD: Comments or questions?

20 I guess Chuck is not here on the cost issue to see  
21 whether that statement that the option is more expensive.

22 Okay.

23 MR. CACKETTE: I'd just point out that even if it  
24 is, it's an option, so presumably they would take the low  
25 cost option, which, if that's correct, would be four percent

1 EVs.

2 CHAIRMAN LLOYD: Jerry Pohorsky, Dennis May and  
3 Tim Hastrup.

4 MR. POHORSKY: Dr. Lloyd, honorable board members  
5 and staff, many of the remarks I have have already been  
6 made.

7 If you want to get the whole story, I've given you  
8 these yellow handouts. I'll keep the remarks short.

9 This month I spoke with EV representatives from GM  
10 and Toyota. Neither one had an EV I could lease now, but  
11 both mentioned there may be some news after this hearing.

12 The auto makers are braced for your decision. You  
13 can make or break the battery ZEV with your decision this  
14 week. The auto makers are focused on profits, not our  
15 health. Will you cave in under the pressure of their  
16 lobbying efforts or will you do the right thing like you  
17 pledged in September?

18 Go for the gold, don't settle for the steel.

19 If each of the seven auto makers produced a  
20 thousand ZEVs a year starting now, we would have 21,000 by  
21 the end of 2003, and they don't need any more R and D time.  
22 They could simply produce more of the same cars made under  
23 the MOA. Wouldn't it be nice if we could just go to a  
24 dealer and drive one home? All of the people on the waiting  
25 list could stop waiting and start driving the smog-free car

1 of their dreams.

2 The MOA ZEVs will work for most commuters. I  
3 drove mine daily for five months. My commute is 23 miles  
4 each way.

5 Wait a minute. I'm going the wrong way. Here we  
6 go.

7 I loved my EV 1. I was a happy GM customer. I  
8 had fun, fun, fun until GM took my EV away.

9 I'm not happy about having to wait so long to get  
10 it back. It's been nearly a year of being kept in the dark  
11 about when it will be released to me.

12 With a strong mandate, GM will have a strong  
13 incentive to get it back to me ASAP. A strong mandate will  
14 help make other ZEV models available to the public for the  
15 first time, such as the Altra or the Epic.

16 AB 2061 will help make these ZEVs more affordable.

17 I'm going to skip this slide.

18 The auto makers have already beaten down the  
19 number of ZEVs from ten percent to four percent. We need a  
20 critical mass of ZEVs to ensure their success. Two percent  
21 won't do it.

22 We support credits for early deployment, however,  
23 so I can get my car back quickly.

24 In closing, let me encourage the board to stay the  
25 course. We need at least four percent true ZEVs to do any

1 good. AB 2061 has been signed into law, but virtually  
2 nobody has been able to take advantage of it due to the  
3 shortage of ZEVs. Credit for early deployment could solve  
4 that problem. Let's have more ZEVs, not more studies.

5 Thanks for your leadership thus far.

6 (Applause.)

7 CHAIRMAN LLOYD: Thank you very much.

8 Dennis May, Tim Hastrup, Mike Thompson, Jesse  
9 Powell.

10 MR. MAY: Good late afternoon, ladies and  
11 gentlemen. My name is Dennis May. I'm from Thousand Oaks.

12 I don't sell anything to do with cars. I don't  
13 sell anything to do with batteries. I don't even have an  
14 EV, but when I get one, the 44 miles a day that I drive to  
15 and from my golf course, past a school, will be very quiet  
16 and very clean.

17 (Applause.)

18 MR. HASTRUP: Good evening. Thanks for having us  
19 all here. My name is Tim Hastrup.

20 I was here in September with my wife and, you  
21 know, one of the things that we really enjoy the most about  
22 having an EV, what we're most proud of is basically  
23 education. We feel in our family that ZEV success, it's all  
24 about education. People need to understand that, yeah,  
25 things are a little bit different with the ZEV vehicle, but

1 different doesn't mean bad. Different means great. They've  
2 improved our lives, will improve a lot of folks' lives.

3           So that's a good message and it's a lot of fun to  
4 share that message with folks.

5           Our problem is that there are no vehicles. We  
6 need cars. We can talk until we're blue in the face, but if  
7 people can't get cars, that's bad.

8           We're concerned that the two percent ZEV proposed  
9 is too little. We feel more comfortable with the four  
10 percent.

11           We need retail availability. I think the example  
12 that we've set kind of in the general population is real  
13 important. Fleet use is good, but limiting some of the cars  
14 to fleets only, is not a good option.

15           Lot of folks are used to buying their cars. We've  
16 been happy with lease. It's the first time we've ever  
17 leased anything, but for lot of folks purchase is really  
18 really key.

19           And really when we look at where we are today,  
20 what we're most concerned about is that when our leases are  
21 up, we may not be able to continue driving ZEV, and that's a  
22 real concern for us.

23           From our point of view, the marketing study's  
24 already been done.

25           This is in front of our house this past weekend.



1           So the results are in. The owners like us, we  
2 love our ZEVs, there's lots of unfilled demand, and we need  
3 more vehicles, not fewer.

4           So what we like to ask is for your continued  
5 leadership. We feel our future as ZEV drivers -- we were  
6 happy and very thankful that Honda renewed our EV lease in  
7 May, so that hopefully we can go another two years. We've  
8 got over 40,000 miles on the car. But we're still nervous  
9 if that car breaks, that we won't be able to find a ZEV  
10 alternative.

11           So we really need your continued leadership. We  
12 enjoy doing our part.

13           We hope that our daughter and son, Christine and  
14 Carston, can look back in 40, 50 years from now, show their  
15 grandkids this and say, see, there was somebody at one time  
16 way back in the early 2001 time frame, you're  
17 great-grandparents were starting to drive ZEVs, just like  
18 everybody does today. So we want to keep that legacy going.

19           Thank you very much.

20           CHAIRMAN LLOYD: Thank you.

21           (Applause.)

22           CHAIRMAN LLOYD: Mike Thompson, Stephen Casner,  
23 Rex Hodge.

24           MR. THOMPSON: For those of you who haven't seen  
25 me before, what's my motivation?

1           Well, it's basically the public health. I've been  
2 kind of concerned with that sort of thing and the future  
3 generations. You leave a campground, you leave it a little  
4 bit cleaner than you found it, and our air is not a sewer  
5 for us to wantonly destroy.

6           And for the health of our children. I've got two  
7 kids. Before that I was concerned with the health of other  
8 people's children and the public health in general. I mean,  
9 it's obviously taking its toll on asthmatics today.

10           Why do I do this kind of thing? I mean I just  
11 have to look at the American Lung Association web site.  
12 What is their motivation? And we look at the issues that  
13 show up on their web site, what's important to them.

14           Also the Union of Concerned Scientists.

15           To keep the numbers a little bit shorter, I'd like  
16 to reference the testimony by Roland Hwang, Jason Marks, and  
17 Bill Mason. Consider that included in my comments.

18           On the subject of grid rechargeable hybrids,  
19 they're not quite the gold standard. They are a pragmatic  
20 step. They should not be in the four percent.

21           There may be some clever things you can do with  
22 the six percent, but do not dilute the gold standard.

23           And one of the critical reasons for not diluting  
24 the gold standard is you have to hit the critical mass in  
25 terms of volumes.

1           As Mr. Kolhammer, I believe, stated, if I recall  
2 this correctly, they need volume of about 20,000 packs of a  
3 particular type and configuration of battery to make the  
4 volumes.

5           I realize it's a tough ramp to hit, but that has  
6 to be taken into consideration.

7           In terms of the grid chargeable hybrids, with  
8 bi-fuel vehicles there's always been a problem of you  
9 purchase a bi-fuel vehicle, you get all the incentives, you  
10 take it home and you continue to power it off of gasoline,  
11 because the alternative fuel is hard to get, or you just  
12 don't care.

13           The chargers and their installation need to be  
14 included with grid chargeable hybrids at the purchase time.

15           There should be minimal or small incentives at  
16 purchase time for grid chargeable hybrids. We have to trust  
17 the auto manufacturers, the emissions computers anyway, to  
18 the emissions.

19           So those computers, since they're already trusted,  
20 could also monitor the EV miles traveled, the ZEV miles  
21 traveled by that grid chargeable hybrid, and that can be  
22 reported at a smog check type thing where the consumer  
23 receives a rebate check and has an incentive to use the  
24 vehicle in the proper manner.

25           How does something like AB 71, the carpool lane,

1 go into this? I don't know. That's an interesting mix when  
2 you start throwing it in the gold standard. Do they have a  
3 big red light, green light on the back when they're  
4 operating pure EV, they can maybe get in the carpool lane  
5 for a little bit. And people have some incentives to get  
6 these things when they're doing the right thing and when the  
7 APU kicks on for a long trip, they have to go out.

8 I don't know, but there are some possibilities to  
9 really monitor them, and we already have to trust the  
10 computers that are there today, so it's not a stretch to  
11 trust the emission computers.

12 As far as including SUVs in the mandate, this is a  
13 real problem because we certainly don't want to pull the rug  
14 out from under the auto manufacturers who have made some  
15 serious attempts to get us EVs and they are trying to dance  
16 around the realities of what we're asking to do, and provide  
17 some solutions.

18 But we also don't want to provide, what I would  
19 call the SUV escape hole and that is that if we base it off  
20 of passenger cars, the natural thing is go market the SUVs.  
21 You've got higher profit margins on them anyway, you don't  
22 have to make the EVs for it, that's clearly not what anyone  
23 wants in terms of the air quality benefits.

24 So maybe what we can do is do a scale factor now  
25 where the SUVs are included today, but scale the factor so

1 that it's still the same number of total vehicles.

2 And I heard earlier that number was like 50  
3 percent increase, so the scale factor would be like 70  
4 percent or something.

5 Then later that factor could go down to one.

6 CHAIRMAN LLOYD: Can you finish up there.

7 MR. THOMPSON: Sure.

8 In terms of outreach, EV drivers are doing this  
9 now. Tell us how we can help in the future.

10 The fair market test, staff submitted, that was  
11 great. You've already heard the Mother Jones article. I  
12 referenced that again.

13 In addition to that, there's, for example, EV  
14 rentals. Their business is stifled because they can't get  
15 EVs, they can't expand the business.

16 Cost, we talk about cost and their dollar cost,  
17 the automotive and their environmental and public health  
18 costs. We need some way to reflect these costs back. We  
19 need a sustainable market that requires realistic costs for  
20 auto makers. We need some way to give them credits for the  
21 externalities of improved public health.

22 The Mendrisio idea of basing credits in terms of  
23 CO2 production was very interesting.

24 There may be some credit trading with power  
25 companies to get cleaner air overall and make the economies

1 for the auto manufacturers. And we certainly don't want to  
2 drive them out of business.

3 And the last point, environmental justice, a  
4 little bit of a joke. The person behind me benefits most.  
5 I wish I could follow myself.

6 CHAIRMAN LLOYD: Thank you.

7 Stephen Casner, Rex Hodge, Ron Chestnut.

8 MR. CASNER: Hi. I'm Stephen Casner from  
9 Sunnyvale, an EV 1 driver.

10 I'd like to echo a couple points about chargers,  
11 charger installation being included in the -- with the  
12 plug-in hybrids. I think that ought to be something  
13 specific in the mandate.

14 And similarly that the requirement that vehicles  
15 be made available to the public, as well as to fleets,  
16 because otherwise we don't get any visibility.

17 People have talked about the need for getting up  
18 the volume so we can reduce manufacturing costs, but there's  
19 also a requirement for the volume to be to a certain level  
20 so we get visibility, so the people actually realize that  
21 these vehicles exist.

22 Because as we've heard now, people really don't.

23 One specific other change that concerns me, or  
24 aspect of the proposal that concerns me, is section 2 A on  
25 fast refueling, talks about the giving full unlimited range

1 credits to vehicles that can refuel in ten minutes.

2           And if it's a 20-mile vehicle, being able to  
3 refuel that in ten minutes doesn't mean that you can really  
4 drive it for an unlimited distance, because it's not  
5 practical to be refueling every 20 miles.

6           So there is another 2 B clause there that's based  
7 on 60-miles range, but I think that the 2 A clause as well  
8 should be based on miles per minute or miles per unit time,  
9 rather than just percentage fill over ten minutes.

10           To sum up, my concern is that about the  
11 neighborhood vehicles is that there's sort an unspoken  
12 strategy of the auto manufacturers to put out only  
13 neighborhood vehicles in the early years, to have those not  
14 be successful in the market, and then to use legislative or  
15 legal means to try to overturn this mandate.

16           So my concern is that we should include  
17 full-function vehicles as a requirement, not just as through  
18 credits.

19           CHAIRMAN LLOYD: Thank you.

20           Rex Hodge, Ron Chestnut, Doug Korthof.

21           Compliment you on your article in News and Review,  
22 Rex.

23           MR. HODGE: Thank you. Thank you.

24           As you can see from that article, and from our  
25 testimony last September and many other appearances that

1 we've made right here in Sacramento, I feel is the best fuel  
2 cell vehicle development program in the world today, and  
3 that is ours, and of course I say that with great bias,  
4 being the president and CEO of the company.

5           We have a very talented team of engineers and  
6 technicians that is working on a profitable fuel cell  
7 vehicle powered by hydrogen, completely zero emission, that  
8 does not require a hydrogen infrastructure, because we  
9 bundle in with the price of the car an electrolysis device  
10 that's installed in your garage that makes hydrogen and  
11 oxygen at night and that's put into the vehicle and allows  
12 us to propel the vehicle with about a 700-mile range.

13           And we've developed this vehicle over a seven-year  
14 period that our company has been in existence, completely  
15 privately fund with private investment money.

16           We're getting there. And we have, I think, fuel  
17 cell to do it. We have the car to do it. And we plan to  
18 produce and sell 5,000 of these vehicles in 2003, 30,000 in  
19 2004 and 50,000 in 2005.

20           I see no reason at all to change the numbers that  
21 were presented in September.

22           Volume is the key here. I come from the world of  
23 designing rocket engines. That's where I come from and  
24 where some of the other people on our staff come from.

25           Fuel cells have been used in rocket engines for



1 some time. Working with hydrogen and oxygen is something we  
2 do routinely in rocket engines. We're using composite  
3 materials like carbon epoxy from the rocket industry. We're  
4 putting that into cars. We're doing it in a way that we  
5 feel will be less expensive than the way cars are built  
6 today, not more.

7 We're accomplishing this, and anyone who wants to  
8 talk to us about it, we can show the evidence of that.

9 One of the most important things you can do is  
10 keep the volume up of the zero emission vehicles.

11 Our company is funded by private stock sale by  
12 very sophisticated people who need to be able to look at the  
13 numbers and see that these mandates exist.

14 Some specific notes, I would say that one of the  
15 things that hasn't been mentioned yet is intermediate car  
16 companies. It's not necessary for every existing car  
17 company to have their own zero emission program, because  
18 companies like ours can sell the credits via the law that  
19 currently exists, and can allow them to satisfy that  
20 requirement. They don't necessarily have to build their own  
21 system.

22 That's also true for others who are trying to get  
23 up to the economies of scale. It can be done by some  
24 pathfinder companies that can hold the burden.

25 So I would like to have the staff reevaluate

1 whether or not it's necessary to delay the status of BMW and  
2 some of these other companies.

3           Again, I think that the SUVs should also be  
4 included in the baseline, and we should try to get those  
5 volumes up.

6           America is a country full of very clever people,  
7 especially in technology development. There's really very  
8 little that we can't do.

9           The problem is we don't do it unless properly  
10 motivated. There almost has to be a crisis or a definite  
11 statement of goal. We didn't get to the moon by continually  
12 putting it off. We got to the moon by accepting the  
13 challenge and doing it.

14           The technology is there. This can be done.

15           I'd like to say one final note. I used to be a  
16 supporter of methanol, until I really looked heavily into  
17 the health effects. The oil companies are willing to  
18 support hydrogen in the long term, not in the short term,  
19 but in the long term.

20           They're not willing to support methanol in any  
21 term, and the reason is they don't want another situation on  
22 their hands where something is put in for supposedly  
23 environmental benefits, and then later is rejected based on  
24 health benefits.

25           Just a couple of teaspoons of methanol is enough

1 to kill you.

2 So the oil companies and my company are rarely in  
3 agreement, but we are in agreement on the methanol issue.

4 Go to hydrogen, because it's the final solution,  
5 and we won't have another situation like we have with the  
6 MTBE.

7 CHAIRMAN LLOYD: Thank you, Rex.

8 I should point out, however, on the California  
9 Fuel Cell Partnership that methanol is one of the options  
10 being discussed, and clearly no one is going to deliberately  
11 take a couple of teaspoonful of methanol.

12 So I think that all of these fuels, no matter what  
13 they are, they have to be used with sufficient precautions,  
14 et cetera.

15 MR. HODGE: Yes.

16 CHAIRMAN LLOYD: Thank you very much.

17 Now we have Ron Chestnut, Doug Korthof and William  
18 Korthof.

19 MR. CHESTNUT: Hello. My name is Ron Chestnut.  
20 I'm not a rocket scientist. I'm a nuclear physicist and I  
21 worked at SLAC, Stanford Linear Accelerator Center.

22 The first government thing I ever went to was last  
23 March, and I watched the staff in action here, and I thought  
24 that was very interesting, and I'm glad to meet, to see all  
25 the people from CARB, because since then I've gotten very

1 active and I've talked about you a lot. I've given  
2 colloquiums at SLAC and LVL about EVs and the ZEV mandate  
3 and such.

4           At SLAC we have two EV 1 owners. We have an EV  
5 Plus. We have a Honda Insight and lately two Priuses. And  
6 the last guys who bought a Prius had heard my talk, and when  
7 he bought it he came up and apologized, because he really  
8 wanted an EV, but they weren't available and this was the  
9 best thing he could get. And then he looked at how the  
10 charging works to see if he could put a charger on his  
11 Prius, and he looked to see where he could put more  
12 batteries. He's a double E, and he can probably do all that  
13 stuff.

14           We have also looked at the Think City as a little  
15 car to run around SLAC, and it would be a nice idea for  
16 SLAC. Unfortunately, we are having a problem getting GSA to  
17 approve it, because it's not an alternate fuel vehicle, and  
18 I guess I have to go through some more hoops to get that  
19 done.

20           Just as a little aside, if -- I wouldn't take that  
21 thing out on the freeway. It would just be a speed bump. I  
22 know it's freeway approved, but okay.

23           Now, one of the -- the other person who bought a  
24 Prius came and announced -- and I'm the person everybody  
25 talks to about those cars at SLAC -- and announced that she

1 had an electric gas hybrid that was half and half electric.

2 And I'd like to -- that's an example of how clever  
3 the marketing is that the automobile manufacturers use.

4 So if they're that clever and can sell that idea  
5 when it's so blatantly wrong, it can't be very difficult to  
6 market a real EV with all of its positives.

7 And I have a modest suggestion.

8 If you had a billboard at the toll plaza, and on  
9 the billboards a big picture of the HOV decal, and it said  
10 if you'd like to be eligible for one of these, call, and  
11 then it's some number, perhaps it's a number which  
12 distributes to all the auto manufacturers Web site.

13 That would -- you'd have people ordering, making  
14 appointments to see the cars before they got over the  
15 bridge, I think.

16 I don't think it's very hard. I think there's a  
17 great demand. There's three more people at SLAC waiting for  
18 EV 1s, by the way.

19 So specifically to the staff modifications, I was  
20 very surprised and actually a little shocked when I first  
21 read it.

22 I'm concerned, as others have said, that there  
23 will be too many neighborhood electric vehicles. They may  
24 have a role to play, but I'd really like to see that they're  
25 full-function electric vehicles and a lot of them. I don't

1 know how to do that. But I would hate to see golf carts and  
2 Priuses for the next few years.

3 Part of the reason is, as somebody else has said  
4 earlier, that's the wrong image to project to the public.  
5 It's taken us so many years to get away from the golf cart  
6 low-power image that it would be shame to go back to that.

7 Thank you very much.

8 BOARD MEMBER C.H. FRIEDMAN: Thank you, sir.

9 Any questions from anyone?

10 Here's your chance to ask a nuclear scientist a  
11 question.

12 All right. We had now Doug Korthof and followed  
13 by his younger brother, William.

14 MR. DOUG KORTHOF: Exactly. Thank you, sir.

15 My name is Doug Korthof. I live in Seal Beach.

16 And with respect to the last speaker's statement,  
17 I have -- I do as a matter of fact support a number of Web  
18 sites, and on one of the Web sites I do have an area where  
19 people can sign up who are willing to give their name,  
20 pledge their faith to get an EV and to say that they're  
21 behind the mandate. So far 470 people have signed up.

22 So you know there is a demand. And it's  
23 unfortunate that it's not being met.

24 Now I have a lot to say and I will send you some  
25 letters about these points that I'm going to raise, so you

1 can interrupt me and throw me out at any time.

2 I work on the campaigns, and I work on a sea otter  
3 campaign down on the ocean, and we are vitally interested in  
4 zero emission vehicle mandate, because the entire oil  
5 economy causes trouble for sea creatures.

6 But I wanted to go back and talk about the car  
7 companies.

8 First of all, the car companies are based in very  
9 hard-headed businessmen who did an amazing thing at the turn  
10 of the century. These were gutsy guys. Henry Ford, you  
11 know, General Chrysler, all these guys that did all this  
12 stuff, and now we have these auto companies that are a pale  
13 reflection.

14 If I listened to what they had to say this  
15 morning, with all due respect for the great tradition of the  
16 auto companies, I would say that my experience with cars,  
17 electric cars, is all for nought. I would say they don't  
18 run. I must be crazy, this is a dream, because, according  
19 to them, they don't go far, nobody wants them and they're  
20 not fun to drive.

21 And I know exactly the contrary.

22 When I, as Mr. Burke asked, where do people find  
23 out about these meetings, well, being a conservative Orange  
24 County type, I read about it in the Orange County Register  
25 about 1994. And at the time I owned five gasoline cars. It

1 wasn't in the Times, it wasn't in the Sentinel. It was in  
2 the Register, because they wanted people to come and  
3 complain.

4           But instead I came and found out and I tried an  
5 electric car when they first became available. Instead of  
6 five gasoline cars now, we're going to get rid of our last  
7 gas car, if they ever get around to giving us another EV,  
8 because we only have two with three drivers. So there is a  
9 compunction to these cars.

10           Now, the auto companies need to learn that they  
11 have to -- as good businessmen get down to work and make  
12 this thing work. That's what the auto companies did at the  
13 turn of the century. That's what they did when we ran into  
14 the oil crisis of 1970. These are Americans who can do the  
15 job. There's union workers behind them. There's no reason  
16 for them saying we can't do this. They can do this and they  
17 will. That's the law and that's what we need to expect of  
18 them.

19           Now, Mr. Burke's question was why don't we see  
20 more people from communities of color here.

21           And I'd like to point out that one of the things  
22 that we do in these meetings is -- well, I don't do it -- I  
23 see it all the time, is people raise wedge issues.

24           When you're backed into the corner you throw a red  
25 herring on the table. You muddy the punch bowl.



1           And one of the things to do is say, well, what  
2 about these communities of color, they can't afford these  
3 electric cars anyway, all it is is for these white  
4 suburbanites.

5           Now, this is a wedge issue designed to drive a  
6 wedge between us.

7           However, that is not the question. The question  
8 is do these communities of color recognize that they have,  
9 as we all do, an interest in clean air.

10           And you look at the people that care about this,  
11 Communities for Better Environment, and we have the 1402  
12 rule down in El Monte -- I mean in Walnut, they sent  
13 hundreds of people there, and who came on the other side but  
14 the Western States Petroleum putting a couple of small  
15 merchants up to saying this will kill our business, when the  
16 real issue is that the refineries every night are spewing  
17 this stuff out every night at 3:00 in the morning. You can  
18 go out and see it.

19           And that's what Communities for a Better  
20 Environment is talking about.

21           The oil economy, which is spewing out, and it's  
22 awful, they say pollution in Beverly Hills, they transfer it  
23 to Wilmington.

24           BOARD MEMBER C.H. FRIEDMAN: Excuse me.  
25 Unfortunately, your time has expired.

1           MR. DOUG KORTHOF: I will say that you can throw  
2 me out at any time. I will say that --

3           BOARD MEMBER C.H. FRIEDMAN: I accept your  
4 invitation.

5           MR. DOUG KORTHOF: Yeah. Okay. It's late.

6           I will say that what my vision is, and what your  
7 vision has been, is that not only are we going to see the  
8 ZEV mandate expanded with volume, as Mr. Stempel said, but  
9 we want to see the oil economy turned around. We want to  
10 see the refineries pulled out. We want to see all the cars  
11 being electric. We want to see the oil economy going away.  
12 Oil is a valuable commodity, should not be burned going to  
13 work.

14           So that's our vision is that we're going towards  
15 not 10,000 cars or a hundred, we're going towards seeing all  
16 these gas things going away and the sea otters, which depend  
17 upon having a clean ocean, not having to live in the  
18 detritus from the refinery stuff that falls into the ground,  
19 is washed into the river and goes into the ocean and kills  
20 the sea otters, be with the pollution, and not have our  
21 beaches be full of oil spills, which also kills the sea  
22 otters.

23           BOARD MEMBER C.H. FRIEDMAN: Our ultimate goal is  
24 zero emission. That's the goal.

25           MR. DOUG KORTHOF: That's correct. Thank you.

1           CHAIRMAN LLOYD: Thank you very much.

2           William Korthof.

3           MR. WILLIAM KORTHOF: Good evening. It's a  
4 pleasure to address you.

5           CHAIRMAN LLOYD: Any relation?

6           MR. WILLIAM KORTHOF: Yeah, he's my dad.

7           William Korthof. I'm a resident and I breathe the  
8 air in Southern California, which is why I'm an EV driver.  
9 Took a while and I had to be persistent, but it happened  
10 eventually.

11           There's a few points I wanted to mention with  
12 regard to the proposals for modifications.

13           I was very pleased with the results from the  
14 September hearing, and I was a little bit disappointed with  
15 what seemed like definitely some very thoughtful and  
16 effective processing by the staff, but I think too much in  
17 terms of volume reduction on the vehicles.

18           First point, I think we need more volume of EVs.  
19 Further reductions will shortchange the growing market of EV  
20 customers. We need more, not fewer cars.

21           Second, the fair market test that's been proposed  
22 by the Alliance of Automobile Manufacturers, I'm pleased to  
23 hear the ARB's rejection of this obvious diversion.

24           We have already had a fair market test, it's  
25 called the memorandum of understanding agreement, and that

1 provided for 2000 vehicles on the road. All of those  
2 vehicles were placed into customers' hands, customers who  
3 paid a premium to have those cars, had to deal with  
4 difficulty, adversity getting them from a few select  
5 dealers, certain specially trained advisors under specific  
6 terms, lease only, can't buy the car, you can -- you're not  
7 able to keep it after three years is over, and so on and so  
8 on.

9           So I think we've assessed the market, and I think  
10 it would be great to see the AAN supporting further market  
11 research in the form of 20,000 vehicles for next year and  
12 the following year and accelerating that until we can  
13 saturate the market for new electric vehicles.

14           The third point, glad to see GM raising the  
15 environmental justice issue. I live in a mixed-income  
16 neighborhood with many residents who can only afford older,  
17 used vehicles, and this is particularly annoying to me.  
18 There's very little you can do about this. When people have  
19 older vehicles, and they can't afford to fix them, and they  
20 can't afford to buy new vehicles, the only thing we can do  
21 in the long run, short of taking people's cars away from  
22 them and depriving them of the perceived right of  
23 transportation, is building vehicles that don't degrade in  
24 their emissions over their lifetimes.

25           And EVs, ZEVs are the way to get there. ZEVs

1 start out at zero emissions, and as they get older and they  
2 get less expensive, the second owner, the third owner, the  
3 vehicles do not become more expensive to maintain, and the  
4 people that end up with those cars are not subject to  
5 excessive pollution and having to deal with gross polluters.

6 Final point. I had a few specific comments  
7 regarding the specific proposals for modifications.

8 I think the efficiency credit was a good idea.  
9 I'm not sure how -- I'm not sure that having that multiplier  
10 in there is so good.

11 I think PZEV should not be included as ZEV credit  
12 substitutes, unless they can be fully ILEV, meaning if you  
13 took out all of the emission controls they could actually be  
14 an ILEV and also be a SULEV.

15 So they have to be --

16 BOARD MEMBER C.H. FRIEDMAN: Your time is up. If  
17 you could just conclude.

18 MR. WILLIAM KORTHOF: I think the credit  
19 multiplier is too steep.

20 Again, I think we need more ZEVs, not fewer, and  
21 I'd like to be able to introduce more people, including many  
22 of my housemates, to electric vehicles once they become  
23 available again.

24 BOARD MEMBER C.H. FRIEDMAN: Thank you,  
25 Mr. Korthof, very much. Like father, like son. Thank you.

1           Stephen Heckeroth and then we have the final  
2 three, Gary Nin-Austin, Lisa Rosen and our final witness,  
3 Eugene Dunlap.

4           MR. HECKEROTH: My name is Steve Heckeroth. Thank  
5 you for this opportunity.

6           I charge my home and my car and my tractor and my  
7 lawn mower and all my tools with my photovoltaic roof.

8           I wanted you to pass this around. That's a sample  
9 of the photovoltaic roofing that is on the roof of my house  
10 and barn, and it provides -- that one cell is one and a half  
11 volt cell that provides seven amps of power in the sunlight.

12           The staff report makes a mockery of your  
13 commitment as stated in September.

14           Plug-in hybrids are not zero emission vehicles.

15           We have to include all passenger vehicles in the  
16 mandate.

17           The SUVs, the only reason they exist is because  
18 they're promoted by the auto industry. Last year the auto  
19 industry spent 48 and a half billion dollars in incentives,  
20 and this is just the big three, in incentives and  
21 advertising. With that kind of a budget, they can sell a  
22 Prius to the president. Notice I didn't say an EV, because  
23 I don't think that's possible.

24           A 3,750 pound weight limit just encourages the  
25 auto industry to produce vehicles over that weight. And

1 that's exactly why we have half of the vehicles sold in the  
2 State of California that weigh over 3,750 pounds.

3 If I had my way, I would create categories for  
4 every type of vehicle. I wouldn't even limit it to  
5 vehicles. I would create categories for every product that  
6 pollutes, and make a ten percent mandate for each one of  
7 those categories.

8 In other words, for trucks there's a perfect  
9 match. Fuel cells are perfect for buses and trucks. Why  
10 not give them a ten percent mandate?

11 Why not give lawn mowers a ten percent mandate?

12 Why not give everything that pollutes a ten  
13 percent mandate, instead of just cars that weigh less than  
14 3,750 pounds?

15 I want to leave you with a thought.

16 When you burn a seven-pound gallon of gasoline,  
17 you create 20 pounds of carbon dioxide. That means that  
18 two-thirds of the fuel you're burning is oxygen. This is  
19 the only planet that's been discovered, except on Star Trek,  
20 with oxygen.

21 So we have -- it's the most precious thing, it's  
22 most precious resource on earth, and we don't consider it at  
23 all in making our choices of the way we get around.

24 Thank you.

25 CHAIRMAN LLOYD: What was that number again, seven

1 pounds?

2 MR. HECKEROTH: A gallon of gasoline weighs about  
3 seven pounds and it produces -- when you burn it, it  
4 produces 20 pounds of carbon dioxide.

5 I can spew facts all night.

6 CHAIRMAN LLOYD: We appreciate it. One is fine.

7 Ms. D'Adamo.

8 BOARD MEMBER D'ADAMO: I have a question, sir.

9 Sir.

10 BOARD MEMBER C.H. FRIEDMAN: Mr. Heckeroth.

11 BOARD MEMBER D'ADAMO: Just wondering if you  
12 could -- do you have any pictures of your house and your  
13 barn? What does that look like?

14 MR. HECKEROTH: I showed the pictures last time in  
15 September, but my time ran out before I could say anything,  
16 so I decided I'd just pass this around this time.

17 This is Uni-Solar.

18 BOARD MEMBER D'ADAMO: Would you compare it to  
19 solar panels or shingles? I mean, how do you utilize it?

20 MR. HECKEROTH: Actually it's more efficient.  
21 This is solar roofing. This comes in the 12 volt module is  
22 nine feet long. It's made up of ten cells like this.

23 The 24 volt module is 18 feet long, and it's made  
24 up of 20 cells. And that's 128 watts per panel.

25 And it is roofing. You can roll it out on your



1 roof and you can roll it out over an existing roof or you  
2 can roll it out on a plywood deck and put battens over the  
3 edges, and you've got your own solar charging station. It's  
4 a Uni-Solar product.

5 CHAIRMAN LLOYD: Thank you. Are you going to send  
6 that on, circulate it? Thank you.

7 MR. OVSHINSKY: It's the technology Mr. Stempel  
8 referred to, along with the nickle metal hydride battery.

9 CHAIRMAN LLOYD: So we can expect some free  
10 samples then?

11 Thank you.

12 Henriette Schoen, then Gary Nin-Austin, then Lisa  
13 Rosen and Eugene Dunlap is what we show, and that's it.

14 MS. SCHOEN: I'm Henriette Schoen. I'm working at  
15 the Electric Vehicle Information Centre in Denmark. And  
16 I've come this long way to express a very big interest  
17 Europeans have in what you're doing.

18 BOARD MEMBER C.H. FRIEDMAN: Excuse me, ma'am, You  
19 need to speak right into the microphone.

20 MS. SCHOEN: Sorry.

21 I've come this long way to express the very big  
22 interest Europeans have in your very visionary ZEV mandate.

23 California is leading in environment issues like  
24 the catalytic converter. It's sometimes after you import it  
25 here, come to Europe.

1           And I just want to bring the global perspective to  
2 your decisions.

3           You have -- you set the standard for what we're  
4 doing.

5           I want to stress the volume of the ZEVs are  
6 needed, and because there's also a market in Europe for the  
7 cars made here, I think you should stop the biannual  
8 changes, the major changes. It should be minor, because  
9 it's stalling the process of the whole process. In fact  
10 every time they have to, the auto makers, or the suppliers  
11 have to readjust their plans, and it's not what is so good  
12 for everything.

13           I have a proposal. In fact, the efficiency  
14 credits could be taken from the CO2 emissions, what the car  
15 emits, instead of just on fuel consumption.

16           But that's -- so I'm just completing.

17           CHAIRMAN LLOYD: Thank you very much indeed.  
18 Thank you for coming.

19           (Applause.)

20           CHAIRMAN LLOYD: Gary Nin-Austin, Lisa Rosen and  
21 Eugene Dunlap.

22           MR. NIN-AUSTIN: Chairman Lloyd, members of this  
23 board, it's an honor to be here.

24           I'm the founder of two companies, Fusion Dynamics  
25 and its subsidiary, Pure Eco C Conversion, and that is my

1 green Chevy pickup out front with the license plates from  
2 California which read Hydrogen.

3           Currently in this country and Europe as well, bulk  
4 hydrogen is produced using a pressure swing absorption  
5 system from natural gas. Natural gas has gone through the  
6 roof for prices. I'm from Oklahoma originally, and people  
7 there are paying more for natural gas heating than they are  
8 their rent.

9           We have our newspaper stories here about our  
10 difficulties and they are having theirs as well.

11           Pure Eco C Conversion has been working for many  
12 years to advance the technology to produce hydrogen and  
13 potable water from the same source, being the Pacific Ocean.

14           This facility is designed to run on a tubular  
15 solid oxide fuel cell from Siemens Westinghouse.

16           We're very much in support of everything that  
17 you're doing, and I just want to say thank you.

18           CHAIRMAN LLOYD: Thank you very much.

19           Lisa Rosen, Eugene Dunlap.

20           I'd just like to mention to my colleagues that we  
21 do have pizza at the back, so if you need some sustenance  
22 before we get into the discussion period you might grab some  
23 and then come back.

24           So we intend to continue. Thank you.

25           MS. ROSEN: Chairman Lloyd, members of the board

1 and staff, I'm always honored and humbled to come and speak  
2 to you.

3 I have to say, your stamina, your patience, your  
4 respect never cease to amaze me. And I am so impressed with  
5 what you have done.

6 In the beginning when you started having these  
7 hearings, some people I know tried to prevail on me to  
8 attend, and I had no interest in it. I had pretty much  
9 despaired of the way everything was going in the  
10 environment, and it seemed to me there was nothing anybody  
11 could do that would help.

12 Because of your efforts, I'm here.

13 I've worked as a probation officer for many years,  
14 and now I have four weeks of vacation, and I dare say that  
15 almost half of it will go this year towards testifying  
16 before you and participating in various workshops. That is  
17 how important that issue has become to me personally.

18 I can sympathize with the people who work, who  
19 aren't able to come, who aren't able to indulge themselves,  
20 as I were, by taking the time off, taking my vacation time  
21 and coming here.

22 Some of them are just too stressed. Sometimes I  
23 feel that way about coming and trying to talk about these  
24 issues.

25 Some of the things I hear today are puzzling.

1 There's a lot of controversy about whether or not plug-in  
2 hybrids should be considered. The board seems to lean  
3 towards it.

4 I talk with ever so many people who look at me and  
5 my electric vehicles in astonishment. In a way they want  
6 one, the whole idea intrigues them, but they are absolutely  
7 terrified of making the leap.

8 I'm convinced that if they had the opportunity to  
9 drive electric vehicles, with that backup cushion of being  
10 able to fill it up with gas when they had to, they would, as  
11 I, have become so enamored of the idea of driving that way,  
12 and so pleased with the results, that they would not want to  
13 go back, any more than I do.

14 Thank you very much.

15 CHAIRMAN LLOYD: Thank you very much.

16 (Applause.)

17 CHAIRMAN LLOYD: Eugene Dunlap.

18 MR. DUNLAP: Hello. My name is Eugene Dunlap.

19 I'm here as a father today. I have my hat on as a  
20 parent, not the UC Davis hat, where I work for the Extension  
21 and got the electric vehicles into the program, but as a  
22 father of a son, of a 16-year-old son.

23 And I want to pass that around.

24 Because my son has reduced lung capacity, he has  
25 reduced lung capacity because of the pollution. And it's

1 very hard for me to speak about this.

2 I can speak very easily about electrical vehicles,  
3 a terrific relationship I have with Air Resource Board in  
4 helping us get one there, but it's very hard as a father to  
5 look at your son and see when he goes outside and he wants  
6 to run or something like that, he doesn't have the strength  
7 to do that.

8 And so I'm here as a parent and I'm here as a  
9 parent, to urge you -- maybe you have children or you have  
10 grandchildren and maybe -- and I hope not that some will  
11 have reduced capacity.

12 I am old, I'm almost 50, and you're probably most  
13 older than me, our lung capacity is not in question here.  
14 And it's the capacity of the children.

15 When I read the report I was shocked. I mean, the  
16 8th of September was my son's birthday, his 16th birthday,  
17 and I went home and I told him, look, you're not going to  
18 understand this, this is not a Gameboy or something, this  
19 was the greatest present you got.

20 And now I read the report that it's going to be  
21 cut back, and I don't understand it. It's almost like their  
22 playing a ZEV strip poker or something here, or you have  
23 somebody in there that doesn't have blood in their veins,  
24 but gasoline.

25 It is very hard for me to understand that.

1           I urged you when you go, don't only think about,  
2 you know, money, what it's going to cost, think about the  
3 people that are involved.

4           If I go to GM and show them the picture and say  
5 reduced lung capacity, what is he going to say, oh, no, it's  
6 not my car, it's Ford's car or something that caused it.  
7 They all -- nobody takes responsibility.

8           So again, please, please, think of my son when you  
9 make these decisions. Thank you.

10           CHAIRMAN LLOYD: Thank you very much.

11           (Applause.)

12           CHAIRMAN LLOYD: I think that's the last of the  
13 witnesses that we had signed up.

14           So, Mr. Kenny, did the staff have any further  
15 comments?

16           MR. KENNY: None at this time.

17           CHAIRMAN LLOYD: I will now close the record on  
18 this agenda item.

19           However, the record will be reopened when the  
20 15-day notice of public availability is issued.

21           Written or oral comments received after this  
22 hearing date, but before the 15-day notice is issued, will  
23 not be accepted as part of the official record on this  
24 agenda item.

25           When the record is reopened for a 15-day comment

1 period, the public may submit written comments on the  
2 proposed changes, which will be considered and responded to  
3 in the final statement of reasons for the regulation.

4           So I think at this point I would like to throw it  
5 open for discussion, and then we will follow that, before we  
6 take a vote, we will go to ex parte communication.

7           I think we have got a number of issues that need  
8 to be addressed.

9           I think Mark, Supervisor DeSaulnier, before he  
10 left, raised some of those issues that we want to address  
11 there.

12           Clearly, those address the travel issue, I think  
13 the increasing number of vehicles, the gold standard,  
14 et cetera.

15           And what we didn't say, there's couple of other  
16 issues I want to indicate there, the inclusion of the buses.  
17 Couple of other issues.

18           But maybe before that, I would like to maybe look  
19 at my colleagues.

20           One of the suggestions I had was that we've heard  
21 quite a bit of discussion about the need to increase the  
22 number of vehicles, and clearly this is going to be a  
23 discussion item.

24           One thought I had in discussion with staff was  
25 tried to look at the doubling of the number of vehicles by



1 2012, and maybe starting that in May 2007 or something like.

2           Again, we can have some discussions on those  
3 items.

4           I think the SUV issue, I'm sure we've got some  
5 consensus there.

6           I think the sustainability, smart growth needs to  
7 be addressed, and we need to have that partnership, and I  
8 think that's a very important aspect.

9           I think the gold standard, I thought I heard more  
10 consensus here that we could restore that if you like, but  
11 also maintain the plug-in hybrids, that's a very valuable  
12 contribution there maybe to put in a second.

13           A few of the ideas in conjunction with Mark, but I  
14 would say I'd like to give my colleagues a chance to also  
15 add in, amend or whatever.

16           So I don't know whether Professor Friedman or  
17 Mr. McKinnon --

18           BOARD MEMBER C.H. FRIEDMAN: I'll start.

19           I want to hear from my colleagues, because I'm  
20 still thinking about it, but I would like to react to what  
21 I've heard today and what the staff has presented.

22           First, what I've heard.

23           I have benefited greatly from the presentations  
24 today. I think they've been very lucid, clear and  
25 informative. And while they've run quite a gamut from those

1 who participated, all it does is reinforce for me the  
2 obvious, which is that this is not an easy area.

3           There are different agendas, different objectives,  
4 different interests, ranging from pure human and medical  
5 concerns to environmental concerns, that is to say localized  
6 concerns to financial concerns. And I think it ever will be  
7 thus.

8           But it's our task, as I see it, to sort through  
9 this, as it was for the staff riding point for us, to sort  
10 through all of these somewhat competing interests, sometimes  
11 inexorably conflicting, intractably conflicting objectives  
12 and interests, and try and come up with what makes sense and  
13 what might work, though we may not fully please, and  
14 probably could not fully please any one constituent,  
15 interest or group. At least that's how I basically approach  
16 it.

17           But I don't doubt the sincerity of anyone who  
18 spoke or presented views, and I don't doubt that there is  
19 truth and validity to what they said.

20           Having said that, with respect to the staff's  
21 proposal, I too am disappointed in the sense that I wish we  
22 could maintain the mandate. I didn't adopt the mandate, as  
23 I mentioned, I wasn't involved in this area at that time.  
24 Nor was I even here when the mandate was revised and when  
25 the MOE or U or A, whatever, were entered into, and that

1 noble experiment was undertaken.

2           But I do think that we had to in September send a  
3 clear signal that our goal in March is still to the goal of  
4 zero emission. Our destination is clear. It was one of the  
5 speakers most recently who say the day should and must come  
6 when we no longer have emissions, and I think that's as  
7 important today as it must have been ten years ago, and it  
8 is, I hope, will be into the future.

9           The question is how do we reach that goal and with  
10 what pace, given resources, given all of these differing and  
11 competing interests.

12           And I think the goal that we set quite, must have  
13 been fairly arbitrarily, it was a best shot, but back in  
14 1990, how did any of those who sat in our chairs know that  
15 two percent or ten percent or 15 percent in ten years, or  
16 whatever the date then was, I know it's been pushed back,  
17 would entail, what it would cost. I know there was higher  
18 hopes for battery technology, longer range, cheaper cost  
19 batteries, among other things.

20           On the other hand, probably fuel cells and other  
21 technologies hadn't been much thought of then that are now  
22 almost the choice de jour in some quarters.

23           So we're not dealing with something that has been  
24 graven in stone and handed down to us in front of a burning  
25 bush, if I could use a metaphor. It seems to me we're

1 dealing with the best human efforts of people who tried to  
2 be wise, as we must.

3 And therefore they're imperfect, and I'm sure  
4 we'll be imperfect, judged by hindsight, but we must try.

5 As far as the staff's proposal, when I thought  
6 about it and looked at it and heard comment on it, I think  
7 it does in most respects faithfully represents a faithful,  
8 an honest effort to accomplish what I think we stated, as I  
9 heard it and understood it, back in September was our desire  
10 to preserve this mandate.

11 It does I think preserve -- it does provide  
12 near-term vehicle availability in lower numbers, quite lower  
13 numbers, but numbers that according to staff are calculated  
14 to be marketable and placed in service, so that it's  
15 calculated in their view to succeed and not fail in the  
16 marketplace.

17 And it does provide in that near-term availability  
18 a vehicle range of choice, with varying and fairly complex  
19 credits for earlier introduction, and it does maintain or  
20 partially maintain a pure gold or a ZEV standard.

21 I'll come back to that, because I too have  
22 concerns about what will qualify for that.

23 There is a ramp-up, in three-year intervals, and I  
24 think there is some sense, and common sense to the  
25 three-year planning intervals for the manufacturers and for

1 marketing stability. I think that that allows advanced  
2 planning for the makers and market stability for those who  
3 are trying to market and it gives some experience in the  
4 marketplace, and it gives more time to educate the public.

5           And there is then a component for public  
6 education, and I believe there is built into it, I hope  
7 there is, the kind of participatory collaborative marketing  
8 effort and support that all of us, I think, should be  
9 enlisted in with the manufacturers.

10           It also does reduce costs to manufacturers, no  
11 question about it. It would be a lot less costly to comply  
12 with this mandate as presented then the original mandate or  
13 any other earlier version of it.

14           It does maintain core technology incentives. It  
15 does involve technology forcing.

16           And I think it will result, I think at least I  
17 would hope, and it seems calculated to result ultimately in  
18 a sustainable market for ZEVs or near ZEVs.

19           And I compliment the staff on taking a problem  
20 with so many dimensions and a challenge and crafting such a  
21 very carefully thought out, complex, yes, but I think  
22 elegant plan or solution under a great deal of pressure from  
23 all sides.

24           Now, as to my comments on how I would like to  
25 explore changes, or at least my reservations and concerns, I

1 would like to see -- and I also want to comment on the  
2 expanded stakeholder group suggestion that wasn't much  
3 mentioned here, a working group to receive recommendations  
4 on such things as standardizing the charging and the  
5 infrastructure issues for EVs and outreach.

6 But my problem areas, and they're similar to  
7 supervisor DeSaulnier's, first of all, I don't know why we  
8 shouldn't use the full range of not only passenger vehicles  
9 but SUVs as our baseline in some way.

10 Now, I don't think that that necessarily should  
11 mean an increase in volume in the at least in the first  
12 years, given what I perceive to be the need as well to  
13 assure that we get off the ground soundly this time and  
14 don't end up with a lot of vehicles that haven't been  
15 placed.

16 But couldn't we take the percentage of passenger  
17 sales that we're now proposing, based on the base year,  
18 which I understand is the three-year period earlier or a  
19 historical period, and then also provide that it should also  
20 increase by the increase in the number of SUVs that have  
21 been sold, the increase in the sales, the increase in the  
22 sales volume of SUVs for that same period. In other words  
23 over some other period. It should be based on increase. It  
24 shouldn't be a retroactive penalty, because they've never  
25 been included in the equation, but there's got to be a way

1 to take an increase on some fair basis once if that happens  
2 and if we should decide that.

3           So that to the extent that there's any more  
4 marketing of SUVs and sales of SUVs above the baseline in  
5 the base year, then that the same percentage of that would  
6 also be required to be made, not as SUVs necessarily, but  
7 they would have to be made as qualifying low emission  
8 vehicles.

9           So that's one thought, but I am troubled by the  
10 idea that we're building in incentives, whether deliberately  
11 or not, to make more SUVs, which are polluting and  
12 apparently are getting more and more popular, not less and  
13 less, and that just discourages what -- it's a perversion.

14           I also think that the hybrid has a place, but I  
15 think it may well be until it's further developed,  
16 transitional, a way station on the road to full zero  
17 emissions, but I can understand the last person's comments,  
18 or the next to last, that it may be the way for people to  
19 get into this new technology, with the comfort of gas, gas  
20 kicks in.

21           I'm not so worried about whether they are entitled  
22 to the -- plug-in electric hybrid should be entitled to the  
23 diamond lane or the such, because, I mean, as I understand  
24 it once those cars are going fast enough to be in the  
25 diamond lane, they're in the gasoline mode. I doubt that

1 very often they're being run on electricity. I understood  
2 that they were basically electric to start and get up to a  
3 certain speed, when the emissions from the internal  
4 combustion engine would be reduced and it would kick in, but  
5 maybe I don't understand it.

6 In any event, I think we can solve those problems,  
7 and I think there ought to be incentives, at least in the  
8 early years for the hybrid, so-called plug-in hybrid, but I  
9 don't think it ought to be -- I just have trouble giving it  
10 the gold standard. It isn't. It emits. It's got emissions  
11 when it's running on gas, gasoline. And it isn't the  
12 equivalent.

13 And I hate to see us dilute that standard, but I  
14 do want -- I do hope that there would sufficient incentives  
15 if we moved it into the so-called silver category or some  
16 other category.

17 I agree with the chairman's -- the issue he raised  
18 of increasing in later years the volume, and I think  
19 probably the best way to do that, combined with the increase  
20 in SUV sales being taken into account as increased number  
21 all along, would be the reduction of the multiplier for  
22 the -- reducing the multiplier in some reasonable way.

23 Again I'm not technically, I'm not competent to  
24 suggest that what the numbers ought to be. I'm hoping some  
25 of my colleagues can help me there.



1           Perhaps in the year 2006, '7, somewhere in there  
2 on.

3           And which I think is what's Supervisor DeSaulnier  
4 said.

5           And only two other points, the neighborhood  
6 electric vehicle, I think that's worth trying too, and I  
7 know that it could save on emissions to the extent it  
8 replaces people turning on their car ignitions just to go a  
9 few blocks, visit a friend, go to the country club, go to  
10 the golf course, or whatever, tennis court, wherever they  
11 go, just to go down to get gas. I guess it won't eliminate  
12 those trips unless you take a little red can.

13           But I think maybe I would feel better if there was  
14 some way we could reduce the credits a little that the staff  
15 is now proposing for those, or maybe reduce them more  
16 quickly, but I'm not -- I need to hear more discussion on  
17 that point.

18           Colleague McKinnon mentioned the highway-capable  
19 battery motorcycle. If that replaces a car or a regular  
20 motorcycle that's loud and emitting, then I'm all for giving  
21 it some incentives, but I think that ought -- I personally  
22 think that ought to be treated separately, it ought to be a  
23 separate issue. We ought to deal with motorcycles, hear  
24 from motorcyclists on all sides. I'm sure they'll have  
25 views. They had them on whether to wear helmets, and other

1 things, and deal with that separately. But I think it  
2 deserves being considered and if necessary we can always, I  
3 would hope, we could amend it in if and when we decide how  
4 to treat it.

5           And finally I guess that relates to the Corbin  
6 Sparrow. I'm not clear what the implications of including  
7 or not including a three-wheel one-passenger all-electric  
8 vehicle that's highway capable, and our rule is, apparently  
9 they're the only people who make it, that's all they make,  
10 so there's no mandate for them. Maybe they get some credits  
11 for subsidies or something else if they are brought into the  
12 program, and that wasn't clear what that was all about.

13           But again to the extent that there is available  
14 and people buy and use as an alternative to using emitting  
15 engines, an EV, on the highways, especially, as well as if  
16 we're going to give neighborhood cars some credits, then I  
17 think that maybe we ought to consider what the implications  
18 of including them would be, unless of course that involves  
19 changes in the Motor Vehicle Code, which I'm not sure is our  
20 function.

21           I thank you for your patience.

22           CHAIRMAN LLOYD: Yes. I have Mr. McKinnon,  
23 Mrs. Riordan, Supervisor Roberts, Supervisor Patrick.

24           Mr. McKinnon.

25           BOARD MEMBER McKINNON: I think I'll kind of maybe

1 lay kind of changes, and just do this kind of expeditiously.

2 I think probably the first and only issue I  
3 raised, the big concern about today is that the way the  
4 three-wheel enclosed motorcycle is included.

5 And what I would like us to do is include that  
6 three-wheeled enclosed motorcycle as one of the vehicles  
7 addressed, and have staff come back to us later and resolve  
8 issues like how much credit.

9 But I think the credit should be something like a  
10 neighborhood electric vehicle. It's not a lot of credit.  
11 And it also raises a whole issue about whether or not folks  
12 can buy and sell credits, because Corbin isn't required to  
13 make these, by any means.

14 And that's actually kind of an attractive issue  
15 for us to think through, because we have now heard Peugeot  
16 is selling them, and we've heard others, and if there's  
17 others that want to sell them, and there's manufacturers  
18 that don't want to make them, that's kind of an attractive  
19 discussion, probably separate from today, or we're going to  
20 be here for three or four days.

21 But on the next issue I'd like to talk about, and  
22 that's the plug-in hybrid. I think it was Mr. Proudfoot  
23 when he testified that talked about segregating the types of  
24 hybrids and whether or not they were really running on  
25 electricity or gas, and I think that we need to work on some

1 definition there that does that kind of segregation, and to  
2 the extent that a plug-in hybrid can run on electricity  
3 virtually all the time, but only goes to gas or fuel cell or  
4 whatever else, only goes to it when needed for longer range,  
5 that I think there was a number tossed out, I think  
6 Professor Frank talked about giving it 90 percent of the  
7 credit we give a full ZEV.

8           And I guess, frankly, where I'm at is if it comes  
9 out of the gold standard, I'll be fine. I can live with  
10 that.

11           But that we consider how we incentivize it  
12 appropriately to what it really does.

13           And because I really honestly think there are some  
14 consumer kind of market opportunities with that technology,  
15 and I also think that the dual-fuel stuff and energy crisis  
16 and fuel shortages and fuel spikes and so many things, that  
17 we are finding out this century may include in our lives.

18           It's a real interesting technology for us to make  
19 sure is in our bag of tricks to move forward.

20           With that, very interested in figuring out a way  
21 to raise the numbers as we get out to 2007, 2008, 2009,  
22 maybe finding a year we agree to include the vehicles over  
23 8500 pounds in the count.

24           And then I know Roland, from Natural Resources  
25 Defense Council, proposed some numbers. I don't think I can

1 go with them as early as he's talking about, but some of the  
2 credit reduction kind of theory doing steps maybe some time  
3 after that, is what I'm thinking.

4 With that, it's been quite a hearing.

5 BOARD MEMBER C.H. FRIEDMAN: Red light is on.

6 BOARD MEMBER RIORDAN: It has been a wonderful  
7 hearing, and let me first express my appreciation to those  
8 of you who came to testify today, and to our staff for their  
9 due diligence from the beginning of our charge to them last  
10 fall to come back to us with some working document to then  
11 have the hearing today.

12 Let me just say, thinking about the diversity of  
13 California, and if we recognize that we have some very rural  
14 areas, we have some very urban areas and different products  
15 are going to sell in different areas, in my humble opinion.

16 And I'm very interested in continuing to encourage  
17 again, Mr. McKinnon, somewhat like you, the hybrid, because  
18 I think in our more rural areas this is going to be the  
19 vehicle of choice.

20 Now, I may be wrong, but I somewhat suspect that,  
21 and so I do understand the need to perhaps move it from the  
22 top tier, the gold tier that we've talked about, but hope  
23 that staff can give us some guidance.

24 And I might ask you at this point in time is there  
25 something that we could do if we wanted to continue to

1 incentivize that, but remove it from the top, which I would  
2 agree with my colleagues about.

3 MR. KENNY: I think the answer is yes. I think  
4 what we need to do is essentially looking at providing  
5 fairly substantial credits for it in the context of that  
6 second category and hopefully that would provide sufficient  
7 incentive and if that's the board's direction we will be  
8 happy to look at that and try to figure out a way to provide  
9 that incentive.

10 BOARD MEMBER RIORDAN: So we can leave it, if we  
11 have agreement in that, we can leave it to you to work on  
12 those final numbers of --

13 MR. KENNY: Yes.

14 BOARD MEMBER RIORDAN: And I appreciate that.

15 I like your idea, Professor Friedman, about tying  
16 some of these increases to the increased sales of SUVs.  
17 That I think is something that might be pursued in a very  
18 fair way.

19 And like Mr. McKinnon, I certainly agree that some  
20 time out, and I can't call the year, we need to look at an  
21 increase of volume, and I would support that.

22 I don't know what year and I don't know if the  
23 staff has thought about that.

24 I recognize you were working within a framework  
25 that you've obviously proposed, but after listening to the

1 testimony and perhaps listening to some of this in this  
2 discussion, there may be a year that you could again  
3 recommend.

4 I'd value your input, because you have known of  
5 the more proprietary information that we're not necessarily  
6 party to, and you might be able to best judge some of those  
7 years that need to be put into a document that we ultimately  
8 all agree to.

9 So with that, my comments are finished.

10 CHAIRMAN LLOYD: Then I've got Supervisor Roberts,  
11 Supervisor Patrick, Ms. D'Adamo, Dr. Burke, and I guess  
12 Mr. Calhoun.

13 Supervisor Roberts.

14 BOARD MEMBER ROBERTS: Thank you, Mr. Chairman.

15 And I want to thank everybody who testified here  
16 today. It's been a very long day, to say the least, and I  
17 hope we're still coherent by now.

18 Not being the senior member here, but having been  
19 here now for several years, I want to at least make some  
20 observations.

21 And I appreciate Professor Friedman setting the  
22 context for this whole thing.

23 I couldn't help but note how different this  
24 meeting was today from those we might have had six years  
25 ago. Six years ago there was this incredible optimism over

1 batteries in terms of where we would be today, and we had  
2 company after company after company coming in here telling  
3 us about every conceivable kind of battery.

4           There was almost none of that today.

5           I remember we talked about not just lead acid and  
6 metal hydride, nickel cadmium and lithium ion and zinc  
7 sulfur or some other type thing that I can't even remember  
8 at this point, but there was every conceivable kind of  
9 optimism over every conceivable kind of battery and there  
10 was a hope and an optimism that we were going to have very  
11 long-range batteries by now and very low cost.

12           Some of us might remember it slightly different,  
13 but that's at least what my feeling was.

14           And that simply has not happened, and we don't  
15 have through these technologies the widespread solution that  
16 we, I think, had hoped, and that's why we're here today, I  
17 guess, because we can't get the numbers, because we don't  
18 have the products and it didn't develop in the way that we  
19 had.

20           I'm not saying that this is a sign of failure.  
21 I'm recognizing that the reality and the experiences over  
22 these last several years have not been at least what I as a  
23 board member was expecting.

24           Having said that, I think we have to now do what  
25 the prior boards had to do, and kind of look at our own



1 crystal balls and try to see what does that future look like  
2 and where should we be going and what is evolving.

3           It looks like with respect to the batteries is a  
4 series of markets, I won't necessarily call them niche  
5 markets, because that somehow connotes very small little  
6 pieces, but they're not comprehensive solutions. There  
7 isn't anything out there that seems to hold the same  
8 promise. Maybe it will happen, but it doesn't look as  
9 likely with the exception, with the exception, of perhaps  
10 fuel cells, which seems to hold the same promise today that  
11 the batteries did some six or so years ago.

12           Fuel cells, the gentleman that made the comment  
13 about fuel cells always being six years away, that's not  
14 been my experience. I wasn't expecting six years ago that  
15 we were going to have a fuel cell today. I don't remember  
16 anybody testifying that.

17           And there's a whole real difference in what has  
18 happened and what our expectation was with batteries as  
19 compared to with fuel cells. Fuel cells, I think, today  
20 very much look like what some of these advanced batteries  
21 were looking like six years ago.

22           So with that kind of as a context, we've heard  
23 some things about the energy crisis. Down in San Diego we  
24 know a lot about the electricity crisis, I can tell you  
25 that.

1           But we also know about the natural gas problems.  
2   And in San Diego we also know about the high cost of  
3   gasoline, which averages about 20 cents a gallon more  
4   expensive than most areas, so I guess for us if we were  
5   going to do it, we'd throw them all out and try to find some  
6   way how to get by on sea water, which is plentiful in San  
7   Diego.

8           So I'm not a big fan of what the oil industry has  
9   done and continues to do in this state and particularly does  
10  in my community, and I'll admit to that bias.

11           My hope is that what we can do today and set that  
12  it's exceeded by some breakthrough and some success, whether  
13  it be fuel cells or whatever, and that we see some major  
14  changes in the not only the modes, but in the emissions and  
15  the impacts on our air.

16           Later this year I will become a grandfather for  
17  the first time. The gentleman who spoke, who is that young  
18  guy at 50 years old, and I want to be able to look at that  
19  grandchild also and tell him we did the right thing.

20           I find myself mostly in agreement with Professor  
21  Friedman. I would like to maybe delineate some areas where  
22  I have some concerns.

23           I think SUVs ought to be a part of the solution,  
24  period, and while I can see us phasing in, I don't think  
25  they should be at some lesser discounted rate for here and

1 ever after. We may have a step-up to get there, but they  
2 ought to be part of this, period. They've been forever  
3 ignored. They're ignored by us like they weren't part of  
4 the pollution problem for too many years, and they should be  
5 included in the number here, period.

6           And I don't know how many years it takes to get  
7 there, but it shouldn't be some discounted figure based just  
8 on increases. It should be a figure that we grow in so  
9 they're hundred percent here in a short order and reasonable  
10 period of time.

11           So where we have the same concern I maybe feel a  
12 little bit more strongly about this, that we ought to see  
13 how to get them in.

14           I don't think the plug-in hybrid electric vehicles  
15 should be part of the what we have been calling the gold  
16 standard. I'm not sure we're using the same definition.  
17 And I'm not sure that some of the testimony that they were  
18 using the same definition.

19           I'm assuming, Professor Friedman, that the gold  
20 standard is maybe the top two percent. Is that correct?

21           Where they would be zero, and if that's the case,  
22 I think we're, you and I, are in agreement.

23           I'd like to see an increase in volume, period. As  
24 I look at those out years, those numbers are not as  
25 significant as they ought to be. They pale in comparison to

1 what was there and why now where we're looking so much ahead  
2 are we kind of backing off from what seems to be more  
3 reasonable numbers.

4 I think, I mean I -- and not only would I be in  
5 favor of reducing multipliers, I'd be increasing just those  
6 numbers, period. I mean, I would feel in some of those out  
7 years we ought to be looking at two times what's there.

8 And I think especially from maybe 2008 on, just to  
9 pick a number, which seems to be in the midrange of what  
10 we've talked about.

11 So whereas we can look at reducing some  
12 multipliers, I think we ought to be looking at increasing  
13 the volume, period, and by a significant factor.

14 The neighborhood electric vehicles, I agree with  
15 you, I think there should be a quicker reduction in the  
16 credit. I think that's what you were -- what you're  
17 stating.

18 And with respect to the Sparrow, I think we ought  
19 to be discussing that when we discuss motorcycles. I  
20 wouldn't even put that in that same category. I feel maybe  
21 a little different about this.

22 What really I find ironic, we're being told this  
23 is selling pretty good now and we're trying to figure out  
24 how to give it a credit. They're selling, let them sell  
25 them. I'm not sure why we're feeling compelled to bring

1 that into this equation at this time. I think it's  
2 significantly different from most everything else that we're  
3 working on.

4 I would have one final thing and that is staff had  
5 interjected a change to allow credits prior to 2001 that I  
6 don't think was part of the original, and I think may have  
7 grown out of some conversations that they were having in  
8 some deal making. I don't think we ought to do it. I  
9 would --

10 CHAIRMAN LLOYD: I would agree.

11 BOARD MEMBER ROBERTS: I'd like to see that  
12 cancelled and I'd like to see it moved back to where the  
13 original was. I don't see a why reason why we should be  
14 doing that retroactively at this point.

15 And so to the list of issues that are on the table  
16 I would like to -- I would like to add that, and I think for  
17 me at least that's a pretty complete list. Hopefully we'll  
18 be able to craft a motion out of all of this at some point.

19 CHAIRMAN LLOYD: Thank you.

20 Supervisor Patrick.

21 BOARD MEMBER PATRICK: Thank you, Mr. Chairman.

22 I would like to thank everyone who came here today  
23 to give us your opinions about this very important subject.

24 Just as in September, I think that there has  
25 really been a very thorough airing of what the issues are,

1 and I think that that's critically important to what this  
2 board decides.

3 I think that staff has worked very hard to come up  
4 with a very balanced approach, and there has been every  
5 effort to make a successful start to this program.

6 As I was reading through some of the news clips  
7 that people gave us, one of the editorials referred to this  
8 program as ZEV light, and I think that perhaps we have gone  
9 just a little bit too light on our commitment and to this  
10 mandate, because remembering back to our two-day hearing in  
11 September we all were very committed to this program.

12 We need to balance to make sure we get off to a  
13 good start, that our expectations are not set so high that  
14 the program is doomed to failure.

15 On the other hand, as we progress through the  
16 years I think that we can do more to enhance this program  
17 and how important it is to everyone.

18 I think the biennial reviews have served to stop  
19 and start and stop and start the program in many ways in  
20 that there's been so much focus on trying to get this board  
21 to back off the mandate, that there should have been more  
22 focus on getting the companies to be able to achieve the  
23 mandate. That's just a personal opinion.

24 I do think it's important that the board be kept  
25 apprised through an annual or biannual technology review to

1 keep to let us know where everybody is, but I think that we  
2 need to say once and for all that we're moving forward on  
3 this, to craft what we think is the very best and the very  
4 best interest of the public and move forward at that  
5 particular time.

6 I appreciate all the input that's been given, and  
7 I do agree with several things that have been mentioned by  
8 my colleagues.

9 I am completely supportive of the plug-in hybrids,  
10 but I do not think that they belong in the gold standard. I  
11 think it's very important that the gold standard be for zero  
12 emission vehicles, period, end of sentence.

13 I come from an area that's more rural than some of  
14 the areas that other folks come from, and I do think that  
15 hybrids play a very important part in this. But I think  
16 that we need to say a gold standard is a gold standard, and  
17 there's nothing wrong with that.

18 I do think that we need to be aware of all the  
19 options that are out there. It's a very diverse state, and  
20 I think it's important that we have everything from soup to  
21 nuts in there to the extent that we can, and giving credit  
22 for that.

23 I think SUVs should be a part of the numbers that  
24 we're using, and, as I recall, Ms. D'Adamo asked for some  
25 input from staff, and I don't know at what point in time

1 we're going to see that. Perhaps when DeeDee makes her  
2 comments.

3 But I'm anxious to see what the numbers would be  
4 if we began to include the SUV and at what point in time  
5 they should be done.

6 I think it's very important that we do have some  
7 kind of an implementation partnership. As I recall, when we  
8 talked about this in September, our board was certainly  
9 willing to reinforce the mandate that was put in place so  
10 many years ago, but also willing to step up to the plate in  
11 terms of our responsibility to make sure that it's a  
12 successful program. It is not just incumbent upon the  
13 automobile manufacturers to make this a successful program,  
14 and I think the staff's proposal reflects that.

15 And so I congratulate you on that.

16 But we're all in the same boat together. We have  
17 a mandate. We're firm about that mandate. But we want to  
18 make certain that we're all successful together.

19 So whatever we can do, I think that we need to be  
20 a part of that.

21 With that, Mr. Chairman, I'll conclude my  
22 comments.

23 CHAIRMAN LLOYD: I agree.

24 Ms. D'Adamo and Dr. Burke and Mr. Calhoun.

25 BOARD MEMBER D'ADAMO: Thank you, Mr. Chairman.



1           Would staff would like to use this as an  
2 opportunity to share that information?

3           MR. SHULOCK: What we have done is laid out a  
4 couple of scenarios.

5           The first thing, in response to Board Member  
6 D'Adamo's request is that the numbers we're going to show  
7 are expressed in terms of full-function vehicles plus city  
8 vehicles. So these numbers will be higher than what we have  
9 seen before, but it illustrates what would happen if there's  
10 a mix of vehicles produced.

11           And the basis, we just decided a 50/50 split, 50  
12 percent of the credits generated would be for full-function  
13 vehicles and 50 percent of the credits would be from city  
14 vehicles.

15           So the first thing that we put up, if you could  
16 go, this is the obligation under the current program. So it  
17 starts at about 30,000 or so, ramps up to just about 40,000  
18 over time as the multipliers phase out. This is a less  
19 steep ramp than for full-function, just because of the way  
20 the multipliers work.

21           The next line is our staff proposal, similar to  
22 what you've seen before, except that it starts at a higher  
23 number, just under 10,000. This is because of the fact that  
24 it includes the city vehicles.

25           So those base numbers are higher.

1           The third line says here's what it looks like if  
2 beginning in 2009, beginning in 2009 we add in the LD T2  
3 category. We have chosen that, the number we used to  
4 approximate that is a 50 percent increase in the base. I'm  
5 sorry. It's vehicles under 8500 pounds, so that would  
6 include SUVs. LDT is vehicles under 8500 pounds. It would  
7 include most of what you think of as SUVs and the larger  
8 passenger-type vehicles.

9           We phase in this increase on this scenario over  
10 the four-year period of 2009 to 2012. So bit by bit, each  
11 year we add in some of that larger component due to the  
12 heavier vehicles.

13           So at the end of that four-year period and  
14 thereafter, that line is 50 percent higher than under the  
15 staff proposal.

16           Then the next line that we have is doubling,  
17 essentially doubling the staff proposal.

18           Again, beginning in 2009 and phasing in.

19           The mechanism to get beyond -- the thinking here  
20 is that the first half of that increment would be due to the  
21 fact that your base is larger, because of using the SUVs,  
22 and the second half of the increment would be to another  
23 change involving phasing down the multipliers in some, I  
24 don't have the exact numbers, but it would phase down the  
25 multipliers to get to the point where your totals are about

1 twice that in the staff proposal. Again, phased in over a  
2 two-year period. Excuse me, a four-year period.

3 CHAIRMAN LLOYD: What about the one starting in  
4 2007, that was a suggestion I made.

5 MR. SHULOCK: Next slide, please.

6 This is what it looks like if you double the staff  
7 proposal, phase it in over a six-year period, so that it  
8 hits -- you can see that it hits the other line in 2012. So  
9 it's essentially starting two years sooner than the blue  
10 line, and phasing in over a two-year longer period. And so  
11 that's what it looks like if you -- if you make that change.

12 CHAIRMAN LLOYD: What that does is essentially  
13 then takes, what, 13 years to get up to the original  
14 proposal?

15 MR. SHULOCK: 11, I think. 12. I'm not sure  
16 exactly where it crosses, but we're beginning in 2003, and  
17 it looks like it's crossing in 2015.

18 BOARD MEMBER ROBERTS: But what we've lost over  
19 that time is the difference between that black line and  
20 those lines below it.

21 MR. SHULOCK: That is correct.

22 BOARD MEMBER D'ADAMO: On each of the last two, on  
23 the two times the proposal, that includes an increase in the  
24 numbers and a phase-out of the multipliers?

25 MR. SHULOCK: That is correct. When you say an

1 increase in the numbers, do you mean the heavier weight  
2 vehicles?

3 BOARD MEMBER D'ADAMO: Actually what I meant was I  
4 believe I saw a chart at some point that indicated varying  
5 scenarios of increase beyond the overall ten percent.

6 MR. SHULOCK: That's built in.

7 BOARD MEMBER D'ADAMO: That's already built in --

8 MR. SHULOCK: That's built into these numbers.  
9 That's what if you look at the line at the bottom and you  
10 see how it ratchets up in those three-year increments that  
11 is due to the fact that the percentages are increasing over  
12 time.

13 So that's already included in what we show as the  
14 base staff proposal.

15 Then if you double that, or increase it by 50  
16 percent or you somehow do something to that, the increase in  
17 the base percentage is already built into these numbers.

18 BOARD MEMBER D'ADAMO: Just to clarify then under  
19 the last two, you're including the SUV phase-in in both;  
20 correct?

21 MR. SHULOCK: That is correct.

22 BOARD MEMBER D'ADAMO: And under the last one, are  
23 you phasing in in 2009 or 2007 the SUV phase-in?

24 MR. SHULOCK: You could do it either way. We  
25 didn't really have -- there's no choice built into what we

1 did here, because all we're doing is just doubling the staff  
2 numbers. You could decide to start at '07 or in '09 with  
3 that particular change. I think the numbers would be the  
4 same either way. It would affect the mix across  
5 manufacturers.

6 BOARD MEMBER D'ADAMO: But the red line that you  
7 showed envisions the SUV phase-in in 2009 or 2007?

8 MR. SHULOCK: I think it would be simplest to  
9 start them both at the same time.

10 BOARD MEMBER D'ADAMO: Not to split hairs, but I  
11 was just thinking of -- I guess I've been somewhat persuaded  
12 about the three-year cycle, so just wondering if we kick in  
13 prior to the conclusion of the second third-year cycle if we  
14 could do so in a gradual way and if you double those  
15 numbers, but then you phase in the SUVs in 2009 or vice  
16 versa.

17 MR. KENNY: Ms. D'Adamo, actually I think we can  
18 as part of the way that we do this, that we could do this,  
19 is essentially that right now in terms of determining the  
20 baselines, for example for 2003 through 2005, we're using  
21 the baseline years of '97 to '99.

22 What we could do is look at the baseline years for  
23 the '06 to '08 time frame is '00 to '02. And so what it  
24 could potentially allow us to do is we use those '00 to '02  
25 years for the baseline, including the SUVs in that context,

1 and then we can essentially can increase the numbers even in  
2 the 2007 time frame.

3 The difficulty there is that we have been trying  
4 to maintain the triennials. We have to depart from that a  
5 little bit within that '06 to '08 time frame, but I think  
6 with some work we may be able to figure that out.

7 BOARD MEMBER D'ADAMO: Mr. Chairman, would you  
8 like for me to continue with my remarks then?

9 CHAIRMAN LLOYD: Yes.

10 Maybe we can have the light back on, but maybe  
11 keep the chart there.

12 BOARD MEMBER D'ADAMO: I really appreciate that  
13 from the staff. That has really helped for me to visually  
14 see how we could make some changes, because I agree also  
15 with the concerns to an extent.

16 I did hear a theme today that a lot of people said  
17 that they were disappointed. They were a little surprised  
18 when they saw the December proposal.

19 And I was a bit disappointed, but I do have to say  
20 that I heard loud and clear in September that we wanted to  
21 make changes as minor as possible, that would make this  
22 program work.

23 And I really have to compliment staff, because we  
24 do have, I think back in September I used the accountability  
25 word over and over again that we're not just -- we need to

1 feel accountable, not just to those that have come and  
2 testified, the environmental groups, public health, but we  
3 also should feel accountable to the industry, because we  
4 want to make this work.

5           And what I'm looking for here is a way to increase  
6 the numbers, but to do so in such a way that we're not going  
7 to receive criticism in future years that, well, this is  
8 just completely unworkable because we were fooling  
9 ourselves. We started slowly and then, boom, we did a big  
10 increase.

11           So looking for whatever staff can do to meld those  
12 figures in such a way that provides for a gradual increase.

13           I like the way it looks at the end, though. I  
14 think that's great.

15           Just a couple of additional points.

16           I think this goes without saying, but based on  
17 what staff had indicated, the slow -- the ramp-up, but  
18 eventually bringing in all SUVs, I would agree with  
19 Supervisor Roberts, I think we need to end this fallacy.

20           Until just a couple of weeks ago I was driving an  
21 SUV, so I'm part of it too. And I think that I've always  
22 treated it as a car. We take it to the snow a couple of  
23 times a year, but other than that it's basically, I use it  
24 as a car.

25           On plug-in hybrids, I would support moving it into

1 the silver category, but with a differential.

2           On the Sparrow motorcycle issue, I'm very torn on  
3 this. I support Mr. McKinnon's concept that it would be a  
4 good idea to bring them in, but I am concerned that if there  
5 are auto makers out there right now that weren't assuming  
6 something like that being in the mix, and they were thinking  
7 in terms of hopefully full-size EVs, I'm concerned that this  
8 may encourage them to shift their strategy over to  
9 purchasing trading credits or something of that nature.

10           So could staff respond to that, because I don't  
11 know if there's a way to do both.

12           MR. KENNY: The one thing I heard Mr. McKinnon  
13 also suggest is that we look at ways to sort of provide  
14 incentives for the Sparrow and that we bring that back to  
15 the board.

16           It was our original plan to come back to the board  
17 this coming June with essentially infrastructure  
18 recommendations. And one thought that I might suggest is  
19 that we use that same time frame to essentially look at the  
20 kinds of other vehicles that might be out there that we're  
21 not fully aware of at the moment and see what the full  
22 implications and consequences are of providing credit for  
23 these kinds of vehicles, looking at if we were going to  
24 provide credit, what kinds of credits would be appropriate,  
25 and then propose all of that to the board in June.



1           CHAIRMAN LLOYD: Mr. McKinnon.

2           BOARD MEMBER McKINNON: I'm comfortable with that.  
3 Let's do that.

4           BOARD MEMBER D'ADAMO: Great.

5           And then motorcycles as well, because I would  
6 agree that that should be something we should look at.

7           Jumping back, kind of jumping around here, but  
8 going back to the chart, if there is phasing out of these  
9 multipliers, I'm also a bit torn on that.

10           I realize that there are some various  
11 configurations under the staff proposal that you can get  
12 like 40 credits for a fuel cell vehicle, and I understand  
13 that that probably should be phased down, but I don't know  
14 that I would go as far as to say phase out entirely.

15           Wherever staff sees that there is an opportunity  
16 to provide continued incentives, and I would favor even  
17 rewarding companies that have made the investments in the  
18 technologies. So I would leave that up to staff as far as  
19 the specifics, however.

20           And then the last thing I'd like to bring up is I  
21 asked Ms. Walsh to do some research on the issue that we  
22 spoke about earlier regarding the state fleet rules. I feel  
23 very strongly about this. We need to, as Supervisor Patrick  
24 indicated, we need to put our money where our mouths are,  
25 and we need to be held accountable as well on this issue.

1           So I would like to see staff come back on the  
2 issue of the state fleet rules. There actually is a  
3 provision in statute right now, Health and Safety Code  
4 43018, that actually requires this very body to adopt  
5 standards and regulations that would require the purchase of  
6 low emission vehicles by state fleet operators.

7           However, as Ms. Walsh pointed out, the definition  
8 of low emission vehicles is somewhat antiquated and perhaps  
9 could use updating.

10           So whether we pursue this by way of strengthening  
11 the Executive Order, working out some type of agreement with  
12 General Services or perhaps even suggesting a legislative  
13 fix, I would like to see that we pursue that.

14           If staff could come back in short order, I'm  
15 hopeful that we could reach the next budget and/or  
16 legislative cycle or even the current.

17           I would really like to compliment the chairman for  
18 his handling of the hearing and thank the witnesses for  
19 bearing with us here to the bitter end.

20           I think that this is a little bit sick that I'd be  
21 admitting to this, but I'm kind of sorry that we won't be  
22 doing these hearings, because in a sort of demented way I've  
23 really enjoyed this issue.

24           And I just hope that the passion that those of you  
25 in the audience feel for this issue, that you will continue

1 it in local municipalities and before local governing boards  
2 so that you can get ordinances adopted and spread the word  
3 and just great work. Keep at it.

4 CHAIRMAN LLOYD: Thank you.

5 Dr. Burke.

6 BOARD MEMBER BURKE: Ms. D'Adamo, I think it's  
7 something they put in the food, because I've got to admit,  
8 that I got a little groggy about 2:00 o'clock, but right now  
9 I feel like they plugged me into electricity, because I'm  
10 amped and I'm ready to go.

11 I was particularly touched when the gentleman  
12 passed around the picture of his son. I wish you could have  
13 all seen it. He's really a good looking lad.

14 And on this board there are people who are a lot  
15 smarter than I am, but I can tell this father this one thing  
16 that I can do that nobody else on this other board can do.  
17 I'm the only one on this board with only one lung. I'm the  
18 only one on this board with a diminishing capacity in the  
19 other lung.

20 Therefore, I know what his son goes through.

21 Two years ago when I really got sick, going to the  
22 bathroom from my bed was a two-stop trip.

23 I'm a formerly nationally ranked tennis player. I  
24 was a track star in high school. So I was not used to  
25 having my mobility limited.

1           And let me tell you, my staff assistant told me  
2 the other day when we were getting off an airplane  
3 someplace, she said, you know, two years ago you had to stop  
4 at the top of the ramp and sit down and rest for ten or 15  
5 minutes getting off an airplane.

6           Well, I'm obviously getting stronger, and I know  
7 that that gentleman's son is going to get stronger too. It  
8 just takes time and patience.

9           Mr. Freeman, who testified today, is a friend of  
10 mine, and when I say a friend of mine I don't mean an  
11 associate. I mean he's a friend of mine.

12           And David is viewed now as a somewhat of a guru  
13 and a genius in the electric business, where about 12 months  
14 ago the city council of Los Angeles was all over him like  
15 old clothes, and forcing him to do things that he didn't  
16 want to do, and he stood up and he fought them and he fought  
17 them tooth and nail and with great integrity, and he won.

18           And now those same people who are trying to do him  
19 in last year, are trying to take the credit this year.

20           When David said he wanted to -- he looks at night  
21 in the mirror to -- and he wants to be proud of his image,  
22 and I was reminded that President Samuel Adams, when he said  
23 when he looked into the mirror at night, he saw the sum  
24 total of all his ancestors that went before him, because you  
25 are the product of your parents and your grandparents and

1 your great-grandparents and all those who went before you,  
2 and everybody on this board is this the sum total of all  
3 those experiences.

4           So I don't want anybody to get confused, but when  
5 they see Matt and I going at it, Matt is going after the  
6 good thing and so am I, and when we walk away from here, he  
7 and I are buddies.

8           So I want everybody to understand that.

9           Now, in the plan we talked to Supervisor  
10 DeSaulnier talked about marketing.

11           Now, I'll tell you, CARB is great at writing  
12 regulations and figuring out the scientific position that we  
13 need to be in.

14           I'm not so sure how they are at marketing.

15           I think I agree with Ms. D'Adamo that if we're  
16 going to get into the marketing business, we need to do it  
17 with some kind of mandate.

18           And, you know, I'm -- I would -- I really support  
19 her initiative to bring state vehicles into the program, but  
20 I would like you to look at the possibility of a statewide  
21 initiative like we did, the 1100 series, to bring some  
22 segment of government across the state into this program,  
23 keeping in mind Matt's concern about the availability of  
24 consumer vehicles being also available, because I think that  
25 that's very important.

1           And I did the same thing as she did when SUVs came  
2 out. My accountant came to me and said they're a hundred  
3 percent tax deductible. Give me the biggest one you can get  
4 me. You know. And I did that until I found out what they  
5 did to the environment.

6           And the first conversation, the very first  
7 conversation I had with our chairman, was, you know, we  
8 ought to do something about these SUVs, because they're  
9 selling 10,000 of these things a month in California.

10           And I don't to hurt commerce and I don't want to  
11 stop business, but if you introduce 10,000 of anything  
12 that's polluting in this state, at the rate they are, we got  
13 a problem.

14           So some way we have to put them in conformity with  
15 other vehicles, so that that's under control.

16           The three-wheel vehicles, let me share with you a  
17 conversation that I had in Cambridge University about a year  
18 and a half ago with Dr. Ballard, who invented the fuel cell.

19           He looked across the coffee table at me and he  
20 said, look, if you think two other guys and I sit around a  
21 coffee table one night and designed the technology that was  
22 going to cure the energy process for the entire world, you  
23 got to be out of your mind. He said the fuel cell is a step  
24 in this progress. He said there are probably around 30,000  
25 people who work eight hours a day trying to solve this

1 problem. He said they're thinking of something that you and  
2 I don't even know about right now that's going to solve it.

3 Now, I understand the concern about the big three  
4 auto manufacturers and simulated motor scooters or  
5 motorcycles, but I do have pizza delivered to my house, and  
6 it is delivered in a car that is belching and -- because  
7 it's somebody who is working for minimum wage, whose job  
8 includes the utilization of his own car to deliver this  
9 product.

10 Now, I'm not going to use environmental justice to  
11 get -- but you know, you know where this happens.

12 And I, quite frankly, would urge my two colleagues  
13 who have spoken with some concern of this and Matt to just  
14 think a little bit more about putting this in now, because I  
15 think this is a little teeny tiny way that we can show those  
16 people in those communities which see those cars pulling up  
17 in front of their house, that there is another alternative.

18 Now, I got to tell you, this, first of all,  
19 Mr. Corbin, it was nice meeting you, because it's nice  
20 meeting a guy that has \$5 million and can put it in his own  
21 project.

22 But there's other Mr. Corbins out there, and  
23 they're not Ballard and they're not General Motors or Ford  
24 or Chrysler Daimler, and I want to encourage those people,  
25 because we never know what man or woman is going to walk in

1 with a real cure to this problem.

2 My last -- I only have two more points. I'll make  
3 this as quick as possible.

4 Seven years ago South Coast decided to issue  
5 credits, we entered into the reclaim program. One of the  
6 biggest mistakes I ever made in my life was when I voted for  
7 reclaim, I didn't run out and buy a ton of reclaimed  
8 credits. Because let me tell you, it will make dot-com look  
9 like peanuts if you had bought some South Coast Air Quality  
10 Management credits in those days and tried to sell them now.

11 So I've been -- we bifurcated it last Friday. I  
12 don't know if you know about it. We put out a resolution so  
13 that the smog -- these power companies and these refineries  
14 are just killing the little small guys because they're  
15 paying whatever it costs to buy these credits.

16 My idea was to have South Coast sell the credits  
17 and let us make the money.

18 They pushed pawed that, because we're a  
19 not-for-profit corporation.

20 But I think that we have, if we're going into the  
21 credit selling business, we have to figure out a way so that  
22 these people who are coming along, who we are trying to  
23 encourage, who are not part of the big automotive  
24 manufacturing group and part of the big money operation  
25 can still operate and get credits and do all the things that



1 are necessary.

2 My last point is, I'm sorry that Supervisor  
3 DeSaulnier had to leave. I did appreciate his remarks about  
4 outreach. I don't think it should be in this issue.

5 I think it's a bifurcated issue all together and  
6 it's something that we as a board have to deal with on our  
7 own, on its own merit.

8 But it is something that I think that we are going  
9 to have to press, because this is new technology. This is a  
10 new way of living. This is new information and we're going  
11 to have to find the money.

12 If the assemblymen come over here and they want  
13 this to really happen, we had the chairman of the Budget  
14 Committee of the Assembly here telling me we need the money,  
15 and I'm willing to go with Matt and Mr. Kenny and the  
16 chairman and whoever else wants to go with me and go over  
17 there and talk to him, get on my knees if necessary, because  
18 everybody, whether they're black or white or brown or  
19 yellow, needs to know how important all these things are.

20 And as much money as all these automotive  
21 companies spend marketing their product, we should be able  
22 to find a few dollars to market ours.

23 That concludes my comments, Mr. Chairman.

24 CHAIRMAN LLOYD: Thank you, Dr. Burke.

25 Mr. Calhoun.

1 BOARD MEMBER CALHOUN: Thank you, Chairman Lloyd.

2 We've heard a lot of good testimony today, and I  
3 include the staff's report as part of that.

4 I think there's no question but what the staff  
5 proposal is intended to say the original objectives are of  
6 the mandate, something that was obviously not going to work  
7 as proposed.

8 The staff proposal, as I see it, provides  
9 manufacturers with a lot of flexibility, and it encourages  
10 the one thing that I have very strong feelings about, and  
11 that is about technology development and pushing that, which  
12 is the one thing that I support.

13 I am bothered by the fact that there is still a  
14 sales mandate included in here.

15 Now, Mrs. Riordan mentioned something a few  
16 moments ago about the staff has access to confidential  
17 material.

18 I think the staff proposal was based on what they  
19 know to be the true status of the technology, at least what  
20 they perceive to be the true status of the technology. They  
21 have access to a lot of confidential information that isn't  
22 shared with this board. That's just part of the routine.

23 So we have to keep that in mind as we go about  
24 making all these tweaks and changes.

25 I'm concerned about what impact some of these

1 changes we've suggested, some of them I don't have any  
2 problem with because I know they work, but the idea of  
3 increasing the volume in the out years, we don't really know  
4 what the true status of the technology is going to be at  
5 that time, and I'm not so sure that it may be a little  
6 premature at this time to say we want to raise the volume by  
7 50 percent of whatever the staff proposed.

8 I do believe the staff should continue to do what  
9 it has done for many many years, and that is to follow the  
10 status of all these projects, and if they see a problem  
11 emerging, to come back to this board. I think the staff has  
12 been very good at that, and I would certainly encourage them  
13 to continue doing that.

14 And we've talked about eliminating the biannual  
15 review. That's fine. I don't have any problem with that,  
16 but I certainly want something coming back to this board on  
17 a periodic basis that will tell us about the true status of  
18 these -- of the technology.

19 And as I said before, I'm worried about the impact  
20 of some of these changes, and if we do make any changes here  
21 tonight, whenever we finish this, they will obviously go out  
22 for 15-day notice, and we'll have comments, and I suppose  
23 that if there is a problem that needs to be resolved that  
24 emerges from these comments, that they will either be --  
25 this will be brought back to the board or the changes will

1 be made and published again.

2 That concludes my comments Mr. Chairman.

3 CHAIRMAN LLOYD: Thank you Mr. Calhoun.

4 I had a few additional comments here to staff.

5 Putting up the chart that you put up, I'm also --  
6 I get, I guess I have to weigh my responsibilities and my  
7 desires. I get depressed when I look at that chart compared  
8 to where we were.

9 I also listened to Mr. Freeman as well, and say  
10 are we doing the best we can.

11 I listened to the investment community and the  
12 desires to put money into these technologies and are we in  
13 fact -- do we have enough pull to really influence that?

14 On the other hand, I can clearly see that we have  
15 to be very careful in the early years with what we are  
16 trying to accomplish. I know the auto companies, we worked  
17 very hard on that, and so I don't want to look at those  
18 areas and recognize that those are the early years are going  
19 to be critical. And I think as Mr. Shulock has used his  
20 analogies, we don't want to force feed those too early.

21 But I must admit when I get back and see those  
22 numbers, and I am worried are we in fact just promulgating  
23 something at a pedestrian pace and we're not going to  
24 accomplish what we would like to desire in the later years.

25 I also think that as we say clean air, health for

1 all citizens, that's our major part there, and obviously  
2 also to keep the economic growth going very strongly.

3 I just wonder also has staff underestimated the  
4 fact that we are going in many areas through technological  
5 innovations and the pace of that is increasing. I recognize  
6 this is not as simple. But I also feel that as we heard  
7 several times today in the study that we're doing with Alec  
8 Brookes and Tim Gage and Tim Lipman there that we're  
9 beginning to scratch the surface of the interrelationship of  
10 the stationary and the mobile sources.

11 Part of our issue with California and electricity  
12 shortage is we don't have a mechanism to store electricity.

13 What we're trying to promote here is devices and  
14 technologies which will help us store that electricity to  
15 help us in both of those.

16 So I think the more I hear about and knowing a  
17 little bit about the fuel cell community how in fact cost  
18 factor is being addressed to both the stationary and the  
19 mobile side.

20 And also the transfer of information technology  
21 and transformation of technology worldwide, and as I look  
22 out to we're looking at 2015 and we're not even to where we  
23 were before, I really worry that we are not going to be the  
24 leaders. We may be the followers. So what are we doing in  
25 that case.

1           But as I said before, I also realize staff has  
2 worked very hard, so I don't want to feel that we have to be  
3 very very careful in the early years, otherwise we're not  
4 going to get the success.

5           And I also realize the eliminations of the  
6 technology there.

7           So what I would like to see again, even on those  
8 numbers there, if in fact we could go back to maybe what I  
9 was originally suggesting is looking at maybe what Professor  
10 Frank was saying, look at a number that we're trying to look  
11 at there, and then work backwards from there, because what  
12 staff has done is so complicated, I don't think any of us  
13 can understand what's going on and I think the number I  
14 threw out earlier, can we double what you propose by 2012,  
15 because I also realize that while you say 2012, I am also  
16 not naive enough to think you can't just ramp that up. So  
17 that's why I was talking about 2007 time frame, because I  
18 believe staff, and in talking with some of the auto  
19 companies, I understand their desires in those early years.

20           But then talking to Kelly Brown, he's saying,  
21 well, after 2005, they don't really know, they don't have  
22 plans. And we don't know, and I agree with that part of it.

23           But if we are to do anything there in terms of  
24 providing the impetus, providing the investment community,  
25 providing some of the people within these companies, some of

1 the driving forces there, and we heard Ben Knight from Honda  
2 talking about limited resources and what not, so I  
3 understand that part. So in those early years I think  
4 that's a critical portion.

5           And I think maybe that's maybe where our  
6 environmental friends, their desires there, I think I've  
7 come to see that in this case the desires if we push that  
8 too hard we'll end up with nothing.

9           So but again when I look at that, and it's I would  
10 like to see if we could certainly increase those by the 2012  
11 time period.

12           I also think if you could look at the relationship  
13 between the fuel cells and the battery electric vehicles, so  
14 that maybe we try to look at the numbers there and see what  
15 that does also, that's another opportunity to improve  
16 things.

17           I would also concur, I think, with Supervisor  
18 Roberts when you initially say we shouldn't look backwards  
19 as to what's out there. I think that's something that I  
20 know that staff had worked heavily on in one of the  
21 proposals there.

22           And I said earlier, I think we also recognize in  
23 the desires here, and if we are going to try to increase the  
24 numbers to provide some additional flexibility in terms of  
25 some of the other buses, maybe, if we can -- I don't know

1 that there are any zero emission trucks out there, but those  
2 who would be appropriate, and I would like to ask staff to  
3 look at what the appropriate credits may be in those cases,  
4 how they may be treated.

5 I'm also torn on the issue of the Sparrow type  
6 vehicle, because on the one hand I'm very compelled that  
7 this is a vehicle that is now operating, it is creating jobs  
8 in California, but I guess I'm comfortable because I heard  
9 Mr. McKinnon say that, that this is something which we  
10 should explore, but to take advantage of the staff coming  
11 back to us in June, that part of it.

12 Although I understand Dr. Burke too, and I  
13 wouldn't be unhappy with that as well. I thought maybe this  
14 is what I feel in this case and what I heard from staff  
15 that -- well, I guess the analogy we used the other day, or  
16 staff used the other day, that if we let in the Sparrow, we  
17 want to know what else comes through the door. So this is  
18 the type of thing we need to fully understand before we do  
19 that.

20 I think those are the key issues that I would see  
21 in that part of it.

22 Yes, Professor Friedman.

23 BOARD MEMBER C.H. FRIEDMAN: I just had a question  
24 that was triggered by your comment.

25 Is there any particular reason why we wouldn't



1    incentivize and give credits in future years, not mandate,  
2    but give credits for pickup trucks, vans, whatever is not  
3    now covered that are PZEV or ZEV or --

4           MR. KENNY:  Actually right now we do give credit  
5    for light-duty pickup trucks, but what I was hearing the  
6    board say was essentially that if we do have heavy-duty  
7    trucks, heavy-duty buses, if we have medium-duty vans,  
8    things like that --

9           BOARD MEMBER C.H. FRIEDMAN:  We do not now give  
10   credit?

11          MR. KENNY:  Which we do not now give credit for,  
12   we should actually look at providing credit for those in  
13   this context.

14          BOARD MEMBER BURKE:  Mr. Chairman.

15          CHAIRMAN LLOYD:  Yes, Dr. Burke.

16          BOARD MEMBER BURKE:  Could you ask the staff to  
17   clarify, when you say if you let the Sparrow in what comes  
18   through the door next, what does that mean?

19          CHAIRMAN LLOYD:  I think the issue was is they  
20   wanted to assess, if you look at this category of the  
21   freeway compatible three-wheeler thing, are there any other  
22   manufacturers out there which could qualify or look at the  
23   implication.  That wasn't meant in a negative sense.  It was  
24   to try to understand, yes, that was it.

25          In that way then you could look at maybe what the

1 appropriate credits may be, what's going on. So, as I say,  
2 that was maybe I was bit flippant on that. That was not  
3 intended in this case, because I think we had discussed  
4 that.

5 Mr. Kenny.

6 MR. KENNY: If I could, actually I made a mistake  
7 in my last response to Professor Friedman. In fact under  
8 the existing proposals, we do provide credits up to 14,000  
9 pounds. We do not currently provide credits above 14,000  
10 pounds. But as I understood the board's direction, we would  
11 look at providing credits for those.

12 BOARD MEMBER C.H. FRIEDMAN: If it's an airplane,  
13 we're not --

14 MR. KENNY: I don't think we'll go there.

15 CHAIRMAN LLOYD: I think the other thing, I should  
16 comment on that, when we're talking about credits and what  
17 not, I heard some of the discussion on the neighborhood  
18 electric vehicles, and I think we have some concerns on  
19 those, but on the other hand I do feel that we've been  
20 talking with the manufacturers, and I am concerned the same  
21 way as I was concerned otherwise about increasing the  
22 numbers, that if we play around those early years too much,  
23 that we may upset some of the balance that the staff has  
24 tried to create there and that they are obviously privy to  
25 some of the stuff with the manufacturers that we may not

1 know.

2           So I'm a bit uncomfortable about what, as I say,  
3 in the early years, I'm also uncomfortable about the later  
4 years, but for different reasons.

5           Supervisor Roberts.

6           BOARD MEMBER ROBERTS: Yeah, Mr. Chairman, would  
7 the staff just review their recommendation on the  
8 neighborhood vehicles and how that phases out?

9           MR. KENNY: On neighborhood vehicles, for  
10 neighborhood vehicles that are provided before 2003, they  
11 actually do get four credits. They have multiple credits  
12 associated with them in order to get vehicles into the  
13 marketplace quickly.

14           In 2003, the credit number, I believe, is one, and  
15 then basically phases down to .15 in 2006.

16           BOARD MEMBER ROBERTS: Stays flat?

17           MR. KENNY: It stays flat at .15. And our thought  
18 on that was that we did think that in fact the vehicles, if  
19 they went into the marketplace, do displace gasoline DMT,  
20 and so they had some value.

21           And we thought it was important to provide some  
22 level of credit for them on a flat basis and then what we  
23 thought we would do is essentially see what the market  
24 actually does with the vehicles and then go from there.

25           CHAIRMAN LLOYD: Any other comments on my

1 colleagues before --

2 BOARD MEMBER C.H. FRIEDMAN: I'm wondering how we  
3 can bring this to resolution. I hear a fairly strong  
4 consensus that we try to increase the so-called out years  
5 after the first two three-year periods. So commencing  
6 somewhere in that range, and that we take into account in  
7 some fashion the -- apply the percentages in some fashion to  
8 SUVs as well as to passenger vehicles, is there some way  
9 that we could pin that down or can we leave it to staff  
10 to --

11 CHAIRMAN LLOYD: Well, I think I'd like to take  
12 the approach, well, the timing I think might leave a little  
13 bit to them --

14 BOARD MEMBER C.H. FRIEDMAN: Because they know  
15 what the advance planning is and what the impacts --

16 CHAIRMAN LLOYD: Although I would like, I think,  
17 Supervisor Roberts there, I'd like to look at the 2007-2008  
18 time frame to start that off, because if we're going to get  
19 up there, we need that ramp, but let staff look at that.

20 BOARD MEMBER C.H. FRIEDMAN: Your goal was, as you  
21 stated it, to be doubled by 2012?

22 CHAIRMAN LLOYD: At least doubled by 2012 because  
23 it gets us closer to that. Again, I don't think it's  
24 where -- this is one where I say my desires and  
25 responsibilities part company, but I know I'm here to do a

1 job, and I'm here to represent the state and be responsible,  
2 so we make this work.

3 And this is a case where we fall into nobody is  
4 going to be really happy, but clearly if we're too  
5 aggressive, we're not going to have a successful program.

6 If we're not sufficiently aggressive, as I think  
7 we are now, we need to increase it, we're not going to get  
8 the draw of the investment communities for all these  
9 advanced technologies and some of the technologies are not  
10 going to need the incentives.

11 BOARD MEMBER C.H. FRIEDMAN: If there are serious  
12 concerns or problems with doing this sort of thing, that you  
13 may not be aware of now, we don't hear about those in the  
14 15-day comment period.

15 MR. KENNY: Just one clarifying point, when we  
16 look at essentially doubling by '12, what I was taking from  
17 that was a doubling of the '09 number, which was essentially  
18 the kind of the higher number that we had in that time  
19 frame, and then with a ramp essentially beginning in  
20 potentially '07 as a way of getting there, and I think with  
21 that resulted in by '012 was close to 15,000 vehicles as  
22 opposed to what the current staff proposal was, which is  
23 roughly a little bit over 7,000 vehicles.

24 CHAIRMAN LLOYD: And the former staff proposal was  
25 40,000.

1 MR. KENNY: Excuse me.

2 CHAIRMAN LLOYD: So we're coming up with 15?

3 MR. KENNY: If we double the number -- if we  
4 double the '09 number, which right now is approximately  
5 7300, we would be at --

6 CHAIRMAN LLOYD: Double that by 2012?

7 MR. KENNY: -- 14,600.

8 By 2012, that's what -- that's what I wanted to  
9 clarify what the board direction is.

10 CHAIRMAN LLOYD: Could you also look at the number  
11 where you come up to 20,000, which will be half of what was  
12 there before?

13 MR. KENNY: We can look at all these different --  
14 yes, we can.

15 CHAIRMAN LLOYD: Yes.

16 BOARD MEMBER McKINNON: I'm having trouble with  
17 the process here.

18 Are we going to come to a conclusion tonight about  
19 these numbers and vote on them, or are we doing some other  
20 process?

21 CHAIRMAN LLOYD: I see where you're getting. We  
22 should try to pin the number down.

23 Is that what you're --

24 BOARD MEMBER McKINNON: Yeah. That's my sense.

25 BOARD MEMBER D'ADAMO: I'm a little confused about

1 the numbers that staff was referring to.

2 Mr. Kenny, doubling, are you going back to the --  
3 to the previous numbers that didn't account for the mix?

4 MR. KENNY: No. What I was doing was actually  
5 looking at the existing staff proposal that was before the  
6 board today and in terms of full-function equivalent  
7 vehicles, right now what we are proposing to the board was  
8 roughly 4600 vehicles in the time frame of '03 through '05.

9 And then when we get to the '06 through '08 time  
10 frame, that number increased to roughly 5800 vehicles, and  
11 then when we went to the '09 through '011 time frame, that  
12 number increased to, I believe, 7300 vehicles.

13 And so what I thought I heard the board say was to  
14 essentially double that number, and I was taking that number  
15 as being the '09 number, and so I was taking that 7300 and I  
16 was taking that up to 14,600 by '012 and the ramp for that  
17 to occur beginning in roughly '07.

18 And so what that would have meant is that the  
19 existing '06 number is 5800 and then we're going from 5800,  
20 and those full-function electric vehicle equivalents, so  
21 it's 5800 in '06 and then we are heading toward 14,600 in  
22 '012.

23 BOARD MEMBER D'ADAMO: I guess my problem is, and  
24 maybe because it's late and I'm not very good at math, but  
25 can you go through that same process with the mix? The

1 purple number, which is higher than the figures that you  
2 just went through, because it accounts for a mix that is  
3 likely to occur.

4 MR. KENNY: Maybe.

5 CHAIRMAN LLOYD: I think, maybe one other  
6 simplification that Mrs. Riordan was suggesting would be to  
7 adopt Professor Frank's suggestion that maybe we should set  
8 a number in a year and let staff work out how you get there.

9 BOARD MEMBER RIORDAN: Leave that to them. We  
10 just say, you know, 2014, here's where we want to be, staff  
11 put it together how we ramp-up to that point.

12 BOARD MEMBER C.H. FRIEDMAN: Could I just think  
13 about it a different way.

14 The original revised mandate that we were  
15 considering, and staff is proposing be changed today, called  
16 for about 22,000 full zero emission vehicles at the start  
17 year. It then went on up.

18 That 22,000 has been reduced to by about 75  
19 percent, so we're looking at about 25 percent or a little  
20 less for the first three years, 4800, 4760, whatever that  
21 number is, instead of 21 to 22 thousand.

22 I think what I was hearing the chairman say, and  
23 what I thought in my own mind, and I don't want to ascribe  
24 this to anyone else, I was thinking, you know, we ought to  
25 try and at least reach 50 percent of our old goal sooner



1 than 2018 or 2020 or whatever.

2           When we start with at a quarter of it, but can we  
3 attain at least half of that goal, a full -- just in terms  
4 of full -- I know that there will be a lot more vehicles,  
5 many more, if they're getting partial credits instead of  
6 full early introduction of other credits and so -- but this  
7 would be the minimum number of vehicles that are full range.

8           So the question is, and I don't have any strong  
9 feeling for when it should be for myself, but I think it  
10 ought to at least get -- we ought to move from a quarter  
11 base up to attain half of what we would have been sooner.

12           MR. KENNY: I think we can do that. I mean I  
13 think what ends up happening in the scenario is just  
14 describing what the full-function equivalent vehicle -- we  
15 are probably at that halfway point, probably somewhere  
16 around 2010, and that's an estimate at the moment.

17           The other thing essentially is in response to  
18 Ms. D'Adamo's question, if I put it into a combination of  
19 full-function vehicles and city cars, then what we do is the  
20 ramp essentially would go from roughly 11,600 vehicles in  
21 2006 to roughly 29,200 vehicles in 2012.

22           So depending on how you look at the mix of  
23 vehicles that we utilize here, the numbers can either be  
24 smaller or larger.

25           And we are anticipating that in fact we will see

1 probably that mix of vehicles which will result in the  
2 larger numbers as opposed to the smaller numbers.

3 CHAIRMAN LLOYD: Supervisor Roberts, then  
4 Mr. Calhoun.

5 BOARD MEMBER ROBERTS: Mr. Chairman, I thought we  
6 had a red line that was up there a little while ago that's  
7 disappeared.

8 CHAIRMAN LLOYD: I guess they don't like the red  
9 line.

10 BOARD MEMBER ROBERTS: That looks like it reaches  
11 the halfway point in I guess 2009, if I'm reading that  
12 right, but why -- there was a set of assumptions that went  
13 into causing that to happen that I feel very comfortable  
14 with. Why can't we just do that?

15 CHAIRMAN LLOYD: Any reason?

16 MR. KENNY: I think we can basically follow that  
17 red line.

18 The only, I guess, qualifier would be essentially  
19 the 2007 number. It probably should work fairly  
20 effectively, but one request I guess we would have is that  
21 as we look at the 2007 number when that ramp initially  
22 begins, making sure that it actually starts off upward in  
23 kind of a viable fashion, but I think that ramp may actually  
24 work quite effectively.

25 CHAIRMAN LLOYD: Useful target.

1 Yes, Mr. Calhoun.

2 BOARD MEMBER CALHOUN: Mr. Chairman, I think here  
3 at the board we are trying to redesign a program sitting  
4 here and a lot of effort has gone into what the staff has  
5 done. And it bothers me that we're pulling these numbers  
6 out of the wild blue yonder and throwing them out without  
7 really knowing what the impact they will have. And --

8 CHAIRMAN LLOYD: I don't think we're pulling them  
9 out of the blue. We're already a quarter of where we were  
10 before, and we have some basis for that, but I don't say --  
11 there is some rationale. We've sat through a lot of these  
12 discussions. I've heard stuff today, so I don't think  
13 they're out of the blue.

14 I understand where you may be coming from, but I  
15 don't think -- I think there's more behind that.

16 BOARD MEMBER MCKINNON: On Joe's point, I think we  
17 all we don't have a crystal ball, and I agree with you to  
18 that extent.

19 The thing that bothered me until we started  
20 working on this is we've heard about economies of scale and  
21 producing these vehicles over and over and over and over  
22 again. And when we dropped the numbers so low our odds of  
23 failure came back and so, you know, I'm really much more  
24 comfortable ramping up.

25 CHAIRMAN LLOYD: But in the time period we're

1 talking about, so we preserve those early years, so we're  
2 trying to maximize ability to work with the companies, we're  
3 going to help them sell the vehicles, we're going to look at  
4 that.

5 Good.

6 BOARD MEMBER C.H. FRIEDMAN: So for what it's  
7 worth, that's my thinking on it.

8 I'm concerned about the low volume and the  
9 absorption of the costs, but again I assume that we'll be  
10 getting updates, we'll be getting reports and obviously  
11 recognizing we don't have a crystal ball, without having  
12 specific periods for review, if there's a problem I'm sure  
13 we'll hear about it.

14 CHAIRMAN LLOYD: Again, that's the only reason  
15 that makes me comfortable there is knowing the staff that if  
16 we come back in several years' time and things aren't going  
17 the way we expect, we'll all know that, and staff will come  
18 back to us.

19 I think Ms. D'Adamo had --

20 BOARD MEMBER D'ADAMO: Just to articulate what I  
21 believe to be emerging as a consensus then, that pretty much  
22 going with the red line, which would be doubling the staff  
23 proposal, with the phase-in beginning in 2007, but keeping  
24 in mind what Mr. Calhoun had raised that the staff would  
25 have the discretion to make appropriate changes, based upon

1 some confidential communications that they may have had  
2 regarding business plans of the various auto makers.

3 CHAIRMAN LLOYD: I agree with that, although I did  
4 hear one auto manufacturer say today that basically after  
5 2005 they don't know any more than we do.

6 Can we -- maybe that's --

7 BOARD MEMBER BURKE: Make that as a motion.

8 CHAIRMAN LLOYD: First of all, before we get to  
9 motions, and I think we're ready to get to that point, we've  
10 got the ex parte, and I know we have quite a few ex parte  
11 communications here, so maybe I can start at the right, come  
12 back down and start to the left here.

13 So Supervisor Roberts.

14 BOARD MEMBER ROBERTS: Thank you, Mr. Chairman.

15 I do have a few communications to report.

16 On January 3rd of this year, along with our  
17 ombudsperson, we met with Mr. Ben Knight, Mr. Yasuoka and  
18 Mr. Ben Knight from Honda.

19 On January 22nd of this year, I met with Eric  
20 Bullby, who represented the local chapter of the Sierra  
21 Club. On local San Diego, that is.

22 On January 22nd, later that day, I met, along with  
23 Professor Friedman, we met with Steven Kukucha, I believe it  
24 is, from Ballard, along with Larry Berg, who accompanied him  
25 to that meeting.

1           And then finally on January 24th I met with Bob  
2 White, Reginald Modlin, Raymond Batakaholy, and I'll give  
3 you the spelling of these, and Al Weaverstad. The later two  
4 from General Motors, and the second of that group from  
5 DaimlerChrysler.

6           Those are all the ex parte communications that  
7 I've had.

8           CHAIRMAN LLOYD: Thank you.

9           Mr. McKinnon.

10          BOARD MEMBER MCKINNON: On Thursday, January 18th,  
11 I met with Mssrs. Berg and Kukucha of Ballard.

12          I also that day, quite to all of our surprise,  
13 ended up meeting with the Automotive Alliance. And Steve  
14 Douglas from the Alliance was there, Dave Rainey from Honda,  
15 Al Weaverstad from GM, Reg Modlin from DaimlerChrysler,  
16 Kelly Brown and Melanie Wiegner from Ford, were there.  
17 And most of all of that discussion was about the transit  
18 issue.

19          On Monday, January 22nd, I met with the ZEV  
20 Alliance, Bonnie Homes-Gen, and with the Lung Association,  
21 Sandy Spelliscy with the Planning Conservation League,  
22 Roland Hwang with National Resources Defense Council, Jason  
23 Mark with the Union of Concerned Scientists, and Susan Frank  
24 with the Kirsch Foundation.

25          Few hours later I met with the California Electric

1 Transportation Coalition, Cece Martin.

2 Enid Joffe with the Clean Fuel Connection.

3 And Scott Briasco with LA Department of Water and  
4 Power.

5 Yesterday I had a teleconference call with the  
6 Production EV Drivers Coalition, Greg Hanssen and Bill  
7 Mason.

8 I also had a meeting with Kathy Van Osten,  
9 representing the American Methanol Institute. And Tony  
10 Massaro representing Methanex.

11 Also had a very brief conversation again yesterday  
12 with Kelly Brown on the transit issue.

13 That, I hope I got everybody. I think that's it.

14 CHAIRMAN LLOYD: Ms. D'Adamo.

15 BOARD MEMBER D'ADAMO: On January 18th, I met with  
16 Kelly Brown of the Ford Motor Company and Melanie Wiegner of  
17 the Ford Motor Company in Modesto.

18 On the 22nd, in Sacramento, met with Roland Hwang  
19 with Natural Resources Defense Council; Susan Frank with the  
20 Kirsch Foundation; Bonnie Holmes-Gen, American Lung  
21 Association; Kevin Finney, Coalition for Clean Air; Jason  
22 Mark, Union of Concerned Scientists; Sandra Spelliscy,  
23 Planning and Conservation League.

24 On that same day, the 22nd of January, met with  
25 Cece Martin, California Electric Transportation Coalition;

1 Scott Briasco with the LA Department of Water and Power; and  
2 Enid Joffe with the Clean Fuel Connection.

3 Also on that day, the 22nd of January, had a  
4 telephone call with Alec Brooks, AC Propulsion.

5 And then today had a brief discussion with Tony  
6 Massaro with Rocky Mountain Environmental Strategies.

7 That's it. Thank you.

8 CHAIRMAN LLOYD: Professor Friedman.

9 BOARD MEMBER C.H. FRIEDMAN: I've had a series of  
10 phone conversations with Philip Recht, the attorney  
11 representing General Motors, on January 16, January 22, and  
12 January 23.

13 I will comment on the substance of all these in a  
14 moment.

15 I had a meeting with the ZEV Alliance, Bonnie  
16 Holmes, American Lung Association; and Sandy Spelliscy of  
17 Planning and Conservation League on January 17th in  
18 Sacramento.

19 I met with Cecile Martin of Cal ETC on the 17th,  
20 also in Sacramento.

21 I visited the Ovonics UC Davis Electric Hybrid  
22 Lab, Ben Ovshinsky, and Professor Andrew Frank on January  
23 17th. The topic was plug-in hybrids, essentially.

24 I met with Kelly Brown, of Ford.

25 I'm sorry, I had a phone conversation with Kelly



1 Brown in Florida on January 22nd.

2 Also on that conference call was Melanie Wiegner.

3 And I had a conversation, phone conference, with  
4 the Production Vehicles Drivers Coalition, namely Greg  
5 Hanssen and Bill Mason, on January 16th.

6 And the Ballard Power System, Steve Kukucha and  
7 Ballard, and Larry Berg of Larry Berg and Associates, met  
8 with Supervisor Roberts in his office, as he reported on  
9 January 22nd. The topic there was fuel cell technology.

10 And I had conversation by phone with Melanie  
11 McCutcheon of the Environmental Health Coalition on January  
12 23rd.

13 On January 24th, I had a telephone conversation  
14 with Mickey Cantor for General Motors.

15 And on the 23rd -- I missed one, two days ago, or  
16 so, I had a telephone call from Kirk Marckwald, California  
17 Environmental Associates of San Francisco, and attorney  
18 George Kiefer of Mannett Phelps and Philips for Toyota.

19 And the environmental contacts all had to do with  
20 concerns that were expressed here repeatedly.

21 And the context from General Motors, Toyota and  
22 the others all had to do with matters that were presented in  
23 abundance here today.

24 That concludes my contact.

25 CHAIRMAN LLOYD: Met with Ben Knight and Aki

1 Yasuoka and others from Honda on January the 5th in the  
2 Hyatt. Ben Knight, January 16th in Detroit.

3 Ben Knight and Aki Yasuoka again January the 19th  
4 in the office here.

5 And Ben Knight, phone call on 23rd.

6 All of these focusing on the combining ZEV and  
7 advanced technology categories and looking at a point system  
8 for fuel cell development.

9 January 16th in Detroit, Reg Modlin from  
10 DaimlerChrysler. Difficulty meeting the mandate and the  
11 traveling issue.

12 January 7th, a meeting with Kirk Marckwald on  
13 behalf of Toyota, looking at hybrid electric vehicle  
14 credits, and a meeting on January the 18th to discuss hybrid  
15 electric vehicles and independent technology review.

16 January 19th in my office meeting with Kelly Brown  
17 and Melanie Wiegner of Ford, MOA traveling issue and the  
18 ability to comply with the staff proposal.

19 On December the 14th in the office, Larry Berg and  
20 Steve Kukucha from Ballard, market reaction to staff report,  
21 issued December the 8th.

22 Firoz Razul, Paul Lancaster, Steve Kukucha,  
23 January 17th in Detroit, a meeting, effective ZEV mandate on  
24 fuel cell investment technology and the status of fuel cell  
25 technology to meet the ZEV category.

1           Two phone calls with Larry Berg on the 22nd and  
2 23rd, and also 24th to look at ZEVs and fuel cell  
3 vehicles.

4           Dan Kelly, meeting in Detroit with IFC to talk  
5 about the ZEV mandate and all the fuel cells.

6           January 9th, a meeting with Avestor, Roger  
7 Paradis, and Tadek Borys, and that was talk about lithium  
8 polymer battery developments and battery leasing ideas.

9           And then a meeting with John Dunning of Battery MD  
10 and Mr. Bayractor from Aerovironment, and Edward Riddell of  
11 Sierra Transportation. This was on January 10th. This was  
12 the ride and drive with the modified Think vehicle.

13           Discussion on phone on January 8th and 18th, Bob  
14 Rose, Breakthrough Technology, to talk about the  
15 relationship between ZEVs and fuel cell vehicles.

16           January 23rd, telephone conversation with Greg  
17 Hanssen, Bill Mason on EV Drivers Coalition, and the  
18 drivers' support for the mandate.

19           Meeting, January 10th in Sacramento with the  
20 Enviro ZEV Alliance, Bonnie Holmes-Gen, Sandy Spelliscy,  
21 Roland Hwang, Jason Mark, Janet Hathaway, Kevin Finney, John  
22 White and Jason Mark. More discussion there to push for  
23 more ZEVs in 2003, faster ramp-up and restoration of the  
24 pure ZEV category.

25           January 18th in my office, Cece Martin, Scott

1 Briasco of the California Electric Transportation Coalition.  
2 More ZEVs, faster ramp-up.

3 Phone call, January the 18th with P. John White,  
4 the Sierra Club position on ZEVs.

5 Discussion on the phone on the 22nd and 23rd with  
6 Curtis Moore, the Global Alliance, historical perspective,  
7 need for technology forcing regulations.

8 And a meeting on January 24th to talk about fuel  
9 cells, energy efficiency and global climate change impacts.

10 January 3rd, a meeting with Dr. Art Rosenfeld,  
11 California Energy Commission, role of hybrids in meeting  
12 California energy and environmental needs.

13 And, lastly, a meeting yesterday, January 24th,  
14 with hydrogen industry with Paul Staples, James Provenzano,  
15 both of Hygen.

16 And Hac Carlson of Hamilton Sun Strand, talking  
17 about fueling infrastructure for hydrogen fuel cell vehicles  
18 and pure ZEV components of the mandate in California.

19 BOARD MEMBER RIORDAN: Mr. Chairman, I received a  
20 telephone call from Enid Joffe on January 23rd, and that  
21 conversation is mirrored in her testimony today.

22 On January 24th, I met with the Alliance of  
23 Automotive Manufacturers, Steven Douglas, Robert Cassidy  
24 from Nissan, Weaverstad from GM and Reginald Modlin from  
25 DaimlerChrysler. Their issues were primarily that of the

1 traveling issue, of our regulation to other states in the  
2 East.

3 I met also with Tony Massaro from Rocky Mountain  
4 Environmental Strategies, and Kathleen Van Osten from Rose  
5 Kindel. Basically stating their support of the staff  
6 recommendation.

7 Those are the only communications I've had.

8 CHAIRMAN LLOYD: Thank you.

9 BOARD MEMBER BURKE: Mr. Chairman, I instructed my  
10 staff assistant I didn't want to talk to anybody on this and  
11 if they couldn't write me a letter or talk to her, I didn't  
12 want to know about it. She did an excellent job and she  
13 only let two slip through.

14 So I only have two ex parte communications to  
15 report, and they're both telephone conversations.

16 One is with Denny Minano, and his conversation was  
17 about the ZEV mandate. It was just a general conversation  
18 and nothing really specific.

19 And the other one -- that was on 1-17.

20 And on 1-18, I had a call from Tom Soto, who asked  
21 me if I talked to Denny Minano, and his conversation was  
22 generally about the ZEV mandate and really nothing that  
23 wasn't mirrored in their testimony today.

24 BOARD MEMBER CALHOUN: Mr. Chairman, members of  
25 the board, on the 12th of December I had a meeting with Tom

1 Soto and Mr. Huffman of PS Enterprise, and they were  
2 concerned about environmental justice, and a lot of that has  
3 come out here today.

4 And the next date was the 24th of December, which  
5 was yesterday.

6 CHAIRMAN LLOYD: January.

7 BOARD MEMBER CALHOUN: Yesterday, I went out to UC  
8 Davis and met and toured the lab that Professor Frank is in  
9 charge of, and he talked to me about increasing the volume,  
10 and the same with his testimony today.

11 And later I met with on the same day, Kathleen Van  
12 Osten, and Tony Massaro. Kathleen Van Osten is from the  
13 Rose and Kindel, and the Rocky Mountain Environmental  
14 Strategies, Tony Massaro. And they were supportive of the  
15 staff recommendation, but they also suggested that they'd  
16 like to see more emphasis placed on fuel diversity. Their  
17 primary focus is methanol.

18 And last evening I had a brief telephone  
19 conversation with Ray Buttacavoli from General Motors,  
20 alerting me about some of the issues and concerns that  
21 General Motors had.

22 That's the extent of my ex parte.

23 CHAIRMAN LLOYD: Also, I forgot, I also had a  
24 meeting with Kathy Van Osten and Tony Massaro on the same  
25 topic, and they're all methanol fuel cells, and that was in

1 the office yesterday. It was yesterday.

2 Thanks for reminding me of that.

3 Supervisor Patrick.

4 BOARD MEMBER PATRICK: I had a very brief  
5 discussion with Charles Sant'Agata from the American Lung  
6 Association of Central California, and he talked about the  
7 current proposal from staff. He felt that it fell short of  
8 our mandate, and that he hoped that I would not go along  
9 with staff's recommendation.

10 CHAIRMAN LLOYD: Thank you.

11 BOARD MEMBER D'ADAMO: Mr. Chairman, I failed to  
12 state on the record that of the ex parte communications that  
13 I had there, the contexts of the communications basically  
14 mirrored the testimony that was presented by those  
15 individuals today.

16 CHAIRMAN LLOYD: Same thing, yes.

17 BOARD MEMBER McKINNON: Same for me.

18 And I knew I neglected some people. I have three  
19 more.

20 CHAIRMAN LLOYD: Okay.

21 BOARD MEMBER McKINNON: Sorry. Kevin Finney was  
22 with the ZEV Alliance when we met on the 18th.

23 On the 17th I had a telephone conversation with  
24 Darius Anderson, again pretty much what he stated, the GM  
25 position, and asked me to meet with the Automotive Alliance.

1           And then late this afternoon I met Tom Corbin for  
2 the first time, and we had a little chat about the Sparrow.  
3 That's the first time we've ever met, which is remarkable.

4           So that's it.

5           CHAIRMAN LLOYD: Ms. Walsh, I've also got  
6 something from Supervisor DeSaulnier, but since he's not  
7 voting, I presume it's not a problem.

8           MS. WALSH: Right. We can just put that in the  
9 record.

10          CHAIRMAN LLOYD: Thank you.

11          BOARD MEMBER ROBERTS: Mr. Chairman.

12          CHAIRMAN LLOYD: Yes, Supervisor Roberts.

13          BOARD MEMBER ROBERTS: Could I make the same  
14 comment about content?

15          CHAIRMAN LLOYD: Yes.

16          BOARD MEMBER ROBERTS: In keeping with the  
17 testimony.

18          CHAIRMAN LLOYD: I think I would do the same  
19 thing, I guess. I heard nothing there that I didn't hear  
20 today from the people that are in common there.

21          So I guess now we're --

22          BOARD MEMBER PATRICK: I was just going to say do  
23 we make a motion here?

24          CHAIRMAN LLOYD: We now actually are ready to  
25 entertain some motions.



1           BOARD MEMBER PATRICK: Good.

2           Then I'd like to make a motion to pass Resolution  
3 01-1, but I think that what we want the addition to say  
4 would be to mirror what the red line says over there, and  
5 that's probably not the legalese term.

6           How would you put that in there?

7           And also I think that there seems to be some  
8 discussion here about the plug-ins should not be part of the  
9 gold standard.

10          And those I think that we should include in the  
11 motion.

12          MR. KENNY: If I could have a moment, just to sort  
13 of state what I thought I heard from the board.

14          The board was looking, sounded like, to double the  
15 number of vehicles by 2012, with the ramp-up beginning in  
16 2007.

17          As part of doing that, the board was looking to  
18 include SUVs in the baseline.

19          I thought I heard the board also say that they  
20 wished to move the plug-in hybrids out of the gold standard  
21 and into the silver standard, but to essentially provide for  
22 some level of enhanced credit to try to incentivize them.

23          CHAIRMAN LLOYD: Yes.

24          MR. KENNY: I thought I also heard that there was  
25 a desire to try to incentivize station cars and to provide

1 for sustainable transportation, and that Mr. DeSaulnier was  
2 going to essentially be heading up a committee to pursue  
3 that.

4 CHAIRMAN LLOYD: I thought it was implementation  
5 partnership, I think the word he used.

6 MR. KENNY: That is true.

7 I thought I also heard that we needed to look at  
8 institutionalizing our environmental justice outreach and  
9 that we should try to figure out how to do that in a more  
10 effective and inclusive fashion.

11 I thought I also heard that we need to eliminate  
12 the credits that were proposed by the staff, that gave  
13 retroactive credit for vehicles that were produced in the  
14 year 2000.

15 I thought I also heard an increased outreach  
16 effort to all of the market, and with a particular emphasis  
17 on state purchases, so that in fact we can put our money  
18 where essentially our policy lies.

19 I thought we were also to look at reassessing the  
20 credit relationship between fuel cell vehicles and EVs in  
21 the later years, such that in fact we don't have the  
22 disparity that appears to exist right now where the EV is  
23 worth half as much as the fuel cell vehicle, and so  
24 therefore you can meet the mandate in the later years with  
25 far fewer fuel cell vehicles.

1           I thought we were to look at the credit that was  
2 associated with heavy-duty trucks and buses and try to  
3 provide that for the future.

4           And then I also heard the board indicate to us  
5 that we are to look at the issue of the travel, and that we  
6 should work with the northeast states and try to facilitate  
7 a reasonable solution so that in fact we can have a  
8 successful market launch that includes more than just simply  
9 California.

10           CHAIRMAN LLOYD: That should be done on an urgency  
11 basis.

12           MR. KENNY: Correct.

13           BOARD MEMBER PATRICK: That was what I wanted to  
14 include in my motion.

15           BOARD MEMBER D'ADAMO: Mr. Chairman.

16           BOARD MEMBER C.H. FRIEDMAN: Then I think you  
17 ought to restate it.

18           BOARD MEMBER D'ADAMO: I believe what Mr. Kenny  
19 left out was the motorcycle issue to come back.

20           CHAIRMAN LLOYD: Come back, yeah.

21           BOARD MEMBER ROBERTS: Mr. Chairman.

22           CHAIRMAN LLOYD: Yes, Supervisor.

23           BOARD MEMBER ROBERTS: First of all, I'd like to  
24 second that.

25           But I'd like to clarify something.

1           Mr. Kenny, you kept going back to the 2012 year,  
2 and I thought we said that the assumptions that generated  
3 that red line, which I don't think that was a doubling in  
4 2012, so I don't think -- I thought we moved away from the  
5 2012.

6           MR. KENNY: Actually the red line did reflect  
7 essentially the assumptions of the 2012, but I mean to be  
8 even clearer, what we will do is make every effort to -- we  
9 will essential pursue the -- excuse me. We will pursue the  
10 red line, which does reflect the --

11           BOARD MEMBER PATRICK: I knew I was right.

12           CHAIRMAN LLOYD: Is that better than the yellow  
13 brick road?

14           Well, I think what we're trying to do, I think  
15 what we heard that we're trying to actually come to,  
16 although it may be depressing, to half the original number  
17 there. That was the way I think the target was.

18           Looking at that, at that list, I think you did a  
19 pretty comprehensive job. I don't have anything on my list  
20 other than that, so I think that was -- your recollection  
21 was great, Supervisor Patrick.

22           BOARD MEMBER PATRICK: I'm a whiz this time of  
23 night.

24           Thank you, Mike.

25           CHAIRMAN LLOYD: Do we have a second?

1 BOARD MEMBER ROBERTS: I did second.

2 CHAIRMAN LLOYD: Second.

3 All in favor say aye.

4 (Ayes.)

5 CHAIRMAN LLOYD: Any comments?

6 Thank you very much, indeed.

7 Thank you, my colleagues.

8 We're not finished yet, I don't think.

9 (Applause.)

10 MR. KENNY: One more item, three minutes long.

11 CHAIRMAN LLOYD: Yes. We've got one item to go.

12 (Pause in proceedings.)

13 CHAIRMAN LLOYD: Next item on the agenda is  
14 01-1-2, consideration of proposals for the Air Resources  
15 Board's innovative clean air technologies program.

16 This is the seventh year for this program, which  
17 supports development of technologies that have potential for  
18 improving air quality and also stimulating the state's  
19 economy through commercialization of new control  
20 technologies.

21 We're trying to complete the evening.

22 Today we have -- this evening we have before us  
23 five proposals for ICAT funding that have been recommended  
24 for the board's consideration.

25 At this point I'd like to ask Mr. Kenny to begin

1 the staff's presentation.

2 MR. CROES: Dr. Lloyd and members of the board, in  
3 recognition of the late hour and the straightforward nature  
4 of our proposed resolutions, I'd like to dispense with our  
5 usual presentation.

6 CHAIRMAN LLOYD: Go to the top of the class.

7 BOARD MEMBER BURKE: Move approval.

8 CHAIRMAN LLOYD: So do I.

9 BOARD MEMBER RIORDAN: And I'll second it, because  
10 we have all had a chance to read the staff report.

11 BOARD MEMBER C.H. FRIEDMAN: Very worthy projects.

12 CHAIRMAN LLOYD: And I certainly have, and I  
13 really appreciate the good job, and we look forward to  
14 continuing great results from this program.

15 MR. CROES: Thank you.

16 CHAIRMAN LLOYD: Legal want to say something?

17 MS. JOHNSTON: Yes. I just wanted to make sure  
18 that you all have the attachments to a couple of the  
19 resolutions that shows some very minor staff changes.

20 Okay. Thank you.

21 CHAIRMAN LLOYD: We thought they were sufficiently  
22 minor not to make notice of that.

23 Thank you very much indeed.

24 Any ex parte on this issue?

25 No.

1           No other public comments?

2           With that, I will officially close the January  
3 25th, 2001, Air Resource Board meeting.

4           Oh, sorry.

5           Yes, all in favor say aye.

6           (Ayes.)

7           CHAIRMAN LLOYD: Unanimous.

8           Now I will officially close the January 25th,  
9 2001, meeting.

10          Thank you.

11          (Thereupon the meeting was adjourned  
12 at 9:30 p.m.)

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## 1 CERTIFICATE OF REPORTER

2 I, JAMES F. PETERS, a Certified Shorthand  
3 Reporter of the State of California, and Registered  
4 Professional Reporter, do hereby certify:

5 That I am a disinterested person herein; that the  
6 foregoing California Air Resources Board hearing was  
7 reported in shorthand by me, James F. Peters, a Certified  
8 Shorthand Reporter of the State of California, and  
9 thereafter transcribed into typewriting.

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

13 IN WITNESS WHEREOF, I have hereunto set my hand  
14 this 5th day of February, 2001.

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JAMES F. PETERS, CSR, RPR

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CERTIFICATE OF SHORTHAND REPORTER

I, JANET H. NICOL, a Certified Shorthand Reporter of the State of California, do hereby certify that I am a disinterested person herein; that I reported the foregoing meeting in shorthand writing; that I thereafter caused my shorthand writing to be transcribed into typewriting.

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.

Janet H. Nicol  
Certified Shorthand Reporter  
License Number 9764

