

MEETING

CALIFORNIA AIR RESOURCES BOARD

- 94-9-1 )  
Public Hearing to Consider New Specifications )  
for Diesel Engine Certification Fuel, Proposed )  
Amendments to the Oxygen Specification for )  
Natural Gas Certification Fuel, and Proposed )  
Amendments to the Commercial Motor Vehicle )  
Liquefied Petroleum Gas Fuel Regulations )  
)
  - 94-9-4 )  
Public Meeting to Consider an Update )  
on California's State Implementation Plans )  
)
  - 94-9-2 )  
Public Hearing to Consider Adoption of the )  
Alternative Control Plan (ACP) for Consumer )  
Products )  
)
  - 94-9-3 )  
Public Meeting to Consider the Annual Report )  
to the Governor and the Legislature on the )  
Air Resources Board's Atmospheric Acidity )  
Protection Program )  
)
- 

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Location: HYATT AT LOS ANGELES AIRPORT  
International Ballroom  
6225 West Century Blvd.  
Los Angeles, CA

Date and Time: Thursday, September 22, 1994  
9:30 a.m. to 5:00 p.m.

Reported by: JOANNE P. CUNNINGHAM, CSR 2734

Job No. 25783JC

A P P E A R A N C E S

Members Present:

MS. JACQUELINE E. SCHAFER, Chairwoman  
SUPERVISOR BRIAN P. BILBRAY  
SUPERVISOR DOUG VAGIM  
MAYOR M. PATRICIA HILLIGOSS  
MR. JOHN S. LAGARIAS  
SUPERVISOR HARRIETT WIEDER  
MR. JACK C. PARNELL  
SUPERVISOR BARBARA RIORDAN  
MR. JOSEPH C. CALHOUN  
MS. LYNNE T. EDGERTON

Staff present:

JAMES D. BOYD, Executive Officer  
TOM CACKETTE, Chief Deputy Executive Officer  
MIKE SCHEIBLE, Deputy Executive Officer  
MICHAEL KENNY, Chief Counsel  
PETER VENTURINI, Chief, Stationary  
Source Division  
DEAN SIMEROTH, Chief, Criteria Pollutants  
Branch, SSD  
JOSE GOMEZ, SSD  
TOM JENNINGS, Senior Staff Counsel,  
Office of Legal Affairs  
DON AMES, Assistant Chief, SSD  
GENEVIEVE SHIROMA, Chief, Toxic Air Contaminant  
Identification Branch, SSD  
PEGGY TARICCO, Manager, Solvents Control  
Section, SSD  
FLOYD VERGARA, Staff, SSD  
REZA MAHDAVI, Economic Studies Section,  
Research Division  
BOB JENNE, Senior Staff Counsel, Office of  
Legal Affairs  
DR. JACK HOLMES, Chief, Research Division  
BOB BARRHAM, Assistant Chief, RD  
MANJIT AHUJA, Manager, Emissions Control  
Technology Section, RD  
DR. STEPHEN BROWN, Staff, RD  
KURT KARPEROS, Staff  
LYNN TERRY, Magr., No. CA Liaison Section  
PATRICIA HUTCHENS, Board Secretary  
BILL VALDEZ  
WENDY PENDLETON

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1 years to provide additional time to address concerns  
2 over the availability of the low propene LPG fuel and  
3 avoid any disruption in the introduction and growth  
4 of low emission LPG vehicles.

5 At this point I'd like to ask Mr. Boyd to  
6 introduce the item and begin the staff's presentation.

7 Mr. Boyd.

8 MR. BOYD: Thank you, Chairwoman Schafer.  
9 Good morning, board members, and good morning to the  
10 audience. As the chairwoman has indicated, we have  
11 three proposals for you to consider relative to this  
12 item this morning, and she gave you a fairly thorough  
13 rundown.

14 Again, the first -- regarding that first  
15 proposal, the Engine Manufacturers Association, or EMA,  
16 as I will refer to them, has requested that we reexamine  
17 the specifications for diesel engine certification  
18 fuel. They were concerned that the specifications were  
19 too broad, as the chairwoman indicated.

20 A "for instance" would be that two different  
21 manufacturers could use two very different fuels to  
22 certify their engines, while at the same time the Air  
23 Resources Board can test these engines for compliance  
24 with what they thought was yet a third fuel, and all  
25 three fuels, though, would be allowed under the current

1 specifications for certification fuels.

2           So to address this concern, we held a number  
3 of meetings with the association to gather information  
4 on the issue and on the cert fuel specs and to look to  
5 see how perhaps they could be modified to fairly and  
6 reasonably represent commercial fuels in use.

7           In May of this year, we held a workshop  
8 with all the interested parties to discuss the  
9 specifications, and we are proposing today modifications  
10 to reflect the inputs that were received at the workshop  
11 and at subsequent meetings with the affected folks.

12           Concerning the second proposal, relative to  
13 compressed natural gas, the suppliers indicated that  
14 they could not safely blend fuels to the oxygen  
15 requirements of our existing regulation, and because  
16 of this situation, they said adequate supplies of  
17 compressed natural gas fuel may not and frankly have not  
18 been available for auto manufacturers to certify the  
19 engines.

20           So as was done with diesel fuel, we again  
21 investigated the concerns, held numerous conversations  
22 with the manufacturers and the fuel suppliers to  
23 evaluate the situation. And as a result of all these  
24 discussions, we are indeed proposing modifications to  
25 the oxygen specification for compressed natural gas cert



1 MR. GOMEZ: Today we are proposing three  
2 amendments to regulations for you to consider. I will  
3 first discuss the proposed specification for diesel  
4 engine certification fuel; second, the proposed  
5 amendment to the oxygen content requirement in natural  
6 gas certification; finally, I will conclude with the  
7 proposed amendments to the liquefied petroleum gas  
8 regulations.

9 (Slide presented.)

10 The ARB establishes certification fuels  
11 to ensure that these fuels used to verify compliance  
12 with the new motor vehicle exhaust standards are  
13 representative of commercial fuels. The ARB has a long  
14 history of controlling motor vehicle emissions to  
15 improve California's air quality.

16 Over the years, the board has implemented  
17 programs which require motor vehicles to meet  
18 increasingly stringent standards. In conjunction  
19 with these programs, the board has also adopted  
20 specifications for commercial gasoline and diesel fuels  
21 to reduce emissions further. More recently, the board  
22 adopted specifications for alternative fuels to ensure  
23 that these fuels have consistent properties.

24 (Slide presented.)

25 As the commercial fuels have changed, the

1 board has adopted specifications for engine  
2 certification fuels to reflect these changes. Here are  
3 the adoption dates for some of these fuels.

4 (Slide presented.)

5 I will now discuss the specific proposal for  
6 the specifications for diesel engine certification  
7 fuel.

8 (Slide presented.)

9 In 1988 the board adopted regulations for  
10 commercial diesel fuel which require the use of low  
11 aromatic -- required low aromatic content -- excuse me.  
12 To reflect the changes in the commercial fuel, the board  
13 adopted regulations in 1991, 1992, and again in 1993,  
14 allowing the use of the 10 percent aromatic fuels to  
15 certify certain diesel vehicles and engines.

16 (Slide presented.)

17 Currently manufacturers have two options for  
18 certifying diesel vehicles. They can use fuels --

19 (Slide presented.)

20 -- excuse me.

21 (Slide presented.)

22 Currently manufacturers have two options  
23 for certifying diesel vehicles. They can use fuels  
24 meeting the federal specifications or California  
25 specifications. Specifically, manufacturers can use

1 California's 10 percent aromatic hydrocarbon diesel fuel  
2 to certify 1995 and subsequent model year medium-duty  
3 and light-duty vehicles. They can also use this fuel  
4 to certify 1996 and 1997 urban bus engines. And  
5 additionally, 1995 and subsequent utility and lawn and  
6 garden equipment.

7           These vehicles account for only about  
8 6 percent of the diesel NOx emission inventory. The  
9 heavy-duty engines which account for the remaining  
10 inventory currently don't have access to the 10 percent  
11 aromatic certification fuel.

12                           (Slide presented.)

13           We are proposing new specifications  
14 because the current fuel specifications do not  
15 adequately define several key properties. Also, the  
16 present specifications do not ensure that the emission  
17 performance of the certification fuel would be  
18 representative of a 10 percent aromatic in-use fuels.  
19 The specifications don't include a minimum limit on the  
20 aromatic hydrocarbon content or the sulfur content, and  
21 they do not include a maximum limit on cetane number.  
22 Consequently, fuels with wide varying properties can be  
23 used to certify diesel engines and vehicles and  
24 potentially undermine the benefits of the more stringent  
25 exhaust standards set by the board.

1           Engine manufacturers recognize this problem,  
2 but with ordinarily defined certification fuel, engine  
3 manufacturers would be assured that their test results  
4 represent vehicle technology and not variations in the  
5 fuels used to certify the engines.

6                           (Slide presented.)

7           The proposed certification specifications are  
8 based on 10 percent aromatic hydrocarbon fuels. We are  
9 proposing the following specifications: For aromatic  
10 content, we're proposed a range of 8 to 12 volume  
11 percent. Natural cetane number, 47 to 55. Sulfur  
12 content of .01 to .05 weight percent. And nitrogen  
13 content of 100 to 500 parts per million.

14                           (Slide presented.)

15           We are not proposing changes to distillation  
16 properties, the API gravity, the polyaromatic content,  
17 the viscosity, and the flash point of the fuel.

18           We are proposing that the proposed  
19 specifications be used not only for certification of new  
20 engines and vehicles but also for in-use compliance  
21 testing. Currently in-use testing is conducted using  
22 any available -- commercially available diesel fuel.

23                           (Slide presented.)

24           In establishing the range for the natural  
25 cetane number, we incorporated the test method

1 reproducibility. Manufacturers will likely request  
2 their fuels with a cetane number such that they would --  
3 they could not exceed the range when the reproducibility  
4 is taken into consideration.

5 (Slide presented.)

6 In summary, we believe that the proposed  
7 specifications for diesel engine certification fuel  
8 reasonably represent the emission performance of  
9 presently available 10 percent aromatic fuels. The cost  
10 of producing the fuel should be similar to the cost of  
11 current 10 percent aromatic certification fuels.

12 In developing the specifications, we worked  
13 with all the interested parties. Some diesel fuel  
14 producers have suggested that the cetane specification  
15 should be lower to reflect the alternative formulations  
16 and the 20 percent aromatic diesel fuel that will be  
17 produced by small refiners. We considered this in our  
18 evaluation, and believe that this would be inconsistent  
19 with a 10 percent certification fuel adopted by the  
20 board.

21 (Slide presented.)

22 I will now discuss the proposed amendments  
23 to the oxygen specification for compressed natural gas  
24 certification fuel.

25 The board established the specifications for

1 certification fuels to ensure that -- to provide  
2 consistent test fuels. In March 1992 --

3 (Slide presented.)

4 -- the board adopted specifications for  
5 commercial certification compressed natural gas as part  
6 of the alternative fuel regulations. The compressed  
7 natural gas certification fuel includes a specification  
8 for an 0.5 oxygen content -- excuse me -- 0.5 mole  
9 percent oxygen content. This was included because CNG  
10 fuels can potentially have small amounts of oxygen in  
11 the range of 0 to 1 percent.

12 (Slide presented.)

13 Industry representatives raised safety  
14 concerns with blending the required oxygen level. They  
15 indicated that there is a potential risk of explosion  
16 during the blending process.

17 (Slide presented.)

18 We proposed to modify the current oxygen  
19 requirement of 0.5 plus or minus 0.1 mole percent to a  
20 maximum oxygen requirement of 0.5 mole percent. This  
21 will effectively eliminate the concern raised  
22 about explosion during blending by allowing the fuel  
23 producers to limit the oxygen content if they need to.

24 (Slide presented.)

25 The proposed change will address the safety

1 concern, and recent testing indicates that the presence  
2 of oxygen at this level has no significant impact on  
3 emissions. Keeping the oxygen specification will  
4 further ensure that a certification fuel remains  
5 consistent with commercial fuels. Also, we will be  
6 consistent with the United States Environmental  
7 Protection Agency's regulation and thus continue to  
8 allow one fuel to be used for both California and  
9 federal emission testings.

10 (Slide presented.)

11 I will now discuss the proposed amendments to  
12 the liquefied petroleum gas regulations.

13 (Supervisor Wieder entered the hearing room.)

14 In 1992 the board adopted the specifications  
15 for commercial motor vehicle liquefied petroleum gas --

16 (Slide presented.)

17 -- as part of the alternative fuels  
18 regulations. Among other properties, these  
19 specifications limit the propene content to 5 volume  
20 percent starting January 1, 1995.

21 The board decided to limit the propene  
22 because of its high reactivity; however, at the time the  
23 board granted an interim 10 volume percent propene limit  
24 through December 31st, 1994. The two-year delay was  
25 designed to address the uncertainty regarding the

1 availability of low propene LPG fuel.

2 (Slide presented.)

3 When the board adopted the LPG regulations,  
4 the board directed staff to monitor the availability of  
5 low propene LPG fuel. More recently, the Western  
6 Propane Gas Association requested ARB to reevaluate the  
7 5 volume percent propene limit and to work with them to  
8 address their concerns.

9 Based on our evaluation, we have found that  
10 up to 50 percent of the LPG fuel produced at refineries  
11 could not meet the 5 volume percent propene limit. We  
12 also found that some LPG marketers may be forced out of  
13 the motor vehicle LPG market or be required to install  
14 segregated storage and distribution facilities for motor  
15 vehicle fuel. This would be needed because commercial  
16 grade LPG for nonvehicle use does not specify a propene  
17 content. Currently LPG fuel issues in motor vehicles is  
18 about 8 to 10 percent of the total LPG fuel market.

19 Additionally, we believe that the Phase 2  
20 reformulated gasoline regulations are expected to change  
21 the quality of the LPG in the near future. Propene may  
22 become a valuable component for the production  
23 of reformulated gasoline, and therefore the amount of  
24 propene may be reduced -- the amount of propene in LPG  
25 could be reduced significantly.

1 (Slide presented.)

2 We propose to continue the current 10 volume  
3 percent propene content standard for two additional  
4 years, until January 1, 1997. The staff would continue  
5 to monitor the situation.

6 (Slide presented.)

7 Although difficult to quantify, we believe  
8 that continuing the current 10 percent propene standard  
9 for an additional two years will not have a significant  
10 impact on emissions.

11 First, the majority of the LPG vehicles will  
12 use compliant fuel because they are located in the  
13 Los Angeles area where most of the LPG already meets  
14 the 5 volume percent propene standard. The alternative  
15 to using LPG is to switch to conventional fuel; however,  
16 conventional fuel vehicles would have higher reactivity  
17 adjusted emissions than LPG fuels using 10 volume  
18 propene LPG fuel.

19 Extending the current standard will encourage  
20 the use of LPG fuel in dual-fueled vehicles, ensuring  
21 adequate supplies. It will also ensure that dedicated  
22 LPG vehicles have adequate compliant fuel, and it will  
23 continue to encourage conversion of conventional fueled  
24 vehicles to LPG.

25 (Slide presented.)

1                   In summary, delaying the implementation until  
2 January --

3                   (Slide presented.)

4                   In summary, delaying the implementation until  
5 January 1, 1997, will provide the necessary time for  
6 industry to ensure adequate supplies of low propene  
7 motor vehicle LPG fuel are available. Changing the  
8 implementation date will also allow time to evaluate  
9 how Phase 2 refinery modifications will affect the  
10 quality of the LPG.

11                   (Slide presented.)

12                   In conclusion, we recommend that the board  
13 adopt the proposed specifications for diesel engine  
14 certification fuel, the proposed amendments to the  
15 oxygen specification for natural gas certification fuel,  
16 and the proposed amendments to the commercial motor  
17 vehicle liquefied petroleum gas regulations.

18                   This concludes my presentations. Staff will  
19 answer questions at this time.

20                   CHAIRWOMAN SCHAFER: Do any members of the  
21 board have questions for the staff at this time?

22                   Supervisor Bilbray.

23                   SUPERVISOR BILBRAY: Yes. The natural gas  
24 that you were identifying, the 50 percent of the  
25 existing supply, could not meet the oxygen content;

1 right?

2 MR. GOMEZ: I believe that was in  
3 reference to the liquefied petroleum gas.

4 SUPERVISOR BILBRAY: What is the  
5 comparison, then, with the existing supply of natural  
6 gas?

7 MR. SIMEROTH: Mr. -- Supervisor Bilbray,  
8 the natural gas, as is commercially available, has  
9 almost no oxygen in it. The provision for oxygen  
10 content was originally put in, in response to comments  
11 regarding the production of natural gas at landfills  
12 where you do get oxygen entered into the -- into the  
13 natural gas. It's turning out that very little of that  
14 landfill production gas is getting into commercial  
15 natural gas. It's being used on-site. So it's a little  
16 bit of an obsolete concept, but EPA has recognized that,  
17 and they put a cap on their certification fuel for  
18 oxygen content as well.

19 SUPERVISOR BILBRAY: Being an owner of  
20 many of those methane recovery systems, I relate to  
21 that.

22 So the big issue is that you're proposing  
23 actually the -- to modify the standards to reflect what  
24 is really out in the real world and what's in the pipes  
25 right now?

1 MR. SIMEROTH: That would be the effect,  
2 and it would also make us consistent with EPA. And the  
3 testing by the mobile sources division has shown that  
4 level of oxygen content really does not affect  
5 emissions.

6 SUPERVISOR BILBRAY: My real concern here  
7 is that we want to make sure that, especially with the  
8 natural gas, that we do not have to have an exclusive,  
9 isolated source that has not already integrated into the  
10 natural gas system that is in almost every major city in  
11 the state. So this would modify the regs to reflect the  
12 reality of what is in the ground now and what is being  
13 provided to the communities now.

14 MR. SIMEROTH: Yes. And also this is a  
15 certification fuel that's blended up to the  
16 specifications. It's not something taken off the  
17 pipelines. The commercial specification allows for 0 to  
18 slightly over 1 percent oxygen content to take care of  
19 what you were saying.

20 SUPERVISOR BILBRAY: And what is your  
21 strategy about the difference? This is basically for  
22 the testing so we set the standard, and then you -- then  
23 at least you know the ballpark of where you're  
24 functioning when you get into the real world and we  
25 start drawing off the commercial pipes.

1 MR. SIMEROTH: That's correct.

2 SUPERVISOR BILBRAY: Okay. Thank you.

3 CHAIRWOMAN SCHAFER: Yes, Mr. Calhoun.

4 MR. CALHOUN: I think Mr. Gomez mentioned  
5 something to the effect that the specification for the  
6 cert fuel would also be -- not the specification, but  
7 the new specifications proposed would also be used -- at  
8 least the fuel would be used for certification as well  
9 as in-use; is that correct?

10 MR. GOMEZ: That is correct. That is what  
11 we're proposing.

12 MR. CALHOUN: Okay. How close does the  
13 new fuel, at least the specifications, come to  
14 commercially available fuel -- or that would be  
15 available at that particular time?

16 MR. SIMEROTH: Mr. Calhoun, this would  
17 only apply to the diesel certification fuel and it's  
18 in-use testing. One major supplier in the commercial  
19 area produces a 10 percent fuel that has basically all  
20 these characteristics.

21 And how does it compare to the commercial?  
22 We have about 30 percent of the state's diesel complies  
23 with the 10 percent standard without doing the  
24 alternative formulation-type route. The average  
25 properties of that 30 percent are about 10 percent

1 aromatics. Basically, they are around the -- average  
2 around the 10 percent, so they set real close to the  
3 10 percent number. That's in the range of the  
4 aromatics. Sulfur is in the range of the sulfur to be  
5 proposed. The nitrogen content similarly. Cetane  
6 numbers range from the 10 percent fuels that are  
7 commercially produced, from 47 to -- I think it's 57.  
8 So again, we're within the range of commercially  
9 available 10 percent fuels.

10 MR. CALHOUN: Well, I may want to ask you  
11 another question after we hear some of the testimony.  
12 We may come back to that.

13 CHAIRWOMAN SCHAFER: Any more -- are there  
14 any other questions for -- from board members to the  
15 staff at this point?

16 If not, then I would like to turn to the  
17 public testimony that will be offered with respect to  
18 this board item. And I would first like to recognize  
19 Melissa Chapman of WSPA.

20 Are you here, Miss Chapman?

21 MS. CHAPMAN: I have an overhead slide.  
22 Does that need to be set up at all?

23 Good morning, Chairwoman Schafer and board  
24 members. My name is Melissa Chapman, and I'm a fuels  
25 planning engineer with 76 Products Company, a member

1. company of Unocal Corporation. Today, however, I'm  
2. representing the Western States Petroleum Association,  
3. also known as WSPA. WSPA is a trade association whose  
4. member companies engage in the exploration, production,  
5. and refining of petroleum products and petroleum in  
6. California and the western United States.

7. WSPA appreciates the opportunity to comment  
8. on the California Air Resources Board's specifications  
9. for certification engine testing. We agree with staff  
10. that the current certification fuel specifications set  
11. forth in the low aromatic diesel fuel regulation are too  
12. widely defined to accurately represent commercially  
13. available diesel fuel. We believe, however, that  
14. staff's proposed certification fuel is also not  
15. representative of commercial fuel and will produce lower  
16. emissions than average commercial fuel. Consequently,  
17. the use of this fuel will permit certification of  
18. vehicles and engines that will fail to achieve desired  
19. emission reduction goals under real-life operating  
20. conditions.

21. The emissions performance of certification  
22. fuel directly influences the ability of new vehicles and  
23. engines to meet CARB's stringent emission standards. A  
24. certification fuel that results in lower emissions than  
25. the average commercial fuel will fail to achieve desired

1 emission reductions. Such failures will eventually lead  
2 to shortfalls in attainment of air quality goals and  
3 increased pressure for additional emission controls.  
4 The emissions characteristics of certification fuel must  
5 therefore reflect the fuel commercially available in the  
6 state of California.

7 We believe that the specifications for  
8 certification fuel should match those of commercial fuel  
9 as closely as possible. Commercial fuel for motor  
10 vehicle use in California is distributed among three  
11 categories. These are: 10 percent aromatic diesel  
12 fuel, alternative formulations, and small refiner  
13 fuels.

14 A certification fuel based on these  
15 parameters would best reflect commercial diesel fuel and  
16 would result in certification test results which are  
17 representative of emissions produced by the in-use  
18 fleet. Since CARB is the only authority with access to  
19 these fuel parameters, we urge CARB staff to determine  
20 the actual parameters of these in-use fuels and propose  
21 a certification fuel based on the determined  
22 parameters. A certification fuel based on these  
23 parameters would best represent commercial fuel and  
24 result in certification of engines and vehicles that  
25 will achieve desired emission reduction goals.

1                   We do understand, however, that this is a  
2 complicated task and may not be realistic given CARB's  
3 desired timetable. If a fuel-parameter based proposal  
4 is not feasible, we suggest using an emissions  
5 reduction -- or an emissions-based method to match the  
6 emissions expected from commercial fuel. This method  
7 would determine the specifications of a certification  
8 fuel which is estimated to produce emissions equivalent  
9 to a volume weighted average of 10 percent aromatic  
10 fuel, alternative formulations, and small refined diesel  
11 fuel.

12                   Based on our estimates, this method would  
13 result in a certification fuel with a 10 percent  
14 aromatics content and a cetane of 49.

15                   Go ahead and show the slide.

16                   I have a slide that shows how we came up with  
17 these specifications. I don't have my glasses on, so --  
18 I think I know the numbers anyway.

19                   You can see from this slide that the  
20 10 percent aromatic diesel fuel --

21                                   (Slide presented.)

22                                   -- is represented by a cetane of 52. This  
23 number was based on staff's analysis of actual  
24 10 percent aromatic production.

25                   The emissions produced from alternative

1 formulation diesel fuels have been shown to be  
2 equivalent to those produced by a reference fuel during  
3 the alternative certification testing process. All  
4 alternative formulations can, therefore, be represented  
5 by the referenced fuel specifications of 10 percent  
6 aromatics and a cetane of 48.

7 Small refiners will soon be producing a  
8 20 percent aromatic fuel or an alternative formula,  
9 which has been shown to produce emissions equivalent to  
10 those produced by a 20 percent aromatic reference fuel  
11 during the same alternative formulation certification  
12 testing process.

13 It is therefore appropriate to represent  
14 or equate all small refiner diesel fuel with this  
15 20 percent aromatics reference fuel. Using available  
16 equations that relate changes in aromatic content and  
17 cetane number to changes in emissions, the emissions of  
18 the small refiner diesel fuel have been estimated to be  
19 equivalent to those of a 10 percent aromatic fuel with a  
20 cetane of 45.

21 As you can see, relating all three categories  
22 of fuel to a corresponding emission-based 10 percent  
23 aromatic fuel enables the calculation of a pooled cetane  
24 for a 10 percent aromatic fuel, which is the  
25 volume-weighted average of all three categories of

1 commercial fuel.

2 As you can see, this methodology results in  
3 certification fuel with a 10 percent aromatics and a  
4 cetane of 49, fully two cetane numbers below the 51  
5 cetane midpoint of the currently proposed  
6 specifications.

7 Finally, we believe that CARB should ensure  
8 that certification fuel represent, to the greatest  
9 extent practicable, the emission characteristics of  
10 the average commercial fuel sold in the state of  
11 California. If there is to be an error, it should be  
12 made on the conservative side, thereby minimizing any  
13 loss in estimated emission reductions.

14 This philosophy is consistent with that  
15 used in specifying CARB Phase 2 reformulated gasoline  
16 certification fuel, which will be used to certify  
17 low-emission vehicles.

18 In conclusion, staff's proposed certification  
19 fuel is not representative of the pool of commercial  
20 fuel but is actually cleaner burning. Our first  
21 preference is that CARB staff base the specifications on  
22 the properties of commercial diesel fuel. If CARB  
23 insists on using a 10 percent aromatic fuel as the basis  
24 for its specifications, then we recommend using the  
25 emissions equivalency approach outlined in this

1 presentation, which takes into account all three  
2 categories of diesel fuel to be produced in the state.

3 This approach indicates that the cetane  
4 number of a midpoint 10 percent aromatic certification  
5 fuel should be 49 rather than 51.

6 Using the methodology we have outlined will  
7 lead to certification fuel specifications that are more  
8 representative of commercial fuel and will result in  
9 vehicle certification that will be more representative  
10 of the in-use fleet. This process will better serve the  
11 air quality needs of California.

12 I'd be happy to take any questions you might  
13 have.

14 CHAIRWOMAN SCHAFER: I'd like to ask the  
15 staff a question.

16 Did you have the benefit of this alternative  
17 approach as you formulated the staff recommendation, or  
18 is this -- is this something you considered previously?

19 MR. SIMEROTH: Chairwoman Schafer, this  
20 concept came up, I believe, from WSPA about the time  
21 that we released the 45-day package. Since that time,  
22 we've worked with the member companies of WSPA to  
23 evaluate their approach. We have done the calculations  
24 that they've outlined. We have some differences between  
25 our calculations and WSPA. Most of the differences

1 result from the Air Resources Board staff having access  
2 to all the certification data that the individual WSPA  
3 members don't. We find that with the alternative  
4 formulations, instead of the 48 cetane number  
5 equivalent, it would be 50.

6 Then it comes down as -- to the point, what  
7 was the basis for the certification fuel that the board  
8 originally adopted, and the board originally adopted a  
9 10 percent base certification fuel. So if you do not  
10 include the small-refiner diesel, which is not to the  
11 10 percent formula, you basically come out with a 51 --  
12 approximately 51 cetane number average between the  
13 10 percent, and the alternative formulations, slightly  
14 over that. It will be rounded up -- well, in fact, as  
15 our midpoint of 51.

16 So we're really not inconsistent when you  
17 adjust for the small refiners, and you adjust the  
18 alternative formulations for the actual properties of  
19 the fuels used in certifying.

20 CHAIRWOMAN SCHAFFER: Thank you very much.

21 Are there other questions for board  
22 members -- from board members for this witness?

23 MR. CALHOUN: Yes, I have one question.

24 CHAIRWOMAN SCHAFFER: Yes, Mr. Calhoun.

25 MR. CALHOUN: One of the points you make

1 in your testimony is that the emissions from the in-use  
2 vehicles would be somewhat different from the emissions  
3 in the certification vehicles. Can you quantify the  
4 difference? Do you have a feel for what the difference  
5 would be?

6 MS. CHAPMAN: I believe -- I don't have  
7 the number off the top of my head, but I think it is  
8 reflected in our written comments.

9 Am I correct?

10 AUDIENCE SPEAKER: Yes.

11 MS. CHAPMAN: We've also submitted written  
12 comments, and there's a quantification in there.

13 Yes, it's on the bottom of page 3. It says,  
14 "This two-number difference represents about 10 percent  
15 of the NOx benefit of the low aromatic diesel rule and  
16 about 15 percent of the particulate benefit."

17 MR. CALHOUN: One other question. How  
18 many member companies are there in WSPA?

19 MS. CHAPMAN: I would say probably --

20 AUDIENCE SPEAKER: Thirty.

21 MS. CHAPMAN: Approximately 30.

22 MR. CALHOUN: Do you represent WSPA here  
23 today?

24 MS. CHAPMAN: Yes.

25 MR. CALHOUN: Do they all feel the same

1 way about what you're proposing here, or is this one or  
2 two companies have stronger feelings about this?

3 MS. CHAPMAN: No, we have to -- we reach a  
4 consensus before we can present a proposal with WSPA  
5 backing.

6 MR. CALHOUN: Thank you.

7 CHAIRWOMAN SCHAFFER: Miss Edgerton.

8 MS. EDGERTON: Thank you. Thank you for  
9 your presentation.

10 I'd like to ask you a similar question to  
11 what Mr. Calhoun asked staff. What opinion do you have  
12 with respect to how much of the California fuel would  
13 qualify or would be similar to the certification  
14 standard? How much of the commercially available fuel  
15 is substantially similar in your view?

16 MS. CHAPMAN: Well, I would say that the  
17 10 percent aromatic fuel that's out on the market today,  
18 although that could change in the months to come as  
19 people make -- probably will go to alternative  
20 formulation -- but I would say that it would probably be  
21 similar to the 10 percent aromatic fuel, which right now  
22 comprises about 30 percent of the market.

23 MS. EDGERTON: And what do you project  
24 over the next -- did you make projections over the next  
25 several years as to what percentage would then be moving

1 into similar --

2 MS. CHAPMAN: No, we really can't do that,  
3 because we would basically be asking companies to tell  
4 us what they'll be producing, and we're not allowed to  
5 do that.

6 MS. EDGERTON: Excuse me. You're not  
7 what?

8 MS. CHAPMAN: We're not allowed to talk  
9 about supply or actual fuels that the companies would be  
10 producing.

11 MS. EDGERTON: So if I understand you  
12 right, your testimony today is wholly restricted to  
13 your opinion with respect to the present commercially  
14 available fuel and makes no comment whatsoever about  
15 the future projections because of -- this is very  
16 important -- because your fuels are going to change as  
17 they come increasingly into compliance with our  
18 regulations. So -- is that correct? Is that your  
19 testimony, it is only limited to today?

20 MS. CHAPMAN: This table here shows what  
21 we think is representative of the fuel that's on the  
22 market today. Our impression is that most companies  
23 will probably be moving to an alternative formula,  
24 and -- which if the certification fuel is based on just  
25 a 10 percent aromatic fuel, it won't be very accurate,

1 so we think that this is a more accurate view, because  
2 it includes not only the 10 percent aromatic fuel but  
3 the alternative formulations and the small refiners with  
4 the best guess of what's being produced today.

5 If I had to project, I would say that the  
6 10 percent -- the volume of 10 percent aromatic fuel  
7 will probably decrease and alternative formulations will  
8 increase.

9 CHAIRWOMAN SCHAFER: Would the staff like  
10 to comment on that? I am going back to -- and I have a  
11 second question. I'm going back to Mr. Calhoun's  
12 question. Our calculation is that -- based on the  
13 information we have, and that perhaps WSPA, as an  
14 institution doesn't have, is that the midpoint is in  
15 fact five one, and not four nine, and therefore, we  
16 would not incur this reduction of the NOx benefit.

17 Is that correct?

18 MS. CHAPMAN: Umm --

19 CHAIRWOMAN SCHAFER: I'm asking the staff  
20 to comment on that.

21 MR. SIMEROTH: Our analysis indicates that  
22 the midpoint would be approximately 51. And then you're  
23 talking about the difference -- well, the midpoint of  
24 the range that we propose is 51. And we'd be virtually  
25 the same.

1                   And again, it's -- if you look at the  
2 alternative formulations, the balance point of the  
3 alternative formulations for cetane number is not 48;  
4 it's 50 to 51. And that's the difference between our  
5 analysis and WSPA's analysis. And our -- we're the ones  
6 who have the access to all the information. It's  
7 unfortunate that most of it is confidential, so we can't  
8 share it with WSPA.

9                   MR. SCHEIBLE: I also think it's -- it  
10 would be useful to review how you get that alternative  
11 formulation. What we're proposing is that when you  
12 certify an engine-use base fuel at around 10 percent,  
13 that's representative of 10 percent fuels that are in  
14 the market. An alternative formulation is a fuel that  
15 has been tested against that same base, and in that test  
16 it must perform with equivalent emission reductions or  
17 better for several different parameters.

18                   So although there may be many different  
19 alternative formulations out there, each and every one  
20 of them has been tested back against the 10 percent. So  
21 in our view, going with the 10 percent standard for the  
22 engines is the same as going with the 10 percent  
23 standard for the fuel. You either have fuel that meets  
24 10 percent or an alternative formulation that has been  
25 tested against the 10 percent standard and shown to be

1 equivalent or better.

2 MR. BOYD: Madam Chair, thus I'm puzzled  
3 if not troubled by the witness's testimony that only  
4 the 30 percent fraction of the fuel out there would meet  
5 the criteria we're following since the 10 percent -- the  
6 aromatic fuel is the benchmark -- the emissions  
7 performance of the fuel is the benchmark against which  
8 alternative fuels are certified.

9 I would think one would say that roughly  
10 90 percent of the fuel, you know, meets the emissions  
11 characteristics we're looking at and only the exception  
12 for small refiners might give you an outlying  
13 situation.

14 I'm puzzled in that there's some feeling  
15 on the part of the industry that the alternative  
16 formulation doesn't meet the performance criteria that  
17 we've established.

18 MS. CHAPMAN: May I speak to that?

19 CHAIRWOMAN SCHAFER: Yes, Miss Chapman,  
20 you may comment.

21 MS. CHAPMAN: I'm not saying that  
22 alternative formulations aren't meeting the standards of  
23 the referenced fuels, but the referenced fuel, as you  
24 can see, is -- or, as you know, is at 10 percent, 48;  
25 and I think the question was, is -- is the commercial

1 fuel representative of the certification, and the  
2 certification is a 10 percent, 51. And so I think  
3 that's what we're saying.

4 MR. SIMEROTH: Madam Chairwoman, if I  
5 could --

6 CHAIRWOMAN SCHAFER: Yes.

7 MR. SIMEROTH: -- the annual certification  
8 fuels that are used for a reference fuel is not the 10,  
9 48. You can't produce a fuel that precisely. That's  
10 the minimum standards that the fuel has to meet. What  
11 they're actually producing to test against is a 9, 49,  
12 and then when we certify the fuel, we establish the  
13 specifications that we have to produce against as mins  
14 and maxes against. We have to do better than the fuel  
15 properties that we use certify, so they're doing better  
16 than a 9 percent aromatic, 49 cetane. So it's more  
17 equivalent to a 50 cetane that they're actually  
18 producing fuels to.

19 CHAIRWOMAN SCHAFER: Thank you,  
20 Mr. Simeroth.

21 Yes, Mr. Lagarias.

22 MR. LAGARIAS: I'd like to ask the staff.  
23 In your presentation you mentioned a natural cetane  
24 number. Is this any significance or vis-a-vis just  
25 cetane number?

1 MR. SIMEROTH: Mr. Lagarias, the reason  
2 why we specified natural as a certification fuel was to  
3 avoid having variations due to the additives they've  
4 used to raise the cetane. In the certification testing,  
5 additives were used to increase cetane in candidate  
6 fuels, and we don't detect any differences in the  
7 performance.

8 MR. LAGARIAS: But don't most of the  
9 alternate formulations involve additives to raise the  
10 cetane number?

11 MR. SIMEROTH: It depends on the  
12 properties of the crude (incomprehensible word) that  
13 they're producing the 10 percent from. The refinery in  
14 Northern California, in the Bay area, is producing 10  
15 percent, has no need for cetane additives to --

16 MR. LAGARIAS: But it's true that  
17 alternative formulations can be presented that involve  
18 an additive to it?

19 MR. SIMEROTH: Yes, Mr. Lagarias. Most of  
20 the alternative formulations clearly allow the use of  
21 additives.

22 Another reason why we said natural cetane is  
23 that the certification fuel will be manufactured and  
24 provided basically by Phillips Petroleum and Cal  
25 Chemical. In their production of the certification

1 fuel, they have no need for additives to meet the cetane  
2 requirements.

3 MR. LAGARIAS: All right. But in any case  
4 the certification fuel has to be such that it would, as  
5 Mr. Scheible said, produce the same reduction in  
6 emissions that our 10 percent aromatic fuel would?

7 MR. SIMEROTH: Yes, that's correct.

8 MR. LAGARIAS: Thank you.

9 CHAIRWOMAN SCHAFER: Are there any other  
10 questions from board members for this witness?

11 MS. CHAPMAN: Could I respond to --

12 CHAIRWOMAN SCHAFER: Yes, Miss Chapman,  
13 you may.

14 MS. CHAPMAN: Excuse me?

15 CHAIRWOMAN SCHAFER: Yes, Miss Chapman,  
16 you may.

17 MS. CHAPMAN: The statement about the  
18 actual reference fuel that is used in comparison to the  
19 reference fuel specifications, I guess that leads back  
20 to our original proposal which says that we feel that  
21 the fuels should be based -- or the certification fuels  
22 should be based on the specifications of the actual  
23 in-use fuel, and we think if you're using the actual  
24 reference fuel, it's just half of the equation.

25 We feel that the best -- the best proposal

1 here is to look at the fuels that are out on the market,  
2 the 10 percent fuel, the alternative formulation, and  
3 then the small refiners, and propose a specification for  
4 certification fuel based on those parameters.

5 CHAIRWOMAN SCHAFER: Yes, I think I  
6 understand your position, although that could be a  
7 constantly changing approach to pursue.

8 MR. LAGARIAS: May I ask --

9 CHAIRWOMAN SCHAFER: Mr. Lagarias.

10 MR. LAGARIAS: You referenced a  
11 reformulated gasoline certification. Isn't -- my  
12 understanding is that the certification fuel for  
13 reformulated gasoline is not what you'd call  
14 commercially available. Is this correct?

15 MS. CHAPMAN: I think actually --

16 MR. LAGARIAS: Is that indolene?

17 MS. CHAPMAN: No. You can certify  
18 vehicles on California Phase 2 gasoline. And our  
19 feeling is that that was done on the conservative side.  
20 The certification fuel specifications are less stringent  
21 than the California Phase 2 reformulated gasoline --  
22 where that's not consistent with what we're seeing  
23 here.

24 MR. LAGARIAS: All right.

25 CHAIRWOMAN SCHAFER: Any more -- does the

1 staff want to comment at all?

2 MR. VENTURINI: No.

3 CHAIRWOMAN SCHAFER: All right. Thank you  
4 very much for your presentation, Miss Chapman.

5 The next witness this morning is Mr. Warren  
6 Slodowske with Navistar. Are you here?

7 MR. SLODOWSKE: Excuse me. I am here, but  
8 could Glenn Keller go first, please?

9 CHAIRWOMAN SCHAFER: Sure. Whatever you'd  
10 like. Thank you.

11 Mr. Keller with the Engine Manufacturers  
12 Association. Good morning.

13 MR. KELLER: Good morning. My name is  
14 Glenn Keller, and I serve as the Executive Director  
15 of the Engine Manufacturers Association. I'm here today  
16 on behalf of the members of EMA who manufacture the  
17 engines which utilize the fuels covered by today's  
18 proposed certification fuels specifications.

19 In particular, we will address the board  
20 today on the proposed new specifications for diesel  
21 engine certification fuel.

22 When the ARB first adopted its  
23 low sulfur/low aromatics diesel fuel regulations  
24 specifying the quality of diesel fuel required for use  
25 in all motor vehicles effective October 1, 1993, we

1 failed to establish a diesel certification fuel  
2 specification.

3           EMA and its members were the first to express  
4 our concerns with regard to the regulations allowance  
5 for certification fuels whose properties were too  
6 broadly defined. Since that time we have worked with  
7 the ARB staff to address these concerns by developing  
8 appropriate diesel certification fuel specifications  
9 that are representative of the California low sulfur  
10 and low aromatics diesel fuel formulations found in  
11 commerce.

12           The proposed specifications included a  
13 natural cetane number of 47 to 55 and an aromatic  
14 hydrocarbon content of 8 to 12 percent. The amendments  
15 would also provide that the specifications applicable to  
16 the diesel fuel used for in-use compliance testing are  
17 to be the same as the specifications applicable to the  
18 diesel fuel used in certification testing.

19           EMA and its members support staff's  
20 efforts to set the diesel engine certification fuel  
21 specification in accordance with industry's  
22 recommendations, and we agree with the proposal set  
23 before the board for approval. In that spirit, we would  
24 like to inform the board of why approving this set of  
25 diesel certification fuel specifications is so important

1 to our industry.

2           Fuel specifications intended for use as  
3 certification test fuel has its properties defined among  
4 a constrained set of parameters to assure consistent  
5 results when used in engine emissions testing for  
6 certification application approval. By that token, we  
7 cannot have a moving target. These fuels have to be set  
8 at a certain range and stay that way to give assurances  
9 to the manufacturers during their development and the  
10 certification process.

11           Certification-grade fuel is also used during  
12 emission testing for the various regulatory enforcement  
13 programs which CARB may utilize to assure compliance  
14 with its regulations. Therefore, emission certification  
15 fuel specifications must be defined within a closed  
16 range to assure consistency and repeatability, so that  
17 the testing is a valid measure of the engine's emissions  
18 performance and not influenced by variables which could  
19 be introduced with the test fuel. It's important to  
20 note that there's a great deal of data which shows that  
21 a diesel engine's emissions can respond to relatively  
22 small incremental changes in certain properties of the  
23 test fuel.

24           Moreover, CARB has initiated three major  
25 rulemakings over the past several years for which the

1 standards and the feasibility have been predicated on  
2 the use of low sulfur/low aromatics diesel fuel for  
3 certification. The standards promulgated in the 1995  
4 Medium-Duty Vehicle Rule, the 1995 Utility Lawn & Garden  
5 Equipment Rule, and the 1996 through '97 Urban Bus Rule  
6 are all linked to the diesel certification fuel  
7 specification being deliberated today.

8           These aforementioned regulatory standards  
9 were all established with certain expectations as to how  
10 diesel certification fuel would be defined. The CARB  
11 staff has developed a certification fuel specification  
12 that EMA's members who produce products which are  
13 governed by these rulemakings can utilize to comply with  
14 the regulatory obligation. Given the fact that some of  
15 these regulations will become effective in just over 90  
16 days, it is too late in the certification process for  
17 CARB to make any additional changes to the diesel  
18 certification fuel specifications.

19           Of further importance to engine manufacturers  
20 and CARB staff is that the specifications be set so that  
21 there is an assured supply of diesel fuel available for  
22 a reasonable price for manufacturers and staff to  
23 perform emissions development exercises and compliance  
24 testing. It is our standing that there are only two  
25 suppliers of diesel certification fuel that can

1 consistently supply fuel with the same properties.

2 One major supplier stated at a CARB fuels  
3 workshop that the lowest cetane value they can obtain by  
4 conventional means with existing resources for a 10  
5 percent aromatic fuel is 52.

6 Further, the reproducibility of cetane  
7 measurement is over plus or minus 3 cetane numbers. In  
8 accordance with ASTM methods D 613. Therefore, the  
9 cetane range for specifying certification fuel must be  
10 set wide enough to address both the problems of cetane  
11 measurement reproducibility and fuel blending  
12 variability. As such, the maximum cetane number limit  
13 cannot be set lower than 55.

14 While EMA and its members requested that a  
15 maximum cetane number be set at 60, we worked closely  
16 with the staff to understand their concerns regarding  
17 the establishment of a more appropriate cetane range.  
18 We believe that CARB staff has acted responsibly in  
19 setting the critical properties of certification fuel  
20 based upon their analysis of commercially available  
21 10 percent aromatic motor vehicle diesel fuel properties  
22 surveyed throughout the state of California.

23 In conclusion, EMA and its members support  
24 CARB staff's findings and agree with the range of  
25 certification fuel properties being proposed for

1 adoption today. Engine manufacturers affected by  
2 the 1995 regulations which utilize this fuel have had  
3 no choice but to develop their product lines with the  
4 expectation that these certification fuel specifications  
5 will be adopted by the board. If there is any revision  
6 to these specifications at this late date, it would have  
7 a major impact on engine manufacturers' ability to  
8 certify for 1995 and would potentially disrupt the  
9 marketplace.

10 If you have any questions, I will be pleased  
11 to answer them at this time.

12 CHAIRWOMAN SCHAFER: Thank you very much.  
13 Mr. Keller.

14 Do any board members have questions for  
15 Mr. Keller at this point?

16 MR. CALHOUN: Yes.

17 CHAIRWOMAN SCHAFER: Mr. Calhoun.

18 MR. CALHOUN: Mr. Keller, if the board  
19 were to adopt the recommendations of WSPA, how would  
20 that impact your members?

21 MR. KELLER: Mr. Calhoun, the properties  
22 of the certification reference fuel that are used for  
23 certifying these products will change, and in some  
24 respects it would be -- it would tend to knock down  
25 these properties and probably we feel unrepresentative

1 of what the commercial fuels are really -- and the  
2 diesel engines are going to use, but to -- a short  
3 answer to it, it could have an effect on the abilities  
4 of these products to certify and be ready for January 1,  
5 1995. The engines all react somewhat differently to  
6 various changes in fuel properties, and it is hard to  
7 tell which models would be affected.

8 MR. CALHOUN: Thank you.

9 CHAIRWOMAN SCHAFER: Any other questions  
10 from board members for Mr. Keller at this time?

11 If not, thank you very much for your  
12 testimony, and we may have you back in discussion.

13 Is there any comment that the staff wanted to  
14 make in connection with Mr. Keller's comments?

15 Okay. Thank you very much.

16 MR. KELLER: Thank you.

17 CHAIRWOMAN SCHAFER: Warren Slodowske with  
18 Navistar. Nice to see you again, Mr. Slodowske.

19 MR. SLODOWSKE: Good morning. I stepped  
20 forward this morning without any prepared comments.  
21 Like other engine manufacturers, I am deeply concerned  
22 about the health and well-being of the CARB proposal,  
23 and what I would really like to present myself forward  
24 to is if there are some additional questions or concerns  
25 on the part of the board before voting, because I'd like

1 to have that opportunity to defend what has been done.

2 I think I would like to just maybe embellish  
3 a little bit of what Glenn said with Mr. Calhoun's  
4 question, because I think it is a question of  
5 significance, of importance, and deserves an answer.

6 We just recently received a shipment of a  
7 Californialike certification fuel from Hall (phonetic)  
8 Hydrocarbons. That batch has a cetane of about 52,  
9 which the batch previously we had been doing development  
10 work. If we're to listen what WSPA would have us do,  
11 that would lower that max number to 53.

12 When you look at ASTM test reproducibility of  
13 measuring cetane, and you have a plus or minus three  
14 numbers, that if the Air Resources Board wanted to  
15 confirm the legitimacy of our certification fuel, there  
16 would be a reasonable chance that they would find it  
17 unacceptable just because of the reproducibility of the  
18 ways cetane -- the way cetane is measured, and that  
19 certainly would create a hardship to Navistar, and I  
20 feel I'm not just speaking for Navistar, but other  
21 member companies.

22 One thing I would like, as you're pondering  
23 what additional questions you might have for me on this  
24 issue that is very critical, not only to Navistar, but  
25 to engine manufacturers, is to make some comment of how

1 the process works at this time.

2 I was very pleased to be a part of this  
3 process, because there were ample -- there was ample  
4 opportunity for engine manufacturers to present their  
5 perspectives to the Air Resources Board staff, and in  
6 turn, we had ample opportunity to understand where they  
7 were coming from. And if I may just put this overhead  
8 up -- because one of the things -- I think the room is  
9 small enough, and I'll try to speak up.

10 (Overhead presented.)

11 One of the things that Glenn had mentioned is  
12 that our original proposal was a maximum of 60 cetane,  
13 and just to share with the board that we just hadn't  
14 been out in the sun too much, but there was some  
15 legitimacy for that request, is here is a graph plotting  
16 aromatic content and cetane number against one another,  
17 because those two properties are related.

18 However, you don't get a perfect straight  
19 line because all paraffins aren't created equal and all  
20 aromatics aren't created equal, so there are certain  
21 anomalies. This was published in a paper written by  
22 Chris Weaver, and for those of you who have followed  
23 CARB board hearings and workshops for a number of years,  
24 you're very familiar with Chris. He works with rating.

25 But there's not a lot of data in the

1 10 percent aromatic area, because that is a new frontier  
2 that California has crossed. But we do have some, and  
3 if you were to draw a best straight line through here,  
4 and a 10 percent aromatic at 60, that does not seem like  
5 an unreasonable expectation. And so in some of the  
6 negotiations for these various rules, like the  
7 medium-duty vehicle rule, this entered our mind as to  
8 what a reasonable standard should be, as well as I think  
9 the mobile source division, as to what a reasonable  
10 standard should be.

11 So we present this information, and -- to  
12 show the working back and forth from CARB staff. They  
13 indicated we have a slightly different situation here in  
14 California.

15 The base stocks that you have in Southern  
16 California tend to be maybe a little more anomalous,  
17 lower cetane for lower aromatic, where Northern  
18 California fits a little closer to this type of plot.

19 So in CARB's opinion it was -- CARB staff  
20 opinion -- 60 was too high and a lower number was more  
21 reasonable. And I agree. There was reasonableness in  
22 this request. It wasn't our wish. We were hoping for  
23 more. But we understand where the specification has  
24 come from.

25 And so in closing of what I'd like to say, is

1 I feel, engine manufacturers feel, that the proposal is  
2 fair and just, and we strongly encourage you to approve  
3 this certification specification as proposed from the  
4 board.

5 Now, if there's some additional questions,  
6 and we've had a lot of debate here, I'd like to try to  
7 handle them.

8 CHAIRWOMAN SCHAFER: Thanks very much.

9 Are there questions from members of the board  
10 for Mr. Slodowske? Or comments, yes.

11 Mr. Lagarias.

12 MR. LAGARIAS: Thank you for your  
13 support. I agree. The outlier should be given less  
14 weight, and we appreciate your response and your  
15 willingness to work with the staff in this regard.

16 MR. SLODOWSKE: Well, thank you, and I  
17 hope I can serve a model for future regulations and  
18 items. I think that some time ago things got to be  
19 rather combative and controversial, and that things seem  
20 to work better, I think, if we can work together. So I  
21 appreciate your comments, and thank you for your time.

22 CHAIRWOMAN SCHAFER: Thank you very much,  
23 Mr. Slodowske. I have a feeling we'll have plenty of  
24 opportunity to lean on you again.

25 The next witness is Mr. Paul Wuebben of the

1 South Coast Air Quality Management District. Good  
2 morning.

3 MR. WUEBBEN: Good morning,  
4 Madam Chairman and members of the board. My name is  
5 Paul Wuebben, and I'm the clean fuels officer with the  
6 South Coast Air Quality Management District. I'm here  
7 to address two important issues this morning, one  
8 related to the diesel fuel specification and the other  
9 with respect to LPG fuel specification. If you'd like,  
10 I can take questions after my diesel comments. They're  
11 relatively short.

12 But we first would like to compliment the  
13 staff for dealing with a very important component of  
14 your emission control program, namely, a careful  
15 specification of these fuels, and we fully agree with  
16 their objectives to fully align those in-use -- those  
17 test specifications with the in-use characteristics.

18 I think that what we've heard this morning  
19 certainly confirms our understanding of diesel fuel  
20 specification, which is namely that the average midpoint  
21 for a 10 percent certified fuel is roughly one to two  
22 cetane levels -- points higher than an alternatively  
23 formulated fuel. And I think there is a comment, a  
24 recognition also that all else being equal, a fuel that  
25 has higher cetane, it is a little easier to certify

1 those fuels. And I think we all share the common goal  
2 of having as much comparability and alignment between  
3 the cert fuel and the actual in-use fuel.

4 I think for that reason, we would certainly  
5 take some of the information that was suggested by  
6 Mr. Glenn Keller, namely that a maximum 55 cetane fuel  
7 would be feasible. Understand the current  
8 recommendation is to set a maximum of 57. It might be a  
9 little -- from our standpoint, it would probably be most  
10 prudent to make sure that the maximum cetane level not  
11 exceed 55 in the interest of one trying to align your  
12 in-use average midpoint fuel point with what is actually  
13 occurring in the field. I think that would tend to  
14 ensure that the assumptions that you make about  
15 equivalency are actually reflected in your  
16 certification.

17 And we certainly agree with Mr. Boyd that  
18 there is a strong equivalency. But of course those  
19 equivalency tests, as you know, are limited to two  
20 engine families, and for that reason, certainly the  
21 engine manufacturers have a lot of need for certainty on  
22 the specifications. I think that it is clear that they  
23 need a definite certification -- or I should say  
24 specification, and they also need some attention to the  
25 timeline, because clearly you can't change those --

1 those specifications, and they would affect the '95  
2 model year. Perhaps if you went to a maximum 55, you  
3 could do so effective for the 1996 engine year.

4 So that pretty much completes my comments on  
5 your diesel fuel specification. If you'd like to have  
6 me -- if you have any questions, I could stop now or  
7 proceed to the LPG issue.

8 CHAIRWOMAN SCHAFER: I'd like to ask. In  
9 contrast to the position that WSPA took, you're not  
10 recommending a reduction in the average; you're  
11 recommending a lower cap? Is that -- am I understanding  
12 that?

13 MR. WUEBBEN: Well, it will probably  
14 achieve a similar result. We haven't had time to  
15 evaluate the methodology.

16 CHAIRWOMAN SCHAFER: I was about to ask,  
17 what then -- how then that compared with the WSPA  
18 proposal and whether the staff had considered this  
19 variation.

20 MR. SIMEROTH: Chairwoman Schafer, the  
21 staff proposal is for a cap of 55 and with a minimum  
22 of 47.

23 MR. WUEBBEN: Oh.

24 MR. SIMEROTH: I think it's consistent  
25 with what Paul is proposing.

1 MR. WUEBBEN: Excuse me. I thought that  
2 there was an original --

3 CHAIRWOMAN SCHAFER: Okay. I am just  
4 trying to figure out which proposal you were aligning  
5 yourself with or whether yours was something different.

6 MR. SIMEROTH: The original workshop  
7 proposal was a wider range; then the 45-day notice went  
8 out with the more narrow range.

9 CHAIRWOMAN SCHAFER: Okay.

10 MR. WUEBBEN: We were concerned about the  
11 higher --

12 CHAIRWOMAN SCHAFER: This is the  
13 consequence, then, of that process. Okay. And the  
14 other point.

15 MR. WUEBBEN: Yes. On the LPG  
16 specification, our concern is, I think, similar to the  
17 staff, that a clear signal be sent to the LPG producers  
18 and marketers that the lower propene specification be  
19 achieved within a two-year time frame; that we  
20 appreciate that there is a good reason at this point to  
21 amend and provide a little bit more time to go from  
22 10 percent to 5 percent propene, but there is a very  
23 significant reactivity impact of propene relative to  
24 propane. And that certainly there is going to be  
25 additional complying propane that will result from the

1 introduction of Phase 2 gasoline. But that I think it  
2 is very important for your board to send a very clear  
3 signal that this is a special one-time extension and  
4 that there were special circumstances, but not to  
5 indicate to the industry that they can expect further  
6 relaxations of that time frame. Because as we -- we are  
7 encouraging additional LPG and gaseous fuel vehicle  
8 introduction, working on many joint projects with Orange  
9 County Transit Authority and other users. And we  
10 recognize that there is going to be an increase in  
11 propane use as an alternative-vehicle fuel. So for that  
12 reason it's important to establish a clear guidance so  
13 that that extension is a one-time type of matter.

14 CHAIRWOMAN SCHAFFER: Yes, Mr. Calhoun.

15 MR. CALHOUN: My understanding is  
16 that the reason for the extension is to ensure the  
17 availability of the fuel. I agree with you that propane  
18 is certainly reactive, and hopefully in a couple of  
19 years maybe more propane -- or propene would be  
20 available at that particular time. I'm not so sure that  
21 we ought to go on record, the staff, that this is a  
22 one-time -- one-time change.

23 I share your concern, but what we are really  
24 dealing with here is an availability issue. I think the  
25 industry recognizes the fact that the board has already

1 adopted these regulations, that we expect them to comply  
2 with them.

3 CHAIRWOMAN SCHAFER: Thank you very much.

4 Any other questions for Mr. Wuebben and from  
5 members of the board?

6 Would the staff like to comment in any  
7 respect to this part of the testimony?

8 All right. Thank you very much.

9 Are there any other witnesses who would like  
10 to speak about any of the three parts of the staff  
11 recommendation with respect to these certification  
12 fuels?

13 Mr. Boyd, does the -- have we received any  
14 written comments that need to be summarized at this  
15 point in time?

16 MR. BOYD: Yes, Madam Chair.

17 CHAIRWOMAN SCHAFER: Please, go ahead.

18 MR. SIMEROTH: Madam Chairwoman, we've  
19 received a letter from the American Automobile  
20 Manufacturers Association. They support the proposed  
21 certification of the diesel fuel proposal. They support  
22 the natural gas certification fuel proposal to change  
23 oxygen content; however, they did recommend a maximum  
24 oxygen content of 0.3 mole percent. But for the  
25 liquefied petroleum gas proposal to allow two additional

1 years, they support that, but they ask that the Air  
2 Resources Board staff make available for review and  
3 comment a proposal from the Western Propane Gas  
4 Association to conduct a testing program to evaluate the  
5 emissions of propane and other ozone precursors from  
6 LPG. Staff is prepared to do that and share that  
7 information.

8           Chevron U.S.A. submitted a letter.  
9 Basically, their letter was the same comments as made by  
10 the Western States Petroleum Association. They ask that  
11 the ARB staff give consideration to reviewing diesel  
12 fuel properties in the future and take that into  
13 consideration at future adoptions of the diesel  
14 certification fuels.

15           Staff will be monitoring the properties of  
16 diesel fuel as we go through and use that information.

17           Mesa Environmental sent a letter supporting  
18 the CNG proposal and also the propene proposal for LPG.

19           That is the three letters that we received  
20 that people did not testify today on.

21           CHAIRWOMAN SCHAFFER: Very good.

22           Are there any additional comments that the  
23 staff might have on testimony or anything else the board  
24 needs to be aware of prior to considering the item?

25           MR. BOYD: No further comments,

1 Madam Chair. We recommend your adoption of the staff's  
2 proposal.

3 CHAIRWOMAN SCHAFER: Very well. Since all  
4 testimony and written submissions and staff comments for  
5 this item have been entered into the record, the board  
6 is -- if this is true -- not granting a -- this is not a  
7 15-day; is that right? There's no reason to make  
8 this --

9 MR. JENNINGS: The staff proposal is not  
10 a 15-day item.

11 CHAIRWOMAN SCHAFER: Very good. The board  
12 has not granted an extension of the comment period, and  
13 I'm officially closing the record on this particular  
14 agency item for 94-9-1. Written and oral comments  
15 received after the comment period has been closed will  
16 not be accepted as part of the official record on this  
17 agenda item.

18 At this point just a reminder to  
19 board members of our policy concerning ex parte  
20 communications. While we may communicate off the record  
21 with outside persons regarding board rulemaking, we must  
22 disclose the names of our contacts and the nature of the  
23 contents on the record.

24 Are there any?

25 Hearing none, we will take a moment now to

1 read the resolution that's been prepared.

2 The board has before it Resolution No. 94-53  
3 which contains the staff recommendations that we've  
4 heard this morning. Do I have a motion and second?

5 Supervisor Vagim.

6 SUPERVISOR VAGIM: I'll move adoption of  
7 Resolution No. 94-53.

8 CHAIRWOMAN SCHAFER: I do have a second.

9 MS. EDGERTON: Second.

10 CHAIRWOMAN SCHAFER: Miss Edgerton,  
11 seconding.

12 Is there any board discussion on this item  
13 this morning?

14 Very well. I'd like to ask the secretary to  
15 call the roll on Resolution No. 94-53.

16 MS. HUTCHENS: Bilbray. Calhoun.

17 MR. CALHOUN: Aye.

18 MS. HUTCHENS: Edgerton.

19 MS. EDGERTON: Aye.

20 MS. HUTCHENS: Hilligoss.

21 MAYOR HILLIGOSS: Aye.

22 MS. HUTCHENS: Lagarias.

23 MR. LAGARIAS: Aye.

24 MS. HUTCHENS: Parnell. Riordan.

25 SUPERVISOR RIORDAN: Aye.