improvements that can be made or technologies that can be used to comply with the California GHG regulations.

Letters:
Lee, Adam; Lee Auto Malls (EPA-HQ-OAR-2006-0173-0422-10) p. 113-119
Sperling, Dan; University of California Davis (EPA-HQ-OAR-2006-0173-0422-5) p. 41-45

California's GHG emission standards and the resulting reductions are necessary to address conditions specific to California. The IPCC 2007 4th Assessment Report, WG 1, and various experts (Dr. Schneider, Dr. Hansen, etc.) have found that GHG emissions are on a trajectory that is likely to increase temperatures by at least 2 degrees Celsius, which would exacerbate the global warming impacts that California is already experiencing. To avoid or minimize these impacts, California and other jurisdictions must work toward achieving the IPPC's alternative scenario B1 (see: IPCC 4th Assessment Report, WGIII, Table SPM.5, p. 23 - this report is provided as an attachment). This alternative scenario will require significant emission reductions throughout the world, something that cannot be achieved without reductions in GHG emissions from vehicles. CARB provides significant additional discussion regarding this issue, addressing the contribution of vehicles to overall GHG emissions, the reductions that could be achieved to mitigate the effects of global warming, and the importance of early action mitigation efforts such as AB 1493. CARB cites (and attaches 41, 57, and 67 to its comment letter) numerous sources in support of its position, including papers by Doniger, et. al., 2006; Hansen, et. al., PNAS 2006; Schellnhuber, et. al., 2006; and Pacala and Socolow (2004).

Letters:
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 11-12.

California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0421-5) p. 32-33.
U.S. Public Interest Research Group (EPA-HQ-OAR-2006-0173-1463) p. 1-2.

Through the multiplier effect, EPA's approval of the California waiver request will have a positive impact on efforts to reduce GHG emissions beyond California. The California standards are a major contribution to the effort of halting global warming - especially since they have already been adopted by 11 other states and will be adopted by others. California's pioneering leadership is influencing the regulatory decisions of Canada, Europe and other nations as well as Washington D.C.

Letters:
Environmental Entrepreneurs (EPA-HQ-OAR-2006-0173-0421-15) p. 87-91.
Natural Resources Defense Council (NRDC) (EPA-HQ-OAR-2006-0173-1672) p. 3.

There simply is no legal requirement that California prove a certain level of environmental benefit. That is particularly true in this instance, where the actual and anticipated impacts of global warming are complex and historically unprecedented, and it is widely recognized that a number of efforts by governments, private entities, and individuals globally will be required to respond effectively. California need not show that the climate will in fact respond to its regulatory action. Its only obligation is to do what it already has accomplished - to

show a rational connection between its action and the problem being addressed. California's standards satisfy another express Congressional purpose animating the Clean Air Act - that California serve as a "laboratory for innovation" in developing new air pollution control strategies. Congress never intended to impose an obligation on California to show that its regulations will in fact succeed. Rather, Congress gave the state the broadest possible discretion to regulate automotive pollution, with the expectation that lessons learned in California would benefit the rest of the nation. As there currently are no federal GHG standards, California's initial efforts, by definition, will perform the expected experimental function. Commenter provides additional discussion on this issue citing to case law (including *Massachusetts v. EPA*) in support of its position on this issue.

Letters:
Conservation Law Foundation (EPA-HQ-OAR-2006-0173-1502) p. 4-5.

A modeled and definitive temperature impact is not required to justify California's GHG emission standards. Even though opponents have argued that California cannot show that these greenhouse gas regulations will achieve a measurable and specific temperature reduction in California, the efficacy of California's standards is not at issue in this proceeding. Section 209(b) can be given effect only by applying substantial deference to California's balancing of the costs versus the benefits of any particular regulation, which in this case takes place in the context of its climate change program. Opponents aim to have EPA create a new test for waiving GHG emission reduction regulations. However, the modeled impact that opponents insist upon has

never been and cannot now be required. CARB provides significant additional discussion on this issue, asserting that given the complexity and minimum necessary size of emission mitigation approaches needed to determine a temperature response decades into the future (see IPCC 4th Assessment Report, WGIII, Table SPM.5), it is nearly impossible to fully develop a single GHG emission mitigation measure such as AB 1493 into a scenario useful for a complex global climate modeling exercise. The relevant modeling exercise is not that of the industry's discredited expert (CARB provides documentation of the cross-examination of Dr. Christy as attachment 66 to its letter), but rather the IPCC scenarios that model temperature changes from low, medium, and high emissions scenarios. In addition, many other states and countries will follow California's lead as they have in the past, and as a result, the collective impact of California's GHG regulations will be larger than the impact to California alone.

Letters:
Attorneys General of Rhode Island, Washington, Arizona, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey (EPA-HQ-OAR-2006-0173-1462) p. 4.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 10-11.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0422-6) p. 52-53.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0421-5) p. 28-33.

Compelling and Extraordinary Conditions

Under section 209(b)(1)(B) of the Act, I cannot grant a waiver if I find that California does not need such State standards to meet compelling and extraordinary conditions. Under this

criterion, EPA has historically limited it's inquiry to whether California needs its own "motor vehicle pollution program" to meet compelling and extraordinary conditions, and not whether any given standards are "necessary" to meet such conditions.43 As to the "need" for the particular standards that are the subject of the waiver request, EPA has historically stated that California is entrusted with the power to select "the best means to protect the health of its citizens and the public welfare.44

See, e.g., 49 Fed. Reg. 18,887, 18,889-90 (May 3, 1984).
1 H.R. Rep. No. 95-294, 95th Cong., 1st Sess., 301-02 (1977) (citing with approval in MEMA I, 627 F.2d at 1110).

{California from 12/21/05] …..

California's GHG regulations are needed to address existing air quality problems and other issues that are considered to be "extraordinary and compelling" circumstances in California, many of which would worsen with global warming.

California faces unique and compelling geographical and population issues in their state, which have not changed since Congress and EPA originally recognized California's need to establish separate vehicle standards. Along with exacerbating ozone impacts and increasing wildfires,

43 See, e.g., 49 Fed. Reg. 18,887, 18,889-90 (May 3, 1984).
44 H.R. Rep. No. 95-294, 95th Cong., 1st Sess., 301-02 (1977) (citing with approval in MEMA I, 627 F.2d at 1110).

there are a number of other compelling and extraordinary circumstances in California that justify the passage of GHG emission standards, including: declining snowpack and early snowmelt and resultant impacts on water storage and release, sea level rise, salt water intrusion, and adverse impacts to agriculture (e.g., declining yields, increased pests, etc.), forests, and wildlife. Most commenters provide additional discussion regarding the variety and severity of adverse impacts of GHG emissions and global warming on the environment. Some commenters specifically point to the direct threat to public health (e.g., asthma) since increased GHG emissions will lead to increased levels of ozone and other pollutants. Some commenters assert that there is nothing in Section 209(b)(1)(B) of the CAA that limits the "extraordinary and compelling conditions" that should be considered to those associated with smog, and that as a result, California should be able to consider these additional conditions. CARB provides additional discussion on this issue noting that many of these impacts overlap in California's unique San Francisco Bay Delta, which supplies 25 million Southern Californians with fresh water. CARB cites (and provides as Enclosures 60-64) several expert reports by Drs. Flick, Kalkstein (heat-related mortality impacts), Maurer (water storage and user impacts), Stewart-Frey (early snowmelt), and Williams (San Francisco Bay Delta impact). Environmental Defense also provides significant additional discussion citing to a variety of statistics in this regard and other sources, including the report entitled "Our Changing Climate, Assessing the Risks to California" by the California Climate Change Center and the Declaration of Michael P. Walsh date May 1, 2006, in support of its position on this issue.

Letters:

American Lung Association (EPA-HQ-OAR-2006-0173-0421-40) p. 205-208.
Bales, Roger; Sierra Nevada Research Institute; University of California, Merced (EPA-HQ-OAR-2006-0173-0421-29) p. 145-148.
Bay Area Air Quality Management District (EPA-HQ-OAR-2006-0173-0421-19) p. 101-106.
Bluewater Network & Friends of the Earth (EPA-HQ-OAR-2006-0173-0421-35) p. 175-179.
Bluewater Network (EPA-HQ-OAR-2006-0173-0421-39) p. 199-202.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 9.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0422-6) p. 50-70.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0421-5) p. 26-31.
California Attorney General's Office (EPA-HQ-OAR-2006-0173-0422-1) p. 15-16.
California Attorney General's Office (EPA-HQ-OAR-2006-0173-0421-2) p. 10-12.
Coalition for Clean Air (EPA-HQ-OAR-2006-0173-0421-36) p. 179-182.
Connecticut Department of Environmental Protection (EPA-HQ-OAR-2006-0173-2173) p. 2.
Dale, Larry; Lawrence Berkeley National Laboratory (EPA-HQ-OAR-2006-0173-0421-33) p. 166-170.
Environmental Defense (EPA-HQ-OAR-2006-0173-1459) p. 16-20.
Environmental Defense (EPA-HQ-OAR-2006-0173-0421-38) p. 189-199.
Environment California Research & Policy Center (EPA-HQ-OAR-2006-0173-0421-47) p. 233-236.
Kleeman, Mike; University of California, Davis (EPA-HQ-OAR-2006-0173-0421-31) p. 154-160.
Jackson, Louise; University of California, Davis (EPA-HQ-OAR-2006-0173-0421-31) p. 160-166.
National Association of Clean Air Agencies (EPA-HQ-OAR-2006-0173-0421-27) p. 132-137.
Pacific Institute (EPA-HQ-OAR-2006-0173-0421-28) p. 139-144.
Pavley, Fran; Former California Assemblywoman (EPA-HQ-OAR-2006-0173-0422-3), p.25-26.
Pavley, Fran; Former California Assemblywoman (EPA-HQ-OAR-2006-0173-0421-4), p.19-20.
San Francisco Department of the Environment (EPA-HQ-OAR-2006-0173-0421-22) p. 111-114.
Sierra Club (EPA-HQ-OAR-2006-0173-0421-46) p. 228-232.
Torn, Margaret; Lawrence Berkeley National Laboratory (EPA-HQ-OAR-2006-0173-0421-30) p. 149-154.
U.S. Public Interest Research Group (EPA-HQ-OAR-2006-0173-0422-23) p. 222.

INTERNAL DELIBERATIVE DOCUMENT OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY
DISCLOSURE AUTHORIZED ONLY TO CONGRESS FOR OVERSIGHT PURPOSES IN RESPONSE TO SUBPOENA

Western and coastal states will experience more significant adverse impacts from global warming. CARB cites Dr. Schneider's testimony based on recent IPCC reports that the temperature impacts from global warming are more certain for western states like California. Oregon and Washington will need to confront grave challenges presented by climate change, but none of that undermines the fact that climate change presents a compelling and extraordinary condition for California. California's conditions are unique and arguably more severe than other states. California suffers serious air pollution problems that can be considered "compelling and extraordinary" as a result of its geography, climate, high density, and number of vehicles. As the most populated state, California faces a unique combination of exacerbated ozone problems, contributions from wildfire emissions, and a vulnerable water system and coastal system. Regulating GHG emissions from mobile sources will help improve air quality by concurrently reducing criteria pollutant emissions, which will help California and other states address nonattainment areas. Commenters provide additional discussion to support their position on this issue, and some commenters cite to specific precedents (e.g., 49 FR 18890) and provide supporting documentation.

Letters:
Attorneys General of Rhode Island, Washington, Arizona, Connecticut, Illinois, Maine, Maryland, Massachusetts, New Jersey (EPA-HQ-OAR-2006-0173-1462) p. 4.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 9.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0422-6) p. 50-67.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0421-5) p. 28-33.
California Attorney General's Office (EPA-HQ-OAR-2006-0173-0422-1) p. 15-16.
California Attorney General's Office (EPA-HQ-OAR-2006-0173-0421-2) p. 10-14.

Chesapeake Climate Action Network (EPA-HQ-OAR-2006-0173-0422-27) p. 242-248.
Center for Biological Diversity (EPA-HQ-OAR-2006-0173-1485) p. 6-7.
Environmental Defense (EPA-HQ-OAR-2006-0173-1459) p. 12-20.
Kennedy, Susan; Chief of Staff, California Office of the Governor (EPA-HQ-OAR-2006-0173-0421-1) p. 5-7.
National Association of Clean Air Agencies (EPA-HQ-OAR-2006-0173-1604) p. 6.
Pavley, Fran; Former California Assemblywoman (EPA-HQ-OAR-2006-0173-0422-3), p.24-25.
Pennsylvania Department of Environmental Protection (EPA-HQ-OAR-2006-0173-0422-15) p. 153-157.
Pennsylvania Department of Environmental Protection (EPA-HQ-OAR-2006-0173-1352) p. 1.
Puget Sound Clean Air Agency (EPA-HQ-OAR-2006-0173-1295) p. 3.
San Joaquin Valley Air Pollution Control District (EPA-HQ-OAR-2006-0173-1256) p.1-2.
Schneider, Steve; Stanford University (EPA-HQ-OAR-2006-0173-0422-4), p. 30-40.
South Coast Air Quality Management District (EPA-HQ-OAR-2006-0173-1353) p.1-3,5.
Western Environmental Law Center (EPA-HQ-OAR-2006-0173-1404) p. 7

Global warming is projected to increase the number of wildfires California experiences, including in and near areas affecting the South Coast Air Basin's already compromised air quality. CARB cites (and provides as Enclosure 55 to its letter) an expert report by Dr. Westerling that establishes the connection between higher temperatures, drier conditions, and an increasing number and severity of wildfires that California is experiencing and will continue to experience due to global warming. CARB also cites (and provides as Enclosures 56 and 57) other documents by Dr. Westerling, including an earlier paper and an April 2006 Science paper on this subject. CARB provides additional discussion on this issue, noting that increased wildfires will also exacerbate existing ozone and particulate matter health impacts, increase the risk to public health from smoke emissions, and increase firefighting costs (Enclosure 58).

Letters:

California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 8-9.
Torn, Margaret; Lawrence Berkeley National Laboratory (EPA-HQ-OAR-2006-0173-0421-30) p. 149-154.

The existence of current global warming, its primarily anthropogenic cause, and the likelihood of projected global, national, and California impacts is no longer at issue. More than sufficient evidence of this impact and its current and likely future effects on California was before CARB in its rulemaking. CARB cites the FSOR Comment & Responses 22-141 and Hayhoe, et. al., as well as more recent reports including the IPPC 4th Assessment report, Mr. James Hansen's expert report (a Proceedings of the National Academy of Science (PNAS) paper), and the expert reports by Timothy Barnett and David Karoly. CARB provides these expert reports as enclosures (35 and 40-47) to its letter and expands on several specific global warming impacts as they relate to the situation in California.

Letters:
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 7-8.

Ozone exacerbation

Analyses completed by CARB and its expert witness Dr. Michael Kleeman assume that the temperature/ozone relationship observed or predicted from 1990s emissions will apply to future emission scenarios, even though this may not be the case. Emissions of both ozone precursors, VOCs and NO_x, have been significantly reduced since the 1990s and will continue to decrease for the foreseeable future. There is also evidence indicating that as emissions decrease, ozone concentrations become less sensitive to temperature. Commenter provides additional

discussion on the issue of ozone sensitivity and cites (and provides) documentation (Sillman and Samson) indicating that in cleaner air, ozone formation is less sensitive to temperature than in more polluted air. The analysis by Sillman and Samson indicate that the impact of the perxyacetylnitrate (PAN) decomposition rate can explain roughly half of the observed correlation between ozone and temperature, with the remainder being attributable to other meteorological factors associated with warm temperatures. This analysis relied on a one-dimensional global model to investigate the impact of temperature on global background concentrations of ozone in the free troposphere. Under these conditions, a 5 degree Celsius increase in temperature actually resulted in a 6% reduction in ozone. These results indicate that cleaner atmospheres lose their sensitivity to changes in temperature and that increased temperatures alone will not cause an increase in ozone. With respect to PM2.5, commenter cites analysis by Dr. Kleeman and notes that although PM2.5 sensitivity is due to physical reactions that are independent of whether the atmosphere is clean or polluted, increased temperatures should result in decreased PM2.5 concentrations under most atmospheric conditions.

Letters:
General Motors Corporation (EPA-HQ-OAR-2006-0173-1595) p. 7-8.

Global warming will exacerbate ozone impacts to California. Global warming is projected to increase the number of days conducive to ozone formation in the South Coast Air Basin and California's rapidly growing San Joaquin Valley (CARB cites Dr. Stephen Schneider, Dr. Michael Kleeman (Document ID 0421.11), and SCAQMD's Henry Hugo (Document ID

0421.10)). These areas already experience the highest ozone concentrations in the U.S. CARB cites specifically portions of Dr. Kleeman's report that describe how global warming produces higher temperatures that will increase background ozone levels. CARB also cites (and provides as Enclosures 53 and 54 to its letter) to reports by Steiner et. al. and Motabelli, et. al. that support this position. Targeting the reduction of greenhouse gases that ultimately contribute to ozone formation is clearly within California's power under the CAA Section 209(b). Environmental Defense also provides significant additional discussion citing to the regional-scale climate model (Leung and Gustafson, 2006), the CIT/UCD model (Aw and Kleeman, 2003), the Community Multiscale Air Quality model (Steiner, 2006), expert opinions and other statistics specific to California to illustrate and support its position regarding the sensitivity of ozone levels to rising temperatures.

Letters:
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 8.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0422-6) p. 67.
Environmental Defense (EPA-HQ-OAR-2006-0173-1459) p. 12-20.
Kleeman, Michael; University of California, Davis (EPA-HQ-OAR-2006-0173-0421-31) p. 154-160.

Reduction in GHG emissions will have a direct and significantly reinforcing effect on ambient ozone and particulate levels. Rising temperatures resulting from GHG emissions have been linked to higher ozone exposures. Ozone conditions alone in California are sufficient for justifying a separate motor vehicle program for California and EPA's review on this issue is limited to whether California still has a continuing need for its motor vehicle program as a whole. One commenter (SCAQMD) noted that the success of their 2007 AQMP to meet the

federal 8-hour ozone and fine PM standards relies directly on the benefits of the entire state mobile source control program (including the expeditious implementation of GHG emission controls under AB 1493), that regulating GHG emissions will spur companies to develop new technologies resulting in further reductions of pollutants other than GHG emissions, and that the resulting improvements to vehicle efficiency will also help reduce emissions from refineries, fuel distribution and retail marketing. CARB cites several documents including its hearing presentations on May 22 and 30, 2007, an attached document entitled "Extraordinary & Compelling Conditions Continuing Need FR List" (number 36), and the CARB Request Basis document (Document ID 0004.1, p. 15-16). CARB notes that nothing has changed since EPA's determination on December 28, 2006 and California still has the conditions (i.e., climate, geographic, population, and number of cars) that create serious pollution problems, and as such, this should be the end of a proper and legal EPA analysis of the extraordinary and compelling conditions waiver prong.

Letters:
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-1686) p. 7.
National Association of Clean Air Agencies (EPA-HQ-OAR-2006-0173-1604) p. 4-5.
South Coast Air Quality Management District (EPA-HQ-OAR-2006-0173-1353) p. 3.

Other issues

Several CARB representatives seemed to suggest that one compelling and extraordinary reason justifying its motor vehicle GHG standards is the need to meet GHG reduction targets set

under the California Global Warming Solutions Act. However, goals set out in another state law cannot constitute compelling and extraordinary reasons for justifying a section 209(a) waiver.

Letters:
National Automobile Dealers Association (EPA-HQ-OAR-2006-0173-1671) p. 3-4.

EPA has long held that the question under section 209(b)(1)(B) is not whether every element in CARB's regulatory program is needed to address compelling and extraordinary conditions, but whether conditions in California continue to justify separate emission standards for new motor vehicles.45 EPA has previously recognized the intent of Congress in creating a limited review of California's determinations that California needs its own separate standards was to ensure that the federal government not second-guess the wisdom of state policy.46

3. Consistency with Section 202(a)

GHG Waiver Decision Document

Section IV D -- Consistency with Section 202

Outline – from DD's Outline

45 See 49 FR 1887, 18889-18890 (May 3, 1984).
46 14 FR 23102,23103 (May 28, 1975).

D. Consistency with section 202

1.) Historical Approach – the Standard of Review for Consistency

2) Technological feasibility giving consideration to lead time and cost.

a) Technologies

i) Near Term

ii) Mid-Term

iii) Other Compliance Flexibilities

b) Compliance Costs

c) Lead Time

d) Safety

3) Test Procedure Consistency

4) Other 202(a) Issues

a) Finding of Endangerment

b) Economic Burden, consumer choice

****

This section based on excerpts from Dave's copy on G/User/Share dated 11/25 with my additions)

D. Consistency with Section 202(a)

1) Historical Approach -- The Standard of Review for Consistency

Under section 209(b)(1)(c), EPA cannot grant California its waiver request if the Agency finds that California standards and accompanying enforcement procedures are not consistent with

section 202(a) of the Act. Previous waivers of federal preemption have stated that California's standards are not consistent with section 202(a) if there is inadequate lead time to permit the development of technology necessary to meet those requirements, given appropriate consideration to the cost of compliance within that time. California's accompanying enforcement procedures would also be inconsistent with section 202(a) if the Federal and California test procedures were inconsistent.47

The scope of EPA's review of whether California's action is consistent with section 202(a) is narrow. EPA has previously found that the determination is limited to whether those opposed to the waiver have met their burden of establishing that California's standards are technologically infeasible, or that California's test procedures impose requirements inconsistent with the Federal test procedure.48

As discussed earlier in Section III (Standard and Burden of Proof), the burden of proof in waiver proceedings lies squarely with the parties who oppose the waiver. In the GHG waiver proceeding, automobile industry opponents of the waiver have presented evidence for EPA's consideration which they believe will require EPA to make the finding of inconsistency with section 202, and therefore cause EPA to deny this waiver. They believe this finding should be made on one or more grounds, including inadequate lead time provided by the CARB standards; EPA's process for evaluating lead time is discussed immediately below. The industry opponents

47 Discussion of section 202(a) is summarized in Section I above (" Introduction).

also raise inconsistency arguments based on the cost of compliance with the standards, and possible significant vehicle safety problems caused (at least indirectly) by compliance with the GHG standards, which will be discussed in other parts of this section.

Regarding lead time, EPA historically has relied on two case decisions from the U.S. Court of Appeals for the D.C. Circuit which have applied the lead time requirements of section 202(a) to Federal standards as guidance when making the determinations under section 209(b)(1)(C) of adequate lead time for California standards. Section 202(a) provides that a Federal regulation shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance. The first case is National Resources Defense Council v. EPA ("NRDC)", 655 F2d. 318 (D.C. Cir, 1981). In NRDC, several automobiles manufacturers and NRDC petitioned the Court to review EPA'a particulate standards for diesel cars and light trucks, arguing that they were too stringent (the industry argument) or not stringent enough (the NRDC argument). In upholding the EPA standards, the Court concluded:

> Given this time frame (a 1980 decision on 1985 model year standards); we feel that there is substantial room for deference to the EPA's expertise in projecting the likely course of development. The essential question in this case is the pace of that e3velopment, and absent a revolution in the study of industry defense of such a projection can never escape the inescapable logic of a mathematical deduction. We think that the EPA will have demonstrated the reasonableness of its basis for projection if it answers any theoretical objections to the (projected control

---

48 See MEMA I, 627 F.2d at 1126.

technology), identifies the major steps necessary in refinement of the technology, and offers plausible reasons for believing that each of those steps can be completed in the time available.49

Another case which discussed the lead time requirements of section 202(a) is International Harvester v. Ruckelshaus ("International Harvester"), 478 F 2.d 615 (D.C. Cir. 1979), a decision preceding the NRDC decision. In International Harvester, the court was asked to review EPA's decision to deny applications by several automobile and truck manufacturers who sought a one-year suspension (i.e., a delay) of the 1975 emission standards for light –duty vehicles (passenger cars and certain light-duty trucks) that the Clean Air act allowed under certain circumstances. In the suspension proceeding, the manufacturers presented data which on its face showed little chance of compliance with the 1975 standards, but which at the same time, contained many uncertainties and inconsistencies regarding test procedures and parameters. In a May 1972 decision, the Administrator applied an EPA methodology to the submitted data, and concluded that "compliance with the 1975 standards by application of present technology can probably be achieved" and so denied the suspension applications.50

In reviewing the Administrator's denial of the suspension applications, the Court found that even though the applicants had the burden of coming forward with data showing that they could not comply with the standards, EPA had the burden of demonstrating that the methodology it used to predict compliance was sufficiently reliable to permit a finding of technological

49 NRDC, 655 F.2d at 31-31 (emphasis added)
50 International Harvester, 478 F 2d. at 626.

feasibility, and failed to meet this burden. With respect to lead time, the court in the NRDC case pointed out that the court in International Harvester "probed deeply into the reliability of EPA's methodology" because of the relatively short amount of lead time involved (a May 1972 decision regarding 1975 model year vehicles which could be produced starting in early 1974) and because "the hardship if a suspension were mistakenly denied outweigh the risk of a suspension needlessly granted." 51 The NRDC court compared the suspension proceedings with the diesel standards at issue in its case: " The present case is quite different; 'the base hour' for commencement of production is relatively distant, and until that time the probable effect of a relaxation of the standard would be to mitigate the consequences of any strictness in the final rule, not to create new hardships." 52 The NRDC court further noted that International Harvester did not involve EPA's predictions of future technological advances, but an evaluation of presently available technology.

Besides these important cases, EPA will also evaluate CARB requests in light of Congressional intent regarding the waiver program generally. In its Waiver Request Support Document, CARB stated that "NRDC makes clear that Congress intended U.S. EPA to project future advances in pollution control technology rather than be limited to the technology existing when the standards were set.53 This is consistent with the motivation behind section 209(b) to foster California's role as a laboratory for motor vehicle emission control, in order "to continue

51 655 F.2d at 330.
52 Id. The "hardships" referred to are hardships that would be created for manufacturers able to comply with the more stringent standards being relaxed late in the process.

the national benefits that might flow from allowing California to continue to act as a pioneer in this field."54

For these reasons, EPA believes that California must be given substantial deference when adopting motor vehicle emission standards which may require new and/or improved technology to meet challenging levels of compliance. This deference was discussed in an early waiver decision when EPA approved the waiver request for California's 1977 model year standards:

> Even on this issue of technological feasibility I would feel constrained to approve a California approach to the problem which I might also feel unable to adopt at the Federal level in my own capacity as a regulator. The whole approach of the Clean Air Act is to force the development of new types of emission control technology where that is needed by compelling the industry to 'catch up' to some degree with newly promulgated standards. Such an approach to automotive emission control might with costs, in the shape of a reduced product offering, or price or fuel economy penalties, and by risks that a wider number of vehicle classes may not be able to complete their development work in time. Since a balancing of these risks and costs against the potential benefits from reduced emissions is a central policy decision for any regulatory agency, under the statutory scheme outlined above I believe I am required to give very substantial deference to California's judgment on that score."55

For this waiver request, EPA believes that the NRDC test is best suited to review the lead time that CARB has afforded the vehicle manufacturers for compliance here. The CARB GHG

---

53 Cite to CARB Sup Doc, OAR-2006-0173- ****, p.20.
54 40 Fed. Reg. 23,102 at 23.103 (waiver decision citing views of Congressman Moss and Senator Murphy) (May 28, 1975).
55 Id. At 23,103 (emphasis added).

regulations became final and effective in 2004. This is five years before the first phase of compliance (the 2009 model year), nine years before compliance with the "mid-term" standards, and eleven years before compliance with the "long-term" standards. Because of this large amount of lead time available to manufacturers under CARB's regulatory schedule, the NRDC test will apply. Under NRDC, when compliance with CARB standards is phased in over a lengthy time period, EPA can determine that CARB has demonstrated the reasonableness of its basis for projection if it answers any theoretical objections to the (projected control technology), identifies the major steps necessary in refinement of the technology, and offers plausible reasons for believing that each of those steps can be completed in the time available.56 Based on EPA's review of the record in this waiver proceeding, EPA agrees with California's determination that it either has demonstrated that the necessary technology presently exists to meet the established standards or has specifically identified the projected control technologies, answered objections raised by industry regarding that technology, and has explained its reasons for believing that each of the steps can be completed in the time available. EPA's review of the GHG technologies follows.

2) (Technological feasibility giving consideration to lead time and cost.) old

New – The State of Development of GHG Reduction Trchnology

56 NRDC, 655 F.2d at 31-31 (emphasis added)

a) The CARB Technology Assessment

Under the terms of AB 1493, the CARB staff was directed to assess technologies that could be expected to "achieve he maximum feasible and cost-effective reduction of greenhouse emissions from motor vehicles." CARB has identified these four basic areas of GHG reduction technology:

- engine, drivetrain and other vehicle modifications
- Mobile air conditioning system modifications
- Alternative fuel vehicles
- exhaust catalyst improvement

To accomplish the assessment mandated by the AB 1493, CARB staff held several meetings on GHG vehicle technology, and released two draft technology assessments for public comment before its final staff proposal in the Initial Staff Report published in August 2004. CARB also relied on an existing vehicle simulation study (discussed below) while developing its technology assessment. CARB staff acknowledged that "because powertrain changes will be the focus for obtaining the reductions sought in this (GHG) rulemaking rather than aftertreatment technologies, staff could not reasonably build prototypes and test them in our laboratory….. Because building and testing prototypes is so expensive, and time consuming, even major automobile manufacturers rely on vehicle simulation firms to predict the performance of new

technology either individually or in combination, and to assess their performance and emissions." 57 CARB further commented that the advantage of systems modeling "is to allow a wide diversity of combinations of technologies to be modeled together and examine how they interact when simulating a vehicle operating on various driving cycles." 58

The vehicle technology results in the Initial Staff Report derived primarily from a comprehensive vehicle simulation modeling effort and a thorough cost analysis performed for the Northeast States Center for a Clean Air Future (NESCAAF) by the recognized expert companies AVL Powertrain Engineering, Martec, and Meszler Engineering Services, which was published in _____ 2004 (WHAT IS DATE OF NESCAAF REPORT??) CARB staff believed "the NESCAAF study is the most advanced and accurate evaluation of vehicle technologies that reduce greenhouse gas emissions yet performed."59 Besides the NESCAAF study on vehicle technologies, CARB monitored a separate TIAX, LLC analysis of the GHG benefits of alternative fuel technologies, including upstream benefits and the cost associated with alternative fuel technologies. Finally, for air conditioning research, CARB staff met with various groups (including EPA) to develop its approach for reducing the effect of air conditioning refrigerant emissions and excess CO2 emissions from air conditioning use on climate change. (NEED BRIEF DISCUSSION – fn? – on exhaust tech)

---

57 Cite to ISOR p 43
58 Cite to ISOT p. 58
59 ISOR p. 44

After the release of the Initial Staff Report, CARB received comments on its evaluation of technological steps that could be taken to meet its GHG standards from parties who supported the CARB study, and from various industry parties who disagreed with many of the CARB conclusions. As part of its standard process, CARB staff considered carefully the comments from all parties on both sides, and responded to industry concerns in the Final Statement of Reason, published in August 2005. CARB concluded then that it had identified necessary technology in existence then that could enable vehicles to meet the GHG standards or specifically identified the projected control technologies, answered the industry objections regarding the technology, and has explained its reasons for believing that each of the steps can be completed in the time available, an approach grounded in the framework of the NRDC decision.

The NESCAAF study identified technologies for reducing CO2 emissions that were modeled both individually and in various technology combinations (or "packages"). Because there were a multitude of technologies available for the CO2 reductions, CARB realized that there needed to be engineering guidelines for choosing combinations that would be economical to the consumer. The guidelines tried to avoid combining technologies that tend to address the same categories of losses or technologies that may not complement each other from a driveability standpoint. Participants in the NESCAAF study and CARB staff then assembled a wide variety of combined technologies to evaluate through simulation modeling in order to identify those which would provide the greatest CO2 reductions. In an effort to cover the full spectrum of CO2

reductions that could be accomplished, CARB staff partitioned the results into three categories: near-term, mid term, and long-term applications. These translate to the following model year ranges: near-term (2009-2012), mid-term (2013-2015) and long-term (2016 and later_ CHECK THESE DATES 60

i) Drivetrain Technologies -Near Term

In the Initial Staff Report, CARB staff summarized the state of near term-technology for meeting its proposed CO2 standards:

> The technologies explored (in the Initial Staff Report) are currently available on vehicles in various forms, or have been demonstrated by auto companies and/or vehicle suppliers in at least prototype form…….. There is near term, or off the shelf technology package in each of the vehicles classes evaluated (small and large car, minivan, small and large truck) that resulted in a reduction of CO2 emissions of at least 15 to 20 percent from baseline values. In addition there is generally a near-term technology package in each of the vehicle classes that results in about a 25 percent CO2 emission reduction."61

For engines, CO2 emissions are in the engine exhaust as a result of the combustion process. CARB projected that by 2009, reductions in engine CO2 emissions will result from these primary technology drivetrain changes which could be expected in all vehicle classes: dual cam phasing, turbocharging with engine downnsizing, automated manual transmissions, and

60 Cite ti ISOR at pp 57 through 62
61 Cite to ISOR p iii

camless valve actuation. 62 CARB also described several other technology items that may not be present in most vehicles in the early years of the standards, but are expected to be used in later years as development continues These include: gasoline direct injection, engine friction reduction, aerodynamic drag and rolling resistance, more aggressive shift logic, and early torque converter lock-up. Finally, CARB staff identified two other technology choices that while offering real GHG reduction capability were not as cost effective as the other technologies; these are hybridization and greater dieselization of the fleet.

During this waiver proceeding, CARB offer additional information to EPA at the public hearings, and in additional submissions to the Docket, to bolster their GHG technology projections. Generally, CARB was able to point to numerous instances in which the many of the near-term and even mid-term technologies have been used in vehicles which have been produced in the years since 2004 (when the CARB standards became final) right up to the present. In other words, many of the CARB model year 2009 projections have happened already. Some eamplles of this include the following:

**** Cite to examples from 6/15/and 7/24 letters

62 Cite to ISOR pp 59-60

During the CARB rulemaking, the manufacturers as CARB put it, "chose to engage in a limited way in the (GHG) rulemaking" 63 but still did raise concerns with some of the CARB technology projections.

---

ii) Drive Train Technologies - Mid-Term and Long-Term

For the later years of these standards, CARB stressed that its GHG regulations "rely less on traditional technology-forcing than repackaging a combination of off-the shelf technologies to meet the adopted standards." 64 The NESCAAF Report included for each of the five vehicle categories a table showing several promising technology packages for each of the three time frames (near-,mid-,long-term) and the resulting CO2 reductions from and expected cost of the packages. ***** (What was CARB's general conclusion here? ********

---

63 Cite to Supp Doc. P. 33. The industry less than full-scale attack on the CARB standards was because the industry challenged CARB's authority to adopt GHG standards at all, citing preemption by EPCA, as well as the EPA position (at that time) that the Clean Air Act did not authorize EPA to regulate GHG emissions from motor vehicles also leaving CARB without this authority. These issues are discussed in Section D.4. below.
64 Cite to Supp Doc p. 34/

iii) Air conditioning Technologies

For air conditioning systems, GHG emissions are either direct or indirect. Direct emissions are the result of normal leakage from the system over time, as well as leakages that occur because of vehicle accidents, poorly performed A/C maintenance, or vehicle scrap page without proper refrigerant recovery beforehand. Indirect emissions are the additional COE emissions from the engine which occur because of the added load on the engine from operation of the A/C system. CARB, using the modeling in the NESCAAF Report, projected that CO2 reductions could result from these improvements in the A/C system: improved variable displacement compressor with revised controls, improved low-leak systems, and the use of an improved refrigerant. 65

iv) Alternative Fuel Vehicles

v) Exhaust Catalyst Improvement

iii) Other Compliance Flexibilities

b) **Technological Feasibility and Cost of Compliance**

65 Cite to ISOR pp. 69-73, Support Document pp 22-23.

INTERNAL DELIBERATIVE DOCUMENT OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY
DISCLOSURE AUTHORIZED ONLY TO CONGRESS FOR OVERSIGHT PURPOSES IN RESPONSE TO SUBPOENA

Congress has stated that the consistency requirement of section 202(a) relates to technological feasibility.66 Section 202(a) (2) states, in part, that any regulation promulgated under its authority "shall take effect after such period as the Administrator finds necessary to permit the development and application of the relevant technology, considering the cost of compliance within that time. Section 202(a) thus requires the Administrator to first determine whether adequate technology already exists, or if it does not, whether there is adequate time to develop and apply the technology before the standards go into effect. The latter scenario also requires the Administrator to decide whether the costs of developing and applying the technology within that time are feasible. Previous EPA waivers are in accord with this position.67

For example, a previous EPA waiver decision considered California's standards and enforcement procedures to be consistent with section 202(a) if adequate technology existed and if adequate lead time existed to implement the technology.68 The Administrator in that decision said he would consider costs only if the technology did not yet exist. Subsequently, Congress stated that, overall; EPA construction of the waiver provision has been consistent with Congressional intent.69

It is important to note that, as previous waiver decisions have held, the cost of compliance

---

66 H.R. Rep. No. 95-294, 95th Cong., 1st Sess. 301 (1977).
67 See, e.g., 49 Fed. Reg. 1,887, 1,895 (May 3, 1984; 43 Fed. Reg. 32,182, 32,183 (Jul. 25, 1978); 41 Fed. Reg. 44,209, 44,213 (Oct. 7, 1976).
68 See 41 Fed. Reg. 44,209 (Oct. 7, 1976).

is relevant only when the technology needed for compliance with California's standards does not exist.70 This is because section 202(a) is concerned with cost of compliance during the period "necessary to permit the development and application of the requisite technology.

In MEMA I, the court addressed the "cost of compliance issue at some length in reviewing a waiver decision. According to the court:

> Section 202's "cost of compliance concern, juxtaposed as it is with the requirement that the Administrator provide the requisite lead time to allow technological developments, refers to the economic costs of motor vehicle emission standards and accompanying enforcement procedures. See S. Rep. No. 192, 89th Cong., 1st Sass. 5-8 (1965); H.R. Rep. No. 728 90th Cong., 1st Sass. 23 (1967), reprinted in U.S. Code Cong. & Admin. News 1967, p. 1938. It relates to the timing of a particular emission control regulation rather than to its social implications. Congress wanted to avoid undue economic disruption in the automotive manufacturing industry and also sought to avoid doubling or tripling the cost of motor vehicles to purchasers. It, therefore, requires that the emission control regulations be technologically feasible within economic parameters. Therein lies the intent of the "cost of compliance requirement.71

Prior waiver decisions are fully consistent with MEMA I, which indicates that the cost of compliance must reach a very high level before the EPA can deny a waiver. Therefore, past decisions indicate that the costs must be excessive to find that California's standards are inconsistent with section 202(a).72 It should be noted that, as with other issues related to the

---

69 Id.
70 See, e.g., 41 Fed. Reg. 42,209 (Oct. 7, 1976) and 55 Fed. Reg. 43,028 (Oct. 25, 1990).
71 627 F.2d at 1118 (emphasis in original). See also id. at 1114 n. 40 ("[T]he'cost of compliance' criterion relates to the timing of standards and procedures.).
72 See, e.g., 47 Fed. Reg. 7,306, 7,309 (Feb. 18, 1982), 43 Fed. Reg. 25,735 (Jun. 14, 1978), and 46 Fed. Reg. 26,371, 26,373 (May 12, 1981).

determination of consistency with section 202(a), the burden of proof regarding the cost issue falls upon the opponents of the grant of the waiver.

---

c) Lead Time

---

d) Safety

There is no specific requirement in section 209(b) that the Administrator consider whether any particular CARB standards could not warrant a waiver because they had an adverse impact on motor vehicle safety. Nevertheless, if EPA received evidence from a waiver opponent that a particular set of CARB standards would result in compliant vehicles that were inherently unsafe as a direct result of the impact of the CARB standards, such vehicles could be considered technologically infeasible, and thus grounds for a waiver denial would exist.

***review AB 1493 language

*** review safety disc (ltd) in ISOR -- FSOR

*** note that safety was NOT even discussed in 12/21 ltr

*** CARB disc of sft in 6/14 submission

---

3) **Consistency of Certification Procedures**

California's standards and accompanying enforcement procedures would also be inconsistent with section 202(a) if the California test procedures were to impose certification requirements inconsistent with the Federal certification requirements. Such inconsistency means that manufacturers would be unable to meet both the California and the Federal test requirements with the same test vehicle.73

CARB states in its Waiver Request letter that the

Because EPA received no comments suggesting that CARB's GHG testing requirements pose a test procedure consistency problem with federal test procedures, and based on the record before me, I cannot make a finding that CARB's test procedures are inconsistent with section 202(a). I cannot deny CARB's request based on these criteria.

4) Other 202(a) issues)

---

73 See, e.g., 43 Fed. Reg. 32, 182 (Jul. 25, 1978).

a) The Standard of Review for Consistency

Under section 209(b)(1)(C)), EPA cannot grant California its waiver request if the Agency finds that California standards and accompanying enforcement procedures are not consistent with section 202(a) of the Act. Previous waivers of federal preemption have stated that California's standards are not consistent with section 202(a) if there is inadequate lead time to permit the development of technology necessary to meet those requirements, given appropriate consideration to the cost of compliance within that time. California's accompanying enforcement procedures would also be inconsistent with section 202(a) if the Federal and California test procedures were inconsistent.74

The scope of EPA's review of whether California's action is consistent with section 202(a) is narrow. EPA has previously found that the determination is limited to whether those opposed to the waiver have met their burden of establishing that California's standards are technologically infeasible, or that California's test procedures impose requirements inconsistent with the Federal test procedure.75

Type or Scope of Review

(1) EPA's inquiry regarding whether California's standards and enforcement procedures are "not consistent" with Section 202(a) is limited to the question of whether the

---

74 Discussion of section 202(a) is summarized in Section I above (" Introduction).
75 See MEMA I, 627 F.2d at 1126.

standards are technically feasible. The Supreme Court's decision in *Massachusetts v. EPA* (April 2, 2007) settled the question of whether Section 202(a) encompasses regulation of greenhouse gas emissions. It does. Therefore opponents of the waiver cannot argue California's regulations are inconsistent with Section 202(a) based on the pollutants being addressed. The state is presumptively entitled to a waiver to regulate greenhouse gas emissions, just as it has been found entitled to waivers to regulate particulate matter and ozone precursors. Environmental Defense provides significant additional discussion on this issue including references to previous waivers granted to California and cites the report entitled "State and Federal Standards for Mobile Source Emissions" by the National Research Council (NRC) Committee on State Practices in Setting Mobile Source Emissions Standards to support their position on this issue.

Letters:
Environmental Defense (EPA-HQ-OAR-2006-0173-1459) p. 20-23.

Tech feas, lead time and cost (vs when does lead time clock start in section below)

California's GHG emission standards are consistent with Section 202(a) of the CAA, since there is ample evidence that the standards are technologically feasible within the proposed time frame and that the required test procedures are consistent with EPA's requirements.

(1) Commenters note generally that California has demonstrated that the proposed GHG regulations are technologically feasible and cost-effective and meet, and even exceed, the required lead times. Manufacturers have been provided with more than adequate time to prepare for these standards. California has shown that compliance can be obtained by using entirely existing and near term technologies. CARB provides additional discussion regarding its technological feasibility analysis, which relied in part on the Northeast States Center for Clean Air Future (NESCCAF) study and the CRUISE model, and describes some of the many technologies that can be used to ensure compliance with the GHG regulations. CLF notes that EPA must show, by a "preponderance of the evidence," that CARB's decision on technological feasibility would be arbitrary and capricious, and cites *NRDC vs. EPA at 655 F.2d*

318 in this regard. Some commenters added that many of the automobile manufacturers that are currently claiming that the California GHG standards cannot be met actually adopted a voluntary Memorandum of Understanding (MOU) with Canada that would reduce tailpipe emissions through strategies that are nearly identical to those envisioned by CARB in the context of its GHG emission standards. Another commenter (NESCAUM) also cites to and describes the NESCCAF study to support their position on this issue, noting that it is the most comprehensive study to date regarding the feasibility and costs associated with the introduction of technologies to reduce GHG emissions from vehicles. Some commenters note that there have been political and technological advances since the California GHG standards were passed that provide an even greater level of certainty that they are feasible in the proposed time frame.

Letters:

Arizona PIRG Education Fund (EPA-HQ-OAR-2006-0173-0421-49) p. 241-244.
Bay Area Air Quality Management District (EPA-HQ-OAR-2006-0173-0421-19) p. 106.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0422-6) p. 51.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0422-7) p. 72-77.
California Air Resources Board (CARB) (EPA-HQ-OAR-2006-0173-0421-5) p. 36-39.
Conservation Law Foundation (EPA-HQ-OAR-2006-0173-0422-24) p. 228-230.
Connecticut Attorney General Richard Blumenthal (EPA-HQ-OAR-2006-0173-0246) p. 2.
Connecticut Department of Environmental Protection (EPA-HQ-OAR-2006-0173-2173) p. 2.
Environmental Entrepreneurs (EPA-HQ-OAR-2006-0173-1421-15) p. 87-89.
Jackson, Mike; TIAX Corporation (EPA-HQ-OAR-2006-0173-0421-44) p. 217-218.
Maine Department of Environmental Protection (EPA-HQ-OAR-2006-0173-0422-16) p. 165-166.
Natural Resources Defense Council (NRDC) (EPA-HQ-OAR-2006-0173-0422-19) p. 187-188.
Natural Resources Defense Council (NRDC) (EPA-HQ-OAR-2006-0173-0421-37) p. 182-189.
New York Department of Environmental Conservation (EPA-HQ-OAR-2006-0173-0422-17) p. 174.
Northeast States for Coordinated Air Use Management (NESCAUM) (EPA-HQ-OAR-2006-0173-0421-26) p. 128-131.
Pavley, Fran; Former California Assemblywoman (EPA-HQ-OAR-2006-0173-0422-3), p. 27.
Pavley, Fran; Former California Assemblywoman (EPA-HQ-OAR-2006-0173-0421-4), p. 21.
Pennsylvania Department of Environmental Protection (EPA-HQ-OAR-2006-0173-0422-

15) p. 155-156.
Puget Sound Clean Air Agency (EPA-HQ-OAR-2006-0173-1295) p. 3.
Romanoff, Andrew; Colorado House of Representatives (EPA-HQ-OAR-2006-0173-0537) p. 2.
Ruskin, Ira; California Assembly Member (EPA-HQ-OAR-2006-0173-0421-7) p. 44-45.
Sierra Club (EPA-HQ-OAR-2006-0173-0421-46) p. 228-232.
South Coast Air Quality Management District (EPA-HQ-OAR-2006-0173-1353) p. 5.
U.S. Public Interest Research Group (EPA-HQ-OAR-2006-0173-1463) p. 3.
U.S. Public Interest Research Group (EPA-HQ-OAR-2006-0173-0422-23) p. 222.
Western Environmental Law Center (EPA-HQ-OAR-2006-0173-1404) p. 7-8.

In terms of technological feasibility and cost effectiveness, it is likely that the best compliance strategy for any auto maker would be an optimal combination of vehicle powertrain technological advancements and alternative fuels. It is through this strategy that EPA may find that compliance with the GHG regulations is both technologically feasible and consistent with Section 202(a). Commenters provide significant additional discussion on this issue. Environmental Defense provides articles and testimony from various auto manufacturers and discussion on the increasing viability of alternative fuels with low fuel-cycle GHG emission profiles. MECA provides specific examples of technologies that are currently available. Commenters conclude that compliance is feasible since manufacturers have the opportunity to combine powertrain and low carbon fuel technologies to achieve compliance with the GHG regulations.

Letters:
Environmental Defense (EPA-HQ-OAR-2006-0173-1498) p. 2-6.
Environmental Defense (EPA-HQ-OAR-2006-0173-0422-20) p. 202-203.
Manufacturers of Emission Controls Association (EPA-HQ-OAR-2006-0173-1294)p.1-3.
Manufacturers of Emission Controls Association (EPA-HQ-OAR-2006-0173-0422-9) p.104-112.

(4) Automobile manufacturers have already admitted in the Vermont case that they will, in fact, comply with motor vehicle greenhouse gas emission standards in model years 2009-2011 with little or no additional effort.

Letters:
California Attorney General's Office (EPA-HQ-OAR-2006-0173-1433) p. 3.

California has not presented and adequately documented the facts that support its claims of technological and economic feasibility.

(1) CARB claims that compliance with the regulation is feasible in the time allowed. However, it is impossible for interested parties now to evaluate adequately the claims that the regulation is feasible in the lead-time allowed for purposes of review under 209(b)(1)(C), because CARB has not yet provided access to some of the critical information on which it is relying. EPA should direct CARB to place its supporting information into the public record, so that interested parties can then respond.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 36.

(C) There are numerous specific deficiencies in California's analysis that require EPA to deny the waiver request.

(1) The technical analysis of the standards described in Attachment 2 of the waiver application relies primarily on work by AVL Powertrain Engineering using its "proven CRUISE simulation model." Waiver Application (Attachment 2) at 29. That analysis was challenged in the CARB rulemaking process. The State now contends that, in response to the challenge to its technical analysis, "AVL has provided assurances" that AVL's results were reliable. (Id. at 33.) Those "assurances" are not documented, and the relevant technology (downsized boosted turbo-charged engines, operated on regular unleaded U.S. gasoline) is critical to CARB's technological analysis. If the State intended to rely on such "assurances" from AVL, it should have documented them in its waiver application or provided competent evidence from AVL at EPA's public hearings.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 35-36.

(2) CARB's rulemaking analysis, as described in the waiver application, "assumed" a 30 percent reduction in the costs of some technology systems, based apparently on observations in system costs for LEV and Tier II technologies. The State has not explained which LEV/Tier II systems, or trends in the costs of those systems, support its assumption that the costs of some technologies will decline by 30 percent in the time frame assumed.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 35.

(3) With respect to what the application calls "multi-mode" Diesel-powered systems, the waiver application refers without citations to statements by "manufacturers" expressing "considerable optimism" about the successful development of such

systems. Waiver Application, Attachment 2 at 26. Such claims should have been documented if California expects EPA to consider them.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 35.

(4) With respect to camless valve actuation (another key technology), the waiver application refers to the "input [the CARB] staff has received from companies producing vehicles in [Europe and Japan]" as indicating that lead-time is sufficient to permit manufacturers to plan on the use of CVA in order to comply with the new standards. Waiver Application (Attachment 2) at 35. The "input" is not documented in any way, much less with sufficient specificity to permit analysis by EPA and the public.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 35.

(5) The waiver application asserts that "suppliers can quote prices now," presumably meaning in December 2005, for "most parts likely to be needed to meet the proposed regulations." Waiver Application (Attachment 2) at 39. Neither the relevant suppliers, nor the relevant "parts," are specified in the waiver application. It is impossible to evaluate such a vague claim without any specific documentation.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 35.

(6) The waiver application also refers to "staff discussions with some manufacturers" indicating an intent to produce "light duty diesels meeting the full complement of California requirements, including OBD, 2009." Waiver Application, (Attachment 2) at 26. Here again, there is no documentation for this claim, and no basis for EPA or the public to evaluate it.

Letters:
Alliance of Automobile Manufacturers (EPA-HQ-OAR-2006-0173-1297) p. 35.

(D) Regarding the AVL/NESCCAF engine/vehicle modeling, CARB disagrees with the manufacturers' claims that the assumptions associated with launch characteristics, gradeability, 50-70 passing times, and premium fuel are flawed.

(1) Concerning manufacturers' claims that the launch characteristics of some technology combinations modeled by AVL for the NESCCAF study were inadequate