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STATE OF CALIFORNIA  
ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

CALIF. ENERGY COMMISSION  
AUG 27 1984  
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BUSINESS MEETING

1516 NINTH STREET  
1st FLOOR HEARING ROOM  
SACRAMENTO, CALIFORNIA

THURSDAY, AUGUST 16, 1984

10:15 A.M.

Reported by:

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- 1 William Beard, Whirlpool Corporation
- 2 Ray Bohman, Amana Refrigeration, Inc.
- 3 Joan Fill, Southern California Edison Company
- 4 Margie Gardner, Northwest Power Planning Council
- 5 Mike Klenow, Orion Alpha Corporation

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P R O C E E D I N G S

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3 COMMISSIONER COMMONS: Let's call today's  
4 business meeting to order. If Commissioner Crowley would  
5 lead us in the pledge of allegiance.

6 (Pledge of Allegiance.)

7 COMMISSIONER GANDARA: The first item before us  
8 today is the Committee briefing on proposed standards for  
9 refrigerators and freezers. Commissioner Commons, how do  
10 you wish to proceed on this item? Does the Committee have  
11 a presentation, or --

12 COMMISSIONER COMMONS: In terms of -- this is an  
13 informational briefing for the benefit of the Commissioners  
14 and also for the participants in the refrigerator  
15 rulemaking process, and Mr. Vice Chairman, what we would  
16 like to do is allow the various participants to present  
17 information to the Commission, and the Commissioners  
18 obviously may ask questions or give comments.

19 The Committee would welcome at the end, or in  
20 the period forthcoming, if there are any comments that  
21 the other Commissioners would like to give us in terms of  
22 the proceeding, Commissioner Schweickart and myself would  
23 appreciate that, and I think also the participants in the  
24 process would appreciate hearing different viewpoints of  
25 the other Commissioners.

1           In terms of the informational briefing, what I'd  
2 like to do in terms of structuring it is first to allow  
3 our staff to make their presentation, then go to the  
4 petitioner, NRDC, then go to AHAM and the industry  
5 representatives, and then I do believe we have some other  
6 participants, utilities or otherwise that would also like  
7 to make some short presentations.

8           It's my estimate that this will take somewhere  
9 between two to two and a half hours, depending upon the  
10 activity of the other Commissioners.

11           COMMISSIONER GANDARA: Okay, why don't we do that,  
12 and let's try to keep in mind that this is an informational  
13 briefing, and we need not resolve any issues today, nor  
14 do we have to necessarily get into a long debate. We're  
15 somewhat familiar with the -- at least the strength of  
16 convictions held by various parties here, so with that,  
17 Mr. Messenger, would you start.

18           MR. MESSENGER: Good morning, Commissioners. My  
19 name is Mike Messenger, I'm Project Leader for the  
20 Appliance Efficiency Program.

21           Basically what we're here to do today is to give  
22 you a progress report on at least resolution of issues in  
23 the NRDC proceeding, and essentially outline, or try to  
24 frame the differences that still remain between the  
25 parties so that you can sort of have a preview of what might

1 come before you at the adoption meeting -- hearing, which  
2 is now tentatively scheduled in October, about the middle  
3 of October, I believe it's the second business meeting.

4           During the course of my discussion, I'm going to  
5 be showing a lot of view slides up there, and I've left  
6 copies of the -- hard copies of the viewgraphs up among  
7 the Commissioners, and there's also additional copies over  
8 on this table over here, which I encourage people to get  
9 copies of if they want to, you know, follow along with me  
10 as I go through my viewgraphs.

11           Finally, I'd like to ask the Chair to attempt to  
12 limit questions during my presentation, because I've found  
13 that it's more effective to go through the presentation  
14 completely, and then come back to questions. With that,  
15 I'll get into the substance of my presentation, and I'm  
16 going to move over to the viewgraph real shortly here, so  
17 I don't know if that's going to present some audio/video  
18 problems, but I'll try it anyway.

19           Okay, now does everyone have in front of them,  
20 essentially the outline of my discussion, it's entitled  
21 "Business Meeting Item #1, Outline of the August 16 Staff  
22 Presentation". That will be easiest in terms of following  
23 along with me.

24           As the outline says, we basically had one major  
25 goal in this proceeding, and that is essentially to

1 investigate the feasibility of reducing California's  
2 electricity bills by accelerating improvements in the  
3 efficiency of refrigerators. You might ask, well, why  
4 refrigerators, and let me give you a little bit of  
5 perspective about that.

6 Refrigerators comprise roughly 25 percent of  
7 everybody's electricity bill in the average house. People  
8 spend between \$100 and \$150 a year to run their refrigerator  
9 and staff in the course of this proceeding will be  
10 presenting some evidence to you that suggests that we can  
11 reduce that roughly in half.

12 The question is, how long is it going to take to  
13 get to that halfway point. The technology is feasible,  
14 the question is how long is it going to be to implement  
15 that, and what's the best way to get there. Because we  
16 seem to have developed a concensus among a lot of technical  
17 experts that it's possible to reduce this energy bill in  
18 half, the question is, what's the best way to do that.

19 In the proceeding itself, we had four different  
20 objectives. The first one is, essentially, we were  
21 directed by the Commission to investigate technically  
22 feasible and cost-effective revisions to the current  
23 refrigerator/freezer standards, and we've been doing that,  
24 and we'll be presenting some evidence about that.

25 Our second objective was to try and encourage the

1 development and marketing of more efficient refrigerators  
2 in the California market through incentives and other  
3 market-based programs. We've gone down and testified in  
4 front of the PUC about what we think are cost-effective  
5 programs to do that, because we believe that there are a  
6 number of different approaches that should be used to  
7 increase efficiency in the market, one of which is  
8 standards, another of which is incentives programs, and  
9 there's also a role for media programs, which we'll be  
10 talking about in our fourth objective.

11           Presently, we're working with the PUC staff to  
12 try to set up an annual funding mechanism to make sure  
13 that those incentive programs become a reality with both  
14 the manufacturers and the utilities.

15           Our third objective was to provide the manufac-  
16 turers more flexibility in meeting the state's energy  
17 efficiency goals by including a fleet average option  
18 approach to complying with our standards, and I'm going to  
19 talk about that in more detail later on the slides.

20           But basically, what we're trying to do is give  
21 manufacturers more flexibility in meeting a certain  
22 efficiency level by letting them sell models below that  
23 level and above that level, as long as they reach the  
24 average. We believe that that will lead to more efficiency  
25 in the marketplace in the long run, because people will be

1 able to maximize their profits, and the efficiency of the  
2 system, depending on their individual manufacturing  
3 facilities, and their situation in the market.

4 Finally, our fourth objective was to attempt to  
5 increase the effectiveness of market forces, or price  
6 response, by looking into programs that help consumers make  
7 important choices.

8 In other words, we wanted to look into, for  
9 example, if the current energy labeling program, is that  
10 working. Does there need to be improvements in that  
11 program, is it better to use media rather than labels,  
12 et cetera. So we've been looking into ways to essentially  
13 improve informed consumer choice.

14 Okay. Basically, for each of these four objectives  
15 what I'm going to do now is talk about our approach to  
16 analyzing the problems, note progress and consensus  
17 achieved between the parties, and try to frame for you the  
18 outstanding issues that you may have to decide on later  
19 on in the proceeding.

20 First, I think it's important always to have a  
21 historical perspective. Okay, what this chart attempts to  
22 show is basically what happened in the 70's, what we can  
23 see happening in-between '78 and '83, and what the staff,  
24 at least initially established as efficiency goals, so we'd  
25 like to see the market try to get to.

1           As you can see, there was a considerable drop in  
2 the market average efficiency from 1972 to 1983 in response  
3 to a number of market forces, and standards, and lots of  
4 other programs that came about during that decade.

5           You can see here the effect of the CEC standards  
6 that went into effect in actually '77 and '79, and in  
7 essence, what that accomplished was to put a much stricter  
8 ceiling on the worst model, essentially, bringing all the  
9 models down in 1978, that's why there's this kink in this  
10 curve, and now the curve is starting to level out again,  
11 and act in sort of a free market equilibrium situation.

12           COMMISSIONER GANDARA: Mr. Messenger?

13           MR. MESSENGER: Yes?

14           COMMISSIONER GANDARA: I don't see that in the  
15 packet that was given to us, is that a separate handout,  
16 or --

17           MR. MESSENGER: No, in the packet -- there's  
18 two packets. There's this packet, and I believe in your  
19 packet here, the last page should have -- at least it does  
20 here in mine, this graph. You don't have it, uh-oh, well,  
21 let's see if I have extra copies.

22           COMMISSIONER GANDARA: You can proceed with your  
23 presentation, it's just that that's difficult to read from  
24 this distance.

25           MR. MESSENGER: If you don't have them, we'll

1 provide them later on. Again, you should have two packets.  
2 One is a copy of these view slides, and the other is a  
3 sort of outline of our presentation, and I'm talking about  
4 the view slide now.

5           Okay. Now we're going to talk about objective  
6 number one, this is essentially to try to give you a  
7 perspective on where the market has been. Basically our  
8 approach has been to try to propose minimum standard  
9 levels that are both cost-effective, and we're defining  
10 it less than an eight year payback, and technically  
11 feasible, without causing any significant or adverse  
12 market impacts on the manufacturer's product line.

13           In the course of that analysis, we did some life  
14 cycle cost analysis using DOE analysis. Now, one of the  
15 things that's going to continue to be an issue in this  
16 proceeding is the relevance of the DOE data.

17           The DOE data was developed in 1979 and published  
18 in '82 and '83, and basically showed the cost to improve  
19 certain levels of efficiency, and to date, that's the best  
20 data that we have in-house to analyzing what the cost will  
21 be to California's consumers of increasing efficiency  
22 levels.

23           Industry has indicated to us that at some point  
24 in time they may be able to come up with a method of  
25 providing new cost data, and when that happens, we will

1 have to evaluate, you know, the differences between the DOE  
2 data, and the industry data, and do some new cost analysis.

3           What I want to show you now is the results of the  
4 life cycle cost analysis, which should be page 1 in your  
5 packet. I apologize, this didn't come out very well. Does  
6 everyone have a page 1 in the handout packet, are you with  
7 me?

8           This basically shows the cost-effectiveness to  
9 an average consumer of increasing efficiency, and increasing  
10 efficiency is shown as we go from right to left on this.  
11 On the bottom, you'll see the kilowatt-hours usage, and  
12 the baseline that's used here is the DOE baseline of 1,354  
13 kilowatt-hours per year, and basically this shows the  
14 life cycle cost to the consumer as the top mounted  
15 refrigerator gets more efficient.

16           The most striking thing about this graph from an  
17 economist's perspective is that the curves haven't started  
18 to turn up yet. Usually you expect a life cycle cost curve,  
19 when you're looking at energy efficiency versus cost to  
20 turn up. You're reaching the bottom, there's marginal --  
21 decreasing marginal returns per dollar invested, and  
22 traditionally, this Commission has tried to set standards  
23 at or close to the bottom of the life cycle cost curve.

24           But what this chart is showing is that there's  
25 very significant improvements in efficiency out there, at

1 less than two year payback according to the DOE numbers,  
2 that still hasn't been realized in the market. What we're  
3 doing in terms of our proposal to the Committee, is we  
4 said, well, look, you know, the most cost-effective level  
5 is down here, but we don't want to project that for a  
6 standard, because there's no models available in the market  
7 right now.

8 So what we're doing is we're being conservative  
9 and saying we're going to go back to where the, sort of the  
10 first or second generation models are out here, and  
11 gradually work to that level through a standards process.  
12 That's only one part of our approach, the other part of  
13 our approach has to do with incentives.

14 But basically, we've recommended to the Committee  
15 that we believe that DOE Level 6, which is the highest  
16 efficiency level they actually evaluated is both technically  
17 feasible and cost-effective, and you can get more, but we  
18 don't want to set standards below that level, at least at  
19 this time.

20 COMMISSIONER GANDARA: Mr. Messenger, would you  
21 just choose any line and walk me through your various --  
22 actually what they indicate. I'm not quite sure that I --  
23 I want to make sure I'm reading this the way you want me  
24 to read it.

25 MR. MESSENGER: Certainly. Okay, the baseline

1 point from which all this analysis starts is the DOE  
2 average in 1981 of 1,354 kilowatt-hours per year for an  
3 average model. They took that as what they thought was a  
4 typical model in that year. Now --

5 COMMISSIONER GANDARA: Where did that come from?

6 MR. MESSENGER: That was essentially after  
7 meeting with members of industry, and various other groups,  
8 they set up an engineering model that said this is what  
9 a typical model in the market looks like, and it has these  
10 sorts of characteristics, these sorts of model features,  
11 and it produces this much energy use.

12 COMMISSIONER GANDARA: Okay.

13 MR. MESSENGER: Now, as you step from level to  
14 level, there's two things that happen. First, there's an  
15 increase in the initial cost of the refrigerator; secondly,  
16 there is an increase in savings over the life cycle of the  
17 product. Each of these triangles here mark the net life  
18 cycle cost for that refrigerator.

19 For example, if there was a \$10 increase in the  
20 efficiency of the product and there was a \$60 life cycle  
21 savings, this slide would show up as 50, it would be a  
22 minus 50, a savings of \$50 to the customer.

23 Now, the reason that there's three lines here is  
24 that we wanted to do sensitivity cases. We took both the  
25 statewide average price series that was developed in BR-4

1 and used that to essentially look at cost-effectiveness,  
2 value of the energy savings. We used the cheapest prices  
3 in the state, which are SMUD, which start at around 3.5  
4 cents, and work up to about 4.5 cents over the period in  
5 question here, and then finally we used SDG&E's prices  
6 which are the most expensive prices in the state currently  
7 right now, because we wanted to make sure that these  
8 standards would be cost-effective in all service territories.

9 COMMISSIONER GANDARA: Why is life cycle savings  
10 shown in negative dollars?

11 MR. MESSENGER: Convention, that's the way --

12 COMMISSIONER SCHWEICKART: This is exactly the  
13 format that's used in all the building standards work,  
14 Commissioner Gandara, the same axis, and essentially the  
15 same units of energy on the abscissa and life cycle cost  
16 savings, with savings below the line as negative cost and --  
17 yeah, therefore savings.

18 COMMISSIONER GANDARA: Okay.

19 MR. MESSENGER: Maybe I can get -- I found a  
20 better -- this is a bad copy, does that help you out a  
21 little bit? Does everyone understand the chart now?

22 Okay. Basically, after doing this analysis, we  
23 published a document that said, okay, this is the conserva-  
24 tion potential that's out there. Now that we've defined  
25 what's out there, let's set some goals, and analyze what

1 programs could reach those goals, and we thought from the  
2 beginning, and we stated that it wasn't going to be one  
3 program that would reach the goal, it would have to be a  
4 number of programs to reach a certain goal.

5 Before we get into the actual program analysis,  
6 I wanted to give you a little idea of how big these programs  
7 are in comparison to past programs that the Commission has  
8 endeavored to adopt. This should be page 2 of your  
9 handout on the hard materials -- the hard copies for these  
10 viewgraphs, and basically, let me just walk you through  
11 this.

12 In BR-4, the quantification of the cumulative  
13 savings from 1986 to 2004 for all the appliance standards,  
14 central air conditioning, room air conditioning, refrigerators,  
15 freezers, and all the other appliances that we regulate,  
16 it was calculated that we could achieve roughly 88,000  
17 gigawatt-hours of cumulative savings in this time period.

18 The portion of that that was devoted to refri-  
19 gerator standards is down here, this little thing, and  
20 it's about 19,000 kilowatt-hours -- gigawatt-hours. Now,  
21 these black lines over here are new programs, essentially.

22 If we could design programs to reach the  
23 efficiency levels of DOE Level 3, Level 4, Level 5, Level  
24 6, these are the savings that would be computed if using  
25 the same methodology in our forecast, and I've checked this

1 with Mike, and it's basically the same way that they do this.

2 As you can see, once we reach DOE Level 4, we're  
3 going to achieve in the refrigerator program, the savings  
4 for all the appliance standards that we passed in 1978,  
5 and if we were to go to Level 6, we would achieve roughly  
6 50 percent more than all of the appliance standards programs.

7 Now, the reason that this last graph here is  
8 that all these programs, per the methodology of the fore-  
9 cast are computed to the 1979 average energy use. One of  
10 the suggestions in the proceeding was that we should be  
11 computing savings relative to the 1983 average energy use.  
12 Rather than get into a debate of whether or not we should  
13 do that, we just said fine, and this is what the savings  
14 would be relative to the 1983 energy use.

15 So the point of this graph is that this is a  
16 very big potential. We're talking on -- as you can see  
17 down at the bottom, we're talking between \$4 and \$8 billion  
18 of net present value worth to consumers.

19 Now, during the course of this proceeding, the  
20 first thing that we looked at was, okay, in order to get  
21 those efficiency goals, let's think about what kind of  
22 standards we could use to get to those goals, and we've  
23 achieved a certain amount of consensus in this proceeding  
24 that I'd like to highlight.

25 The first is that both the industry and the staff,

1 and the NRDC, petitioner, believe that there's a need to  
2 revise the current standards. We disagree on the level  
3 that the current standards should be revised to, but the  
4 industry believes that because there's been so much market  
5 progress that we should bring down that standard so that  
6 it would be nonrestrictive, i.e., it wouldn't knock out  
7 certain models from the marketplace now, but because our  
8 standard was essentially passed by the marketplace two  
9 or three years ago, there's a need to revise, you know,  
10 slightly or moderately, our standards.

11           The second consensus that we've reached is that  
12 we should be dealing about energy efficiency. We should  
13 be seeking to maximize energy efficiency, and not set  
14 energy use limits on any type of class.

15           The third consensus that we've reached is what  
16 type of energy efficiency descriptors that we should use  
17 in terms of setting efficiency levels, and basically,  
18 we're using one that accounts for the differential energy  
19 uses required to cool freezer compartments rather than  
20 refrigerator compartments.

21           We've also achieved a consensus on what the  
22 economics assumption should be, energy price series,  
23 discount rates, et cetera; and at least -- I'm not sure  
24 I could say the majority, but most of the people believe  
25 that DOE Level 6 is cost-effective. The question is cost-

1 effective when? Is it cost-effective in 1990? Is it cost-  
2 effective in 1996? Or is it something that is bound to  
3 be cost-effective someday, but we can't really estimate it  
4 right now.

5           Okay. Now, let me get to the differences that  
6 remain. Basically, the staff position is that we think  
7 this 50 percent improvement that we showed here on the  
8 life cycle cost curve is technically feasible today, and  
9 cost-effective, and what we need now is -- you know, we've  
10 made a proposal, and what we need now is the Committee and  
11 the Commission to make a decision on how quickly you want  
12 to reach that goal.

13           The staff's belief, five or six years is probably  
14 enough to reach that goal, provided that, and this is a very  
15 important caveat, that this state begins to fully fund  
16 incentive programs, so that there's going to be people  
17 working at the high efficiency end of the market -- there's  
18 going to be incentives at the high efficiency end of the  
19 market to bring the average down; because we don't think  
20 any program that only relies on standards can achieve the  
21 maximum energy efficiency possible.

22           We need a balanced approach in this state, and  
23 we've testified at the PUC about that, and we'll see what  
24 happens.

25           The industry's position, basically, if I can use

1 this curve is they went and polled their members, and said,  
2 well what do you expect the market is going to reach without  
3 any standards, and without any other types of programs, just  
4 the free market? The industry basically said, we think  
5 we can get to 865 kilowatt-hours per year in 1996.

6 So where that is on this curve is right about --  
7 it's right below Level 5, and the industry said that they  
8 believed that it's likely, in terms of the median, that  
9 they can get down to this point, which is still saving  
10 people between \$300 and \$800 over the life cycle of their  
11 appliance just due to market forces.

12 Staff believes that it's important to guarantee  
13 that those savings actually occur, and so we've outlined  
14 a set of minimum standards, and incentive programs to  
15 add more certainty than that, rather than just relying on  
16 the market.

17 Finally, I should note what the NRDC's position  
18 is on this curve, and that is basically -- it's really off  
19 the graph. Their initial position was that we could get  
20 to 400 kilowatt-hours per year, which is the life cycle  
21 savings of about \$1,000. But subsequent to that, they've  
22 submitted some more information in which they argued,  
23 actually, the lowest life cycle point is down here, and  
24 they presented some engineering calculations to suggest  
25 that right around 200 kilowatt-hours per year, and I

1 believe it's around \$1,400 life cycle savings is the point  
2 where we can ultimately get to, and again, it's a question  
3 of timing, transition, is that going to be a 1996 goal or  
4 a 1990 goal.

5           Okay. Let me just tell you about the next steps  
6 to implement this, whatever decision the Commission makes.  
7 Basically, the Committee is going to release a draft  
8 standards report next week, on Tuesday. There will be a  
9 45-day comment period, and then it will come before the  
10 Commission in the middle of October to make a decision.

11           The Committee is also holding a hearing on  
12 September 20th to essentially get the industry's reaction  
13 to the report so that it will be fully apprised of all  
14 the variables before it comes back to you on October 15th  
15 with its final recommendation.

16           Now I'd like to move to Objective two.

17           COMMISSIONER COMMONS: Mike, one comment on just  
18 that is, that hearing in September, if there were changes  
19 that were made to the NOPA, it would not come back to the  
20 Commission until the first business meeting in November  
21 because it would start the 45-day process over again.

22           CHAIRMAN IMBRECHT: Mike, let me understand a  
23 couple of things as well. Are you suggesting then the  
24 standards that are to be proposed will be commensurate with  
25 Level 5, is that --

1 MR. MESSENGER: It's the Committee's decision.  
2 The staff has made a recommendation to the Committee, and  
3 the Committee will be coming out with its decision next  
4 Tuesday, and I can't tell you until Tuesday what level  
5 they're going to recommend.

6 COMMISSIONER COMMONS: Mike, be responsive to the  
7 question. What is the staff's recommendation, is it  
8 Level 1, 2, 3, 4, 5, 6, 9, 11?

9 MR. MESSENGER: No. Basically the staff's  
10 recommendation was to set standards in a threefold approach.  
11 Basically to set standards at Level 2 real early, 1986,  
12 essentially -- I think that would probably be fair to say  
13 that's a little bit more than industry would like, because  
14 that does knock off maybe the top 5 or 10 percent of the  
15 models in the current market, but essentially is starting  
16 the wave in 1987, starting the efficiency, set it about  
17 here.

18 Then we said we want to move to Level 5 in 1990,  
19 so we're getting sort of halfway down the curve, and then  
20 go to Level 6 in 1993. So basically we see a seven year  
21 transition period in which we believe the standards are the  
22 best way of reaching the state's efficiency goals.

23 Now, in order to complement that, and in order  
24 to make sure that we reach that fleet average, we've  
25 also recommended a series of incentive programs that should

1 be funded at all of the utilities in the state, not just  
2 the major investor owned utilities, and I'll get into that  
3 in a little bit. Is that responsive to your question?

4 CHAIRMAN IMBRECHT: So you would contemplate  
5 ultimately at Level 6.

6 MR. MESSENGER: That's correct.

7 CHAIRMAN IMBRECHT: And the industry's position  
8 from your perspective is they can achieve a Level 5 within  
9 that same time frame.

10 MR. MESSENGER: Yes, through normal market forces,  
11 they would not recommend standards to get there.

12 CHAIRMAN IMBRECHT: I understand. What is the  
13 economic cost of going from Level 5 to Level 6 versus the  
14 savings? I'd also be interested in this other chart that  
15 you showed us, the potential energy savings from increases,  
16 the bar graph, the \$83 equivalent for Level 6 eroded by  
17 it appears something in excess of 30,000 gigawatt-hours.  
18 I'm curious what Level 5 erodes.

19 MR. MESSENGER: Okay. Let me give you the exact  
20 answer. Level 5 is 920 kilowatt-hours. Level --

21 CHAIRMAN IMBRECHT: Gigawatt-hours.

22 MR. MESSENGER: Yes, 920 kilowatt-hours per year.  
23 Level 6 is 672 kilowatt-hours per year, and the cost to  
24 get from Level 5 to Level 6 is roughly an additional \$60  
25 per refrigerator. To get from the baseline to Level 5 only

1 costs \$40 and that next step from 5 to 6 costs \$60, and the  
2 incremental payback is roughly two and a half years. I'm  
3 going to be showing that slide -- in fact, let me put it  
4 up right now so I can get to your question.

5 CHAIRMAN IMBRECHT: \$40 per box, per refrigerator  
6 to get to Level 5, an additional \$60 to get to Level 6?

7 MR. MESSENGER: Yeah. Let me give you --

8 COMMISSIONER COMMONS: Mike, the two and a half  
9 payback years, is that going from Level 1 to Level 5, or  
10 Level 5 to Level 6?

11 MR. MESSENGER: It's on the chart here. These  
12 are all the levels. This is for top mount, this is for  
13 side mounted refrigerators. This shows the change in  
14 cost, the change in energy use, incremental change in  
15 energy use between each level, the incremental payback  
16 between levels, and the simple payback, which is the  
17 payback back to the baseline.

18 As you can see, the highest on the whole chart  
19 here in terms of incremental payback is 4.03 years.

20 COMMISSIONER SCHWEICKART: Mike, let me carry over  
21 from building standards, and from an earlier complaint on  
22 some of the calculations that were done, and make sure that  
23 we're dealing with a consistent methodology.

24 In each of these cases, going from Level 1  
25 through Level 6, and in listing the incremental costs, and

1 the incremental paybacks, et cetera, you are at each  
2 increasing level assuming that the level before it has  
3 already been done. That is, you are not looking only at  
4 the technologies required to go to Level 4, and looking at  
5 the payback as if that were done de novo, but you're  
6 assuming that Level 3 has been achieved first, and you're  
7 then adding on.

8 MR. MESSENGER: That's correct. This column  
9 right here, the other column that you're referring to  
10 originally is the average simple payback where you go --  
11 you assume that every time you go back to the baseline,  
12 you go to Level 3's baseline, Level 4, that's the difference  
13 between these two estimates of payback.

14 They're not very significant, but they are  
15 different.

16 COMMISSIONER COMMONS: Michael, I don't see the  
17 answer to the -- on the chart I have, it goes 1, 2, 3, 4,  
18 6.

19 MR. MESSENGER: 1, 2, 3, 4, 6.

20 COMMISSIONER COMMONS: For payback of standards,  
21 do you have one with 5?

22 MR. MESSENGER: I think they're all the same  
23 charts.

24 CHAIRMAN IMBRECHT: Let me just understand this  
25 again. So when we get to Level 5, and it says 1876, that

1 is not a cumulative figure, but that is indeed the cost to  
2 go from Level 4 to Level 5?

3 MR. MESSENGER: Right, the cumulative would be  
4 6 plus 3, plus --

5 CHAIRMAN IMBRECHT: Adding all of those --

6 MR. MESSENGER: Yeah.

7 CHAIRMAN IMBRECHT: I see.

8 MR. MESSENGER: This chart was prepared essentially  
9 in Commissioner Schweickart, so we'd like to see it on an  
10 incremental level. We also have the chart on a cumulative  
11 level that we can make available. It's in our staff report.

12 CHAIRMAN IMBRECHT: It's a fairly substantial  
13 jump from 5 to 6.

14 COMMISSIONER SCHWEICKART: Also a fairly substan-  
15 tial savings which must be about \$150 a year, is that right  
16 Mike?

17 MR. MESSENGER: Let me look at it, I can tell --

18 COMMISSIONER SCHWEICKART: No, no, I'm sorry, it  
19 must be about \$25 a year, excuse me, because the incremental  
20 payback is 2.65 years.

21 MR. MESSENGER: In terms of the life cycle, it's  
22 about -- it looks to me like about an additional \$300 over  
23 the life and the life is 20 years, and there's some  
24 discounting in there, so --

25 COMMISSIONER SCHWEICKART: Well, the incremental

1       payback is 2.65, is that not the --

2               MR. MESSENGER: Right, but the difference that  
3       the consumer will see is roughly the additional \$300 of  
4       savings going from 5 to 6 over the life of the product.

5               COMMISSIONER SCHWEICKART: Over the life.

6               MR. MESSENGER: Okay. Now I'd like to, if I  
7       could -- if I could, I'd like to move on to Objective 2,  
8       which is basically an attempt to encourage the development  
9       and marketing of more efficient refrigerators.

10              Basically what we did is we went and presented a  
11      five year plan to the Public Utilities Commission and  
12      estimated the complementary energy impact of standards,  
13      fleet average, and incentive programs, and ran the  
14      Commission's standard cost/benefit tests for each of the  
15      programs that we proposed.

16              Basically we found that all incentive programs  
17      to the participant, as long as they're designed correctly,  
18      are very cost-effective, they have benefit/cost ratios in  
19      the neighborhood of three to one, to five to one and that  
20      the important thing is that you have to do the nonparticipant  
21      test correctly in order to achieve above one on the non-  
22      participant test for incentive programs.

23              It's real complicated. I don't want to get into  
24      it here. It has to do with the marginal cost of energy,  
25      and the average cost of energy, and how it's predicted by

1 various forecasting models, and the point is that it's  
2 real sensitive to all those assumptions in terms of whether  
3 or not it's cost-effective to the nonparticipant for the  
4 PUC to fund incentive programs.

5 We also suggested to them that there was a need  
6 to investigate salesperson incentive programs. Jim Dehner  
7 from Admiral Corporation has, I think, presented some  
8 very interesting information in this proceeding about how  
9 salesperson incentive programs could probably leverage more  
10 savings by giving the salesperson an incentive to sell  
11 efficient refrigerators, rather than handing out customers  
12 rebates of \$50 to \$100.

13 We've suggested that both in our private meetings  
14 with the utilities, and at the Public Utilities Commission,  
15 and they're currently investigating it. I can't tell you  
16 what the outcome will be, but I would like to -- the staff  
17 at least recommends that a pilot program be set up on that  
18 basis.

19 COMMISSIONER COMMONS: Mike, can you tell the  
20 other Commissioners the response of Chairman Grimes, and of  
21 the utilities to these presentations?

22 MR. MESSENGER: I don't think I'm objective, I  
23 couldn't. I thought it was a fairly good reception, but  
24 I would think it would need an outside observer to tell  
25 you the answer to that.

1           COMMISSIONER COMMONS: Well, let me make a comment  
2 here. Chairman Grimes, during the proceeding, came out in  
3 support of the concept of five year incentive programs. He  
4 does believe that these incentive programs need to be  
5 phased out, but recognized that an incentive program that  
6 only pays for those products that are currently on the  
7 market, doesn't accomplish the objective of an incentive  
8 program, which is to encourage the marketing and the  
9 production of higher efficiency units than are currently  
10 available.

11           Also, Southern California Edison, and Pacific  
12 Gas and Electric both were active participants, and in  
13 general support of most of the comments of industry, and  
14 there seemed to be a working concensus of the participants  
15 with the exception of San Diego Gas and Electric, that  
16 incentives are a very important role in terms of trying to  
17 save energy from refrigerators.

18           MR. MESSENGER: Let me just say from my biased  
19 perspective, I've been very gratified by the reception that  
20 we received from the utilities who, you know, actually had  
21 meetings with us, where we sat down for two or three hours  
22 and discussed different ways to implement programs. So I  
23 think we have a real leg up in terms of implementing those  
24 programs because we're working with all of the participants  
25 at the same time, rather than just going down to the PUC

1 and recommending, you know, programs without careful  
2 consultation with the industry and the utilities.

3           There is a difference that remains, that I  
4 believe, in terms of the standards incentive program, and  
5 that is that the PUC believes, you know, incentive programs  
6 are good, but you can get it a lot cheaper if you just set  
7 standards, you know. Why should we be funding incentive  
8 programs when you at the Commission have the authority to  
9 set standards at those levels.

10           We've been responding to them that standards  
11 aren't enough, and standards can't work at the top end of  
12 the market. We believe that there is a lot of savings  
13 that can be achieved through standards, but you also have  
14 to provide incentives to businessmen to develop higher  
15 efficiency technologies at the high end of the spectrum.

16           Just to give you an example of the costs here,  
17 that we think are involved, while it is true that  
18 standards cost less -- excuse me -- it is true that standards  
19 cost less initially to go from DOE -- the current levels  
20 to DOE Level 6, they cost roughly, on a levelized basis,  
21 .6 cents per kilowatt-hour, versus various other proposals  
22 that come in at 3 to 4, or 2 to 4 cents per kilowatt-hour.

23           We believe that there is a limit to the effective-  
24 ness of standards to achieve high levels of efficiency.  
25 That after you get to about Level 6, it starts to become

1 prohibitive in terms of the cost to industry of getting to  
2 that level, because there's not enough of a transition time.  
3 So we believe that the only approach that's going to work  
4 is going to be one that attacks both ends of the problem  
5 at the same time, the worst model, then the best model.  
6 The best models you essentially use incentive programs, and  
7 the worst models you set targets in terms of minimum  
8 standards of efficiency.

9           Now I'd like to move on to Objective 3, which is  
10 perhaps one of the most important decisions that this  
11 Commission is going to have to make in the area of standards  
12 and regulatory policy, and that is the fleet average  
13 concept.

14           Basically we introduced, probably four or five  
15 months ago, the concept of allowing industry more flexibility  
16 of meeting our efficiency goals through the fleet average,  
17 and I basically want to put up a couple of viewgraphs to  
18 show why we think that's a good approach.

19           Traditionally the standard setting approach, or  
20 conceptualization of the approach is we want to try to  
21 define a ceiling -- you know, all these thoughts here  
22 represent models, and we want to try to set a ceiling that's  
23 cost-effective so that we eliminate some of the energy hogs  
24 in the market if we want to use those terms, and so all  
25 these models essentially have to migrate over this primary

1 standard ceiling.

2           Again, this is cubic feet of volume, energy  
3 consumption increases as a function of the volume. The  
4 problem with that is that you're not giving any incentives  
5 to the people down here to move down. What you're doing  
6 is you're cutting off this part of the market, and everyone  
7 moves down, but there's nothing to pull this market average  
8 down.

9           Essentially you've got an approach that's working  
10 on one side of the market, but not on the other side of the  
11 market. So what we've proposed as a partial attempt to try  
12 to solve that problem is, what we want to do -- excuse me  
13 a second.

14           (Looking for viewgraph.)

15           MR. MESSENGER: The graphic isn't here, but  
16 let me just explain it. Basically what we want to do is  
17 set a line right there that would be the fleet average.  
18 That's the fleet average, that's your option. It's in  
19 your handout, but it's not -- I don't have a viewgraph for  
20 it, unfortunately, I thought it was prepared.

21           If you'll look on the next page after the graph  
22 of the primary standard approach, it says a market-based  
23 approach, that's what I'm going to be talking to you about.

24           Basically, we want to set a fleet average level  
25 down here, and a higher secondary standard, if I can do

1 this, up here, that would only eliminate relatively few  
2 models, and that secondary standard would over time track  
3 the fleet average. So that basically you wouldn't be  
4 directly impacting through the standards mechanism as many  
5 models, but you would be encouraging the manufacturers to  
6 try to get a -- to try to both develop -- push these  
7 models down, and to sell more of them, because as long as  
8 their fleet average met our efficiency goals, in terms of  
9 the average of all these models, then they would only have  
10 to comply with the secondary standard, which would be  
11 looser than the primary standard.

12 So basically, every manufacturer would have an  
13 option. You can either comply with the primary standard,  
14 and don't submit any data to the Commission on what your  
15 weighted sales were for that year, or you can opt for the  
16 fleet weighted average approach, and meet this line every  
17 year. Every year in March we've set up a process where  
18 they come in and submit the data, and it basically would  
19 be a straight mathematical finding, either you meet the  
20 average or you don't.

21 As long as you meet the average, you can still  
22 comply with this secondary standard, and essentially  
23 increase your flexibility.

24 The reason we think that's important is because  
25 all manufacturers are different. Some manufacturers have

1 a lot of models down here at the bottom, other manufacturers  
2 have a lot of models up here at the top, and they need the  
3 flexibility to be able to either decide that a fleet average  
4 is better suited to their market conditions, or the  
5 primary standard, and it will depend company by company.

6 COMMISSIONER GANDARA: Mr. Messenger, I have a  
7 question for you. Are the lines that show up in this  
8 graph, are they representative, or do they correspond to  
9 the staff proposal?

10 MR. MESSENGER: No, this is only for hypothetical  
11 purposes, that's why I didn't label this as a certain type--  
12 I'm just trying to illustrate the concept. We -- as soon  
13 as the Committee makes a decision on what the levels should  
14 be, we will produce graphs that look exactly like this  
15 that show the relationship between the secondary standard  
16 and the primary standard. We did make a proposal, but  
17 it's not shown here.

18 COMMISSIONER GANDARA: Okay. Well, let me ask  
19 an additional question here. Though it doesn't correspond  
20 to the staff's proposal, does this -- do the dots there  
21 correspond to the spread of the efficiencies of the  
22 refrigerators on the market?

23 MR. MESSENGER: Well, again --

24 COMMISSIONER GANDARA: What I'm asking is can  
25 you clarify the staff's proposal? Is the only thing that's

1 going to change are the location of the lines, or the  
2 location of the dots and the lines?

3 MR. MESSENGER: The dots and the lines will  
4 change. This is -- really, I'm trying to illustrate the  
5 concept, not illustrate the impact, because the Committee  
6 wants to be able to make up its mind first, and I didn't  
7 want to concentrate on what our proposal was versus what  
8 the industry proposal would be, versus what the Committee's  
9 proposal might be.

10 So I'm just trying to give concepts here, not  
11 recommendations.

12 COMMISSIONER GANDARA: Okay. Then let me ask  
13 one final question here. Going back to the first chart,  
14 or the second chart you put up there, you don't have to  
15 pull it out, but you indicated, then, if I heard you  
16 correctly, that the initial petition from NRDC, or the  
17 initial analysis of the submittal indicated that they  
18 were recommending a point of around 400 kilowatts per year?

19 MR. MESSENGER: That's correct, for top mounts.

20 COMMISSIONER GANDARA: That first chart is also  
21 for a refrigerator of about 17 cubic feet, and so, looking  
22 at this chart here, that point, 17 cubic feet at 400  
23 kilowatt-hours per year, would be in your lower left-hand  
24 corner here.

25 MR. MESSENGER: It would be right here.

1           COMMISSIONER GANDARA: Right, so if you just --  
2 assuming that the line slopes to the right, the cubic feet,  
3 so that line would be like that.

4           MR. MESSENGER: That's right.

5           COMMISSIONER GANDARA: And you've indicated that  
6 since then, you've indicated that the life cycle cost is  
7 even lower than that, let's stick with that point right  
8 there. It does seem to me that there can be a reasonable  
9 argument made, and I'll just ask you to respond to it,  
10 which is in fact may be what the PUC is saying, that this is  
11 a very elaborate proposal of the staff, of fleet averaging,  
12 and all these lines, and moving the average back and forth,  
13 when in fact, if there's any validity to this in the data,  
14 what the PUC may say -- it's just much easier to just set  
15 that standard somewhere down there, and even at that, you're  
16 going to get -- even though you're dealing with a lower  
17 efficiency in the market, you're going to deal with a  
18 higher average efficiency at the end than you would with  
19 all this fleet standard activity.

20           MR. MESSENGER: That's correct. The only problem,  
21 and the reason that staff is not supporting going immediately  
22 to the lowest life cycle cost point is that the transitional  
23 or temporary problems that would be caused in the interest  
24 here would be enormous. We would be setting standards  
25 where there is no model that exists right now.

1           COMMISSIONER GANDARA: Yeah, but that is not the  
2 minimum life cycle point, as I understood you to say that.

3           MR. MESSENGER: According to, you know, the  
4 testimony presented by David, which basically says look,  
5 there's all these improvements that haven't been incorporated  
6 into the model lines yet, and if you add all of those  
7 improvements, if you take five or six basic types of  
8 improvements, you can design refrigerators that use 300  
9 or 400 kilowatt-hours per year.

10           The question is, can you do that on a mass  
11 production basis, and I'll let the manufacturers respond to  
12 whether or not they think they can do that. I think  
13 ultimately people are going to be producing refrigerators  
14 like this. In fact, we have someone who is going to be  
15 talking today who currently custom makes refrigerators that  
16 use 200 kilowatt-hours per year, he sells them today, it's  
17 just a question of a custom approach, which leads to really  
18 high refrigerator costs, versus a mass production approach,  
19 and you know, whether or not -- how long it takes to  
20 transition from that point to a mass production line that  
21 produces 200 kilowatt-hour per year refrigerators.

22           COMMISSIONER GANDARA: The point that I'm trying  
23 to make here is not so much that you should go to the  
24 minimum life cycle cost, although there can be arguments  
25 made for that, but rather that if there's any -- you know,

1 knowing that this doesn't represent exactly the distribution  
2 but if there's any sense that it's anywhere close, that  
3 what I'm looking at here is the possibility that you take  
4 a point, like at 17 cubic feet, at 600 kilowatt-hours per  
5 year, and even at that, if you were to set a standard there,  
6 the resultant average of that --

7 MR. MESSENGER: Would be lower.

8 COMMISSIONER GANDARA: -- would be a lot lower  
9 than your fleet average. So, I mean, if you keep backing  
10 it up that way, so that in fact, you might even go to a  
11 kilowatt-hour per year standard of 700 or 800, and you  
12 might still be even lower than your fleet average through  
13 an efficiency improvement that is far from producing the  
14 production dislocations that you're talking about by  
15 moving to minimum life cycle cost.

16 So the question I'm raising is that there is a --  
17 seems to be some validity to the point that -- and the  
18 response that you said you got from some quarters, in any  
19 case, that this is -- that moving straight to that point  
20 might be the most efficient thing of all, and the most  
21 certain in terms of your savings, than to, in fact, have a  
22 much more elaborate dressing on where you're going.

23 MR. MESSENGER: Okay. Well, you know, I really  
24 don't mean to be defending the industry's position, but I  
25 feel like I almost have to here. Their position is that

1 Dr. Goldstein's estimates while being technically feasible,  
2 are not commercially feasible yet, and that they don't see  
3 any way of actually getting those improvements into the  
4 marketplace before 1990, and I think made some convincing  
5 arguments that you have to show us that there's an actual  
6 model.

7 COMMISSIONER GANDARA: Well, I'm still not making  
8 myself clear, I'm not talking about Dr. Goldstein's  
9 estimates.

10 MR. MESSENGER: Okay.

11 COMMISSIONER GANDARA: I'm talking about the  
12 estimate that you said earlier that you recently made,  
13 and conclusions that you've reached with the industry that  
14 in fact you can move down to 650 kilowatt-hours per year.  
15 You said half of the current standard, right.

16 MR. MESSENGER: Right, we think that's feasible.  
17 We don't think down here is feasible within the next five  
18 or six years.

19 COMMISSIONER GANDARA: Well, that's the point  
20 that I'm trying to make, that taking your point of feasi-  
21 bility, setting the standard at that point of feasibility,  
22 you're already going to wind up with an average, a fleet  
23 average is going to be, you know --

24 MR. MESSENGER: Roughly 15 percent less than that  
25 is what we figured.

1 COMMISSIONER GANDARA: Yeah, okay.

2 CHAIRMAN IMBRECHT: Any further questions?

3 COMMISSIONER SCHWEICKART: Yeah, I'd like to  
4 state, and I think Commissioner Gandara is stating, or  
5 perhaps indicating, though not quite stating, in some  
6 sense, our earlier philosophy and thinking, and namely,  
7 let the industry essentially opt for what they will, and  
8 the Commission's responsibility to set a minimum standard,  
9 and that that would achieve even more, and still not even  
10 begin to approach the minimum life cycle cost basis which  
11 has traditionally been the basis upon which, in fact, the  
12 law actually goes well beyond that in terms of authority.

13 Nevertheless, the Commission has indicated its  
14 willingness to look at, and in fact directed the Committee,  
15 as I recall, to look at incentives as well, and we agreed  
16 with the industry to look at the idea of fleet averaging  
17 because it does provide certain implicit goals and  
18 flexibility which setting minimum standards does not.

19 So while I don't in any way disagree with  
20 Commissioner Gandara, I think we are, and have been in the  
21 Committee looking at an alternative way of essentially  
22 reaching given performance -- overall performance levels  
23 which provide greater flexibility with the industry.

24 Let me suggest, however, a fundamental problem  
25 that I believe is inherent in not just what Mike has been

1 saying, or sort of indicating, but which the Committee  
2 will, in fact, propose, and I'm saying even before we  
3 propose it that there is a characteristic of it which I  
4 believe all of us have to think about, and that is that  
5 we will be proposing something which provides certainty  
6 for the industry in terms of what the performance, the  
7 overall performance would have to be, at least under one  
8 option for a considerable length of time.

9           We have always heard from industry that one of  
10 the greatest problems with the whole standards and  
11 regulatory process is uncertainty, and so we will be  
12 proposing a progressive standard for out through probably  
13 1996, at least as one option.

14           What bothers me is not that that's going to be  
15 too difficult for the industry, frankly because it isn't  
16 at all, although there may be lots of disagreement on that,  
17 I don't believe that it's real, but what bothers me is  
18 that that end point is not, in fact, going to approach  
19 minimum life cycle costs at all, and we will in essence  
20 be locking the regulatory system into something which we  
21 in our judgment now are going to put in place out through  
22 1996 or something like that.

23           So that that's a price, I believe, a sort of  
24 conceptual price, which I think we have to think hard  
25 about that we provide some flexibility for industry, and

1 it does provide certainty, and frankly, I like that and  
2 tend to agree with the industry that uncertain regulation  
3 is difficult, and yet, since we are not approaching the  
4 minimum life cycle cost even out that far, we are essentially  
5 locking in, in a relatively formal way, something which  
6 comes up quite short of what has been traditional minimum  
7 standard setting, namely, minimum life cycle cost.

8 So I think that's a characteristic, which I find,  
9 to be honest with you, Commissioner Gandara, in some  
10 sense far harder to swallow than shifting from a floor to  
11 a more flexible fleet average.

12 COMMISSIONER GANDARA: I'd just like to comment  
13 that all I did was ask questions, I didn't state a position,  
14 and that secondly, that I was calling for looking at  
15 incentives two, three years ago, and did so in the white  
16 paper, and so therefore, I have no problems whatsoever  
17 at looking at that idea.

18 But I do wish to at least point out that it does  
19 seem to me that there are things to be considered here with  
20 respect to the level, because I think you correctly pointed  
21 out as to what will be locked in for a very long period of  
22 time, and whether the flexibility that may be there, or may  
23 appear to be there, may in fact be a technological oddity  
24 by the time that we get through with this whole business.

25 MR. MESSENGER: Let me respond to that point, and

1 then finish with the last set of issues that remain with  
2 fleet average. Staff has recommended that this Commission  
3 commit to re-evaluating its standards in 1990. We think  
4 there should be a re-evaluation of standards every five  
5 years, and so we share some of Rustry's hesitance about  
6 locking in until 1996.

7           The last point that we have to talk about in  
8 terms of fleet average goals is that there is still a  
9 remaining disagreement on who complies with the fleet  
10 average goals. Should it be on an individual manufacturer-  
11 by-manufacturer basis, or should it be the industry as a  
12 whole comes in and submits what the fleet average was for  
13 a certain year, and if they miss, the entire industry  
14 reverts back to primary standards.

15           Staff believes that the most efficient approach,  
16 and the one that rewards people for doing -- for improving  
17 the efficiency of their models is to go on a manufacturer-  
18 by-manufacturer basis. There are essentially five, maybe  
19 six major manufacturers in the state, so essentially we'd  
20 only be dealing with six major actors every year, and their  
21 submission of data, and we don't think that represents  
22 any unnecessarily burdensome administrative costs.

23           If we were dealing with 100 manufacturers, it  
24 would be a different story. But this industry is also  
25 like the automobile industry. There's big major players,

1 five or six people that control over 90 percent of the  
2 market share, and we think that a fleet average approach  
3 with each one coming in and submitting data on a yearly  
4 basis would be workable.

5 Finally, there is a difference remaining in  
6 terms of what happens when you miss the fleet average goal.  
7 The industry has provided some testimony that if they meet  
8 the fleet average goal, what they want it to do is to  
9 trigger another rulemaking to look into why we missed the  
10 fleet average goal and maybe revise our standards.

11 Staff believes that in order to have any -- for  
12 the fleet average to have any effect, it has -- a failure  
13 to meet the goal has to have an immediate trigger that  
14 they go back to the primary standard, you know, there's  
15 no decision there, it's just automatic.

16 Commissioner Commons, and I think the Committee  
17 as a whole has also introduced a third possibility of a  
18 failure to meet the fleet average resulting in a tightening  
19 of the secondary standards. In other words, we'd be moving  
20 the ceiling down at a little bit of a sharper rate. If  
21 you missed -- let's say the ceiling was at 1,200 kilowatt-  
22 hours and you came in and you missed your goal, the next  
23 year it might be 1,150 kilowatt-hours rather than 1,175  
24 as was originally scheduled.

25 That may set up a little bit too much of a

1 complicated administrative process, but it has at least  
2 theoretical merit that the penalty for missing that fleet  
3 average standard is a slight drop in the rate of which that  
4 ceiling is moving down so that there is an actual effect  
5 that the manufacturer feels, which is less severe than  
6 moving back to the primary standard.

7 CHAIRMAN IMBRECHT: Okay. I think Commissioner  
8 Schweickart has another question, and then I think we should  
9 move on to the other testimony to make sure that we have  
10 an adequate amount of time for response.

11 COMMISSIONER SCHWEICKART: Mike, going back to  
12 a chart which is labeled "Cost to California's Consumers of  
13 Increasing Efficiency of the Average Refrigerator Model  
14 by 100 Kilowatt-Hours Per Model". That is the incentive,  
15 two line chart or whatever it is.

16 MR. MESSENGER: Uh-huh, let's see if I can find  
17 it for you. Yes?

18 COMMISSIONER SCHWEICKART: What I was interested  
19 in, and I'm sure that I could probably pull out a calculator  
20 and work it out here, but do you have listed somewhere what  
21 that -- how do I word that now. In terms of the average  
22 refrigerator, say the 17 cubic foot top mount freezer  
23 et cetera, do you have what the -- I guess what I would  
24 call the nonparticipant break-even incentive per unit would  
25 be for each of those levels? Is that something that you've

1 worked up?

2 MR. MESSENGER: Yes, it's in our testimony that  
3 we presented to the PUC. I don't have it on the top of  
4 my head. What we did is we set the break-even point for  
5 both participants, and nonparticipants, given a certain  
6 efficiency level increast, 100 kilowatt-hours, 200 kilowatt-  
7 hours, 300 kilowatt-hours.

8 My rough guess is the break-even point for the  
9 nonparticipant -- well, I'll give you the participant first.  
10 The participant is roughly \$45, and so the nonparticipant  
11 is going to be something like -- between \$25 and \$30, I'd  
12 have to go back and look at the chart.

13 COMMISSIONER SCHWEICKART: Dollars per unit per  
14 what?

15 MR. MESSENGER: Dollars per unit --

16 COMMISSIONER SCHWEICKART: Per hundred kilowatt-  
17 hours per year?

18 MR. MESSENGER: Right. Yes, for 100 kilowatt-  
19 hours, from Level 3 to Level 4.

20 COMMISSIONER SCHWEICKART: That's Level 3 to  
21 Level 4. So if I go back to the previous chart, I'm going  
22 from Level 4 to Level 5, for example, and that was --

23 MR. MESSENGER: I lost you, previous chart is?

24 COMMISSIONER SCHWEICKART: I'm sorry, Level 5  
25 to Level -- that was the table, I don't know how to tell

1 you what it is.

2 MR. MESSENGER: Okay, marginal payback table,  
3 gotcha.

4 COMMISSIONER SCHWEICKART: Yeah. We've got --  
5 and I'm just -- sometimes I'm looking back at something  
6 Chairman Imbrecht mentioned in terms of -- and what I  
7 read into his groan, if you will, which may be reading more  
8 into it than it deserves, nevertheless, let me address it.

9 CHAIRMAN IMBRECHT: We'll see how this subjective  
10 interpretation goes, but go ahead.

11 COMMISSIONER SCHWEICKART: I interpreted a  
12 signal over here on my left that moving from Level 5 to  
13 Level 6 with an incremental cost of say \$65 on the first  
14 increase, first cost of the refrigerator ends up with a  
15 2.6 year payback -- and I'm doing this very roughly, but  
16 ends up with a 2.65 year payback, incremental payback,  
17 which if I convert that then into the first year would  
18 look like something on the order of \$25 savings that first  
19 year for the owner of the refrigerator.

20 (Commissioner Commons offers a calculator.)

21 COMMISSIONER SCHWEICKART: No, I don't want to  
22 make it accurate, Geoff, thank you.

23 CHAIRMAN IMBRECHT: That will read well in the  
24 transcript.

25 (Laughter)

1 COMMISSIONER SCHWEICKART: Well this way I can't  
2 be held to it, you see, but it's still approximate.

3 COMMISSIONER GANDARA: It's in keeping with  
4 Mr. Messenger earlier, said some --

5 COMMISSIONER SCHWEICKART: So if I look at the  
6 person who's buying this more expensive refrigerator,  
7 namely Level 6 to Level 5, that person is paying \$65  
8 initial cost, and in the first year in fact is saving  
9 \$25 in terms of the electricity cost, so it has cost that  
10 person \$40 that first year over what it would have cost had  
11 he or she bought the Level 5 refrigerator.

12 All subsequent years, of course, they pick up  
13 \$25 a year, but if we go back to that first year, that says  
14 that the real additional cost on the one time buy is about  
15 \$40. On the other hand, we saved about 306 kilowatt-hours  
16 that first year, and at a nonparticipant break-even incentive  
17 of \$20 to \$25 per hundred kilowatt-hours per year, that  
18 would say that even if we were to pay the buyer the full  
19 difference, namely, \$40, so that the first cost had no  
20 impact at all on the buyer of the refrigerator, that would  
21 still be within the nonparticipant test by \$20.

22 So in other words, we could make that the cost  
23 of the refrigerator -- I mean, this is all assuming that  
24 the PUC and the utilities go along, the point is that we  
25 could literally make the first cost invisible to the buyer

1 of that Level 6 refrigerator, and benefit the nonparticipant  
2 with a transfer payment to the buyer of the efficient  
3 refrigerator.

4 MR. MESSENGER: I believe that has to be correct,  
5 because the utilities currently are offering \$100 rebates  
6 for getting to Level 4 or 5, when the initial cost is less  
7 than that.

8 COMMISSIONER SCHWEICKART: So if we then ended  
9 up with a \$20 or a \$40 to the buyer, and a \$20 to the  
10 seller, to the salesperson, we would have the benefit of an  
11 incentive to the salesperson to sell efficient refrigerators  
12 and to the buyer it would be invisible the first year,  
13 and after that, it's all \$25 a year bonuses.

14 MR. MESSENGER: That's right, the problem the  
15 nonparticipant worries about is --

16 COMMISSIONER SCHWEICKART: So, I don't really  
17 need concurrence, aside from in principle, did I leave  
18 out some great thing here, and if I haven't left out some  
19 great thing, I wanted to just point out that the economics  
20 in this thing are so powerful that in fact --

21 CHAIRMAN IMBRECHT: It's not appropriate to groan.

22 COMMISSIONER CROWLEY: Is that -- yes.

23 COMMISSIONER SCHWEICKART: Well, if you were  
24 Leonard Grimes, I would want you to groan. But as Chuck  
25 Imbrecht, I think we ought to be beating on the PUC and

1 the utilities because of the economic reality.

2 CHAIRMAN IMBRECHT: Suffice to say you came  
3 closer to interpreting my groan than I thought you were  
4 at first. Okay, thank you, that was a useful point.

5 COMMISSIONER GANDARA: I had a couple of comments  
6 that I think would be helpful for when this item comes back  
7 to the Commission. The first one is, I guess, to complete  
8 the previous comment, and basically the issue of whether  
9 there was anything left out.

10 One of the things that to me is important, that  
11 not much left out, but what we should remember is that in  
12 order to buy into your hundred dollar rebate for a  
13 refrigerator, you've got to come up with the first \$700,  
14 and that to me presents a problem with respect to penetration  
15 of the market out there.

16 I don't have any great feeling for how much of a  
17 problem that may be, but it does seem to me that refri-  
18 gerators are expensive, and it requires that you have that  
19 initial purchase amount, and to some extent, one of the  
20 things that I didn't see here, was this concept, or any  
21 proposal of how to address that through any --

22 MR. MESSENGER: Staff has to address that in a  
23 PVEA concept proposal that will be coming before you.

24 COMMISSIONER GANDARA: That's correct, and I'm  
25 glad to see that there, but I do again think that in terms

1 of rounding out what you are going to be proposing, or as  
2 incentives, and so forth, for the long period of time that  
3 you suggest that these will be there, that somehow that  
4 needs to be rounded up.

5           The last thing that I'd like to say is first of  
6 all, that I think the staff and the Committee are both to  
7 be complimented, I think, for looking at this issue from  
8 a new point of view, and refreshing in some ways, and at  
9 the same time however, in keeping with that, I think there's  
10 another area here that I would think would be helpful when  
11 this item came back to the Commission, and that is that the  
12 analysis -- economic analysis has been done with the point  
13 of view of the additional cost to the consumer, and the  
14 savings, which is part of the statute, I don't have any  
15 problems with that.

16           But I think there's a larger issue here, and that  
17 is that there are economic consequences, or consequences  
18 to the economy of the State of California that I think  
19 also warrant some comment, and if any numbers can be pushed,  
20 I think that they ought to when this item comes back to us.

21           Let me just suggest an area. In your third  
22 chart where you indicated the present value of the potential  
23 energy savings, they ranged everywhere from say from  
24 Level 3 to your Level 6, from \$4.8 to \$8 billion. Now, it  
25 does seem to me that there's something here that hasn't been

1 quite looked at, and that is when you talked about moving  
2 from one level to another, and costing an additional \$60  
3 of cost, well there are savings.

4 But the way that those two costs get distributed,  
5 or those two items get distributed to the economy are  
6 very different. You know, one is additional cost goes to  
7 the consumer -- I mean, to the producer, and I'd be  
8 interested in knowing whether that additional cost goes  
9 to producers outside the state, or inside the State of  
10 California.

11 It goes -- to the producer, it seems to me,  
12 where it goes, it might be more for market distribution  
13 than production facilities.

14 The second thing is that those savings that result  
15 from the energy savings, the cost -- the dollar savings that  
16 result from the energy savings get distributed very  
17 differently within the economy of the State of California.  
18 So there is a different multiplier that relates to that.

19 I guess my interest is in the following area.  
20 If you're paying X amount of dollars for your refrigerator  
21 usage throughout the year, and as -- if we believe the  
22 inserts of the utility companies, and I think their --  
23 regard that 70, 80 percent of your bill is going to help  
24 to the fuel -- use of producing that electricity, then that  
25 70, 80 percent of those dollars are going to the fuel

1 producers, gas producers outside the state, oil producers  
2 outside the state, uranium, yellow cake producers outside  
3 the state, hydro facilities or the economies in the  
4 northwest for hydro power from the northwest.

5 So that's the sense of once -- that dollar is  
6 stopping only once, it stops at the utility and goes outside  
7 the state.

8 With respect to the energy savings, those dollars  
9 stay within the economy, but not all, but more of them, and  
10 what I'm interested in here is that with respect to say  
11 for an increase in \$60 for a General Electric refrigerator,  
12 okay, now the dollar savings that result in that, how much  
13 of that will then permit the consumer to spend in the  
14 local economy to buy, then, a General Electric toaster,  
15 a General Electric, you know, toaster oven, a General  
16 Electric blender, or say with the \$60 that it cost  
17 Whirlpool to get to that Level 6, does that allow the  
18 consumer to buy a Whirlpool washer, dryer and so forth.

19 I mean, there are different consequences --

20 COMMISSIONER SCHWEICKART: They could buy Diablo  
21 Canyon's rates.

22 COMMISSIONER GANDARA: Even that. So that I  
23 would feel that perhaps it would be useful to have some  
24 sense of distribution of those costs and benefits from  
25 the point of view of the economy of the State of California.

1 I think we have a responsibility to look at that.

2 MR. MESSENGER: If we can free up some time, we  
3 certainly will try to do that.

4 COMMISSIONER GANDARA: Okay.

5 CHAIRMAN IMBRECHT: All right, fine.

6 COMMISSIONER GANDARA: Let me suggest that it  
7 certainly would make me more directly disposed to whatever  
8 proposals may be coming from whatever source.

9 MR. MESSENGER: Okay, I'll take that --

10 CHAIRMAN IMBRECHT: Time is a wasting folks.  
11 Okay. We're going to now turn to the petitioner for any  
12 comments NRDC may have, and then we'll ask -- we have a  
13 substantial number of individuals that wish to comment on  
14 the proceedings thus far.

15 MR. GOLDSTEIN: Thank you, Chairman Imbrecht.  
16 My name is David Goldstein, I'm the Senior Staff Scientist  
17 for the Natural Resources Defense Council. NRDC is a  
18 national environmental organization with over 40,000 members  
19 and contributors nationwide, of whom approximately 8,000  
20 are Californians.

21 NRDC petitioned the Energy Commission in November  
22 1983 to begin this proceeding. Our motivation was the  
23 tremendous potential for reducing energy use, and reducing  
24 energy cost that's embodied in refrigerators and freezers.

25 As background, refrigerators and freezers are by

1 far the largest users of residential electricity in the  
2 state. They also represent the largest and cheapest source  
3 of untapped conserved energy that California has. Compared  
4 to today's efficiencies, approximately 1,500 average  
5 megawatts can be saved by Californians at a cost of less  
6 than 1.5 cents per kilowatt-hour.

7 This represents a present value of some \$15  
8 billion compared to current practice for the state, or  
9 over \$1,200 for every household in the state over the  
10 years, until the year 2004.

11 This savings potential is illustrated by the  
12 life cycle cost curve. This life cycle cost curve graphs  
13 the total owning and operating cost against the energy  
14 consumption of the unit, and it begins with the DOE options  
15 that the staff presented. DOE's base case, and options  
16 Levels 1 through 6.

17 It continues from there by applying additional  
18 technologies that were not studied in the DOE report due  
19 to constraints imposed on the contractor who did the  
20 analysis. NRDC used published reports from the same  
21 contractor, used the same methodology, and in fact, the  
22 same equation for predicting energy use, and added additional  
23 measures sequentially to see where the life cycle cost  
24 curve goes on the theory that in order to see where we are,  
25 we want to keep adding measures until we find ones that are

1 no longer cost-effective.

2 As you can see, we carried this curve down through  
3 Roman Numeral points I through XII. We did find a minimum  
4 point, and found that after that, there were a number of  
5 measures that would be technically feasible, but would no  
6 longer be cost-effective because so much energy has been  
7 saved that the value of saving the remaining kilowatt-hours  
8 wasn't sufficient to justify the costs.

9 As you can see, the minimum point comes out as  
10 measured by the DOE test procedure --

11 COMMISSIONER GANDARA: Mr. Goldstein, let me  
12 interrupt here, because I think this is stated somewhat  
13 differently from the way I've understood this before.  
14 You just said that the measures beyond that minimum life  
15 cycle cost would not be cost-effective.

T.3 16 What you -- as I understood this to be the case,  
17 is that they would be cost-effective, but that you were  
18 moving away from your minimum life cycle cost, or is there --

19 MR. GOLDSTEIN: They would not be individually  
20 cost-effective. You're right in the sense that this point  
21 even though it's composed of six non-cost-effective  
22 measures have lower life cycle cost than DOE Level 6.

23 So even though this isn't the optimal economic  
24 point, it's more optimal than this one is. Incidentally,  
25 this chart was prepared with very conservative economic

1 assumptions so there could be no question about the minimum  
2 point with respect to challenging what the economics were.

3 So what we wanted to do was discuss the policy  
4 significance of the existence of these points. The staff  
5 presentation noticed --

6 COMMISSIONER SCHWEICKART: David, excuse me,  
7 just so that the Commissioners have some idea of what you're  
8 talking about, could you identify what the technologies  
9 are, what the individual measures are which represent the  
10 move from one step to another? I don't want to go through  
11 each and every thing, but we're sort of sitting here  
12 without a physical feel for what you're talking about.

13 MR. GOLDSTEIN: Okay. The measures, I'll  
14 illustrate here, include changes in the condenser, moving  
15 it to the exterior of the unit so that it has better heat  
16 transfer, removing the evaporator fan motor from the  
17 refrigerated compartment where it represents the heat  
18 load to the outside of the insulation, using a higher  
19 efficiency evaporator fan.

20 Improving the insulation by going to a thicker  
21 insulation, taking you down to these two steps. Then  
22 going to a high technology insulation which the report said  
23 could be developed within a five year time frame, it was  
24 written in the late 1970's, which takes you back -- these  
25 two measures, to increase the thickness of the walls, just

1 takes you back to even thinner walls than you started off  
2 with and reduced heat load.

3 Then the others include better control over the  
4 defrost system which currently runs on a timer, a two  
5 speed compressor, hot gas defrost, and so on.

6 COMMISSIONER SCHWEICKART: Thank you.

7 MR. GOLDSTEIN: So these were all measures that  
8 were considered in reports published in the late 1970's  
9 to be technically feasible at that time, and capable of  
10 being mass produced within a three to five year period.

11 Now, the question for this proceeding is how  
12 can we achieve these additional savings. First of all,  
13 manufacturers have indicated that we can get about a third  
14 of the way from where we are now to the life cycle cost  
15 point even if we do nothing. They suggest that market  
16 forces will probably get us about here by 1996.

17 I would note that there are very few models  
18 currently on the market that achieve that level of perfor-  
19 mance, so if that estimate is right, it says that the  
20 manufacturers realize that there will have to be a complete  
21 changeover of models, and elimination of many existing ones  
22 in order to achieve this level of average performance within  
23 the next 12 years.

24 NRDC believes that the State of California should  
25 be more ambitious in setting its goals for energy savings.

1 These additional savings are very large. In fact, you can  
2 see from the slope of the life cycle cost curves that DOE  
3 has not even picked the cheapest measures as they go along,  
4 because measure 6 is somewhat higher along the curve than  
5 the succeeding measures.

6 So that the marginal payback from these additional  
7 measures is very good compared to the marginal paybacks of  
8 the previous measures. These additional savings benefit  
9 everybody. The benefit the economy of the State of  
10 California by saving money, and by, as Commissioner Gandara  
11 indicated, recycling those dollars that are saved into  
12 increasing the business activity within the rest of the  
13 state.

14 They improve the environment of California because  
15 the power plants that will not be supplying the difference  
16 in energy burn either coal, gas or oil, all of which have  
17 significant problems with either air pollution or import  
18 security, or both.

19 Finally, these savings benefit the utilities  
20 through reducing their demand for raising new capital, and  
21 that's the reason the major investor owned utilities in the  
22 state have supported conservation programs, and in particular  
23 efficiency standards.

24 NRDC believes that a program combining standards  
25 with incentives can get us close to this minimum life

1 cycle cost point. Why do we think standards are an  
2 important part of the program? Standards provide the  
3 insurance that the energy saving goals will actually be  
4 achieved, and so they allow utilities to make long-run  
5 plans on the basis of these energy savings actually being  
6 there.

7 Minimum standards set at DOE Level 6 are clearly  
8 feasible, and are exceptionally cost-effective. They are  
9 shown to be both feasible and cost-effective by the  
10 engineering analysis done by DOE, but the acid test of  
11 this is that they are currently being met by mass produced  
12 products in Japan.

13 This graph compares the availability of Japanese  
14 top freezer, automatic defrost refrigerators with the DOE  
15 Level 6 proposal graphed as if it was a minimum standard.  
16 What you see here is that if you believe the Japanese  
17 test procedure, and the American test procedure are the  
18 same, all of the Japanese units comply.

19 If you believe that there is a 30 percent  
20 difference between the Japanese test procedure, and the  
21 American test procedure which corresponds to one data  
22 point presented by manufacturers, and they've subsequently  
23 -- the same person has subsequently indicated that they  
24 think that 20 percent is more typical of the difference  
25 between the test procedures.

1           But assuming 30 percent, it would be equivalent  
2 to Level 6 being at this dotted line level. Even in that  
3 case, the majority of the Japanese equipment currently  
4 meets the Level 6 standard, and the best equipment within  
5 every size range, except the very largest one, meets that  
6 standard.

7           COMMISSIONER SCHWEICKART: David, what are your  
8 lines on refrigerators -- you have more than one line down  
9 there, I don't --

10          MR. GOLDSTEIN: Okay. This line represents the  
11 most energy consumptive within the class, this line  
12 represents the least energy consumptive within the class.  
13 The dotted line indicates that there are no models between  
14 this size and this size, so the shape of what's available  
15 is not determined, not defined.

16          COMMISSIONER SCHWEICKART: I see.

17          MR. GOLDSTEIN: Standards are important insurance  
18 because market forces cannot be scientifically projected,  
19 and in fact, no one in this proceeding has proposed any  
20 quantitative method for predicting the results of market  
21 forces. In fact, if market forces worked, standards will  
22 be irrelevant because all products will exceed the levels  
23 set by the standards, just as they've exceeded the current  
24 standard.

25                 On the other hand, if market forces aren't so

1 effective, standards will assure that the energy savings  
2 at whatever level is set will take place at least in  
3 California.

4           It's important to note that it's very difficult  
5 to go back and find out retroactively where the savings  
6 come from, and it doesn't matter. That is to say, in 1976  
7 when the Commission first promulgated standards for  
8 refrigerators, you could predict that some 80 percent of  
9 the models would have to be eliminated to comply with the  
10 standards.

11           But by 1980, the market had improved to such an  
12 extent that very few models were eliminated by the standard,  
13 and today, there are virtually no models that fail to  
14 comply with the California standard.

15           Now, whether that happened because the standards  
16 forced redesign of the products, or whether it would have  
17 happened anyway doesn't matter. The point is that the  
18 same phenomenon, for whatever reason, is likely to happen  
19 again if California sets standards at a level that is as  
20 cost-effective as all of the proposals on the table.

21           Now, why would incentive programs also be part  
22 of the recommendation? Going back to the life cycle cost  
23 curve, incentives are needed to encourage products at this  
24 end of the range to actually be built and marketed. Each  
25 time energy conservation is -- potential is studied in

1 detail, more new measures seem to show up that suggest you  
2 can do better energy savings than was previously expected.  
3 This is, in fact, also reflected in the Japanese market  
4 where the energy consumption, per unit volume of product  
5 has been decreasing at a compounded rate of 12 percent per  
6 year from 1972 until the present.

7 Incentives provide a mechanism to get the  
8 ideas that represent these points out there into production  
9 rather than just sitting in the insides of the computer, or  
10 on paper.

11 This means that incentive payments must be  
12 graduated to encourage the super high efficiency product  
13 to be brought to market. In other words, setting incentives  
14 for levels down here, even though no product currently  
15 exists on the market, to take advantage of that incentive.

16 What we're trying to do by that is break this  
17 cycle of chicken and egg in which no product is existing  
18 because it couldn't be marketed with the short payback  
19 time that is apparently demanded by consumers, but then  
20 no one can purchase this kind of level because it isn't  
21 being produced.

22 The incentives would give manufacturers a reliable  
23 reason to go to the considerable expense to bring these  
24 models to the California market. I believe that all  
25 participants agree with this approach of large incentives

1 for large efficiency improvements.

2           However, we believe you can't rely entirely on  
3 incentives, because first, no one has produced any  
4 quantitative analysis in this proceeding that incentives  
5 would get us all the way from where we are right now,  
6 about here, down to where we want to be in order to  
7 minimize costs for the state.

8           Secondly, a lot of people will argue that  
9 ratepayers should not pay for refrigerator efficiency  
10 improvements that are of such tremendous benefit to the  
11 direct purchaser of the refrigerator and that from the  
12 ratepayers' point of view, the nonparticipants will be  
13 much better off capturing as much of this savings as  
14 possible for free, that is, without any nonparticipants  
15 money, rather than requiring me to subsidize my neighbor's  
16 purchase of an energy efficient refrigerator.

17           Now, one additional point that I'd like to mention  
18 with respect to this life cycle cost curve is that often  
19 there are amenity benefits as well as energy saving  
20 benefits that are embodied in these curves.

21           For example, the points at the bottom of the  
22 curve include several technological innovations that will  
23 in some cases allow the reduction of thickness in walls if  
24 that's what the consumer wants. In the case of DOE point  
25 six, the technological improvement allows the humidity in

1 the refrigerator compartment to remain at a much higher  
2 level which preserves food longer, and keeps it from  
3 drying out.

4 In the case of better insulation, and changes in  
5 the defrost system, those help the refrigerator maintain  
6 more uniform, and more constant temperature, which also  
7 aids in storing food more securely for a longer period of  
8 time.

9 Now, in terms of the program design, we'd like  
10 to recommend to the Commission to look at a program that  
11 combines standards, and either fleet average standards or  
12 minimum standards with incentives. We believe the program  
13 must be designed according to the criteria of reliability  
14 to allow utilities confidently to plan on achieving  
15 conservation goals.

16 This means there must be fail-safe mechanisms  
17 built into the policies to assure that goals on paper  
18 translate into goals on the electric meter. This would  
19 mean particularly in the case of fleet average standards  
20 that some credible means be provided of improving the  
21 efficiencies in the given year should one manufacturer  
22 fall short of the standard in a particular year.

23 We believe that the combination of standards and  
24 criteria meet these -- standards and incentives, including  
25 educational incentives, can meet these criteria if they're

1 properly designed, and so we're prepared to support a fleet  
2 average standard if it's designed with these kind of  
3 assurances of enforceability.

4 That concludes our presentation. We thank you  
5 for the opportunity to speak on this issue.

6 CHAIRMAN IMBRECHT: Are there any questions?  
7 Commissioner Gandara?

8 COMMISSIONER GANDARA: Mr. Goldstein, what is the  
9 intersection point of your minimum life cycle? I don't  
10 think that was ever stated.

11 MR. GOLDSTEIN: The lowest point here is 180  
12 kilowatt-hours per year.

13 COMMISSIONER GANDARA: And for what size  
14 refrigerator is that?

15 MR. GOLDSTEIN: These are all for the same size  
16 that everyone has been talking about, 7 cubic foot, top  
17 mount automatic defrost.

18 COMMISSIONER GANDARA: Seventeen, okay.

19 COMMISSIONER COMMONS: Excuse me, that's 17, not  
20 7?

21 MR. GOLDSTEIN: Seventeen, correct.

22 COMMISSIONER GANDARA: One last question,  
23 following up on Commissioner Schweickart's question of  
24 physically describing the measures as you move from one  
25 point to another. You did do that fairly well when you

1 started with number six on up. Can you describe to us  
2 just what those incremental improvements are from Levels 1  
3 through 6, what those measures are, rather?

4 MR. GOLDSTEIN: I don't have those in front of  
5 me, those are in the staff report.

6 COMMISSIONER GANDARA: Maybe somebody --

7 CHAIRMAN IMBRECHT: I'll tell you, I would be  
8 more interested in just hearing what it is from 5 to 6,  
9 the others appear to be a very minimal cost. What is  
10 going to cost \$65?

11 MR. GOLDSTEIN: From 5 to 6 there are two distinct  
12 measures. One is an improvement in the compressor  
13 efficiency from an EER, energy efficiency ratio, of I  
14 believe 3.65 to 5.0. That accomplishes most of the  
15 savings.

16 CHAIRMAN IMBRECHT: And that constitutes that  
17 substantial cost?

18 MR. GOLDSTEIN: I don't -- I'd have to look up  
19 what the breakdown is between that cost and the other  
20 measure. The second measure is what's called a hybrid  
21 evaporator, which means that in a current frost free  
22 refrigerator, the cold coil of the evaporator serves both  
23 the freezer and the refrigerator compartment, and so it  
24 has to operate at the colder freezer compartment temperature  
25 and the air from the freezer compartment drips down into

1 the refrigerator.

2           Also, that evaporator has to be isolated so that  
3 it can be heated up when you want to defrost it, and then  
4 a fan is used for air circulation.

5           In the hybrid evaporator, that evaporator system  
6 is now only used for the freezer compartment, and a  
7 separate evaporator, similar to that in a partial automatic  
8 defrost refrigerator is used for the refrigerated food  
9 compartment. That refrigerator evaporator doesn't need to  
10 be defrosted in a way that uses energy, because it's in a  
11 compartment that's already warmer than ice temperature and  
12 so it will naturally defrost during the off cycle period.

13           I'd point out that that particular measure is  
14 responsible for improving the humidity in the refrigerator  
15 so that it has some significant amenity features, and I'd  
16 also point out that the way the test procedure works,  
17 underestimates how much energy that particular measure  
18 saves in the real world compared to the test procedure,  
19 and the graph in the staff's work is based on the test  
20 procedure.

21           The reason for that is that it takes a lot of  
22 energy to build up frost, and by not dehumidifying the  
23 refrigerator compartment, you're failing to use all that  
24 latent energy in creating ice, and then you're saving again  
25 when you don't have to use it for defrost. That shows up

1 in real world tests, but it doesn't show up in the test  
2 procedure because the door is kept closed in the test  
3 procedure, and they don't put real food into the  
4 refrigerator.

5 CHAIRMAN IMBRECHT: All right, any further  
6 questions? Thank you very much. As I said, we have a  
7 long list, and we'll try to move through as many as we  
8 can before luncheon recess.

9 First I would like to invite Mr. F. H. Hallett  
10 representing White Consolidated Industries.

11 MR. HALLETT: Mr. Chairman, I'm --

12 CHAIRMAN IMBRECHT: Excuse me, Mr. Hallett just  
13 one moment, is there a problem here?

14 MR. HALLETT: I was going to try to resolve it.

15 CHAIRMAN IMBRECHT: Okay.

16 MR. HALLETT: I'm one of the speakers of the  
17 AHAM, the Association of Home Appliance Manufacturers group  
18 that arrived today, and the way we had laid out our own  
19 presentation is that Mr. Benson would appear before me.

20 CHAIRMAN IMBRECHT: All right, certainly, no  
21 problem.

22 MR. BENSON: And Mr. Chairman, I wonder if we  
23 could get five places at the tables, is that feasible?

24 CHAIRMAN IMBRECHT: I think so, we can certainly  
25 give you four easily.

1 (Pause.)

2 MR. BENSON: I am Bruce Benson, Executive Vice  
3 President of the Association of Home Appliance Manufacturers,  
4 AHAM. As you may know, AHAM is the industry trade  
5 association representing producers of household appliances  
6 including refrigerators and freezers that are marketed in  
7 the United States.

8 The companies in this business who are members  
9 of the Association are Absicold, Admiral, General Electric,  
10 Northland, Panasonic, Sanyo, Whirlpool and White Consolidated.  
11 The Amana company, although not currently a member of AHAM,  
12 has participated in our work on these CEC proceedings and  
13 supports the AHAM positions.

14 The issue of energy conservation in general, and  
15 in particular in the State of California is particularly  
16 important to our industry. California represents currently  
17 10.6 percent of refrigerator sales in the United States,  
18 and 5.4 percent of freezer sales.

19 The refrigerator/freezer industry, since 1972,  
20 has achieved a 33 percent reduction for refrigerators, and  
21 a 44 percent reduction for freezers of energy consumption  
22 in direct response to nationwide consumer demand for more  
23 efficient appliances.

24 This has been accomplished with retention of  
25 consumer choice, and ongoing enhancement of product utility.

1           In the course of these CEC proceedings which were  
2 initiated by the petitioner to revise standards to eliminate  
3 the lesser efficient products from the California market,  
4 the Commission directed that alternatives to standards be  
5 evaluated that will accomplish the objective of cost-  
6 effective energy conservation from appliances.

7           This expansion of consideration by the CEC has  
8 reinforced the recognition of opportunities by market-based  
9 action to achieve the energy savings objectives of the state.  
10 AHAM in response to the Conservation Program Committee's  
11 request has developed an energy consumption forecast that  
12 provides an additional 26 percent energy reduction by 1996  
13 within the existing environment.

14           This energy savings can be accelerated by  
15 California's implementation of programs to motivate  
16 consumers to higher efficiency appliances.

17           With this as a background, our purpose today is  
18 to brief you on our proposals in response to your order and  
19 provide a summary critique as to why revision of standards  
20 is neither urgent nor necessary.

21           Our briefing report represents work that has  
22 evolved from the Committee's workshops and hearings which  
23 have been very effective forums for deliberation. Represent-  
24 tives of AHAM member companies will present summaries to  
25 reflect the industry's position and concerns.

1 Fred Hallett will address the fleet average  
2 concept. Jim Dehner will address market-based programs  
3 which can be considered to accelerate energy savings.  
4 Fran Rivard will offer a critique of the NRDC analysis, and  
5 Russ Sasnett will express some concerns about the previous  
6 staff analyses.

7 We are most interested in the Commission members'  
8 thoughts on these matters, and really urge your interruption  
9 of our presentation for any clarification and expression  
10 of opinion. Thank you, and I'll turn it over to Fred.

11 CHAIRMAN IMBRECHT: Thank you. Mr. Hallett?

12 MR. HALLETT: I'm Frederick Hallett of White  
13 Consolidated Industries, and lest that remain a mystery  
14 to you, we produce Frigidaire, Kelvinator, Gibson and  
15 White-Westinghouse appliances.

16 I'm very pleased to have a chance to talk to the  
17 entire Commission, and I'd like to express my thanks  
18 publicly to Commissioner Commons who has sat through all  
19 of this very patiently, much of it, before.

20 The fact that we're here today at all to consider  
21 this matter is a tribute to the progress in refrigerator  
22 and freezer efficiency that this industry has made since  
23 California first set its standards. Startling as this  
24 progress has been, there are those who seem to be saying  
25 we haven't gone far enough or fast enough.

1           My plea to you today is that you simply stand  
2     aside and let those factors which have produced this  
3     startling progress continue to work. I intend to propose  
4     a way that this can happen.

5           This proposal can form a backdrop, or a framework  
6     for the presentation of the other AHAM speakers to follow.

7           In several previous discussions with the CEC,  
8     the term "fleet average" has been used to describe a possible  
9     alternative to prescriptive or performance standards  
10    without any common understanding of how such a program  
11    might work. Indeed, until recently, there has been no  
12    real agreement among refrigerator manufacturers as to what  
13    this might mean in this context.

14          Many objections within the industry had to be  
15    overcome just to develop the concept far enough to present  
16    today. What I'll be describing in a few minutes seems to  
17    be a workable concept based on some hard-won principles.

18          This concept could be applied to freezers as well  
19    as to refrigerators and refrigerator/freezers, but I want  
20    to emphasize that freezers are a distinctly different  
21    product with distinctly different economics and marketing  
22    and manufacturing problems, and must be considered  
23    separately from the discussion of refrigerators and  
24    refrigerator/freezers.

25          The first principle of how such a fleet average

1 might work is that it must apply industry-wide. There are  
2 several reasons for this, the most important being that  
3 all the statistics on which it is based are collected by  
4 AHAM and aggregated. No individual or firm could have  
5 access to all the sensitive information processed by AHAM,  
6 and AHAM may not disclose data for any individual firm.

7           This means that both goals and actual results  
8 must be considered for all manufacturers taken together.  
9 Likewise, all sanctions for failure to meet goals must  
10 apply to all manufacturers equally to avoid introducing  
11 disruptive or possibly illegal market distortions. Either  
12 the industry must meet its goal, or it must collectively  
13 face the consequences of not meeting that goal.

14           The industry is willing to accede to the use of  
15 average annual energy consumption per unit sold in a  
16 particular year as a rough measure of efficiency for goal  
17 setting and monitoring, but all of us must keep in mind  
18 that volume factors must be used in setting any prescriptive  
19 or performance standards.

20           Underlying the concept that I'll be describing in  
21 a moment is the deep conviction by manufacturers that  
22 progress in refrigerator efficiency will continue because  
23 of market forces and that standards simply aren't necessary.  
24 But we don't need to agree on how or why efficiency is  
25 improving, as long as we can agree on how to measure the

1 results we both hope to obtain.

2 An integral part of this measurement is the  
3 forecasting data being supplied by AHAM as it becomes  
4 available. This will enable CEC to set average unit energy  
5 consumption goals for each year based on the best data  
6 obtainable.

7 Another basic assumption is that CEC is not  
8 interested in regulation for its own sake, but under the  
9 right circumstances would suspend standard setting to see  
10 if market forces continue to work. Here's how it might  
11 be set up, and at this point, I'd refer you to the slides.

12 Step 1 would be, the Energy Commission could  
13 establish non-regression standards. Now, the term non-  
14 regression in this context, in our minds means that no  
15 model having less efficiency than any present model could  
16 be introduced into the California market.

17 Non-restrictive as used in the slide means that --  
18 essentially the same thing, that the standard established  
19 would be a floor under the existing model, and no existing  
20 models offered for sale in the State of California would  
21 be eliminated.

22 I should note in passing that all of those models  
23 exceed the standards originally set by this Commission.

24 Step 2. The California Energy Commission with  
25 assistance from AHAM establishes a goal for the average

1 annual energy consumption per unit sold in California for  
2 each year from 1984 to 1996. Now, we will have data points  
3 in 1987, 1990, 1996, and using that and the data concerning  
4 the models presently offered, one could draw a curve and  
5 pick a point for each of the future years until 1996.

6 That could then represent a goal. AHAM would then  
7 submit sales weighted average annual energy consumption  
8 per unit with supporting data for each year. If the  
9 actual sales data shows an average consumption of more  
10 than 5 percent of the goal for that year, that would be  
11 to say, it exceeds the goal by more than 5 percent for that  
12 year, the California Energy Commission will then evaluate  
13 the cause for that excess and take appropriate action  
14 which may include setting restrictive standards, by which  
15 we mean, standards which would eliminate models from the  
16 market.

17 Now, conceivably, the cause could be that  
18 planned incentive programs had not been implemented. In  
19 other words, there could be causes, perhaps even relating  
20 to consumer preference which are totally out of the control  
21 of the industry, that's the reason for the evaluation and  
22 the taking of the appropriate action.

23 These restrictive standards then would remain  
24 in effect until a sales weighted average annual energy  
25 consumption per unit declines to 100 percent or less of the

1 goal for that year, at which point the industry would then  
2 be free of these restrictive standards once again.

3 I'd be happy to entertain any questions about  
4 the concept, and I'm sure each of my colleagues would  
5 also.

6 CHAIRMAN IMBRECHT: I have a couple just for  
7 openers. In terms of this concept that it be applied to  
8 the industry as a whole, and you made some reference in  
9 your remarks here, let me see if I can find it, likewise  
10 all sanctions for failure to meet goals must apply to  
11 all manufacturers equally to avoid introducing disruptive  
12 and possibly illegal market distortions.

13 What would be those illegal market distortions?

14 MR. HALLETT: Well, there are certainly anti-  
15 trust implications to one manufacturer being able to sell  
16 a model that say uses 1,100 kWh per year, and his  
17 competitor not being able to sell that same model in the  
18 State of California.

19 That is to say, Manufacturer A does not meet the  
20 standard, and therefore must comply with the primary  
21 standard, and his competitor does meet the standard, and  
22 can sell a model that doesn't meet the primary standard,  
23 there's certainly anti-trust or competitive implications.

24 CHAIRMAN IMBRECHT: They're competitive, but I  
25 don't know that they're anti-trust implications.

1 MR. HALLETT: Well, it's -- I would suggest that  
2 it's probably a legal swamp into which you don't want to  
3 venture.

4 CHAIRMAN IMBRECHT: Well, suffice it to say that  
5 I'm generally intrigued by any suggestions of anti-trust  
6 implications. It's an area of law that I think I know  
7 something about, and I don't mind entering into the swamp.  
8 I frankly don't see what the illegality would be if that  
9 were -- if that result occurred as a consequence of a  
10 government regulatory program, and there's no need to  
11 really strain that out, but I --

12 MR. HALLETT: Well, I would venture a guess --

13 CHAIRMAN IMBRECHT: But I'd challenge that  
14 statement is what I'm saying.

15 MR. HALLETT: A competitor eliminated from the  
16 California market might very well challenge the validity  
17 of the regulations in court.

18 COMMISSIONER SCHWEICKART: You have to have  
19 one model which violates --

20 CHAIRMAN IMBRECHT: On the grounds that there  
21 was collusion between the other manufacturers and the  
22 regulatory agency, or on what grounds? I'm not aware of  
23 government agencies violating anti-trust statutes.

24 MR. HALLETT: Well, I'm not an attorney, and I  
25 can't -- I'm not going to venture into that swamp. I do

1 know in the case of one freezer manufacturer, he has one  
2 model for sale and that's another reason that this fleet  
3 average concept may not work as conceived by the staff.

4 COMMISSIONER COMMONS: Mr. Chairman, on that  
5 one item, I've personally met with that freezer manufacturer  
6 and the size of that freezer, mainly for hunters, it's like  
7 a deer hunting freezer, it's over 30 cubic feet, and the  
8 draft proposal will exclude freezers over 30 feet in the  
9 regulations.

10 CHAIRMAN IMBRECHT: Well, I guess -- I mean, first  
11 off, let me preface this by saying I think you know by  
12 general sympathies on some of these issues. But it's a  
13 little hard for me to see imposing burdens on industry as a  
14 whole if the bulk of the industry is being cooperative,  
15 and I mean from an equity standpoint, I know you're  
16 suggesting this is a trade association, but suppose we  
17 get down the pipeline a ways, halfway through such a  
18 program, and you've got six exceptionally good manufacturers  
19 in terms of compliance and recognizing all the societal  
20 benefits, et cetera, and one that's not, and yet you should  
21 impose sanctions upon the entire industry.

22 That's a little hard for me to see how you've  
23 come to that conclusion as being --

24 MR. HALLETT: Mr. Chairman, certain members,  
25 certainly the staff are willing to impose those restrictions

1 on the whole industry at the moment.

2 CHAIRMAN IMBRECHT: Well, I'm not buying what  
3 staff's saying either, so I'm frankly asking for -- you  
4 asked us to interrupt and ask for some feedback, and I'm  
5 asking why you believe that to be an important concept.

6 MR. HALLETT: The statistical basis on which  
7 the sales weighted averages are computed is administered  
8 by the association at the moment through the accounting  
9 firm of Ernst & Whinney. It's rather an elaborate procedure.  
10 Many manufacturers would not submit that data to anyone  
11 except under very strict circumstances to the trade  
12 association.

13 It's sensitive -- competitive, sensitive informa-  
14 tion. I also have a --

15 CHAIRMAN IMBRECHT: I don't want to get off on a  
16 tangent, but I would just suggest to you that every major  
17 petroleum company that operates within -- and minor as well,  
18 that operates within California, submits highly proprietary  
19 information to this Commission on a regular basis and that  
20 is protected and utilized without a single complaint in  
21 five years track record to date, even to the point that the  
22 petroleum industry this year supported extension of the  
23 statute that provides authorization for that.

24 So I recognize some of the concerns that are  
25 occasionally expressed by the appliance industry, but I

1 frankly think they're misplaced concerns in a lot of  
2 respects. We can move into that in some other areas.

3 But if that's the only reason why you believe --  
4 I'm looking for a more compelling explanation than that  
5 as to why sanctions should be applied on an industry-wide  
6 basis, irrespective of the individual performance of  
7 particular manufacturers.

8 MR. HALLETT: In addition to the things we've  
9 already mentioned, there would be some kind of an audit  
10 burden on the state to ensure that they were getting correct  
11 data, that being owed, I think, to the other competitors,  
12 not to say that any manufacturer would submit incorrect  
13 information, but it never hurts to have an umpire in the  
14 game.

15 CHAIRMAN IMBRECHT: Well, to the extent that  
16 others of you, that as you testify, care to address that  
17 point, I still would like to hear some further explanation  
18 as to why you think that's the --

19 MR. HALLETT: I've just been handed a note which  
20 would be -- frankly, being a full line manufacturer, was  
21 not something that had occurred to me, that the major  
22 problem would be with manufacturers who do not offer a  
23 full range of products, a full range of models, and therefore  
24 you'd have to have a different fleet average for each  
25 manufacturer if he didn't offer a full range of models,

1 because these are -- these standards -- the consumption  
2 we're talking about is volume sensitive.

3 CHAIRMAN IMBRECHT: Okay. How do your circum-  
4 stances differ, for example, from the fleet averaging  
5 concept that's applied, I believe by FTC -- EPA with  
6 respect to automobile manufacturers and fleet average  
7 requirements for mileage targets.

8 MR. HALLETT: I'm just not familiar enough with  
9 that program.

10 CHAIRMAN IMBRECHT: Well, my understanding is  
11 that if General Motors fails to meet the fleet average  
12 standard set, Ford Motor doesn't get penalized, and I'm  
13 asking why that is an inappropriate analogy for this  
14 situation.

15 MR. HALLETT: Well, rather than dwell on how it  
16 might fail, I would venture my comment that I believe that  
17 we will succeed, and this is a way that California Energy  
18 Commission can watch it succeed without imposing restrictive  
19 standards.

20 If you'll let us continue the kind of improvement  
21 that we've demonstrated over the last 10 years that we can  
22 make year by year, I'm confident that as an industry, we  
23 will make the goals.

24 CHAIRMAN IMBRECHT: I just want to also state,  
25 and it should be obvious by virtue of my initial vote on

1 this petition and so forth, that I similarly have some  
2 genuine concerns about the standard approach, and I've  
3 expressed that in a lot of forums, and I would like to  
4 see viable alternatives, believe me, and I'm very interested  
5 in this proposal as an alternative, but I also stress  
6 that I've got an obligation, if I'm going to support an  
7 alternative, that it be viable, and that it be equitable  
8 and fair, and so forth.

9           So I think that by virtue of my questions as to  
10 some of the reasoning behind this proposal which you as an  
11 industry are submitting, you shouldn't take that as negative  
12 relative to the concept. I can't simply sit here and  
13 rubber stamp a concept if I don't think it's equitable as  
14 well. I've got some obligations, obviously, to -- with the  
15 overriding concerns and I'm simply looking for some  
16 explanation from you and still not persuaded, I have to  
17 tell you.

18           MR. HALLETT: Yes. Let me put it succinctly,  
19 that this is the only concept, the only way that we could  
20 see as an industry that the fleet average concept would  
21 work. There are so many complications from our viewpoint  
22 in the staff recommendations that we think it simply would  
23 prove to be unworkable.

24           If the staff can propose a set of rules and  
25 operating procedures that appear to be workable to us as an

1 industry, we'd certainly consider them. But this is the  
2 best we've been able to hammer out ourselves.

3 CHAIRMAN IMBRECHT: Okay. We're not here to make  
4 a decision at this point. You wanted feedback, you've  
5 got it on that topic from me at least. Commissioner  
6 Schweickart?

7 COMMISSIONER SCHWEICKART: Yes. The very  
8 questions you've asked, Mr. Chairman, are ones that we  
9 have discussed in Committee hearings as well as privately.  
10 Mr. Hallett, I'd like to pursue a series of questions which  
11 I think are all fairly logical, but try to do it in a  
12 step-wise fashion.

13 I mean, part of the reason, I take it, that you  
14 argue, and frankly, I'm disturbed by the continual  
15 introduction of this, but nevertheless, you argue that  
16 no standards are necessary, that the improvement has been  
17 made by the market forces in the industry, or within the  
18 marketplace, and that's what the industry has been  
19 responding to.

20 Presumably, part of the reason that the industry  
21 responds to the market is competitive forces, is that  
22 correct?

23 MR. HALLETT: Absolutely.

24 COMMISSIONER SCHWEICKART: Okay. So you are, in  
25 essence, driven by market forces to build a better, less

1 expensive, higher quality, more desirable product than  
2 your competitors, and that's how you maintain, or increase  
3 your market share.

4 All right, if we then take a situation in which  
5 the total marketplace, a very competitive marketplace,  
6 competition between manufacturers is lumped together, and  
7 let's imagine that there are six of these people, and five  
8 of them are doing fine, as the Chairman suggested a few  
9 moments ago, and one due to mismanagement, or circumstance,  
10 loans to third world countries, or whatever, happens to  
11 be on the verge of going under, does it not seem reasonable  
12 that they will -- that they may, in fact, take measures  
13 which would make their products attractive, and perhaps  
14 violate the minimum performance as a means of doing that  
15 to reduce the cost in the marketplace?

16 You cut costs as much as you can when you're not  
17 being competitive, right?

18 MR. HALLETT: It's possible that a manufacturer  
19 would do that, but I would guess that he would lose his  
20 market share rather rapidly if the consumers perceived  
21 this difference.

22 COMMISSIONER SCHWEICKART: Oh, but the consumer,  
23 I mean, your argument is that the consumer looks at that  
24 first price.

25 MR. HALLETT: Oh, he looks at the first price, he

1 also looks at lots of other factors which we'll be discussing  
2 in a moment, including reliability, quality, and so on.

3 COMMISSIONER SCHWEICKART: Well, I wonder whether  
4 you think sanctions for the whole industry when in fact  
5 the reality is that what would be represented there, and  
6 the reason for violation of whatever minimum would be set,  
7 would be done by one of six for their own survival, would  
8 in fact be supported by the other five at that time when  
9 a sanction was then imposed, and everyone had to revert to  
10 some other standard.

11 MR. HALLETT: Well, I suppose the best way I  
12 could respond to that would be sort of the level playing  
13 field argument. What you're saying is if one manufacturer  
14 is in dire straights, and lets his competitive position  
15 deteriorate, he is then subjected to an even stricter  
16 standard, the likelihood being that it would eliminate him  
17 completely from the California market.

18 If he hasn't got the resources to stay competitive,  
19 he certainly doesn't have the resources to reach a yet  
20 higher standard which would be imposed on him as the  
21 primary standard under this scheme.

22 COMMISSIONER SCHWEICKART: So what you're saying  
23 is that the other five competitors in this marketplace  
24 want that sixth competitor to survive and will sacrifice  
25 in order that that sixth competitor stay on the playing

1 field.

2 MR. HALLETT: I don't think that's -- we can  
3 attribute desire to --

4 COMMISSIONER SCHWEICKART: But that's the necessary  
5 conclusion, sir.

6 MR. HALLETT: It's the level playing field, that  
7 we've all got the same ground rules to operate under in  
8 the State of California.

9 COMMISSIONER SCHWEICKART: Fine, and if there's  
10 a cripple on the playing field, you're saying that we're  
11 going to provide extra support out of your hide in order  
12 that that person may stay on that level playing field.

13 MR. HALLETT: Not at all, I simply want the  
14 playing field to remain level.

15 COMMISSIONER SCHWEICKART: All right. Well, let  
16 me simply suggest that I also have questions in terms of  
17 fundamental human psychology here, and fairness and  
18 equity, and --

19 CHAIRMAN IMBRECHT: Let me just add even one  
20 further situation. I mean, you know, wherever you're  
21 going to say -- I mean, in effect, if we were to adopt  
22 such a proposal, and we're looking in the schematic here  
23 that obviously encompasses better than a decade into the  
24 future, and so we, as a practical matter, are to some  
25 extent imposing some constraints and some responsibilities

1 upon our successors that will serve here at the Energy  
2 Commission.

3 In 1990, in the event we found ourselves in the  
4 circumstances that Commissioner Schweickart and I have been  
5 describing where you've got the bulk of the industry  
6 performing quite satisfactorily, perhaps superbly, and one  
7 or two not, and as a consequence, the industry average  
8 exceeded this targeted goal by 5 percent, and as a conse-  
9 quence, the Energy Commission of 1990 would then be faced  
10 with the question of whether or not indeed prescriptive  
11 standards should be imposed.

12 I personally think it would be very difficult to  
13 explain to the political powers from which our authority  
14 is delegated why sanctions were being imposed against an  
15 entire industry, and I suspect that at that juncture, it  
16 would not be unlikely that some of the well performing  
17 companies would likely express some concern to legislators  
18 and others about them being penalized for the performance  
19 of others.

20 I really wonder if there would be such forbearance  
21 between the good guys and the bad guys five years from now  
22 and how in the world you can defend rationally in a  
23 political forum where these kinds of issues are not going  
24 to be investigated in the same kind of depth.

25 MR. HALLETT: Mr. Chairman, I would like to

1 retreat from a position of advocating, if you ever thought  
2 I was advocating this concept. What I am saying is if you  
3 want to use the fleet average concept, this is the way we  
4 think it could work. We'll be glad to talk to other people  
5 with regard to their proposal --

6 CHAIRMAN IMBRECHT: Well, I thought you were  
7 advocating this in the context of alternative standards.

8 MR. HALLETT: No, I'm advocating suspending any  
9 further efforts to revise the existing standards, and I  
10 think you'll be pleased with the market-based results,  
11 particularly if you sweeten it with utility incentive  
12 programs, consumer education and other measures. I think  
13 you'll be very pleased with the continued progress that  
14 this industry makes without the need for disturbing the  
15 existing standards that are in place.

16 CHAIRMAN IMBRECHT: Thank you.

17 COMMISSIONER SCHWEICKART: Mr. Chairman, may I  
18 just try one further thing because I think it would inform  
19 this as well. Mr. Chamberlain, or Mr. Wheatland, is there  
20 not something fundamental in trade law, or somewhere  
21 where fairness and equity, or arbitrary and capriciousness  
22 is legitimately argued where government sanctions would be  
23 imposed on independent entities as a result of the behavior  
24 of others?

25 MR. WHEATLAND: Let me just say that I don't think

1 these are anti-trust issues, they might best be characterized  
2 as equal protection issues, that you'd want to have fair  
3 treatment for all people similarly situated. An argument  
4 might be that if someone wasn't violating the standard,  
5 that it would be unfair to punish them.

6 But I think that's the closest legal doctrine  
7 that would express the concern that you have.

8 CHAIRMAN IMBRECHT: Okay, maybe we can ask you  
9 to continue with your presentation. Let me -- just from a  
10 housekeeping standpoint, I think probably it would be  
11 useful for all of us to take a little break about 12:30  
12 and we'll come back and pick up wherever we might be, and  
13 that will take about an hour.

14 MR. DEHNER: Good morning, my name is Jim Dehner,  
15 and in deference to the corporation, I am the Manager of  
16 Product Planning for the Admiral Division of Magic Chef,  
17 not as the Admiral Corporation as previously stated by staff.

18 COMMISSIONER GANDARA: Sir, what was your name  
19 again?

20 MR. DEHNER: Admiral -- oh, my name?

21 COMMISSIONER GANDARA: Yes.

22 MR. DEHNER: Jim Dehner. Fred has presented a  
23 position, I'm going to talk to you about market-based  
24 programs and how these market-based programs can stimulate  
25 the consumer environment to further energy efficiency. I

1 think some of the questions that we just brought up, if we  
2 look at them from a marketing perspective as opposed to a  
3 political perspective, we might see the sanctions imposed  
4 by the consumer in the marketplace as opposed to the courts  
5 or the political reality.

6 I'm going to stand up as I make this presentation.

7 This is a summation of a presentation made July  
8 30th and 31st, and there are three basic issues that we  
9 want to present. First of all, I'd like to review the  
10 market for refrigerators, and also review the impact that  
11 we can have on that market.

12 Secondly, I'd like to discuss consumer purchase  
13 motivation just briefly, and then finally, we'd like to  
14 present an example --

15 (Skipped several slides.)

16 CHAIRMAN IMBRECHT: That's very brief I must say.

17 MR. DEHNER: Are there any questions, and in  
18 conclusion.

19 (Laughter)

20 COMMISSIONER SCHWEICKART: Three points for  
21 brevity.

22 MR. DEHNER: Finally I'd like to present an  
23 example which maybe you would like to use as a model here  
24 in the State of California which includes the effect of  
25 mass media advertising, consumer education and incentives in

1 the marketplace if you can --

2 MR. SASNETT: Sorry about that.

3 MR. DEHNER: First of all, I'd like to take a  
4 look at the objectives of a market-based program. We're  
5 all here to reduce the annual sales weighted average  
6 energy consumption of refrigerators sold in the state.  
7 We'd like to propose to do that by two ways, first of all,  
8 increasing the value of energy conservation in the  
9 consumer's purchase decision.

10 Now, when the consumer goes out and buys a  
11 durable good, he actually makes two decisions. His primary  
12 or his first decision is to go out and purchase a new  
13 refrigerator. His secondary decision is model selection  
14 within the models that are available for sale within the  
15 state. We want to address both of those issues today.

16 Second, through the marketplace, we want to  
17 create a continuing environment, which places an emphasis  
18 on energy cost both real and perceived energy cost to the  
19 consumer, and therefore stimulates competitive market  
20 forces to accelerate conservation technology, some of the  
21 things that were talked about earlier by staff and the  
22 petitioner.

23 One thing that we have to remember about refriger-  
24 ator buyers, and I believe it was alluded to earlier, that  
25 a purchaser of a durable good doesn't necessarily make a

1 spur of the moment decision to go out and buy a refrigerator,  
2 in fact, for the most part, they do not know when they're  
3 going to purchase a refrigerator.

4 We took a look in 1981 and found that 60 percent  
5 of the population out there has no idea when they're going  
6 to purchase a new unit, and in fact, something less than  
7 5 percent have made a planned purchase of a new unit.

8 Let's take a look at the sales weighted average  
9 efficiency of refrigerators and how that has changed since  
10 1972, and this is a figure that Bruce alluded to earlier,  
11 that since 1972 there's been about a 66 percent increase  
12 in sales weighted average efficiency of all models.

13 At that same time, energy consumption has dropped  
14 somewhere in the neighborhood of 40 percent.

15 Now, let's take a look at consumer motivation.  
16 When a consumer goes into the marketplace, his primary  
17 motivation is to buy a refrigerator to safely store fresh  
18 food. He's got several things on his mind. First of all,  
19 he's interested in capacity, the internal cubic foot volume  
20 of that refrigerator. That's influenced by his family  
21 size, his dietary patterns, and the shopping frequency.

22 Based on those three factors, he's pretty much  
23 certain what size refrigerator he's going to purchase.  
24 Configuration is affected by preference for freezer location  
25 either a top mount or a side-by-side. The need for usable

1 fresh food versus freezer volume, so they choose a propor-  
2 tion of fresh food volume versus freezer volume. Other  
3 appliances owned, for example, if they own a freezer  
4 already, they're less likely to purchase a unit with a  
5 large freezer, and probably purchase one with a smaller  
6 freezer, and the perceived value of owning the appliance.  
7 There is a higher perceived value of owning a side-by-side  
8 for example, than a top mount refrigerator.

9           The other variable that has to be considered is  
10 the external size of the refrigerator, and those dimensions  
11 are a function of the space available in the kitchen. We  
12 as manufacturers cannot readily change the external size  
13 of the refrigerator.

14           The construction industry builds a well in which  
15 the refrigerator fits. The well size varies on about  
16 three inch increments, and our refrigerators are already  
17 sized to fit those wells, so we cannot readily change  
18 dimensions on the external size of the refrigerator.

19           Now, market-based programs can provide a viable  
20 approach for increasing energy conservation in the state,  
21 and reducing overall energy consumption through the sale  
22 of more efficient appliances is a market-based problem.

23           We can take a look at reducing energy consumption  
24 in two ways, one, improving technology; two, increasing the  
25 propensity of the consumer to purchase a more efficient

1 unit, and what I want to talk about is that market-based  
2 problem of how to increase the propensity of that consumer  
3 to go out and purchase Model A which is more efficient  
4 than Model B, given his already established need for  
5 capacity, and his preference for product configuration.

6           What I'm going to lay out is a sample program.  
7 There are three elements to this program. They include  
8 mass advertising that would be used to sensitize the  
9 consumer to the need to conserve energy. It's important  
10 that this element of the program reach the consumer before  
11 he's made that primary purchase decision, before he goes  
12 into the marketplace to start trading off features for  
13 cost.

14           Once he gets in that purchasing environment, in  
15 that purchasing arena, he's being bombarded with a lot of  
16 different facts, he's got a variety of models to look at,  
17 he's looking at different features, and if he doesn't already  
18 come in with a value associated with energy, the message  
19 of energy is likely to get lost.

20           In addition to that, once we get them in that  
21 purchase arena, we have to educate them on the techniques  
22 for shopping for energy efficient appliances. Some of the  
23 terms that we throw around here, payback period, and cost/  
24 benefit ratio, they're totally foreign to a consumer, and  
25 he has to be educated on how saving money in the future is

1 going to benefit him today, even though he's going to spend  
2 more for that product today.

3 Finally, we've also included incentives for  
4 dealers to sell, and for consumers to purchase higher  
5 efficiency appliances. It's an integral part of the  
6 overall program.

7 First, let's take a look at that mass media  
8 campaign. Now, our target demographics are virtually  
9 anybody that would purchase a refrigerator, any homeowner --

10 COMMISSIONER GANDARA: Mr. Dehner, as you go  
11 through this, could you indicate who would be doing this?  
12 Are you proposing that the industry is going to do this, or--

13 MR. DEHNER: No, sir. We're proposing that these  
14 are utility sponsored programs within the State of  
15 California. Let's take a look -- go ahead.

16 COMMISSIONER GANDARA: Again, your previous  
17 chart doesn't have any reference to utilities. Are you  
18 indicating also all those programs in your previous chart  
19 also be done by the utilities?

20 MR. DEHNER: Yes, sir. This is a model that  
21 could be used here in the State of California by utilities  
22 to increase the sensitivity and promote energy conservation  
23 through the purchase of refrigerators.

24 Go ahead. Take a look at the target market. The  
25 demographics of that market would be all adults within the

1 35 to 54 age group. That's a fairly broad group, but that's  
2 the group of people who are purchasing refrigerators.

3 Now, the mass media would be statewide, and it  
4 would be centered in the four major metropolitan areas of  
5 the state, Los Angeles, San Francisco, San Diego and  
6 Sacramento. In addition to mass media, public relations  
7 would be used to complement the media mix.

8 Now, with mass media ongoing, public relations  
9 can be a very cost-effective means of increasing the reach  
10 and frequency of the message. The type of public relations  
11 which we would suggest would include utility spokesmen  
12 from this Commission, or maybe the PUC, to identify the  
13 program and the effects of that program, what you're trying  
14 to accomplish.

15 The mass media per se would include electronic  
16 media. We would average somewhere between 35 and 50 radio  
17 spots per week in each metropolitan area over a 26 week  
18 period. In addition to that, we would have print media  
19 in each metropolitan area that consisted of 12 inserts in  
20 Sunday supplement magazines. One every other week in the  
21 Sunday supplement magazine that comes with the Sunday  
22 newspaper, also, 10 insertions in the metro magazines, that's  
23 like the L.A. Magazine, and I believe there's one in San  
24 Francisco called the San Francisco Focus, one here in  
25 Sacramento called Sacramento, and 10 insertions in Sunset

1 Magazine, that's a regional magazine that hits the West  
2 Coast.

3 From this program we would expect an average  
4 reach and frequency. The reach would be 65 to 75 percent  
5 and the frequency would be 3.6 to 4 times during any  
6 four week period. That would mean we would hit 60 to 75  
7 percent of our target group an average of 3.6 to 4 times  
8 during any four week period.

9 The type of message that you might want to consider  
10 using, we had some ad concepts made up here that you might  
11 be interested in. The headline on this says, "This old  
12 box could be eating you out of house and home," and the  
13 copy that goes along with it says, "If you bought a  
14 refrigerator before 1978, chances are it uses 1,726  
15 kilowatt-hours per year of electricity. Today, however,  
16 many new refrigerators use only 1,160 kilowatt-hours per  
17 year. That's an energy saving of about 33 percent weighted  
18 for all models. By buying a new refrigerator today, you  
19 can save about \$40 the first year, based on current energy  
20 costs, and with energy costs going up, the savings will  
21 be that much greater in the years ahead. This is a great  
22 time to purchase one of the many great brands of trouble  
23 free energy saving refrigerators. You'll save money, and  
24 you'll help California conserve energy too."

25 The caption on this says "Save \$40 this year, more

1 in the years ahead."

2 One element that you could incorporate in the  
3 advertising is a graph here that would show the consumer  
4 what type of energy savings they could expect over a period  
5 of time, where you might have years and total energy savings  
6 over that time.

7 In addition to the mass media campaign, there  
8 would be an educational program. Now, once again, the  
9 educational program must take place after the consumer  
10 has entered the purchase arena, because it's only in that  
11 arena that the value of energy can be measured when the  
12 consumer is actually trading price for the various features  
13 of the appliance.

14 Now, the most effective media for delivering that  
15 message is the retail salesman. The retail salesman is  
16 primarily an educator. He's providing the consumer a  
17 great deal of information about the variety of products  
18 that are available so the consumer can make an intelligent  
19 purchase decision.

20 Now, the most effective means of motivating the  
21 salesman to deliver your message is through a commission  
22 paid directly to him. The suggestion here is that on an  
23 annual basis the CEC would supply each salesman a list of  
24 refrigerators approved for sale within the state, and their  
25 energy consumption rating.

1           Then sales commission could be varied on the basis  
2 of percent improvement over the state standard. Now, in  
3 this example, we've chosen improvements of 25, 30, and 35  
4 percent better than the current state standard, paying a  
5 commission between \$10 and \$30.

6           Just for a reference point, if we take a look at  
7 the sales as categorized by energy consumption, we see a  
8 chart that looks something like this. A total of about  
9 56 percent of sales in the state, were 20 percent or more,  
10 more energy efficient than the current state standards.

11           You can see in the 20 to 25 percent level, there  
12 were about 27 percent of sales. In the 25 to 30 percent  
13 level, there were an additional 20 percent and then sales  
14 began to drop off.

15           If we use the Commission's noted earlier, we  
16 would expect to reach 50 percent of all the conventional  
17 manual defrost units, 50 percent of the partial automatic  
18 sales, 50 percent of the top mount sales, and 25 percent  
19 of the side-by-side sales.

20           We took a look at program costs associated with  
21 the commission itself, and multiplying out the number of  
22 units at each level times the commission, you'd see that  
23 that would total about \$2.1 million a year.

24           A salesman training manual would add another  
25 \$5,000 to the total cost. Administration of the program at

1 \$120,000, this program would cost about \$2.27 million.  
2 Now, what could you save as a result of that.

3           If you take a look at the total number of units  
4 which would qualify for a commission, there would be  
5 about 240,000 units annually. Some of those would have  
6 qualified, or some of those would have been sold anyway  
7 without the incentive, approximately 158,000, but the net  
8 incremental sales would be 81,000 units on an annual basis.

9           Converting that to energy saved, we find that you  
10 save about 210 kWh per year, per unit or an annual incremental  
11 energy savings of 17.1 gigawatts per year. We take the  
12 present value of that over a 15 year life, and I've  
13 assumed a 3.5 cent per kWh avoided cost, which the staff  
14 tells me is a rather low avoided cost assumption here, and  
15 a 6 percent real discount rate, you come out with a present  
16 value of the energy saving of \$5.82 million or a benefit to  
17 cost ratio of 2.56.

18           The education program would be supplemented with  
19 a consumer rebate program. Now we've talked about consumer  
20 rebates here this morning. The program presented is a  
21 variation of several discussions that we've had with the  
22 PUC and with the staff also.

23           In this program we'd use a sliding scale rebate  
24 as a further incentive to -- for consumers to purchase the  
25 most efficient appliances. The program would be conducted

1 by the utilities as directed by the CPUC, but the rebate  
2 threshold would be high enough to encourage implementation  
3 of the most advanced technology while avoiding paying for  
4 insignificant energy savings.

5 This program picks up where the salesman incentive  
6 program leaves off.

7 We would start the rebate at a 40 percent level,  
8 and it would vary from 40, 45, and 50 percent levels.  
9 Currently, there aren't models available that exceed the  
10 standards, certainly by the 50 percent level, and very  
11 few that exceed it by as much as 40 percent.

12 But if we project into the future, we might  
13 forecast that a total of 20,000 units annually would be  
14 sold within those energy levels, and we would associate a  
15 rebate calculated on 2 cents per kWh over the first 10  
16 years life of that product at a 6 percent real discount  
17 rate.

18 Using those factors, you get rebates like you see  
19 here, \$51 to \$72, and if we multiply that times the annual  
20 sales forecast, you can see that the total cost of this  
21 program is about \$1.1 million. We also have to add  
22 administrative costs, and program materials that bring that  
23 up to about \$1.2 million.

24 For this investment -- well, let's take a look at  
25 the energy cost savings, and we'll work that back to a

1 benefit to cost ratio.

2 We would have to make an assumption that some of  
3 these models would have been sold anyway without the  
4 incentive. We've made an assumption that about 25 percent  
5 of them would have been sold, regardless of the rebate.

6 We take a look at the energy savings per year,  
7 it would vary from 348 to 490 kWh per year at the different  
8 energy levels. The total energy savings would be about 7.4  
9 million kWh per year, less the 25 percent that would have  
10 occurred without the program, making a net increment of  
11 5.5 million kWh per year.

12 Once again, assuming a 3.5 cent per kWh avoided  
13 cost and a 15 year life of the product, and a 6 percent  
14 real discount rate, the net present value of that is \$1.88  
15 million providing a benefit to cost ratio of 1.55, the  
16 dollar sign should not be there.

17 In summary, I'd like to sum up all the costs and  
18 take a look at the total benefit to cost ratio of the  
19 entire example. The mass media itself, the electronic  
20 media, the radio advertising we talked about earlier would  
21 cost about \$1.1 million for a 26 week flight.

22 The print media would add another \$833,000. The  
23 public relation activity would add about \$400,000.  
24 Creative and production of the print media and the  
25 electronic media would add another \$120,000. Point of

1 purchase material would be \$50,000 annually. The salesman  
2 incentive program, the sales commissions would be \$2.1  
3 million, and the administrative costs would be \$125,000.  
4 The rebate program, the rebates themselves would be \$1.1  
5 million and the administrative costs \$130,000. The total  
6 cost is a \$6 million bill, it's \$5.977.

7 On the other hand, what results could we expect?  
8 First of all, it's important that with any advertising  
9 program, media program, that these programs should be  
10 test marketed before full implementation. The preliminary  
11 goals in the mass media include that 60 to 75 percent  
12 reach of all purchasing age consumers within the state on a  
13 frequency of 3.6 to 4 times during any four week period  
14 during which we ran the mass media.

15 The salesman incentive program would reach 238,000  
16 units and save on an annual basis, 17.1 gigawatt-hours of  
17 electricity, with a net present value of \$3.55 million.

18 The rebate program would reach 20,000 units with  
19 an energy savings of 5.5 gigawatt-hours per year, the net  
20 present value of that program is \$65,700.

21 Now, in addition to that, you get an overall  
22 impact that the consumer comes in and purchases a model  
23 that's more efficient than they would have purchased anyway,  
24 but it might not qualify for a rebate. The overall impact  
25 of all the programs lumped together could be as high as

1 100 kWh per year.

2           Based on 100 kWh per year per model, times the  
3 number of units sold in the state, and the 3.5 cents  
4 per kilowatt-hour avoided cost, that has a value to the  
5 consumers in the state of \$1.875 million per year. On a  
6 life cycle cost basis, that equates to a present value of  
7 \$18.2 million, or an overall benefit to cost ratio of 3.05.

8           That's an example of market-based programs, and  
9 as mentioned earlier by both the staff and the petitioner,  
10 and our own presentation, we feel that there is a place in  
11 your overall program for market-based programs to increase  
12 the energy conservation within the state, and I'm open to  
13 any questions you might have.

14           CHAIRMAN IMBRECHT: Any questions? Commissioner  
15 Gandara?

16           COMMISSIONER GANDARA: For staff, a quick one.  
17 There are some features of the program that you proposed  
18 that I think are useful and interesting. The consumer  
19 education area, for example. I guess my question is, why  
20 is it that the manufacturers aren't undertaking this now,  
21 who are not -- I know that there are some efforts, but  
22 why is the proposal is that you implement this program as  
23 opposed to this involvement in the Energy Commission and  
24 CPUC, and so forth.

25           You're talking about, at least for that aspect of

1 the program, probably no more than \$3 million. I don't  
2 know, could you compare that with your current advertising  
3 budgets for your company as a whole?

4 MR. DEHNER: Let's go back and take a look at  
5 where the benefit lies for this program. We as a group  
6 do not see increased sales resulting in the State of  
7 California as a result of this program. What we see is  
8 model substitution. We see the consumer coming into the  
9 marketplace to purchase a refrigerator. They're going to  
10 purchase a refrigerator. The question is, which one do  
11 they purchase.

12 COMMISSIONER GANDARA: Do you have the same mark-  
13 ups on the more expensive energy efficient ones than on  
14 the other ones?

15 MR. DEHNER: I can't respond to that question.

16 COMMISSIONER GANDARA: We've been given the  
17 impression over the years that the markup is usually greater  
18 for the more efficient ones.

19 MR. DEHNER: I'm sorry, I can't respond to that  
20 question.

21 CHAIRMAN IMBRECHT: Okay, any further questions?  
22 Hearing none, why don't we take a recess now until 1:45,  
23 if that's appropriate, we'll come back and conclude your  
24 presentation at that time.

25 COMMISSIONER COMMONS: Before we adjourn, the

1 Advisory Committee meeting will obviously not start at  
2 1:30, and I think we have what about 30 to 45 minutes on  
3 our agenda after we finish this item. So the Advisory  
4 Committee meeting would begin about 10 or 15 minutes after  
5 the Commission meeting would be over.

6 (Thereupon the morning session of the business  
7 meeting of the California Energy Resources Conservation and  
8 Development Commission was adjourned for lunch at 12:40 p.m.)

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AFTERNOON SESSION

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3 CHAIRMAN IMBRECHT: Okay. Back to order, and  
4 let's see, who's next on the list?

5 MR. BENSON: Mr. Rivard.

6 CHAIRMAN IMBRECHT: Excuse me?

7 MR. BENSON: Fran Rivard.

8 MR. RIVARD: My name is Francis Rivard, I'm  
9 Vice President of Engineering for Greenville Products  
10 Company, a Division of White Consolidated Industries.  
11 My comments this morning are directed at the NRDC and the  
12 design options that were indicated in that document.

13 Manufacturers must consider many criteria  
14 impacting on the design change to give California the  
15 high quality, service free products which provide a benefit  
16 for your consumers. There must also be a benefit for  
17 manufacturers.

18 Some of these factors are product utilities, cost  
19 to implement the design change, tooling and equipment  
20 costs, retail price, service life, which is termed durability,  
21 serviceability and quality which we term reliability, and  
22 safety.

23 My specific comments are directed to the design  
24 options as identified by the NRDC. The first design option  
25 that I want to comment on is the high efficiency compressor.

1           Compressors available today have an EER of 3.65  
2 to about 4.5 EER, depending upon the size and type. The  
3 5.0 EER compressor work for the DOE was done by Columbus  
4 Products, another division of my company. This compressor  
5 was a Westinghouse design, and has been since discontinued  
6 because it was not a cost-effective design. There are no  
7 5 EER compressors available in the world today.

8           Double door gaskets. These have been tried by the  
9 industry, however we have had consumer resistance, due to  
10 freezing of the gasket to the inner liner. Amana,  
11 Whirlpool and ourselves have reported this defect. Our  
12 tests show that there is no increase in energy when they  
13 were discontinued.

14           Anti-sweat heaters. These are available and in  
15 use today by the industry. Consequently, there can be no  
16 energy savings.

17           Foamed doors. Foamed doors will impact on energy  
18 consumption, and some manufacturers are already using this  
19 option, but the actual performance was disappointing. The  
20 energy savings are less than indicated by the NRDC.

21           Two speed compressors. Today's compressors run  
22 at a synchronous speed of 3600 rpm. Prior to the mid-60's  
23 compressors run at a synchronous speed of 1800 rpm. We are  
24 not aware of any work being done on two speed compressors  
25 for refrigerators. There may be some energy reduction

1 potential, however, there are some practical considerations.  
2 One, controls to decide which speed to use must be developed.  
3 Size of the compressor valves, ports, muffler chambers,  
4 must be sized for the higher speed compressor which has the  
5 greater gas flow, and which may reduce the compressor  
6 efficiency at the lower speed.

7           Advanced insulation systems. Work has been done  
8 on an evacuated panel sandwich construction which could  
9 reduce the heat loss. This construction is similar to that  
10 of a vacuum thermos bottle. Shipping and handling could  
11 puncture the panel, and lose the vacuum, and subsequent  
12 loss in the insulation quality. These panels are not  
13 available and would require extensive development.

14           The next one is sequentially controlled evaporators.  
15 This allows the evaporator to operate at food compartment  
16 temperatures for a portion of the time, and at freezer  
17 compartment temperatures for a portion of the time. This  
18 would require some kind of an air ducting system on no  
19 frost refrigerators to route the air to the food, or to the  
20 freezer compartment.

21           The freezer compartment has the biggest impact on  
22 energy consumption. It is questionable whether this would  
23 save energy. It would increase the complexity of the air  
24 system, and the refrigeration system which has a cost and a  
25 reliability penalty.

1 Hot gas defrost systems. These systems were  
2 used by the industry in the 1950's and were discontinued  
3 for several reasons. One, they didn't save any energy over  
4 the radiant defrost systems used today. Two, they were  
5 noisy because the solenoid valve buzzed and rattled on the  
6 back of the refrigerator. Three, they were sensitive to  
7 the ambient that -- that is, the colder room temperature,  
8 the longer the defrost period takes.

9 I can remember service complaints where at 50  
10 degree room temperature, it took three to four hours to  
11 defrost a refrigerator. On some freezers which were located  
12 in garages or breezeways, once they went into the defrost  
13 mode, they would never come out of the defrost mode because  
14 there was not enough heat in the compressor to subsequently  
15 defrost the evaporators.

16 Bottom mounted condensers. These have been used  
17 in the past, and some manufacturers are using them today  
18 with condenser fans. Tests show that there is no energy  
19 savings over a static condenser mounted in the back, versus  
20 a bottom condenser with fan. Bottom mounted condensers  
21 will have a higher service incidence because the efficiency  
22 will be affected by the accumulation of lint and dirt  
23 under the refrigerator.

24 We can all remember the instructions which said  
25 clean your refrigerator every three or four months.

1           Increased insulation thickness, here two and a  
2 half to 2.5 and there's another one in there from greater  
3 thickness. This option would have the most significant  
4 impact on energy reduction, and also the most significant  
5 impact on tooling and equipment. All of the interior parts  
6 of a refrigerator related to either the width or the depth  
7 would have to be retooled.

8           Thicker insulation, if you are to maintain the  
9 same size would require either a change in the exterior or  
10 the interior dimensions which would impact the consumer  
11 utility. For instance, a one inch increase in the thickness  
12 of insulation all over inside without changing the exterior  
13 dimensions would result in a loss of about 3 cubic feet,  
14 which is equivalent, I'm told, to about \$100 at retail.

15           Remove the hot wall condenser. This type of  
16 condenser is not in general use on refrigerators. They are  
17 in use on refrigerators -- on freezers. There would be  
18 no energy saving resulting on refrigerators.

19           Externally mounted freezer fan. I've seen this  
20 type of design in Japanese refrigerators five or six years  
21 ago. On my tour, just the beginning of July in four  
22 refrigerator plants in Japan, I did not see any of these  
23 refrigerators with the external freezer fan. Our tests  
24 indicate a very little savings in energy. We would expect,  
25 however, a significant increase in the noise level of the

1 refrigerator, as well as an increase in the failure rate of  
2 fans, due to its being in the hot air stream coming off the  
3 condenser in the back of the refrigerator.

4 Improved efficiency freezer fan motors. Current  
5 freezer fan motors use about 11 watts, or 11 watt motors,  
6 and the energy reduction due to an improved efficiency  
7 motor would be very small, less than .016 kilowatts per  
8 day, which is less than 6 kilowatts per year.

9 Increased insulation there is the next one, and  
10 I've already made comments on that. The next there is the  
11 improved defrost control. The industry has moved from six  
12 hours of elapsed time on defrost controls to six hours of  
13 compressor run time, and longer periods between defrosts.

14 Currently, product being built has -- current  
15 product being built has periods of eight hours of compressor  
16 run time, and in some cases up to 12 hours. No frost systems  
17 do have to be defrosted, and no frost systems do provide a  
18 consumer convenience that they value.

19 So in conclusion, the NRDC study seems to be based  
20 on theory. It demonstrates a lack of understanding of the  
21 practical considerations for commercial products, and  
22 illustrates a lack of knowledge of the products presently  
23 on the market and should not be relied on in these  
24 proceedings. Thank you.

25 CHAIRMAN IMBRECHT: Thank you very much. Any

1 questions from members of the Commission? Commissioner  
2 Commons?

3 COMMISSIONER COMMONS: Could you give your  
4 comments on the DOE 1 through 6 levels as to the engineering  
5 and economic efficiency of those?

6 MR. RIVARD: I can't right now, Commissioner  
7 Commons, but I have that study in progress, but I'm not  
8 prepared to comment at the moment.

9 CHAIRMAN IMBRECHT: With respect to our staff  
10 representative, I should ask confirmation of this initially,  
11 whether the industry indeed anticipates being able to meet  
12 Level 5, I believe, through normal market improvements,  
13 et cetera.

14 As I understood his representation, by 1993, as  
15 I recall, is that --

16 MR. BENSON: '96.

17 CHAIRMAN IMBRECHT: '96. Is that an accurate  
18 anticipation?

19 MR. BENSON: Our forecast, Mr. Chairman, was  
20 865 kWh by 1996, and I believe that corresponds to Level 5.

21 CHAIRMAN IMBRECHT: Okay. What is it that is in  
22 that \$65 cost that might be difficult or onerous to go  
23 beyond that?

24 MR. BENSON: I'll have to defer to the other  
25 people in the industry.

1           MR. RIVARD: I don't know where those figures  
2 came from. I have not seen the data, so I can't comment on  
3 that, I don't know whose figures those are.

4           CHAIRMAN IMBRECHT: The representation is that  
5 those are DOE figures?

6           MR. MESSENGER: If you'd like, I can answer that  
7 question.

8           CHAIRMAN IMBRECHT: Fine.

9           MR. MESSENGER: Again, back in May of this year,  
10 staff published a staff report including those numbers, and  
11 they were distributed to all members of the industry.  
12 Those numbers represent DOE's best judgment on what the  
13 incremental cost of going from each efficiency are adjusted  
14 to 1983 dollars.

15                   In subsequent workshops, we have continually  
16 asked for comments from the industry on whether or not  
17 these options are technically feasible, and if the cost  
18 estimates are correct, and to date we've received assurances  
19 that -- well, actually, that information will be brought  
20 into the record, but at this point it's not.

21           CHAIRMAN IMBRECHT: All right.

22           MR. RIVARD: Russ just indicated to me that the  
23 two options, that going from Level 5 to Level 6 with the  
24 5 EER compressor and the hybrid evaporator.

25           CHAIRMAN IMBRECHT: One other question. You

1 indicated that no such compressor was currently available,  
2 nor was any work being done on it. Who other than  
3 appliance manufacturers would likely be doing work on such  
4 a compressor?

5 MR. RIVARD: I would assume all of the compressor  
6 manufacturers in the world would probably be working --  
7 doing work in this area of improving efficiency in  
8 compressors. There's Tacumsey, Danfoss, Embrocco in  
9 Brazil --

10 CHAIRMAN IMBRECHT: But typically, the compressors  
11 that we have in our refrigerators in our homes, those are  
12 subcontracted units, and White, or G.E., do you make your  
13 own compressor, or --

14 MR. HALLETT: We at White Consolidated make our  
15 own compressor, yes.

16 MR. SASNETT: So does General Electric, not all  
17 of them, but most of them.

18 MR. DEHNER: We at Admiral do not, we purchase  
19 the component.

20 CHAIRMAN IMBRECHT: Well, I guess my question,  
21 when you say there's no work being done on it, you know,  
22 aren't your own research and development people looking at  
23 more efficient compressors?

24 MR. RIVARD: We're working on more efficient  
25 compressors everyday, certainly.

1 MR. HALLETT: To clarify that point --

2 CHAIRMAN IMBRECHT: But not to that high a degree?

3 MR. RIVARD: Well, I think those are questions  
4 that I'd prefer not to answer in front of my colleagues.

5 MR. HALLETT: You could talk about the Columbus  
6 products.

7 MR. RIVARD: Well, I did talk to the Columbus  
8 products. That was work that was done by Columbus Products  
9 for the Department of Energy.

10 MR. HALLETT: On contract.

11 MR. RIVARD: On contract in a 5 EER compressor,  
12 that was a White-Westinghouse design compressor which we've  
13 decided was not cost-effective and have discontinued its  
14 use. In fact, those tools are for sale if anybody would  
15 like to buy them.

16 MR. DEHNER: The question you raised, I believe,  
17 was what were the two design changes going from Level 5  
18 to Level 6. We addressed the one design change. The other  
19 design change is a hybrid evaporator. I can't speak for it  
20 technically, but we at Admiral had a very significant  
21 concern about the ability of the hybrid evaporator as  
22 proposed to handle the heat load into the refrigerator  
23 in high access conditions, normal meal time preparations.

24 We felt that it would not perform as well as the  
25 unit as designed now, maybe some technical input from one

1 of my colleagues might help here, but --

2 MR. RIVARD: The only comment I can make on that  
3 is the hybrid evaporator which has a no frost freezer and  
4 a cycle defrost, or a refrigerator compartment evaporator,  
5 and that's an evaporator that defrosts every time the  
6 compressor shuts off due to the control setting of the  
7 refrigerator itself.

8 That kind of a refrigerator was manufactured by  
9 Kelvinator as late as 1969 and has been since discontinued  
10 also.

11 COMMISSIONER SCHWEICKART: Why?

12 MR. RIVARD: We didn't feel that it was a cost-  
13 effective, what the consumers wanted.

14 COMMISSIONER SCHWEICKART: Was it in fact  
15 terminated because of that single feature?

16 MR. RIVARD: Because of that single feature, no,  
17 the refrigerator itself was not a cost-effective type  
18 refrigerator.

19 COMMISSIONER SCHWEICKART: Did it have anything  
20 material to do with the fact that it was a defroster or  
21 a heat exchanger which had this characteristic?

22 MR. RIVARD: Well, some of the things that he  
23 talks about here is that in the high ambient conditions,  
24 under heavy usage, you do tend to lose control of the  
25 refrigerated compartment, and the recovery periods are quite

1 long, that is, returning back to the normal operating  
2 temperatures, and there are examples of that kind of an  
3 evaporator on the market today in partial automatic  
4 refrigerators that are currently being used.

5 CHAIRMAN IMBRECHT: Okay, further questions?  
6 Commissioner Gandara.

7 COMMISSIONER GANDARA: One brief question, Mr.  
8 Robard --

9 MR. RIVARD: Rivard, Rivard is the name, Mr.  
10 Gandara.

11 COMMISSIONER GANARA: Robard, R-o-b-a-r-d?

12 MR. RIVARD: R-i-v-a-r-d.

13 COMMISSIONER GANDARA: Rivard. I'm left with  
14 the impression from your presentation that I know what it  
15 is you feel are problems, but I don't know what it is  
16 you're doing to improve the efficiency of refrigerators,  
17 other than the defrost that you mentioned.

18 I mean, are there any measures that you would  
19 recommend be taken to improve refrigerator efficiency, and  
20 if so, what measures are those that you see, because the  
21 industry has been telling us, necessarily, the efficiency  
22 is going to improve, that the market is going to pull it  
23 along. I'm just kind of curious which ones it is that  
24 you do feel are cost-effective, if any.

25 MR. RIVARD: I'd prefer not to answer that, sir.

1 COMMISSIONER GANDARA: Okay, thank you.

2 CHAIRMAN IMBRECHT: Can you --

3 MR. HALLETT: Commissioner, if I could amplify --

4 CHAIRMAN IMBRECHT: Yeah, it's a little difficult  
5 for us, sir, in all due respect --

6 COMMISSIONER GANDARA: I would prefer not to  
7 listen, frankly.

8 CHAIRMAN IMBRECHT: In all due respect, could you  
9 give us some reason why you prefer not to answer?

10 MR. RIVARD: Well, I think it exposes to my  
11 competitors who are sitting around the table, the plans and  
12 things that we have in our department, and I prefer to  
13 keep that to ourselves, as I'm sure that they will prefer  
14 to keep that to themselves also.

15 CHAIRMAN IMBRECHT: I just wanted -- I thought it  
16 would be appropriate for you to have on the record some  
17 explanation for your reason, and I just -- would it be  
18 safe to assume -- let me try this question, and try to get  
19 at that same topic, slightly.

20 Would it be safe to assume that the DOE measures  
21 that constitute up to Level 5 all, or some portion of those  
22 you agree are cost-effective, or are likely to, and it's  
23 probably industry consensus?

24 MR. RIVARD: Well, as I indicated before, we  
25 have those studies underway right now to determine for

1 ourselves those cost measures that are left to include as  
2 to whether they're cost-effective, and what tooling would  
3 be necessary to do that.

4 Some of them are already in the products, as  
5 I alluded to in our presentation.

6 CHAIRMAN IMBRECHT: Thank you very much. Okay,  
7 Mr. Sasnett?

8 COMMISSIONER SCHWEICKART: Let me just press that  
9 and see. Mr. Rivard, if you would, sir?

10 MR. RIVARD: Sure.

11 COMMISSIONER SCHWEICKART: The Chairman just asked  
12 what measures of those that have been discussed, whether  
13 suggested out of the DOE Levels 1 through 6, or by NRDC  
14 beyond that, were in your estimation cost-effective. I'm  
15 curious whether cost-effectiveness is the basis on which  
16 you make such decisions as to what to include in your  
17 products?

18 MR. RIVARD: Well, as I tried to indicate in the  
19 first slide that I showed, there are many criteria that we  
20 use to identify those. Product utility, and the cost to  
21 implement that. The tooling and equipment costs that are  
22 required in our factories to make those design changes,  
23 that impact on retail price, of whether the designs that  
24 we have will provide a long service life durability, whether  
25 or not they're serviceable, and at a high quality level,

1 and of course, the safety aspects as indicated by UL.

2 All of these criteria go into our assessment of  
3 trying to arrive at a design option of whether --

4 COMMISSIONER SCHWEICKART: Okay, but cost-  
5 effectiveness is not one of them.

6 MR. RIVARD: Cost-effectiveness to the consumer.

7 COMMISSIONER SCHWEICKART: Well, either to the  
8 consumer, or to the society as a whole, or --

9 MR. RIVARD: Well, I didn't intend this to be an  
10 all-inclusive list.

11 COMMISSIONER SCHWEICKART: Well, let me put it  
12 another way.

13 MR. RIVARD: That's in the retail price.

14 COMMISSIONER SCHWEICKART: Do you, while  
15 recognizing that this -- you've indicated are considerations  
16 in terms of what your designs will be, do you consider  
17 cost-effectiveness as a criteria for decision-making within  
18 your industry?

19 MR. RIVARD: Yes. Yes, the energy reduction  
20 versus the cost to do that, that's a measure of the  
21 cost/benefit, is the energy --

22 COMMISSIONER SCHWEICKART: To the consumer?

23 MR. RIVARD: To the consumer. The energy reduction  
24 and the label value on the refrigerator, and whether or not  
25 that provides a value is one of the criteria.

1           COMMISSIONER SCHWEICKART: Okay. And that is  
2 part of what you consider in your decision as to what to  
3 do with your designs.

4           MR. RIVARD: Absolutely.

5           COMMISSIONER SCHWEICKART: Could you provide us  
6 with the basis of your cost-effectiveness calculations?

7           MR. RIVARD: It's a simple, simple calculation,  
8 the energy saved versus the cost to do that, and I'm  
9 working on those studies right now.

10          CHAIRMAN IMBRECHT: Over the expected life of  
11 the product?

12          MR. RIVARD: Over the expected life of the  
13 product, yes.

14          CHAIRMAN IMBRECHT: Which your 15 years, is that  
15 the industry standard?

16          MR. RIVARD: Well, the industry standard is  
17 somewhere between 15 and 20, and I think 19 is the number  
18 that's been used.

19          CHAIRMAN IMBRECHT: So we'd be safe if we based  
20 our cost/benefit analysis on 15 years, we'd be erring on  
21 the conservative side in that case?

22          MR. RIVARD: Well, that's kind of an arbitrary  
23 number. DOE has selected 19 years, I believe, we life test  
24 to 20. The average life of a refrigerator is about 15.

25          CHAIRMAN IMBRECHT: So if we used 15, we would

1 be erring on the conservative side, in any case, in terms  
2 of those calculations.

3 MR. SASNETT: Mr. Chairman, if I might add a  
4 comment on that point. I think we're talking two different  
5 things. One is the life of the refrigerator, and the other  
6 one is what the cost-effective or payback period is, and  
7 I think perhaps these two might be getting interchanged,  
8 and the payback period, or the cost-effectiveness, at least  
9 to the consumer, is certainly not considered over the life  
10 of it.

11 I think that it's somewhat less than the life  
12 by a great measure when you compare it to the consumer,  
13 what the consumer is willing to pay extra.

14 CHAIRMAN IMBRECHT: Okay, thank you very much.

15 COMMISSIONER SCHWEICKART: Well, let me make it  
16 a specific request, though, on behalf of the Committee, I  
17 would like to have whatever you can make available to us  
18 in terms of the basis of your calculation of cost-  
19 effectiveness, because we are fundamentally talking about  
20 here a criteria, and it's part of our law that we must  
21 consider cost-effectiveness to the consumer, and to the  
22 society.

23 MR. RIVARD: I appreciate that, and we are working  
24 on those studies.

25 COMMISSIONER SCHWEICKART: All right, thank you.

1 MR. SASNETT: Mr. Chairman, my name is Russell  
2 M. Sasnett I'm the Manager of Regulatory Relations for  
3 General Electric Company. I'm speaking today on behalf of  
4 AHAM.

5 In the workshops and hearings held by the  
6 Conservation Program Committee, since the Commission's  
7 January 11th, 1984 order instituting hearings on refrigera-  
8 tors and freezers, the CEC staff has presented three  
9 reports regarding standards.

10 These reports have addressed the subjects of  
11 product classes, the energy efficiency descriptor to be  
12 used, the design options to achieve higher efficiency, the  
13 energy savings related to the higher efficiency products.

14 Staff has also presented recommendations for  
15 standards and fleet average goals, in reports of May 21,  
16 July 6th, and July 30th. AHAM will comment on each of these  
17 items, and on the staff's recommendations.

18 Staff proposes to categorize the refrigerators  
19 and refrigerator/freezers in the four classes, two for  
20 refrigerators, and two for freezers. These classifications  
21 ignore the findings of the U.S. Department of Energy in  
22 its appliance energy efficiency standards program.

23 DOE established eight classes for refrigerators  
24 and refrigerator/freezers and established five classes for  
25 freezers. DOE recognized the consumer utility of defrost

1 systems, ice and water through the door service, freezer  
2 temperatures, as well as product configurations.

3 When staff analyzed the effect of standards on  
4 the various classes, the result was that the standards are  
5 less stringent for some DOE classes, and more stringent  
6 for others. CEC staff must acknowledge that the combining  
7 of classes produced unequal consumer impacts.

8 When standards are established that restrict  
9 sales at varying levels, in order for standards to be  
10 neutral, relative to differing consumer utility, they must  
11 use the DOE established classes and not the analysis of  
12 -- and not be unequally restrictive.

13 Staff proposed continued use of energy consumption  
14 as the energy efficiency descriptor. The proposed equation  
15 for a standards level was a function of the total refrigera-  
16 tor volume. This descriptor did not recognize the differ-  
17 ences between freezer temperature and fresh food  
18 temperature.

19 DOE established test procedures which incorporated  
20 these differences and the measure of efficiency by  
21 establishing the energy factor which uses adjusted volume  
22 of refrigerated space.

23 After considerable discussions, staff and AHAM  
24 agreed to use energy consumption in a form that includes  
25 the DOE adjusted volume. This is essentially equivalent

1 to the energy factor. With this agreement, there's no  
2 further controversy on this particular issue.

3 Staff chose to use the DOE design options analysis  
4 for its analysis of cost of improvements in energy  
5 efficiency in refrigerators and freezers. DOE's analysis  
6 was based on 1979 models, and various identified design  
7 element changes to improve efficiency.

8 DOE chose a single model from each class to  
9 represent the whole class. Through iterative dialogue  
10 with manufacturers in 1979, the base model and the identified  
11 design elements were verified as options to achieve higher  
12 efficiency. The only significant modifications to these  
13 DOE selected models, and the design options was the  
14 compressor with a high EER and a hybrid evaporator.

15 Industry comments were limited because of the  
16 rulemaking schedule, however, AHAM and some of its members  
17 have commented on the design options added by DOE in its  
18 latest technical supplement, and more particularly, Mr.  
19 Rivard just recently talked on those particular two issues.

20 AHAM has expressed its concern of the analysis  
21 of the design options, and we believe it is appropriate to  
22 reiterate them. The base model used by DOE is outdated.  
23 Many of the design options cited by DOE have already been  
24 used by many of today's models. The energy consumption of  
25 the average model has been substantially reduced since 1979.

1           The costs developed by DOE and used by CEC staff  
2 are not appropriate for the following reasons: costs are  
3 not current, they have not been developed using current  
4 models, the DOE cost assume national sales whereas California  
5 standards only apply to California sales, therefore, costs  
6 must be allocated to California sales only.

7           Finally, staff did not analyze costs incrementally  
8 from each level, that is, until today, today we saw that  
9 chart that showed incremental costs, based on the DOE  
10 analysis, this is the first time we've seen that and are  
11 not prepared to discuss that further at the moment.

12           Staff was advised to update the model and design  
13 elements necessary to achieve the higher efficiency levels.  
14 This has not been done. The use of a hypothetical model  
15 to scope the impact of standards is only valid if it is  
16 based on current data and has been validated to represent  
17 current models.

18           Staff has presented energy savings calculations  
19 on at least three occasions during the current rulemaking  
20 using an improper methodology and inconsistent bases.  
21 Staff uses the current CEC standards as a baseline from  
22 which to calculate savings. This is improper because it  
23 assumes the average of all products are at the standard  
24 level.

25           In 1983, the average of all refrigerators was

1 18.5 percent below the standards. Staff also uses the  
2 market average at the DOE level. Since many models are  
3 below the consumption of the lower DOE level, it is not  
4 possible for the average to be at the DOE level.

5 Staff has overstated sales of refrigerators which  
6 inflates the savings. AHAM has presented historical sales  
7 data to the Committee pointing out this overstatement.  
8 Because staff has not presented the results of its savings  
9 calculations on a consistent basis, it is extremely difficult  
10 to discern changes and to compare more recent estimates.

11 For example, the following estimates for top  
12 mounted refrigerators have been made. On May 21, yearly  
13 savings for 1994 were presented, and the cumulative savings  
14 for the period 1986 to 2004.

15 On July the 6th, yearly savings for 1996 were  
16 presented with cumulative savings through 1996. And on  
17 July 30th, the yearly estimates for 1990 were presented for  
18 incentives plus a total conservation plan with cumulative  
19 savings through 1990, and in this presentation, the savings  
20 per unit for 1990 for the incentives program exceed the  
21 1983 energy consumption per unit, and there were certain  
22 years in that period between 1983 and 1990 that the  
23 incentive savings exceed the total plan. This is not  
24 possible.

25 Staff's energy calculations are based on an

1 improper methodology, and in certain instances are not  
2 internally consistent. Savings estimates are an essential  
3 part of this rulemaking and must be performed in a manner  
4 that provides the most accurate estimate with known data.

5           Since the Warren-Alquist Act requires standards  
6 not to increase the total cost to the consumer over the  
7 life of the product, it's absolutely necessary to know the  
8 energy savings to the consumer in order to determine if  
9 the savings offset the increased purchase price.

10           Staff is recommending fleet average goals for the  
11 year 1987-1996. These goals include the effect of standards,  
12 incentives, replacement program, and consumer education.  
13 This chart depicts the staff recommendation on 7/2, on 7/6  
14 and 7/30 including the recommended fleet average levels to  
15 be codified in law.

16           COMMISSIONER COMMONS: Could you go back there,  
17 that was fairly fast.

18           (Pause)

19           COMMISSIONER COMMONS: Thank you.

20           MR. SASNETT: Since the fleet average approach  
21 relies on several actions independent of CEC authority, or  
22 industry actions, it appears to be an improper imposition on  
23 industry. AHAM is not in agreement with the goals staff  
24 has recommended because the levels were developed using a  
25 nonvalidated hypothetical model, as well as including

1 market actions that are outside of industry actions such as  
2 incentives and educational programs.

3 AHAM suggests that staff's current analyses not  
4 be used for the decision-making. Staff should update and  
5 validate the hypothetical models used for analyses, and  
6 adopt an appropriate energy savings calculation methodology.  
7 I'd be happy to answer any questions.

8 COMMISSIONER SCHWEICKART: Are there any questions?  
9 I have one, I believe that one of the things you said,  
10 Mr. Sasnett, was related to some of the data used by staff  
11 didn't correspond with industry figures, or something of  
12 that kind, and I believe that-- Mike, you'd have to speak  
13 to this, but I believe there have been requests for  
14 information from industry which last I heard had not been  
15 provided in terms of cost, and savings, and things of that  
16 kind. Could you review where we stand on that, Mike?

17 MR. MESSENGER: Certainly. Before I do that,  
18 let me say that I don't think it's appropriate for me to  
19 go back and point out how I think that several of the things  
20 that were put up here were inconsistent, and in fact,  
21 misstatements of what the staff presented, but we will do  
22 so at a later time.

23 In terms of the data requests, as far as I know,  
24 and Commissioner Gandara is not here, and he'd be the best  
25 person. Early in 1983, Commissioner Gandara who was then

1     presiding over the Appliance Committee began to request  
2     sales weighted efficiency data, and also cost data, and  
3     that was during his review of the standards, his so-called  
4     white paper to decide what we should do now that we've  
5     passed a series of standards, is there a need to update  
6     them, et cetera.

7             Since then, there have been a number of data  
8     requests, both from the Committee and the staff to the  
9     industry to provide cost data and sales weighted efficiency  
10    data. What I would consider as a major victory for the  
11    citizens of California is that AHAM did, in fact, deliver  
12    sales weighted efficiency data to this Commission on June  
13    1st, roughly six months after we asked for it.

14            They did an excellent job, and we hope that they  
15    will continue to bring that data in every year.

16            In terms of the costs due to -- I'm going to call  
17    them institutional problems, as well as to a certain degree,  
18    inertial problems, they've not yet been able to figure out  
19    a method by which they could bring in cost data to the  
20    Commission, even though that's been requested. However,  
21    they assured me that they're making progress on that front,  
22    and my best hypothesis is that they're probably going to  
23    bring in the cost data on the last day of the proceedings.

24            COMMISSIONER SCHWEICKART: I would just indicate,  
25    Mr. Sasnett, that one of the real difficulties the Commission

1 has here in dealing with matters of this kind is where we  
2 -- it is difficult to weigh criticism of the staff's work,  
3 as not comporting with industry experience when industry  
4 is for one reason or another either not willing, or for  
5 some other reason has not come forward, in fact, with  
6 detailed data in a timely way.

7 I would -- let me just indicate that the kind of  
8 well publicized schedule which we have had, and provision  
9 of data late in the proceeding where it is unavailable in  
10 a timely fashion for deliberation is something which is not  
11 only difficult for the Commission, but let me say, has by  
12 some people in the past has been used as a tactic, and it  
13 is not well taken.

14 I would hope that whatever we can do to aid you  
15 in freeing quality data in a timely way so that it can be  
16 used, in fact, in setting rational standards is most  
17 appreciated. We have no problem with frankly trashing the  
18 staff's numbers where there is good data available that  
19 can be validated, and is representative.

20 MR. SASNETT: Well, Commissioner, I have a couple  
21 of comments. Number one, I think that relative to the  
22 analysis of the DOE data, this was pointed out very early  
23 in the proceedings, that the DOE analyses were outdated,  
24 there had been a lot of changes. As a matter of fact,  
25 information that the industry provided in summary form of

1 its improvements in efficiency indicated that there had  
2 been substantial improvements since DOE had established  
3 its analysis back in 1979.

4 DOE, when it chose to investigate the issue of  
5 standards, hired a consultant to analyze this -- these  
6 products on a technical basis, and to go through and  
7 establish at that particular point in time analyses that  
8 would provide cost information on a hypothetical basis on  
9 which manufacturers could then individually, or collectively  
10 comment if appropriate.

11 That was our early on discussion with the  
12 Committee and with the staff. That's the thing that needs  
13 to be done in this case. Do not start from an outdated  
14 piece of information. Update that information. There are  
15 data available to indicate that the averages have improved  
16 substantially.

17 So I think that one of the points that we were  
18 trying to make is let's start with an updated basis, and  
19 that seems to us to be one if the staff is going to  
20 calculate savings, and to estimate the savings, then the  
21 burden would seem to be that they start with a basis that  
22 is more truly represents what the current market is. That  
23 was one comment I'd like to make.

24 Second, relative to supplying information and  
25 being cooperative, I think that AHAM has tried very hard to

1 be cooperative in this effort of providing information, and  
2 I would ask that the Committee and the Commission recognize  
3 the difficulty with which industry is faced relative to  
4 providing highly proprietary data. It is not an easy task  
5 to provide it, information that we will not even be able  
6 to look at ourselves is something that is very difficult  
7 for us to provide.

8 We've been working on that as a means of finding  
9 a way that we can provide it. We recognize the Commission's  
10 need for this information. At the last hearing, industry  
11 provided, AHAM provided a proposed arrangement whereby the  
12 industry individually, manufacturers could develop data that  
13 would provide cost information that could be used to  
14 determine payback based on current models, and provided a  
15 means for handling that under a proprietary arrangement in  
16 order to protect ourselves from each other because of the  
17 competitive nature of the situation.

18 That information was presented at the last hearing,  
19 and it has not been resolved how to get to that. I think  
20 that that is at least on our part an indication that we  
21 recognize the need for that kind of information. Secondly,  
22 it takes into account the fact that the realities of the  
23 situation of trying to provide it in a manner that does not  
24 cause us competitive harm which we have to deal with in 50  
25 states.

1           So those are the issues that we've been trying to  
2 deal with, and I think we have provided as much information  
3 and tried to do it in as timely a manner as possible for  
4 the Commission, for the Committee and its study, and we're  
5 continuing to do that, and we've just gone out and provided  
6 the Committee with our estimates of where the industry  
7 can be, at least where the experts in the industry feel  
8 they can be by 1996, and that is a summary of a lot of the  
9 information that each individual manufacturer feels can  
10 be accomplished.

11           So I think from the data point of view, we are  
12 trying to be responsive, but we hope that you would under-  
13 stand the situation and our concerns about the proprietary  
14 data.

15           COMMISSIONER SCHWEICKART: Commissioner Commons?

16           COMMISSIONER COMMONS: Yes. Mr. Wheatland, to  
17 what extent is the Commission allowed or not allowed to  
18 rely upon data that has been submitted confidentially?

19           MR. WHEATLAND: Well, I believe we discussed at  
20 one of the Committee hearings, it's the opinion of our  
21 office that the Commission may consider in a rulemaking  
22 proceeding, any information including confidential  
23 information, but that in order that a decision be based  
24 upon information in the record that's publicly available,  
25 the Commission could not base a decision solely on the

1 basis of confidential information.

2 That is, confidential data could collaborate  
3 other information that's in the record, but it couldn't be  
4 the sole basis of the Commission's decision.

5 COMMISSIONER SCHWEICKART: I do indeed appreciate  
6 the difficulty in a competitive industry of what you're  
7 talking about. Nevertheless, as you point out, unless one  
8 assumes, and I understand that notwithstanding all the  
9 work that's been done, your position is basically, we  
10 shouldn't regulate, in which case, then, there's no problem,  
11 but given that we're going to regulate, then clearly, that  
12 has to be done on some rational basis.

13 While you may disagree with staff's numbers,  
14 unless there is some means identified for providing a  
15 basis for improved numbers, it's very difficult to sit  
16 here and weigh something without being grounded, is simply  
17 critical of other numbers, which at least have some support  
18 in DOE analysis, or DOE guesses, or DOE publication, let  
19 me say, DOE documentation which at that time, at least,  
20 appeared to be perhaps if not fully satisfactory, not torn  
21 down by the industry at the time that DOE released that data.

22 But I understand that. Now, also, I would simply  
23 point out in some fairness to staff that they did show  
24 savings from both bases, although most of it was from the  
25 bases of the existing standard rather than the current

1 practice. Nevertheless, current practice was also demon-  
2 strated and we will take that into account.

3 MR. SASNETT: Commissioner, one other comment, if  
4 I could, on that point. I don't think you should take  
5 these comments relative to the staff analysis as totally  
6 critically. I think it's merely a reporting of the  
7 situation and to our concerns relative to the situation.

8 We recognize that staff is working with these  
9 data from the DOE analysis, we also recognize that they  
10 were outdated, and we suggested that in order to get them  
11 more updated that some work was going to have to be done.  
12 That work, at least in our view, fell to the staff and to  
13 the Commission to provide that. It certainly did in the  
14 case of DOE when they were doing the analysis, it started  
15 out and got an updated analysis at that particular point in  
16 time. That's the point I'm really trying to make.

17 COMMISSIONER SCHWEICKART: Yes?

18 MR. BEARD: I'm prepared to discuss some of the  
19 things that have come up in the AHAM meetings relative to  
20 the cost and what we now feel we can do. My name is  
21 William L. Beard and I'm General Manager of Refrigeration  
22 Products Engineering for Whirlpool Corporation.

23 I think what I have to present here, which we  
24 had intended to present in the meeting later this afternoon,  
25 would be appropriate at this point in time.

1           This whole question of costs, and how to get  
2 around the problems associated with it has been difficult  
3 for us on both sides. We've struggled to find a way that  
4 we could reasonably submit cost data to the California  
5 Energy Commission.

6           The confidentiality issue is really a major  
7 problem. There's a lot of concern about what can be done,  
8 what can't be done, will it become public, won't it become  
9 public, what kind of problems might we get into from an  
10 anti-trust situation if we start talking about costs and  
11 prices, and so it's a problem for us.

12           Some of the other problems associated with it  
13 are the fact that the data is extremely variable, and that  
14 a given option will produce different levels of energy  
15 savings on different models, and will have different costs  
16 on different models, either the unit costs may vary, or  
17 the investment required to put an option on a given model  
18 may vary.

19           Every basic model has to be looked at individually  
20 to come up with an answer, and there are many, many basic  
21 models in the industry.

22           The determination of the most cost-effective level  
23 is really a trial and error process. That is, given a  
24 proposed level, it can be determined how many units would  
25 have an acceptable payback, and how many would not. But if

1 you want to look to find the optimum level, you just have  
2 to keep trying levels until you finally get to an answer  
3 which looks like it's acceptable, which is a great deal of  
4 work.

5 Now, we recognize the problem of timeliness, and  
6 we've been struggling with this issue since it first came  
7 up, and we recognize that it's getting pretty late in the  
8 game, but it has literally taken invention on our part to  
9 come up with what we think is a reasonable way to accomplish  
10 the objective of getting cost information to the CEC in a  
11 form that won't get us into any problems with confidentiality  
12 and we think we've come up with a way to do that.

13 It came out of a meeting just last week, and the  
14 Association is already taking steps to try to get the  
15 process of accumulating the data underway.

16 A fundamental problem in this whole thing is that  
17 the simplification of the process to just looking at baseline  
18 models as DOE did is really not close enough to real life.  
19 It needs to be done on all models, and then look at the  
20 distribution, and I've got some viewgraphs here, if you'll  
21 bear with me a minute, we'll get the machine out and find  
22 the --

23 COMMISSIONER SCHWEICKART: Could I ask -- can you  
24 give me an estimate of how long this data will take to  
25 present, because I believe it may, in fact, be more

1 appropriate for the Advisory Committee meeting than for the  
2 last part of this Commission meeting which is, in fact, a  
3 briefing. I think the general points --

4 MR. BEARD: I have three viewgraphs.

5 COMMISSIONER SCHWEICKART: Okay. With Commissioner  
6 Crowley's forbearance, if you can run through those fairly  
7 rapidly, I think we do need to complete this so-called  
8 briefing which is turning into a hearing, and then move into  
9 the Advisory Committee meeting.

10 COMMISSIONER CROWLEY: And I would point out,  
11 you're really only briefing me because you two gentlemen  
12 know this, and it may not be -- we still have two agenda  
13 items left.

14 COMMISSIONER SCHWEICKART: Well, let's see if we  
15 can go through it rapidly.

16 MR. BEARD: I can go through it very -- I don't  
17 know if this thing is on or not, but I can go through this  
18 very quickly, and if we need to get into more detail later  
19 this afternoon, we can.

20 Essentially what we're doing is talking about  
21 providing for a given case, providing for the California  
22 Energy Commission, our projection of what the simple  
23 incremental payback to the consumer would be on all of the  
24 models that would be sold under the assumption of a  
25 particular proposed standard, and this chart is obviously

1 just an example, if there's a proposed level for 1988 in  
2 the NOPA, we would look at that, and come back, then, and  
3 say if this is all of the models in the industry, this is  
4 what the incremental payback would be on each of those.

5 Now, the incremental payback is determined by  
6 looking at each basic model, and determining what options  
7 would have to be applied to it, and each manufacturer would  
8 do this, to achieve whatever level we were considering.

9 In this case, we would have to go through Option  
10 D to get an energy level that would meet the proposed  
11 standard, and we would look at the cost to the consumer  
12 for each of those options, and of the energy cost savings.

13 Assuming that you add the options in the order  
14 of their payback, the last option would be the least  
15 desirable, and would have the longest payback, and that  
16 would be the incremental payback that we would look at.  
17 That's the option that the consumer is paying for that got  
18 to that level.

19 The trial and error process comes in that you  
20 could always say, well, what if we just drop the level back  
21 to here, then we would eliminate that long payback and  
22 just have a short payback for that model. If you're going  
23 to look at 200 different basic models, you almost have to  
24 do that by trial and error.

25 Each manufacturer would deal with a worksheet

1 something like this, and I'm only showing this to indicate  
2 some of the complexity, but we would list on the worksheet  
3 each option that is available, each one having a cost and  
4 an energy savings by itself.

5 But when you start looking at how many of those  
6 options you have to combine to reach a level, you have to  
7 look at them in combinations, because the energy savings  
8 is not a cumulative by simple addition. The effects aren't  
9 necessarily additive.

10 So if you combine several of these options that  
11 might add up to a 200 kilowatt savings, in effect, when you  
12 put them all together, you only get 150.

13 So in the process of doing this, what the industry  
14 would be doing would be looking at every basic model,  
15 determining what options they would apply, and those  
16 options will be different on every model, and what it would  
17 cost the consumer to get to a particular level, then come  
18 back and provide to the staff the distribution of paybacks  
19 to achieve that particular level.

20 We feel we can do that without having an problems  
21 with confidentiality, without concern that competitors  
22 could desegregate -- deaggravate the --

23 COMMISSIONER SCHWEICKART: Disaggregate.

24 MR. BEARD: Disaggregate the information and  
25 thereby learn something about it.

1           COMMISSIONER SCHWEICKART: A little deaggravation  
2 would be good too.

3           (Laughter)

4           MR. BEARD: And I guess what we're saying is  
5 if this is -- information would be valuable to the  
6 California Energy Commission, we would take steps as soon  
7 as the NOPA drops to look at the levels that are in that  
8 and come back with this information just as soon as we  
9 possibly could. In fact, it would be our intention to  
10 start accumulating the data now, and then when the levels  
11 are available, we could produce the information required  
12 for this distribution.

13           COMMISSIONER SCHWEICKART: All right, thank you.  
14 I had one other question, and I'm not sure -- of industry.  
15 I assume that -- was that the last presentation, or were  
16 there other people who wanted to speak?

17           MR. BENSON: That was the last.

18           COMMISSIONER COMMONS: I have one question on  
19 this, short on just what he said.

20           COMMISSIONER SCHWEICKART: All right.

21           COMMISSIONER COMMONS: Would that be in time  
22 for the next Committee meeting on the NOPA, that you'd have  
23 that information?

24           MR. BEARD: The hearing in September? We would  
25 hope so, yeah, depending on when the NOPA comes up.

1           COMMISSIONER SCHWEICKART: All right. Were there  
2 any other people who wanted to address the -- to brief the  
3 Commission on this matter?

4           MR. BENSON: Well, the briefing, from our part,  
5 to just add a conclusion to it, it was a wrap-up  
6 Commissioner Schweickart, to simply say that we've presented  
7 some things here today that we would hope we could get a  
8 response, or an opinion by Commissioner to these various  
9 aspects.

10           It's our hope that there's acceptability of those,  
11 and we'd love to have the opportunity to discuss it with  
12 you, because it's really a rare opportunity through the  
13 proceedings to date, that we've had the full Commission  
14 exposure.

15           So we would, as we said earlier, encourage that,  
16 and it's our point to try and develop these alternatives  
17 into real plans, rather than having the Commission impose  
18 restrictive standards.

19           COMMISSIONER SCHWEICKART: All right, I wanted --  
20 there are -- I have a list of people who asked to address  
21 the Commission. In some cases, it's clear that it's  
22 another issue still remaining on the agenda, but in some  
23 cases it's not. So let me try and pick industry people  
24 first. Mr. Bohman?

25           MR. BOHMAN: Yes.

1           COMMISSIONER SCHWEICKART: And Mr. Bohman, you're  
2 speaking separate, I gather, from AHAM, is that correct?

3           MR. BOHMAN: Yes.

4           COMMISSIONER SCHWEICKART: All right, perhaps  
5 then I would ask my question first, since I think everyone  
6 else is in some sense speaking as a group here, anti-trust  
7 notwithstanding.

8           Let me ask you a question of design. If the  
9 Commission were to move to the fleet average concept which  
10 I think has merit, one of the questions is the way in which  
11 the fleet average goals, if you will, are expressed, and  
12 while recognizing that there are all sorts of variations  
13 in-between, one is a -- if you will, a linear progression  
14 to some end point from some beginning, in other words, a  
15 start date, an end date, and some linear progression from  
16 something approximating current performance, down to  
17 something which represents an end goal.

18           The other is one or more series of steps in  
19 leading to that end point over time. I wonder if there is  
20 any comment from industry in terms of one or the other,  
21 one versus the other, as a better or worse from the stand-  
22 point of industry planning, marketing, et cetera, et cetera.

23           MR. BENSON: Let me ask a question in turn. What  
24 would the rationale be, or the logic for a linear situation  
25 over time. What makes it linear?

1           COMMISSIONER SCHWEICKART: Well, perhaps I said  
2 linear, let me not -- let's not get hung up on linear.  
3 I think what I would suggest is a planned, continuous  
4 function as opposed to a step every three years, or something  
5 of that kind, and I think my response to that is simply  
6 that that regulation works best, which in concept mimicks  
7 the market. It would presumably push it, that's what  
8 regulation is all about, but it would mimick market behavior  
9 and your performances all of your data shows, and everyone  
10 else's data shows is that there is in fact a -- every year,  
11 an increase, or an improvement in efficiency so that an  
12 approximation of that is something which in fact varies  
13 again and sets in essence a graduated goal each year to the  
14 end point, as opposed to going three years, or some other  
15 number of years, with a flat thing, and then a step function,  
16 which it seems to me gets more demanding of industry.

17           But I'm wondering if there's any comment on  
18 those, if you will, charactering those two options, if  
19 there's a --

20           MR. DEHNER: I'll take a stab at that. Jim  
21 Dehner from Admiral, Division of Magic Chef. From my  
22 personal perspective, and not speaking from the industry,  
23 the first choice, some sort of smooth function, smooth  
24 curve, be it linear, but something without steps better  
25 reflects not only the market, but the nature of the industry

1 of the industry as a whole.

2 As any individual manufacturer, we do have long-  
3 range plans, and we have set our own individual plans for  
4 future product introduction and product development. If  
5 on top of that you were to superimpose a step function  
6 that said at these points in time you have to make major  
7 changes, they -- quite probably, they are not consistent  
8 with all of our individual plans.

9 I think if you take a look at us as a whole, you'd  
10 see what would happen, if you looked at a list of models,  
11 most efficient, and least efficient, and put names associated  
12 with it, you'd see that constantly turning over as time  
13 goes on, and I think that better reflects a smooth function  
14 as opposed to a step function.

15 COMMISSIONER SCHWEICKART: All right, any other  
16 comments on that? All right, if you would then, Mr. Bohman.

17 MR. BOHMAN: I'm Ray Bohman, I'm Chief Engineer  
18 of Refrigeration Products for Amana Refrigeration which is  
19 a wholly owned subsidiary of the Rathion Company. My  
20 remark can be very brief, it will try to be.

21 Amana is not, as Bruce Benson pointed out earlier,  
22 a member of AHAM, however, we do support AHAM in its  
23 development of the market-based plans that have been  
24 presented here as a means of enhancing the sales of energy  
25 efficient products, and we also have participated in AHAM's

1 data gathering projects, to determine the realistic trends  
2 as to the future energy efficiency gains that our mutual  
3 product lines can achieve.

4 Amana recommends that if a fleet average concept  
5 is promulgated by the CEC that this will have to be based,  
6 in our opinion, upon energy factor as the descriptor,  
7 rather than energy consumption, and the reason is a very  
8 personal one, Amana has no small models in its line.

9 We do not compete in the standard refrigerator  
10 area, and we have no partial automatic defrost units. We  
11 concentrate in the big areas, we have large products which  
12 while they may be quite efficient, as large products go,  
13 they obviously do use more energy, simply because they  
14 are large.

15 For that reason, an energy consumption fleet  
16 average for Amana would be very discriminating, we feel.

17 We also would suggest that the -- any primary  
18 or secondary standards that might be promulgated by the  
19 Commission should be distinct and different for different  
20 and distinct categories of refrigeration products, and  
21 I believe Mr. Sasnett presented that position also.

22 We also ask that these be reasonable, and  
23 technically realistic, and Mr. Rivard spoke as to some of  
24 the items that are involved in being technically realistic.  
25 We would also have to -- oh, we feel that we should present

1 to the Commission the fact that dramatic changes in  
2 standards do require time to achieve the necessary redesign  
3 an investment that may be precipitated by that.

4 We've just completed a redesign of our top  
5 freezer mounted refrigerator/freezer model line, and it  
6 was in excess of a three year project, and it got top  
7 priority. It just takes that long for these things to  
8 come into being.

9 We would like you to consider these particular  
10 comments, and these particular points that we've made. If  
11 you have any questions, I'll try to answer them.

12 COMMISSIONER SCHWEICKART: Let me suggest, if you  
13 have not had the opportunity, and I apologize for not knowing  
14 that, if you would look at carefully the basis of the  
15 staff's work, because it is my understanding that in fact  
16 the points that you make have been taken account of, and  
17 I think that AHAM acknowledged also the volumetric factor  
18 rather than energy consumption, and other things of that  
19 kind.

20 So if you would, I would certainly ask that you  
21 do review the technical basis of the work, because I believe  
22 your considerations, your concerns have been accounted for  
23 in terms of overall design, not levels, that's a different  
24 issue.

25 MR. BOHMAN: I attended the July 30th and 31st

1 meetings, and while this was discussed, there was some  
2 concern that we might be looking at fleet averages in terms  
3 of a sales weighted energy consumption, annual energy  
4 consumption, and that's where we get into a problem.

5 COMMISSIONER SCHWEICKART: All right. Let me say  
6 that though it may be expressed in terms of energy  
7 consumption, one of the factors included in it is equivalent,  
8 what's the phrase Mike?

9 MR. MESSENGER: Energy factors.

10 COMMISSIONER SCHWEICKART: Okay, well, energy  
11 factors included in it.

12 MR. BOHMAN: Yes, the energy factor, there is  
13 no problem, yes. Energy factor is no problem for us.

14 COMMISSIONER SCHWEICKART: All right. The units  
15 may look like energy consumption, what I'm saying is that  
16 it's the equivalent energy or pseudo energy consumption,  
17 which includes energy factor. Let's hold that for later,  
18 because I think the points that we have are good ones that  
19 you make, and I think we're all right on that.

20 Mr. Bill Julian.

21 MR. JULIAN: I'll pass, I'll wait for the  
22 Advisory Committee.

23 COMMISSIONER SCHWEICKART: All right, again, the  
24 next two names I'm reading here, it's not clear whether  
25 people wanted to address this subject or another subject on

1 the agenda, it wasn't indicated. Joan Fill from Southern  
2 California Edison?

3 MS. FILL: Yes. (Passes out documents.)

4 I'm Joan Fill from Southern California Edison  
5 Company. It's a pleasure to be here. We have found that  
6 the recent rulemaking proceedings on refrigerators,  
7 refrigerator/freezers and freezers have been most  
8 enlightening. We are currently involved in a refrigerator  
9 rebate program, and we're finding the comments about the  
10 marketplace, and what all has gone on in these hearings  
11 very informative for planning future programs.

12 I'd like to say that Edison supports the CEC's  
13 efforts of looking toward utility incentive programs to  
14 stimulate sales of high efficiency refrigerators. We do  
15 believe, however, that utility incentives are just one  
16 component of an overall conservation strategy to increase  
17 the amount of energy savings achieved through high  
18 efficiency refrigerators.

19 We believe that incentives should supplement but  
20 not surplant increased standards in order to increase the  
21 number of models continuing to meet higher efficiency  
22 levels. We really believe that incentives should impact  
23 substantial gains over the appliance standards.

24 I'd like to say that we believe that our current  
25 program is having an impact on that market, and I have

1 before you what shows the percentage of units at levels  
2 above the existing minimum standards, AHAM data which was  
3 pointed out earlier on the viewgraph of the 1983 units  
4 that were sold in the State of California, show that 43  
5 percent of all units sold in '83 were from the zero to 20  
6 percent above the state standard.

7 Then it goes 20 to 25 percent of the state  
8 standard, around 27 percent of all the units sold. 25 to  
9 30 percent, around 20 percent. I'd like to point out the  
10 areas that we have found most interesting when I get to  
11 what our current program shows, is that 30 and above the  
12 state standard, which last year, the units sold in California  
13 were around 10 percent of these particular units.

14 The Edison program, just after nine weeks, shows  
15 some very interesting data that about 38 percent of all  
16 units that participate, or qualify for -- that have come  
17 through our program, it represents almost 38 percent of  
18 all the units that qualified for our program that we have  
19 processed, and I think that's rather significant.

20 We do have a few concerns about the issue of  
21 the utility incentive programs. Cost-effectiveness to the  
22 nonparticipant continues to be an issue we're concerned  
23 about. We have been running a number of sensitivity  
24 runs, using them at various incentive levels, and even  
25 projecting demand savings. So far, nothing we've come up

1 with shows cost-effectiveness to the nonparticipant. The  
2 nonparticipant test does continue to be an important criteria  
3 in authorizing funding for utility programs by the CPUC.

4 We also have a concern about the long-term  
5 commitment of utility incentive programs, for example,  
6 would be having a program that lasts over three years, and  
7 I'll get into why in just a second. We also have some  
8 concern about an open-ended, year-round program.

9 There have been some recent California Public  
10 Utility Commission decisions that do not support the  
11 occurrence of a long-term commitment to a utility incentive  
12 program. The recent Pacific Gas and Electric ZIP, which  
13 is their Zero Interest Loan Program, RCS decision which  
14 was rendered July in 1984, there are a couple of statements  
15 which I think are pertinent.

16 In the decision, I quote, "We view the ZIP and  
17 RCS programs as temporary and not to be institutionalized."  
18 For many of you, you may be aware that the ZIP and RCS  
19 programs are reviewed on an annual basis and are not part  
20 of the base rate, they are offset funding.

21 Another quote, "Therefore, our focus in this  
22 decision is to control rather than to expand programs."  
23 Thus an open-ended program that ran year-round, from  
24 this perspective would be difficult to control.

25 Third statement in this decision that I find

1 interesting is, I quote, "The funding levels found reason-  
2 able in this decision are the maximum levels authorized  
3 for 1984." It's been difficult for a utility to really  
4 project just how many units will come forth through the  
5 program. So when you authorize a maximum level of funding,  
6 it is difficult, and I'll explain what has happened in our  
7 recent decision.

8 Edison received its decision affecting 1984  
9 funding for its conservation and finance program, and RCS  
10 program on August 1st. Part of that total program contains  
11 the refrigerator component.

12 The language in that decision states that we are  
13 authorized to spend \$31.5 million as a maximum limit, not  
14 for a 12-month period, but for a 15-month period. We  
15 originally asked for \$17.5 million, but because of the  
16 popularity of the program, we sought additional funding of  
17 the \$31.5 million to cover a 12-month period.

18 We have already at this point in time spent nearly  
19 \$20 million on our incentive program. Again, we really  
20 couldn't project its popularity. But what we have been  
21 authorized to do to avoid abrupt termination of our program  
22 is to pace the program by reducing cash incentive levels,  
23 and we have done just this.

24 We have avoided impacting our refrigerator program  
25 because it's halfway over, but we did make major changes in

1 the amounts of money offered for the other weatherization  
2 measures. It's just to make a point that if we're all to  
3 plan for this far-reaching goal, and use utility incentives  
4 as one of the means, that we must remember that we are  
5 very much limited by the availability of funding.

6 The 1985 will be part of the rate base, our  
7 refrigerator program. That decision is still pending, and  
8 it will probably -- it will be made in December, so we have  
9 no clear idea of what that decision will be, but I would  
10 like to further quote our recent decision for 1984 funding.

11 The PUC in its discussion says the following:  
12 "We are not convinced that cash incentives induced customers  
13 to make purchasing decisions they otherwise would not make  
14 based on complete information about potential cost savings.  
15 Further, none of the analyses of cost-effectiveness  
16 presented to the Commission, adequately explore this issue,  
17 namely, derive energy savings and program benefits, it is  
18 simply assumed that all or most of the customers participating  
19 in the program would not have purchased the measure without  
20 the cash incentives."

21 Recent Commission decisions have also called into  
22 question the cost-effectiveness of refrigerator rebate  
23 programs, and have noted the inability of low income  
24 customers to participate in such a program.

25 To achieve the goals set forth by the California

1 Energy Commission to improve the energy efficiency of  
2 refrigerator/freezers, Edison agrees that California needs  
3 standards and should revisit the current standards for  
4 possible revision.

5           However, the complementary component, that is  
6 to increase standards, we believe that utility incentive  
7 programs do not appear assured based on recent Public  
8 Utility Commission decisions. Thank you.

9           COMMISSIONER SCHWEICKART: Any questions? Okay,  
10 thank you very much. Margie Gardner?

11           MS. GARDNER: Good afternoon, I'm Margie  
12 Gardner from the Northwest Power Planning Council. We  
13 appreciate this opportunity to speak on some of the  
14 proceedings that have gone on for appliance efficiency  
15 standards.

16           The Northwest Power Planning Council was  
17 established by the Pacific Northwest Electric Power Planning  
18 and Conservation Act which was signed into law December 5th,  
19 1980. The Council is a region-wide, interstate compact,  
20 composed of two members appointed by the Governors of each  
21 of the four Pacific Northwest states, which would include  
22 Washington, Oregon, Idaho, and Montana.

23           The Council was formed to encourage cost-effective  
24 conservation and the development of energy resources in  
25 order to assure adequate, efficient, economical and

1 reliable power supply. It's goal was also to provide for  
2 broad public participation and consultation in the develop-  
3 ment of a regional power plan.

4 Part of the charge given to the Council under  
5 its authorizing legislation was the preparation of a  
6 regional conservation and electric power plan. I've given  
7 you copies of this so that you may become more familiar  
8 with the Council.

9 This plan, adopted in April 1983, serves as the  
10 basis for attaining a least cost electrical energy future.  
11 In the plan and the Act, conservation is the most cost-  
12 effective and the highest priority resource used to meet  
13 the region's electrical load growth.

14 Increased appliance efficiencies can save  
15 significant amounts of energy at very low cost. This is  
16 explicitly recognized in the plan where the Council is  
17 charged to investigate alternative strategies for securing  
18 appliance efficiency improvements, much like the Commission  
19 here decided we would look into including incentives and  
20 marketing programs, information programs.

21 The plan also calls for the Council to assess  
22 the desirability of establishing uniform appliance  
23 efficiency standards with other standards, and that  
24 specifically included California.

25 You are currently reviewing the feasibility of

1 changing existing standards for refrigerators and freezers.  
2 The Council feels that appliances in our region should be  
3 more efficient than those that are currently available and  
4 purchased. However, the Council has not yet evaluated the  
5 level of efficiency improvements that would be cost-  
6 effective by our criteria in the Northwest Region.

7           The appropriate level will be considered during  
8 the revision of the Northwest Energy Plan. Consequently,  
9 I'm not yet able to comment specifically on the level  
10 of improvements that the Energy Commission staff, or other  
11 parties in this proceeding, are recommending, and on  
12 whether they are suitable for the Northwest.

13           Nevertheless, the Council is closely watching  
14 the emerging process here in California because of its  
15 impact on the Northwest market, and consequently on the  
16 Council's own planning prerogatives.

17           The Northwest represents a relatively small share  
18 of the national and west coast refrigerator market, while  
19 California is a relatively larger share of the market.  
20 Historically, because of California's dominance in that  
21 market, California's refrigerator and freezer standards  
22 have been a de facto standard in the Northwest.

23           For these reasons, it is generally thought that  
24 it would be very difficult for the Northwest to pass  
25 efficiency standards, or encourage the presence of more

1 efficient appliances on the market without similar action  
2 from California. At the very least, more stringent  
3 California standards will make it possible for Northwest  
4 consumers to purchase more efficient appliances than would  
5 otherwise be available.

6 The Council strongly supports the Commission's  
7 process to evaluate the savings and costs from efficient  
8 appliances. In contrast to positions we've heard earlier  
9 today, the Council has examined the methodology used by  
10 the Commission staff in formulating their proposal, and  
11 have found it to be generally consistent with analysis done  
12 in other areas by the Council.

13 Assuming the assumptions on costs of achieving  
14 efficiency levels, and on the expected price of electricity  
15 are correct, the Council would have arrived at similar  
16 conclusions to that staff arrived at.

17 We appreciate the full investigation conducted  
18 by the Commission, and support the CEC's effort to assess  
19 realistic means of achieving appliance savings. The Energy  
20 Commission's program would save Californians energy and  
21 money and will also serve the Northwest as a useful  
22 beginning of its own investigation of how to secure more  
23 efficient appliances.

24 I'd be happy to answer any questions you might  
25 have on my statement.

1 COMMISSIONER SCHWEICKART: Commissioner Commons?

2 COMMISSIONER COMMONS: Just two short ones. What  
3 is the average cost of energy in the four states?

4 MS. GARDNER: Currently, or our avoided cost?

5 COMMISSIONER COMMONS: Current.

6 MS. GARDNER: I've been trying to search for  
7 that number for a long time. It's between 3.5 and 4.

8 COMMISSIONER COMMONS: So presumably a standard  
9 would be somewhat lower in your four states than it would  
10 be for California to be efficient.

11 MS. GARDNER: Well, the way our organization was  
12 set up, we have to look at the avoided cost.

13 COMMISSIONER COMMONS: What is your avoided cost?

14 MS. GARDNER: Our avoided cost is 4 cents per  
15 kilowatt-hour in 1980 dollars, so you'd escalate that to  
16 '84.

17 COMMISSIONER COMMONS: 1980 dollars, and when  
18 would you be doing that evaluation?

19 MS. GARDNER: Well, it's in our two year work plan.  
20 We haven't gotten to it because of higher priority items.  
21 I must -- I could tell you one bit of the analysis. The  
22 reason it's not -- it has been postponed slightly is  
23 because of the impact that increased efficiencies will  
24 have on space heat, that opposite of what happens here in  
25 California where you eliminate waste heat, you reduce

1 cooling, so it's a double benefit.

2 We get, you reduce waste heat from the appliance,  
3 you increase space heat, so you know, 100 kilowatt-hours  
4 may only end up being 75 in our case, and that's really  
5 the analysis that's held us up.

6 COMMISSIONER SCHWEICKART: I wonder, Ms. Gardner  
7 whether the staff for the Northwest Power Planning Council  
8 has considered, or has any position on basic design  
9 features such as fleet average versus a simple floor, that  
10 sort of thing. Does the fleet average received applause,  
11 or give you pause, or what is the reaction?

12 MS. GARDNER: I can't answer for the staff. I  
13 can give you what thoughts have cross my mind today and  
14 since the last meeting. I don't know if that would be  
15 helpful or not.

16 COMMISSIONER SCHWEICKART: Well, only if you  
17 feel that there's a strong sense of the Northwest one  
18 direction or the other.

19 MS. GARDNER: Yeah, I couldn't say that yet.

20 COMMISSIONER SCHWEICKART: All right, any other  
21 questions?

22 COMMISSIONER CROWLEY: No, thank you.

23 COMMISSIONER SCHWEICKART: All right, then,  
24 thank you very much.

25 I believe then, unless there is some other comment,

1 or Commissioner Commons, you would prefer to make any  
2 closing remarks, I believe we are completed with Item No. 10,  
3 this briefing on the standards process, and --

4 COMMISSIONER COMMONS: I just want to thank all  
5 of the participants. This has obviously been a difficult  
6 proceeding for I think all the parties. They're big,  
7 weighty tough issues, and the Committee will continue our  
8 proceedings, and try to keep the channels open for further  
9 dialogue and communication among all of us.

10 COMMISSIONER SCHWEICKART: All right, Item 10  
11 being complete, we'll move to Item 11, consideration and  
12 possible adoption of an amendment to Section 1607 of Title  
13 20, and I believe Ms. Ichien.

14 MR. MARTIN: Commissioners, I am Michael Martin.  
15 The California Energy Commission on July 18, 1984, adopted  
16 certain amendments to its regulations on appliances. The  
17 Commission proposed -- decided to postpone consideration  
18 of the proposed amendments to Section 1607 until today.

19 The postponement allowed the Committee in the  
20 proceeding to make changes in response to public comments  
21 received at the end of the comment period. In a response  
22 to public comments, Subsection (f), which would define  
23 accessible place has been changed.

24 The text of the proposed amendment of Section  
25 1607 was published in a notice of modification to proposed

1 amendment, Docket No. 84-AES-3, which is in front of you  
2 today. The only written comment docketed since the July  
3 18th meeting supports the proposed wording. We have  
4 contacted all trade associations of manufacturers of  
5 regulated appliances, and obtained concensus on the  
6 proposed wording.

7           There are three outstanding comments. One, some  
8 of the plumbing industry would like all plumbing fittings  
9 exempted from the regulations, but recognize that such an  
10 exemption is beyond the authority of the Commission.

11           Two, two commentors have requested delay of the  
12 effective date of the legislative requirement, but realize  
13 that the Commission by regulation cannot revise the  
14 legislatively set effective date.

15           Three, a comment was received from one manufacturer  
16 of unit heaters, a form of gas furnace, who would like the  
17 Commission to accept a date on a nameplate, which can only  
18 be read after removing an access panel using tools.

19           Since the American National Standard under which  
20 these furnaces are certified by AGA Labs requires the  
21 nameplate, "to be easily read when the furnace is in the  
22 normally installed position" that's Standard Z21.47-1983  
23 Section 1.33.2, the staff and we believe the Committee  
24 opposes this suggestion.

25           In summary, the staff supports the Committee's

1 proposed wording as stated in the notice before you and  
2 recommends your approval.

3 COMMISSIONER SCHWEICKART: All right, is there  
4 any other testimony on this matter? Are there any  
5 Commission questions? Do we have a motion?

6 COMMISSIONER COMMONS: So moved.

7 COMMISSIONER SCHWEICKART: I'll second. Is there  
8 any objection to a unanimous roll call? There being none,  
9 the item is complete we'll move on to Item No. 12, and  
10 here we go back into the issue of microwave sensors.

11 MR. WHEATLAND: Jon Blee is -- I've just called  
12 him, and he's on his way down. I don't think he quite  
13 expected this last item to go so fast.

14 DEPUTY DIRECTOR SMITH: I think we may have  
15 caught our staff unaware here too.

16 MR. WHEATLAND: But Jon will be down in just one  
17 moment.

18 COMMISSIONER SCHWEICKART: All right. Let's see,  
19 do we have anything else that we can do, useful in the  
20 meanwhile? I don't believe we do. Why don't we take a  
21 two minute relief break, or where are we?

22 MR. WHEATLAND: The other item that you could  
23 do is you could -- you have an attached order before you,  
24 you could move the order and ask for any comment at this  
25 point.

1           COMMISSIONER SCHWEICKART: I have no objection,  
2 frankly, to putting the order in on the table. However, I  
3 would frankly, having some idea of some of the comment,  
4 prefer to have a refresher on the main issue prior to the --

5           COMMISSIONER COMMONS: I would request a two  
6 minute break.

7           COMMISSIONER SCHWEICKART: Okay, let's take a  
8 two minute break here.

9           (Brief off the record.)

10          COMMISSIONER SCHWEICKART: I believe we have all  
11 of the parties here, let's move then into the final item  
12 on the business meeting agenda, and let me turn to Mr.  
13 Blee for a refresher on where we stand and if you would,  
14 what the Commission's options are at this point.

15                 We have, I believe at this point, one party who  
16 has asked to address the Commission on the matter. Is  
17 Mr. Klenow here?

18          MR. KLENOW: Klenow.

19          COMMISSIONER SCHWEICKART: Klenow, all right,  
20 fine, thank you.

21          MR. BLESS: Thank you Commissioner Schweickart.  
22 Two weeks ago the Commission had before it two proposed  
23 amendments to the nonresidential building standards. You  
24 adopted one amendment which related to flow devices in  
25 public lavatories, and you put the other proposed amendment

1 over for consideration today.

2 That amendment would allow the use of microwave  
3 occupancy sensors as an alternative to the current require-  
4 ment in the nonresidential building standards for dual  
5 circuits and accessible switches in most rooms.

6 There is currently in the nonresidential building  
7 standards an allowable alternative for the use of ultrasonic  
8 occupancy sensors, and the proposed amendment would give  
9 the same treatment to microwave occupancy sensors.

10 The staff did an environmental evaluation of the  
11 proposed amendment, and determined in an initial study that  
12 there would be no significant adverse environmental impact  
13 if the Commission limited such use of microwave occupancy  
14 sensors to those which emit no more than 1.0 milliwatt  
15 of microwave energy per square centimeter, measured at  
16 5 centimeters from the source of the device.

17 The staff also recommended a couple of other  
18 requirements related to health and safety that should be  
19 included in the regulation.

20 The staff concluded that if those recommended  
21 requirements were included in the amendment that there  
22 would be no significant adverse environmental impact. By  
23 the way, the 1.0 milliwatt per square centimeter measured  
24 at 5 centimeters from the source is the federal standard  
25 for microwave ovens.

1           Two weeks ago, Commissioner Gandara noted that in  
2 the initial study the staff mentioned a proposal by an  
3 individual EPA staff member that a more conservative health  
4 related limitation for microwave emissions would be .2  
5 milliwatts per square centimeter, measured at 5 centimeters  
6 from the device. In other words, one-fifth what the  
7 federal microwave oven standard is.

8           Commissioner Gandara suggested that the Commission  
9 should adopt this more conservative limitation on microwave  
10 emissions and the Commission agreed at that time to put out  
11 so-called 15 day language proposing the amendment exactly  
12 as it was originally proposed, however, changing the 1.0  
13 milliwatt limitation to 0.2 milliwatts.

14           Last week, I believe, the Commission received a  
15 letter from the Orion Alpha Corporation which appears to  
16 suggest that rather than 1.0, or 0.2 milliwatts per square  
17 centimeter, measured at 5 centimeters from the device,  
18 that the limitation should be 0.2 milliwatts per square  
19 centimeter measured at a distance of 8 inches from the  
20 device. In other words, substantially further out from  
21 the source.

22           The staff did a -- did several calculations and  
23 determined that this proposal would result in microwave  
24 emissions that are not only much -- a microwave power  
25 density level that is not only much larger than the 0.2

1 milliwatts measured at 5 centimeters that was proposed by  
2 Commissioner Gandara two weeks ago, but would also be in  
3 excess of the federal microwave oven standard.

4 In the two page document that I passed out just  
5 a few minutes ago, it describes these calculations.  
6 Because the Orion proposal would be in excess of the federal  
7 microwave oven standard, given the environmental analysis  
8 that's been done to date, the staff would be unable to  
9 conclude that there would not be a significant adverse  
10 environmental impact if the regulation was to include the  
11 Orion proposed limitation.

12 Therefore, the staff would not be able to propose  
13 the adoption of a negative declaration for such a regulation,  
14 and additional environmental analysis would have to be done.  
15 I also understand from Mr. Klenow, that it may be acceptable  
16 to Orion to go back to the original proposal for a 1.0  
17 milliwatt per square centimeter measured at 5 centimeters  
18 limitation and of course, if the Commission decided to  
19 take that approach, you could approve the original negative  
20 declaration and adopt the original proposed amendment today.

21 There would be no need to repropose that amendment  
22 in new 15 day language.

23 COMMISSIONER SCHWEICKART: All right. So the  
24 Commission has as options before it, adoption of the  
25 original 1 milliwatt per square centimeter at 5 centimeters,

1 or the revised .2, or essentially to reject both and begin  
2 a de novo proceeding.

3 MR. BLEES: Yes, at least a de novo enviromental  
4 review, that's correct.

5 COMMISSIONER SCHWEICKART: All right, are there  
6 questions from the Commissioners of Mr. Blees before we  
7 turn to Mr. Klenow?

8 MR. KLENOW: Good afternoon, Commissioners. My  
9 name is Mike Klenow and I'm the Chief Financial Officer  
10 of Orion Alpha Corporation, a potential manufacturer of  
11 microwave occupancy sensors.

12 A lot of what I've prepared here has been taken  
13 away but what has just been said, but I'll go on with it  
14 anyway.

15 COMMISSIONER SCHWEICKART: He's very thorough  
16 that Blees.

17 MR. KLENOW: Yeah, he really is, there's no  
18 question about it. The Food and Drug Administration which  
19 is the federal agency which set up this limit has set the  
20 limit at 1.0 milliwatts per square centimeter at a distance  
21 of 5 centimeters from the emitting source as a safe level  
22 with microwave ovens in mind.

23 Now, people brush up against microwave ovens,  
24 and our sensors will be mounted at distances of 2 to 20 or  
25 more feet from the occupancies of rooms when the occupants

1 are standing up. Now, this is based on minimum eight foot  
2 ceilings, and mounting the sensors in the top corners of  
3 the rooms. In many cases, in fact, they will be mounted  
4 above the ceilings.

5           Microwaves do not accumulate, they dissipate,  
6 so steady emissions are not a problem, there will be no  
7 buildup in people of microwaves. Our sensors are cheaper  
8 than the ultrasonic ones which you have approved, and they  
9 draw less power.

10           As I stated in my letter which Mr. Blee did not  
11 mention. Our sensors typically do emit at a rate of .2  
12 milliwatts per square centimeter at a distance of 5  
13 centimeters in the average size room. But if we were  
14 allowed the additional increase up to 1 milliwatt per  
15 square centimeter, that would enable us to use our sensors  
16 in very large rooms where the energy savings are potentially  
17 much greater.

18           The reason for greater emission rates in larger  
19 rooms is the rapid dissipation rate as you move away from  
20 the sensors, which can be calculated as they have already  
21 done. In my letter I did propose .2 milliwatts per square  
22 centimeter at a distance of eight inches from the source.  
23 We have calculated it as being the same. I'm willing to  
24 back off of that, I really -- 1 milliwatt at 5 centimeters  
25 is still fine in my estimation.

1 Thank you for your time.

2 COMMISSIONER SCHWEICKART: All right, so I  
3 understand then, a summary of your position is to recommend  
4 the original proposal of staff to the Commission is that  
5 correct?

6 MR. KLENOW: That's correct.

7 COMMISSIONER SCHWEICKART: All right, are there  
8 any Commissioner questions? All right, I will move the  
9 original proposal of staff of 1 milliwatt per square  
10 centimeter, measured at 5 centimeters from the source, do  
11 I have a second? Are there any comments? No, this is  
12 us, this is thee and me.

13 (Whispered discussion at the bench.)

14 COMMISSIONER SCHWEICKART: All right, we have a  
15 motion before us, Mr. Blees?

16 MR. BLEES: Excuse me, Commissioner Schweickart,  
17 I'm not sure if you're intending to move Commission adoption  
18 of the regulation with this motion. If you are, the correct  
19 motion would be to adopt the order that was before you two  
20 weeks ago.

21 COMMISSIONER SCHWEICKART: So moved.

22 MR. BLEES: Okay, to the extent that it covers  
23 the microwave occupancy sensors.

24 COMMISSIONER SCHWEICKART: That's correct. If  
25 I could actually refer to it more appropriately, I would do

1 that, but I will move the -- well, I will move the order  
2 as proposed -- I'll tell you what, Jon, why don't you word  
3 it, and I'll move it.

4 MR. BLEES: Well, actually, I need to apologize  
5 again. I didn't state it correctly, the first time. The  
6 correct statement is that you move to adopt the order  
7 contained in your backup package dated August 2nd, 1984,  
8 with the elimination of the phrase that is -- with the  
9 elimination of the second sentence in the first paragraph,  
10 and the fourth line from the bottom. That simply eliminates  
11 the language that relates to the 0.2.

12 COMMISSIONER CROWLEY: Would you read that  
13 language please?

14 MR. BLEES: Sure. Do you want me to read the  
15 entire order, or --

16 COMMISSIONER CROWLEY: No, just the with the  
17 exception of --

18 MR. BLEES: With the exception of, the sentence  
19 that reads, "At the hearing, the Commission proposed a  
20 change to the proposed amendment, directed the staff to  
21 prepare and make available modified language superseding  
22 the original proposal in accordance with the Administrative  
23 Procedure Act and continued the adoption hearing to this  
24 date."

25 I'm also suggesting that you eliminate the language

1 in the proposed order that reads four lines from the bottom  
2 on the first page, "as modified by the 15-day language,  
3 August 1st, 1984".

4 COMMISSIONER CROWLEY: Thank you.

5 MR. KLENOW: What page are we on, I'm trying to  
6 follow that.

7 MR. BLEES: I have an order that was in the  
8 Commissioners' backup package that would have adopted the  
9 15-day language. All I'm really trying to say is that  
10 you do what you would have done 15 days ago.

11 COMMISSIONER SCHWEICKART: That's correct, and I  
12 believe that that is reflected by the deletion, as you say,  
13 in the order prepared in the backup material pursuant to  
14 Docket No. 83-CON-2, in the first paragraph eliminating the  
15 second sentence, and the second paragraph, labeled number  
16 one, deleting the last line, and I believe that's it.

17 COMMISSIONER CROWLEY: All right.

18 COMMISSIONER SCHWEICKART: I hereby move that  
19 order, seconded by Commissioner Crowley. Is there any  
20 further discussion, Commissioner Commons?

21 COMMISSIONER COMMONS: Can you just explain to  
22 me why 1 rather than .2?

23 COMMISSIONER SCHWEICKART: The 1 rather than .2  
24 because from my own opinion and the work of the staff, we  
25 find no health or safety problems with that level, and the

1 ability to utilize the occupancy sensor in larger rooms  
2 in order to automatically control lighting is available  
3 at that level, thereby enlarging fairly dramatically the  
4 potential energy savings by the use of the device.

5 Is there objection to a unanimous approval of  
6 the order? There being none, the hearing is hereby  
7 concluded, thank you very much.

8 Commissioner Commons, the rest of the day is yours.

9 (Thereupon the business meeting of the California  
10 Energy Resources Conservation and Development Commission  
11 was adjourned at 3:44 p.m.)

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## REPORTER'S CERTIFICATE

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2  
3 THIS IS TO CERTIFY that I, Patricia A. Petrilla,  
4 Reporter, have duly reported the foregoing proceedings  
5 which were had and taken in Sacramento, California, on  
6 Thursday, August 16, 1984, and that the foregoing pages  
7 constitute a true, complete and accurate transcription of  
8 the aforementioned proceedings.

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

12  
13 Patricia A. Petrilla

14 Reporter

15 Dated this 27th day of August, 1984.  
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