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Re: *California State Nonroad EnginePollution Control Standards; California Nonroad Compression Ignition Engines – In-Use Fleets; Request for Public Hearing; Docket ID No. EPA-HQ-OAR-2008-0691*

Dear Mr. Dickinson:

The Associated General Contractors of America ("AGC of America") and its California chapters (collectively "AGC"), appreciate the opportunity to provide these written comments on California's request for a waiver of federal preemption for its off-road, in-use diesel engine rule (the "Rule").[1]

AGC of California represents over 600 firms engaged in the construction of highways, bridges, tunnels, airport runways and terminals, buildings, factories, warehouses, shopping centers, and both water and wastewater treatment facilities throughout the State of California. AGC of America, San Diego Chapter represents over 800 contractors and related businesses in Southern California. Both chapters are part of the national organization, AGC of America, which is the largest and most diverse trade association in the construction industry.

On August 12, 2008, the California Air Resources Board ("CARB") requested that the U.S. Environmental Protection Agency ("EPA") waive federal preemption of the Rule. EPA announced a tentative hearing date and a comment period on the request in the

[1] Title 13 California Code of Regulations, sections 2449.1, 2449.2 and 2449.3

Federal Register on October 7, 2008 (73 F.R. 58585). In that notice, EPA indicated that a hearing would be held on October 27, if requested.

AGC, along with some 250 individual contractors, promptly requested that EPA schedule public hearings on the waiver for dates that *follow* CARB's reconsideration of the Rule *and* that such hearings be held in California.

On October 20, 2008, CARB requested that a hearing be held in Washington. EPA then held a single hearing in Washington, D.C. on October 27, attended only by EPA, CARB, a supplier of particulate filters and three other observers. There was no notice that this meeting would actually proceed.

Six weeks after the hearing, CARB announced plans to amend the Rule, and AGC formally petitioned CARB to reconsider it.[2]

I. HEARINGS SHOULD BE HELD IN CALIFORNIA.

California's contractors are extremely concerned about this very complex and costly rule, and want their concerns to be heard. The hearing held in Washington, D.C. less than three weeks after being tentatively scheduled in a notice in the Federal Register did not provide that opportunity. EPA should not expect California's contractors to travel to Washington on essentially no notice.

The need for additional hearings is even more apparent in light of CARB's decision to amend the Rule in light of changed circumstances, and AGC's Petition requesting reconsideration.

Holding hearings in California would be consistent with basic EPA guidance on public participation in the regulatory process.[3] That guidance states:

> "Generally, the Agency should provide materials for public comment as soon as they are available and should allow for at least 30 days for the public review and comment (or longer, as specified in program-specific requirements) or *45 days notice for public hearings*."[4]

As explained by the agency,

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[2] *Petition to Reconsider and/or Amend or Repeal the In-Use Off-Road Diesel Rule,* December 15, 2008. Attached hereto as Exhibit A and incorporated as if fully set forth herein..

[3] "*Public Involvement Policy of the U.S. Environmental Protection Agency*" (May 2003). http://www.epa.gov/publicinvolvement/pdf/policy2003.pdf). Emphasis added.

[4] *Id.* at page 13.

> "The fundamental premise of this Policy is that EPA should continue to provide for meaningful public involvement in all its programs, and consistently look for new ways to enhance public input. EPA staff and managers should seek input reflecting all points of view and should carefully consider this input when making decisions. They also should work to ensure that decision-making processes are open and accessible to all interested groups, including those with limited financial and technical resources. . . ."[5]

Once again, we strongly urge EPA to let the public be heard on this important Rule by holding hearings at the appropriate time and in California.

II. CONSIDERATION OF THE WAIVER REQUEST IS PREMATURE—EPA SHOULD AWAIT CALIFORNIA'S COMPLETION OF REVISIONS TO THE RULE.

On December 4, 2008, CARB announced that it plans to amend the Rule to address a number of significant and unforeseen changes in the technical, economic and environmental conditions critical to its success, if not its viability. In its proposal to amend the Rule, CARB acknowledged that several of the assumptions on which it based the Rule are no longer sound. AGC and its members expect to work closely with CARB to address the problems identified by CARB. In light of these issues and the proposed changes, EPA should defer any decision on CARB's request for a waiver until that process is completed.

Following is a brief description of the fundamental issues that CARB has identified in its proposal to amend the Rule.

A. CARB Recognizes that VDECS Required by the Rule are Not Available.

CARB recognizes that Verified Diesel Emission Control Strategies ("VDECS") have not come onto the market as quickly as it had anticipated. In its *Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and Implementation Update*, December 2008 ("2008 ISOR"), CARB stated:

> "Although the availability of off-road VDECS [for PM] is increasing, VDECS have become available at a slower pace than staff anticipated. This lack of off-road verifications is due to a number of reasons, including:

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5 *Id.* at page 1.

- It is challenging to find the proper vehicles and engines for off-road demonstration programs to ensure the broadest verification possible for each system ...;

- It is difficult to accrue the number of hours necessary for datalogging due to lower equipment activity related to the current economy;

- Some manufacturers have limited the resources they have invested in off-road verifications, focusing more on the verification of on-road systems; and

- The Showcase [a demonstration program intended to increase the number of VDECS available for off-road applications] has had a slower start than anticipated ...."[6]

Noting that some manufacturers were working to expand the scope of their verifications, CARB also announced that it would make certain assumptions regarding the number of vehicles that such expanded verifications would cover. Specifically, CARB indicated that it would continue to use the maximum possible percentages in its estimates. CARB stated:

> "As part of their assessment, staff has estimated the scope of applicability of the current off-road VDECS [for PM]. To do this, staff conducted an analysis using the statewide off-road inventory to estimate the fraction of vehicles in the statewide fleet that could potentially be retrofit with currently verified off-road retrofits (ARB, 2006). Although a device may be verified for a specific engine, it may not always be verified or appropriate for the application in which the vehicle is used. Because of this, staff considers this analysis as an upper bound estimate of the number of off-road vehicles in the statewide fleet that could be retrofit with currently available off-road VDECS."[7]

> "The percentages estimated [of vehicles capable of having a passive PM VDECS installed] are the maximum possible percent of vehicles and engines that could be retrofit. They do not account for factors such as that some engines do not attain sufficient temperature to be retrofit with passive VDECS. Also, they do not fully account for the fact that one passive VDECS, the Caterpillar DPF, was verified only for rubber tired applications. ARB's inventory data do not allow staff to subtract out tracked vehicles for vehicle types such as loaders that can be either tracked or rubber tired (ARB, 2006)."[8]

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6 *2008 ISOR* at 12-13.
7 *Id.* at 13.
8 *Id.*, fn.5, at 14.

CARB also acknowledged that the Showcase (a demonstration project for retrofits that CARB and South Coast Air Quality Management District are jointly administering) is behind schedule:

> "In the initial stages of the Showcase, staff anticipated that all vehicles would have been datalogged, installation designs completed, and most retrofits installed by November 2008. However, a variety of circumstances have pushed back this timeline. The primary reasons for the delay are:
>
> - Contracts took much longer to execute than expected;
> - Economic effects (vehicles had reduced usage or were pulled from service or retired);
> - Fleets requested a change of vehicles;
> - Installation designs were more complicated than anticipated, in some cases increasing the price;
> - The exhaust temperatures required an active device when initially a passive device had been planned; and
> - A few devices were removed prior to installation as the manufacturers felt they needed further development."[9]

Thus, even the Showcase program supported by CARB and the SCAQMD has not been able to fulfill its original promise of proving the economic and technical feasibility of complying with the Rule.

B. CARB Recognizes that PM VDECS are significantly more costly to acquire, install and operate that CARB anticipated.

In the 2008 ISOR, CARB also acknowledged it had underestimated the costs of acquiring, installing and operating PM VDECS:

> "The current costs for installed VDECS are, on average, about 30 percent higher than initially estimated by staff during the development of the regulation (ARB, 2007b). However, staff's initial cost analysis was based on estimates of the average prices for VDECS over the entire course of the regulation. As the market for VDECS expands, staff expects the volume of sales, as well as the increased

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[9] *Id.* at 16.

> number of VDECS options fleets may choose from, to lower overall retrofit costs."[10]

Most of the costs of compliance are costs that construction contractors would have to incur in the first few years of the rule. This issue underscores the importance of providing sufficient lead time in the Rule.

C. CARB Recognizes that Many PM VDECS may be Impossible to Install Due to Significant and Unanticipated Safety Issues.

In the 2008 ISOR, CARB also acknowledged that installing PM VDECS could create safety hazards, including a "significant" impairment of visibility:

> "During the development of the regulation, staff recognized that some VDECS installations could present potential safety hazards and that in some cases it would not be possible to install a VDECS safely. Potential safety issues include significant visibility impairment, thermal hazards, and compromising the structural integrity or center of gravity of the vehicle, with visibility impairment likely to be the most common issue."[11]

In fact, the problems with the Rule are considerably more serious. On November 20, 2008, two weeks before CARB published the ISOR, the California Department of Labor, Division of Occupational Safety and Health ("Cal/OSHA") [12] granted a petition to amend its regulations to make it clear that VDECS must meet safety standards before being installed.

To eliminate any doubt about how its regulations apply to VDECS, on November 20, 2008 the Cal/OSHA Standards Board agreed to amend sections 1590, 1591 and 1597 of Title 8, California Code of Regulations to make it clear that:

> (1) Engine exhaust piping must direct exhaust gases away from the operator's breathing zone.
>
> (2) No modifications must be made to the exhaust systems that would create a fire hazard, or expose employees to burns from radiant heat and or high temperature surfaces.

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10 *Id.* at 20-21.

11 *Id.* at 21.

12 Cal/OSHA has exclusive authority over the safety of California's workers. California Labor Code section 142.3(a).

(3) Equipment and accessories installed on haulage vehicles must be arranged so as to avoid impairing the driver's operational vision to the front or sides.

(4) Modifications and structural changes to haulage and earth moving vehicles that affect the capacity, safety, structural integrity, operator's visibility, or handling of the vehicle shall not be performed by the employer or user without prior written approval from the vehicle's manufacturer.

(5) Vehicles shall not be modified in any way that affects the capacity, safety, structural integrity, operator's visibility, or handling of the vehicle without prior written approval from the vehicle's manufacturer or certification of modifications by a California Registered Professional Engineer.

Before granting the petition to amend its regulations, Cal/OSHA evaluated the actual installations of several VDECS and determined that they would "obstruct operator's already restricted vision," that they "would be a violation of Title 8 [safety] standards," and further, that they "would increase the hazard of operating equipment."[13] As Cal/OSHA emphasized in its evaluation, California safety standards require that "equipment and accessories be installed so as to avoid impairing the driver's operational vision to the front or sides."[14]

Cal/OSHA has indicated that it intends to convene a workgroup to develop specific regulatory amendment language to address the problems identified in the petition. That workgroup has not yet been formed, and there is no current schedule for doing so, let alone for adopting amendments to the regulations. Thus, it could be a year or more before these issues are resolved. AGC plans to work closely with CARB, Cal/OSHA and the labor community to ensure that VDECS are safe when installed.

In the meantime, as CARB has stated, "most if not all of the retrofits required by the off-road regulation could become impossible to install." [15] For the same reasons, CARB has also admitted that "major portions of the off-road regulation [are] no longer viable."[16]

In light of these critical issues, EPA should defer any decision on CARB's request for a waiver. CARB acknowledges that the Rule suffers from serious defects, and these defects

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[13] Letter from Larry McCune, P.E., Principal Safety Engineer, California Division of Safety and Health Research and Standards Unit to Gary Rohman dated October 30, 2008.

[14] *See* 8 Cal. Code of Regulations section 1591(b); *see also* 8 Cal. Code of Regulations sections 3650(e), 3802, 3706, 1592(a) and (b). Note that federal OSHA regulations have similar provisions. *See, e.g.*, 29 C.F.R. §§1926.601(b)(4); 1926.602(c)(1)(ii).

[15] Letter to Ms. Marley Hart, Executive Officer Cal/OSHA Standards Board, from Mr. Bob Cross, Chief, Mobile Source Division, CARB, dated November 18, 2008 (hereafter the "Cross Letter"). Attached hereto as Exhibit B.

[16] Cross Letter at p. 3.

must be cured before contractors can begin to comply. "Lead time" cannot reasonably be said to include the time required to make necessary changes, as construction contractors cannot develop their compliance strategies until CARB and Cal/OSHA complete those processes.

D. The Economic Crisis has Reduced Emissions at Least as Much as was Predicted for the First Two Years of the Rule.

In its analysis of the environmental effects of the revisions that it has already proposed (which would extend early double credit for PM VDECS to January 1, 2010) CARB also recognized that the economic downturn is mitigating the environmental effects of the emissions that it seeks to regulate. As stated in the Initial Statement of Reasons:

> "Available fuel use data supports this, showing total off-road diesel fuel consumption from all sources (off-road vehicles, locomotives, marine, etc.) down over 10 percent from year 2007 levels (BOE, 2008). However, staff cannot precisely quantify at this time the extent of the decline in emissions from off-road vehicles subject to the regulation due to the poor economy. To better understand the impact of current economic conditions on fleets affected by the regulation and their emissions, ARB staff is evaluating available data on vehicle activity, as well as attempting to evaluate whether fleets may have changed their turnover practices due to the poor economy. Staff will present their findings at the January 2009, Board meeting."[17]

CARB appears to understate the drop in off-road diesel consumption. According the State Board of Equalization, off-road diesel consumption has actually declined by about 18 percent.[18] The reduction in emissions due to reduced economic activity provides additional time in which to work out the issues presented by the Rule as currently drafted, and EPA should let that process proceed without ruling on the waiver.

III. THE EPA SHOULD DEFER ANY DECISION ON THE WAIVER UNTIL CALIFORNIA COMPLETES ITS CONSIDERATION OF AGC'S PETITION.

On December 15, 2008, AGC filed a Petition to Reconsider and/or Amend or Repeal the Rule. In the Petition, AGC outlines many changes in the facts and assumptions on which CARB based the Rule, and in light of these changes, AGC asks CARB to reconsider the Rule. In its own proposal to amend the Rule, CARB acknowledges many of the same

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[17] *Staff Report: Initial Statement of Reasons for Proposed Rulemaking; Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and Implementation Update*, Air Resources Board, December 2008 at page 2, 39.

[18] California State Board of Equalization, 2008.

changes in, for example, the off-road consumption of diesel fuel. AGC agrees, however, that CARB should collect the fleet data in accordance with the Rule, so that it will at least eventually have a realistic and reliable basis for rulemaking.

Given the substantial new information provided in the AGC Petition, as well as the indisputable and significant changes in relevant economic and technical factors underlying the Rule, we are confident that CARB will seriously consider substantial modifications to the Rule, even beyond the modifications it has already proposed on its own initiative. We are of course aware that there have in the past been changes to CARB rules after they received an EPA waiver. Here however, the Rule presented to EPA for waiver approval is not settled. Changes are being made and considered at the very time that the waiver request is pending before the EPA. Moreover, some of the issues that are or will be considered go to fundamental aspects of the rule. In these circumstances, it is not even clear what the Rule on which a waiver is requested contains. The situation here is unlike post-waiver changes in a rule after its implementation. EPA should therefore await the outcome of this process before determining whether to grant the waiver request.

IV. THE WAIVER REQUEST SHOULD BE DENIED.

If EPA believes that it must grant or deny the waiver request before the Rule is actually final, EPA should deny the request because:

> (1) Although the Rule purports to apply only to in-use nonroad vehicles, in order to comply with the Rule certain new vehicles are effectively banned, in violation of Clean Air Act section 209(e)(1).
>
> (2) California's adoption of the Rule was arbitrary and capricious, not needed to meet compelling and extraordinary conditions and not consistent with section 202 of the Act.

A. The Rule Effectively Bans Certain New Nonroad Vehicles in Violation of Section 209(e)(1) of the Act.

Section 209(e)(1) of the Act provides, in pertinent part:

> "No State or any political subdivision thereof shall adopt or attempt to enforce any standard or other requirement relating to the control of emissions from either of the following new nonroad engines or nonroad vehicles subject to regulation under this chapter—
>
> (A) New engines which are used in construction equipment or vehicles or used in farm equipment or vehicles and which are smaller than 175 horsepower.

(B) New locomotives or new engines used in locomotives.

Subsection (b) of this section shall not apply for purposes of this paragraph."

The Rule's stringent requirements effectively ban the purchase of any new equipment below Tier 2. Although the Rule is called an in-use rule, in effect, it requires contractors to purchase new engines and vehicles, as purchasing such engines and vehicles is the only means of meeting the fleet average requirements.

There are no VDECS for NOx and few if any VDECS that a contractor can safely install to reduce their emissions of PM. The Rule therefore gives contractors no real alternative to purchasing new equipment—there is no alternative for NOx, and Cal/OSHA has eliminated "most if not all" of the VDECS that CARB has approved for PM.[19] Under these circumstances, this Rule actually requires the purchase of new non-road engines and vehicles, including many between 25 hp and 175 hp.

B. California's adoption of the Rule was arbitrary and capricious, not needed to meet compelling and extraordinary conditions and not consistent with section 202 of the Act.

Section 209(e)(2) of the Act provides, in pertinent part:

"the Administrator shall, after notice and opportunity for public hearing, authorize California to adopt and enforce standards and other requirements relating to the control of emissions from such vehicles or engines if California determines that California standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards. No such authorization shall be granted if the Administrator finds that—

(i) the determination of California is arbitrary and capricious,

(ii) California does not need such California standards to meet compelling and extraordinary conditions, or

(iii) California standards and accompanying enforcement procedures are not consistent with this section."

[19] As noted above, the additional rulemaking required to address the safety issues is likely to take at least a year to complete. In the meantime, the few VDECS approved for PM will remain subject to existing Cal/OSHA regulations that effectively prohibit their installation.

Section 209(e)(2)(A) prohibits either the adoption or the enforcement of the Rule unless the Administrator grants a waiver, after notice and comment. Before it applies for a waiver of this or any other rule, California must determine that the rule is at least as protective as the federal standard. The Administrator must grant the waiver unless she finds that one of the following three conditions exists: (i) the determination of the State is arbitrary and capricious; (ii) California does not need such standards to meet compelling and extraordinary conditions; or (iii) California's standards and accompanying enforcement procedures are not consistent with this section. Each of these is discussed in turn.

1. California's Determination is Arbitrary and Capricious.

A waiver will not be granted if the Administrator finds that California's "determination" is arbitrary and capricious. The arbitrary and capricious analysis here is one based on federal law. Under the federal construction of arbitrary and capricious, courts presume regularity of agency decision making and yet still engage in a thorough, probing in-depth review.

In that review, EPA will consider whether the state agency considered all relevant factors in its determination,[20] whether the agency made any clear errors of judgment, whether the determination was reasonable, whether there is a rational connection between the facts found and the choice made[21] and whether there is substantial evidence to support the determination.[22]

AGC believes that CARB: (1) failed to consider all relevant factors in its determination; (2) made many clear errors of judgment; (3) made determinations that were not reasonable; (4) lacked a rational connection between the facts found and the choice made; and (5) lacked substantial evidence to support the determination. The basis for these contentions is set forth below, in the Comments of the AGC on CARB's proposed rulemaking[23] and in the AGC Petition.

a. CARB's Determination is Arbitrary and Capricious Because it Grossly Underestimates the Cost of Retrofitting the Equipment Already in Use.

CARB grossly underestimated the cost of retrofitting existing equipment. Since CARB finalized the Rule, the construction industry has found that the cost of retrofitting

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20 *Pension Benefit Guaranty Corp. v. LTV Corp.*, 496 U.S. 633 (1990).

21 *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976).

22 *Ass'n. of Data Processing Svc. Orgs. v. Fed'l Reserve Sys.*, 745 F.3d 677 (D.C. Cir. 1984).

23 *See* Exhibit C attached hereto and incorporated as is fully set forth herein.

equipment is at least 50 percent higher than the amount that CARB estimated in making its economic analysis. It is clear that CARB neither fully nor fairly researched this critical issue, and that CARB therefore lacked reliable data or substantial evidence on the costs of purchasing, installing and maintaining retrofit technology.

CARB's economic model assumed that all retrofits would be with "Level 3" VDECS that achieve at least 85 percent PM control. The following table sets forth CARB's estimates of the cost of retrofitting equipment. In stark contrast, actual installed costs that contractors reported to CARB during the original rulemaking varied from $25,000 to $60,000 per engine.[24] In addition, contractors were paying more for the maintenance, repair and contingent damage to retrofitted equipment. As performance suffered, contractors were also beginning to consume more fuel. Indeed, in many cases, these other costs were projected to exceed the initial costs of purchasing and installing the devices needed to reduce emissions of PM.

CARB Table[25]
Table 3: Cost of Retrofits

Vehicle Horsepower	Cost of Retrofit
<50	$8,000
50 to < 175	$12,000
175 to <400	$18,000
400 plus	$30,000

At the public hearing that CARB held on May 25, 2007, many industry professionals testified that CARB's estimated VDECS costs were too low.[26]

Information that AGC has developed since then, and included in its Petition, show that these estimates were based upon a number of assumptions that, if they were ever correct, are no longer accurate. For example:

- An analysis of three California construction fleets, varying from about 11,000 total horsepower to about 43,000 total horsepower, shows that the actual costs (based on supplier estimates) of complying with the Rule ranged from $1300 to $1600 per horsepower—nearly ten times the Staff estimate. The difference adds

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[24] *See e.g.*, CARB Rulemaking Docket, Comment #128, Granite Construction Inc., May 21, 2007.

[25] *See* CARB Technical Support Document (TSD), Appendix H, p. 11 - online at http://www.arb.ca.gov/regact/2007/0rdiesl07/TSD.pdf.

[26] *See* hearing transcript, p. 258, http://www.arb.ca.gov/board/mt/2007/mt052507.txt.

up to several billion dollars for a Rule that is already the most expensive rule affecting private industry in the history of the State.[27]

- Retrofitting equipment with control devices results in a fuel penalty. CARB calculated the penalty to be $70,316,000, based on a diesel fuel cost of $2.76 per gallon. Between the time that CARB made its calculation in 2007, and the approval of the Rule in 2008, the price of diesel nearly doubled, to about $4.90 per gallon. Although the recent economic meltdown has resulted in reduced demand and therefore reduced consumption, the price of diesel is, as of this writing, about 25% higher than CARB assumed in its analysis.[28] The EIA forecasts diesel prices nationally to average $3.91 per gallon in 2009.[29] Thus, CARB's estimate of the fuel penalty cost is at least 30% too low, a difference of over $20 million.

- In calculating the cost of electricity used to regenerate retrofit controls, CARB used a cost of 10 cents per kilowatt hour (kW-H), based upon the average cost to industrial users in 2007.[30] However, construction contractors are not "industrial" businesses as EIA uses that term.[31] Actual cost for construction contractors is likely to be approximately 13 cents per kW-H, a difference of over 30%.[32] Thus, CARB's estimate of the cost of electricity (over $144 million) is understated by over $40 million.

- The lack of available NOx and PM VDECS also adds significantly to the cost of the rule, since it leaves scrapping and replacing equipment as the only viable compliance alternative. This cost scenario was not examined by Staff in preparing the Rule.

CARB concluded that "the off-road regulation is cost effective at an estimated $2.1 per pound (/lb) to $2.5/lb for NOx and $37/lb to $43/lb for PM."[33] By Staff's own estimate, the Rule was the least cost-effective rule CARB had ever adopted for any private sector businesses. That cost-effectiveness analysis, however, was arbitrary and capricious, and not supported by the evidence in the record.

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27 Exh. A, Declaration of Gary Rohman.
28 *See* Energy Information Administration ("EIA") http://tonto.eia.doe.gov/oog/info/wohdp/diesel.asp
29 *See* http://www.eia.doe.gov/emeu/steo/pub/contents.html
30 *ISOR, App. J.* at 8.
31 *See* definition quoted in the *ISOR, App. J.* at 8.
32 *See* http://www.eia.doe.gov/cneaf/electricity/st_profiles/california.html.
33 *FSOR* at 207.

b. CARB's Determination is Arbitrary and Capricious Because it Assumes Repowers are an Option When in Fact They are Not.

CARB grossly overstated the options for repowering existing equipment. CARB's proposal assumed that a large percentage of existing construction equipment would be repowered and that all equipment over 250 horsepower could be repowered.[34] AGC research revealed, however, that most of this equipment could not be repowered.[35] ("Manufacturers do not supply replacement engines for a majority of our fleet.")[36] According to Hawthorne Machinery, the San Diego County Caterpillar dealer, "there are only seven available [repower solutions] for over 300 different models working out there today."[37] According to Quinn Caterpillar, "[c]urrently about 3 percent of Caterpillar's legacy machines can be repowered to Tier 3."[38] This mistake led CARB to underestimate the number of machines that the rule would require fleet owners to replace or retire, and slanted its economic analysis.

c. CARB's Determination is Arbitrary and Capricious Because it Overestimates the Amount of Used but Higher Tier Equipment Available for Purchase.

CARB overestimated the amount of Tier 2 and Tier 3 equipment that would be on the used-equipment market.[39] The suggestion that the owners of such equipment would readily dispose of it was not credible because Tier 4 replacement engines/equipment would remain unavailable until very late in the compliance schedule. Until then, Tier 2 and Tier 3 machines would have to make up the bulk of any compliance fleet. As one contractor noted, "They just had a huge auction up in Riverside [California]. Almost no equipment was over Tier 2. Used equipment is not an option. It won't be because nobody's going to be giving up any of the good equipment."[40] This mistake compounded the effect of CARB's immediately preceding mistake, and further slanted its economic analysis. Few contractors have the option of purchasing used Tier 2 and Tier 3 equipment at industry auctions.

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34 *See* TSD, Appendix H, p. 9 ("For the purposes of calculating the costs associated with repowers and replacements, the model assumes that any vehicle that is relatively new, over 250 horsepower, and not a tier 4 will be repowered rather than replaced.").

35 *See* Exh. C, Attachment 2, Affidavit of Mike Buckantz, parag. 9, ("Less than 25 percent of all of the off-road construction equipment...can successfully be repowered by an engine manufacturer.")

36 *See also id.* p. 211

37 *Id.*, p. 293.

38 *Id.*

39 *See* Exhibit C, Attachment 11, M. Cubed report, p. 1-2, 9.

40 *See* ARB May 25, 2007, public hearing transcript. 211.

d. CARB's Determination is Arbitrary and Capricious Because it Underestimates the Cost of New Equipment.

CARB underestimated the cost of the new equipment that the rule would require fleet owners to purchase. Indeed, CARB's estimates for new equipment were significantly lower than actual quotes provided to AGC-member companies by their equipment dealers.[41] Tier 3 and Tier 4 engines cost substantially more to manufacture that Tier 1 and Tier 2 engines, and the cost of new machines will increase accordingly. I

e. CARB's Determination is Arbitrary and Capricious Because it has Overestimated the Natural Turnover Rate for Equipment.

CARB overestimated the natural turnover rate for off-road construction equipment. CARB's rulemaking documents stated that the baseline rate of turnover for the statewide fleet would be about five percent per year.[42] AGC's research showed that the turnover for off-road construction equipment would actually be in the range of 2.5 to 3 percent per year.[43] CARB's model yielded an artificially low cost of compliance by putting too much of that cost into the category of natural turnover.

f. CARB's Determination is Arbitrary and Capricious Because it has Overestimates the Resale Value of Equipment.

CARB overstated the resale value of equipment that the Rule would render obsolete, reasoning that California is just one state, and that the equipment inflating emissions could be sold to operators in other states at nearly the same price at which it could be sold at the time CARB developed the Rule. CARB's assumption was that the change in value would be limited to the cost of transporting Tier 0 equipment out of state (which CARB estimated to be $10 per horsepower).[44] Since CARB finalized the rule, contractors and

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41 *See* Exh. C, Attachment 11, MCubed report, p. 19-20 (compares ARB's new machine prices with new equipment price lists compiled by Construction Industry Air Quality Coalition members and finds that firms' reported prices averaged 67 to 78 percent higher than the ARB Staff estimates.

42 *ISOR*, at 52.

43 *See* ARB May 25,2007, public hearing transcript, p. 296. According to Quinn Company, a California Caterpillar dealership with 18 locations in California, "[CARB] staff should consider the natural turnover of 2 to 3 percent per year . . . ." *See also* Exh. C, Attachment 11, MCubed report, p. 19 (new equipment sales data from the Equipment Manufacturers Association shows the retirement rate to be 40 percent less than ARB estimates).

44 *ISOR*, at 45.

others in the equipment resale industry have noted sharp declines in the prices for such equipment, ranging from 30 to 60 percent since the Rule was adopted.[45]

There is no evidence to support CARB's contention that it can eliminate the demand for equipment, and simultaneously increase the supply of the same equipment, without having a dramatic impact on its market value.[46]

g. CARB's Determination is Arbitrary and Capricious Because it has Exaggerated the Market Power of Contractors.

CARB acknowledged that many contactors would have to "pass through at least some of the costs to their customers in the form of higher prices for their services to maintain their profitability . . ." and that "Customers that could expect to pay higher construction costs include developers, home builders, and government agencies sponsoring road construction and other transportation projects."[47]

Faced with a decline of more than 20 percent in industry revenue,[48] there is obviously no way that any of the contractors affected by the Rule can expect to *increase* revenues by any amount, let alone 4 percent.[49] The same is true for passing costs along to customers. In a shrinking market, increasing prices is just not possible. CARB's contrary determination is not supported by the evidence and is arbitrary and capricious.

h. CARB's Determination is Arbitrary and Capricious Because it Failed to Account for the Impact of the Rule on Borrowing Capacity.

CARB failed to account for the Rule's inevitable impact on construction contractors' borrowing and bonding capacity. The rule has already and dramatically devalued Tier 0 and Tier 1 equipment. In the process, the rule has already made it far more difficult for

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45 *See* attachments to Exh. A, Declaration of Bruno Dietl, paragraph 6; Declaration of Hickey, paragraph 8; Declaration of Mike Burns, paragraph 4; Kevin Wiley.

46 *See* Attachments to Exh. A, Affidavit of Kenneth Coate, parag. 7. (CARB's economic analysis gives "inadequate consideration of the market effect of the vast numbers of non-qualifying equipment entering the out-of-state used equipment market; they use minor adjustments that completely ignore supply-side modeling.").

47 *ISOR* at 42, 44.

48 *McGraw-Hill Report.*

49 *See* AGC Petition at 16.

contractors to raise cash.[50] At the same time, the rule is limiting contractors' bonding capacity, making it much more difficult for contractor to grow their revenue.[51]

In this regard, it is important to note that a construction contractor's equipment value may be a substantial portion of the firm's total assets – and thus its collateral for any borrowing or bonding. The Rule undermines contractors' equity in their construction fleets. As noted above, it threatens to flood the used equipment market with older equipment, leading to a deterioration of equity. In addition, companies may still owe debt on Tier 0 units (some of which are fairly new) that could exceed the equipment's deteriorated value, leading to both a loss on the sale and the need to generate outside cash to retire the debt. By reducing the equity on which a contractor has to rely to finance new purchases, the Rule also undermines contractors' ability to finance their compliance with the rule. By forcing equipment to be scrapped, and flooding out-of-state markets with used equipment, the Rule seriously erodes the value of keys assets needed to secure funding for equipment upgrades, making borrowing in a difficult economic environment nearly impossible.

Staff predicted that financing would be available and even noted that it was "consulting with other state agencies such as the Pollution Control Financing Authority in the State Treasurer's Office and private lenders to look for ways to leverage existing public programs and funding in the private sector, through potential programs such as government loan guarantees, interest rate buy down programs, etc."[52] None of these efforts has borne any fruit, and financing remains extremely difficult to obtain.[53] In fact, contractors report that financing has become extremely difficult if not impossible to obtain. [54]Obviously, with little work in the pipeline, and an asset base that is rapidly declining in value due to the requirements of the Rule, the ability of construction contractors to borrow for new equipment is severely impaired.

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50 *See* Exh. C, Attachment 3, Affidavit of Ralph E. Potter; ("Contractors rely heavily on the ability to convert equipment to cash to adjust their fleets, reduce expenses, and reduce debt. The 'hidden equity in depreciated equipment also provides borrowing capacity ....").
parag. 6.

51 *See* Exh. C, Attachment 4. Affidavit of Kenneth A. Coate, parag. 6 (explaining that a contractor's bonding capacity is a relatively fixed function of its net worth, working capital and depreciated equipment market value, and concluding that "the ability of California contractors to effectively bond the' infrastructure going forward will be severely impacted.").

52 *ISOR,* at 48.

53 Indeed, the 2008 Debt Affordability Report, California State Treasurer's Office, October 1, 2008 indicates that there is no prospect of providing additional funding to support contractors or government agencies' efforts to comply with the Rule.

54 *See* Exh. A, Declaration of Bruno Dietl, paragraph76; Declaration of Robert Dorazio, paragraph 7; Declaration of Christopher M. Hickey, paragraph 9.

i. CARB's Determination is Arbitrary and Capricious Because it has Underestimated the Amount of Equipment Affected by the Rule.

CARB underestimated the amount of equipment that the proposed rule would affect. CARB estimates that about 180,000 pieces of equipment would be subject to the rule, ISOR, at 17, and in defense of this estimate of the baseline inventory, CARB cited the following surveys:

- MacKay & Co. Construction Universe Study (2003);
- TIAX Public Fleet Survey (2003);
- Yengst equipment analysis reports (2005);
- CARB Off-road Equipment Survey (2005); and
- CARB Off-road Mini Survey (2006).

CARB also cited stakeholders and argues that its OFFROAD2007 Model incorporated its latest data in November 2006.[55] However, national data (such as the Yengst reports) is not representative of the California market.[56] Moreover, the 2002 Economic Census (prepared by the U. S. Census Bureau) revealed that there were more than 67,000 construction firms with employees (and more than 167,000 small firms with no payroll) in California. CARB's emissions inventory can now account for only 180,000 pieces of off-road construction equipment. Even if CARB's baseline estimate was correct, the ratio of machines to contractors with employees was still an unrealistically low 2.68.[57]

j. CARB's Determination is Arbitrary and Capricious Because it has Understated the number of Jobs that Will be Lost.

CARB understated the number of jobs that California would be likely to lose. CARB projected that the cost of compliance with the proposed rule would reduce California employment by just 1,000 jobs (0.01 percent) in the peak year of 2010.[58] CARB also stated that this loss of employment jobs would be spread throughout the economy, and not limited to the industries (such as construction) that the rule would directly affect.[59] Within the construction industry, to the Rule would compel downsizing, lay offs and a cut in the capacity to construct projects. If a contractor could not absorb

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55 *See* CARB, TSD, at 57, 67-68 & Appendix E, at E-2, E-28 to 29 (making similar arguments).

56 *See* Exh. A, Attachment 11, MCubed report, p. 1 and 3.

57 *See* ARB Hearing transcript, p. 206 (refers to experts at hearing who own 50 to 60 pieces of large equipment).

58 TSD, at 181.

59 ISOR, at 46.

the annual cost of replacing 8 percent of its fleet, and at least theoretically retrofitting another 20 percent, the contractor would have no alternative to downsizing.

For the many reasons already given, most of the small, medium and other thinly capitalized contractors that dominate the construction industry would have to shrink. Before the economic downturn, the statewide loss of employment (in just the construction industry) was already estimate to be somewhere between 4,300 and 29,000 jobs,[60] or somewhere between 0.5 percent and 3.5 percent of the state's employment in the construction industry.

k. CARB's Determination is Arbitrary and Capricious Because its Requirements are Not Technically Feasible.

Before CARB can adopt an off-road engine emission standard to regulate criteria pollutant emissions from construction equipment, CARB must meet certain standards and obligations set forth the California Health and Safety Code. By its terms, the law authorizes CARB only to adopt and implement motor vehicle emission standards . . . [that CARB] has found to be technologically feasible" and not "preempted by federal law."[61] Similarly, under federal law, CARB's standards must be consistent with federal requirements for technological feasibility in order for those CARB standards to qualify for a waiver of federal preemption.[62] Without the waiver of federal preemption, the California standards exceed CARB's authority under both federal and state law.[63]

In its rulemaking documents, CARB sought to defend the technical feasibility of its proposal, addressing the availability of retrofit controls and options for repowering equipment or replacing it.[64] The evidence, however, indicates that engine and retrofit manufacturers, the used-equipment market, and suppliers and installers could not meet the demand that the rule would create for equipment essential to the construction industry.

Equipment manufacturers have indicated that the demand created by the Rule would exceed the availability of the required retrofit devices and replacement engines and

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60 *See* Exh. C, Attachment 11, M.Cubed report, p. 3, 23;, *see also* ARB Hearing Transcript, p. 184, 192, and 322; *id.* p. 296 (California Alliance for Jobs "estimates the elimination of over 40,000 construction jobs in California"); p. 297 (Safety for Operating Engineers Local Union No.3 "there will be a loss of over 30,000 jobs).

61 Health & Safety Code §43013(a) (emphasis added); *See also id* §§43013(b) (ARB's off-road Standards must be consistent with §43013(a)); §43013(d) (ARB's off-road regulations must be feasible); §39665(b)(4) (ARB must consider technological feasibility for air toxic control measures); §39666(c) (same).

62 *See* Exh. C, Attachment I, Initial Comments of AGC, Section III.A, May 23, 2007 (discussing CAA §202(a) and §209).

63 42 U.S.C. §7543(e); Health & Safety Code §43013(a)-(b).

64 TSD, at 99-127.

machines. Several of the nation's top manufacturers of construction equipment provided statements regarding CARB's proposed rule:

> "[I]t will be a challenge for us and all manufacturers to develop, certify and introduce new emission compliant products for major portions of their product lines in the time window provided for by emissions regulations . . . At this stage, it is unrealistic for Caterpillar – or any manufacturer – to guarantee they will have all the products and service capacity necessary to perform the work. There is risk that the proposed rule, if implemented as currently conceived will not provide sufficient lead-time for manufacturers to fully support California customers."[65]

> "With respect to legacy equipment, Deere is concerned with the availability of engineered solutions necessary to bring thousands of fleets containing hundreds of different models of machines into compliance during the time frame allotted under the proposed in-use rule. It is simply unknown at this point if sufficient engineering resources can be devoted into integrating Tier 4 technology solutions into hundreds of pre-Tier 3 machine models during the timeframe set for in the proposed rule."[66]

> "[T]he combined effect of the nature of the proposed regulations, uncertainty regarding the final form of the regulation, and the extreme difficulty of forecasting individual customer needs for the many CNH legacy products mean that despite the desire and commitment of CNH to fully support the owners of our brands of equipment, we cannot commit to the future availability of the retrofit products required to meet the proposed regulations."[67]

Few retrofit devices are suitable for off-road applications (even though CARB may have granted verification) due to space constraints, diminished visibility, machine vibrations, safety considerations and other maintenance issues.

The safety issues raised by Cal/OSHA, the complete lack of any VDECS for NOx and the extraordinary cost and availability issues described above all show that the technology specified by the Rule is not currently available, and there is no basis for believing it will be available in time for the Rule's deadlines to be met.

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65 *See* Exh. C, Attachment 6, Caterpillar Statement.

66 *See.* Exh. C, Attachment 7, John Deere Statement.

67 *See* Exh. C, Attachment 8, Case New Holland Statement.

2. California Does Not Face Compelling and Extraordinary Conditions Warranting a Waiver.

The EPA must deny a waiver if California does not need the proposed standard to meet compelling and extraordinary conditions. Thus, CARB must demonstrate both (1) that there are compelling and extraordinary conditions and (2) that the Rule is needed to meet those conditions.

The fundamental premise of the Rule is that significant emission reductions from off-road construction equipment are needed to meet the National Ambient Air Quality Standards ("NAAQS") for PM and NOx. Neither the South Coast nor the San Joaquin Valley is in attainment for the PM2.5 NAAQS. Under the federal CAA, both are required to attain the PM2.5 standard by 2015. In addition to reductions in directly emitted diesel PM, these areas must achieve significant NOx reductions to achieve the ambient PM2.5 standard by the federally-mandated deadlines. Because the standard is an annual average, the U.S. EPA requires that all necessary emission reductions be achieved one calendar year before the deadline, or by 2014.

For SIP compliance purposes, CARB predicted that in the most heavily affected areas (the South Coast Air Basin and the San Joaquin Valley), the Rule would yield NOx reductions of 14.2 tons per day, or about 11%, in 2014. For PM, the reductions were estimated to be about 3.4 tons per day, or approximately 53%.[68]

When CARB developed the Rule, construction activity in the state was intense and CARB forecast continuing growth. In order to meet the 2015 attainment deadlines, CARB reasoned, it would be necessary to regulate off-road equipment emissions.

Since the Board approved the Rule in July of 2007, the world has changed in dramatic and enduring ways. As stated by the California State Treasurer:

> "The shock waves from this year's extraordinary upheaval in financial markets have shaken investors, banks, borrowers, workers, retirees and families in our state and around the world. These events are without precedent in modern economic times, and they continue to unfold as of this writing."
>
> "The State and other public agencies that rely on that market to finance the construction of infrastructure and other important capital projects have faced

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[68] *Proposed Modifications to the Air Resources Board's "Proposed State Strategy for California's 2007 State Implementation Plan'"* Attachment B to Resolution 07-28, September 27, 2007, at 12-13. http://www.arb.ca.gov/planning/sip/2007sip/07-28_attachment_b.pdf

> enormous challenges. Many suffered significant increases in their financing costs."[69]

The challenges facing individual construction companies are many times greater than the challenges facing the state as a whole. These companies, on whom all the burdens of the Rule are imposed, are in no position to buy new equipment or to retrofit existing equipment—much of which sits idle today.

According to industry analysts at McGraw-Hill Construction, the national construction market has dropped by 12% in just the ten months of 2008, and will continue to slide another 7% in 2009.[70] The current level of building activity is the lowest since the state began tracking figures in 1954.[71] According to the Construction Industry Research Board, 4,484 residential permits were issued throughout California in August, down 61 percent compared to the same month a year ago and down 21 percent from July.[72] During the first five months of 2008, permits for single-family units declined to 15,254.[73] By way of comparison, in the first five months of 2005, single-family units totaled 65,042. That's a decline of almost 80 percent.

> Significant declines in construction activity have already resulted in significant declines in fuel consumption and resulting emissions and all economic indicators point to a continuation of the current trend.[74]

According to the California State Board of Equalization, off-road diesel use has declined by about 18 percent. The reduction attributable to the construction sector is probably higher. According to a number of California contractors, fuel consumption in 2008 has declined by as much as 84%.[75] Reduced fuel consumption means reduced NOx and PM2.5 emissions, even without expensive and uncertain retrofits, repowers and replacements.

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69 *2008 Debt Affordability Report,* California State Treasurer's Office, October 1, 2008. Emphasis added.

70 *"The McGraw-Hill Construction Outlook 2009 Report"* (*"McGraw-Hill Report"*) McGraw-Hill Construction, October 23, 2008.

71 *"California Housing Production Continues Decline in July, CBIA Announces,"* California Building Industry Association, August 22, 2008. http://www.cbia.org/go/cbia/newsroom.

72 *"Construction of New Homes in San Jose Metro Area, State Plunge in August"*, San Jose Mercury News, September 25, 2008.

73 *"New Residential Construction Still Slow in May,"* California Building Industry Association, June 23, 2008.

74 *Id.,* p. 8.

75 *See,* Exh. A, Declaration of Christopher M. Hickey, paragraph 5. *See also,* Exh. A, Declaration of Bruno Dietl, paragraph 5.

The net result from an emissions perspective is that, without the Rule having taken effect, reduced economic activity may already be achieving essentially all of the SIP goals for 2014. Thus, there are no "compelling and extraordinary conditions" that warrant granting a waiver for the Rule.

3. California's Rule is Not Consistent with the Clean Air Act.

The EPA must not grant a waiver unless California's standards and accompanying enforcement procedures are consistent with section 209 of the Clean Air Act. Specifically, section 209(e)(2)(A)(iii) requires consistency "with this section." EPA's 1994 rulemaking for on-road vehicles interpreted consistency with "this section" to include consistency with § 209(b), which means consistency with § 202(a) based on the statement in § 209(b)(1)(C). See 59 Fed. Reg. 36969, 36982 (July 20, 1994).

Lead Time: Section 202(a) contains a lead time requirement, requiring reasonable lead time "to permit the development of technology necessary to meet those requirements."[76] In *AMC v. Blum*, the court stated "EPA has explained that it must deny a waiver for California if the state's regulations provide 'inadequate lead time to permit the development of the technology necessary to implement the new procedures, giving appropriate consideration to the cost of compliance within the time frame.'"[77]

CARB's continuing efforts to amend the Rule to address the safety, availability and cost issues presented by the Rule makes it clear that the Rule is still "not ready for prime time"—that is, substantial further revisions may be needed to make the Rule workable. Under these circumstances, not only is the granting of a waiver premature, but lead time is effectively non-existent. With the first deadlines for completing retrofits or other fleet modifications little more than a year away, the Rule itself is still in flux. This uncertainty about just what the Rule requires and how companies can comply makes planning impossible; thus, lead time has effectively been eliminated. The retrofits are simply not available, and the rule does not provide adequate time for them to become available before implementation.

Useful Life: Section 202(a) also indicates that standards shall be applicable to such vehicles and engines for their useful life.[78] On its face, the Rule seeks to apply at least eleven different standards to emissions from fleets of equipment that met all relevant standards at the time of its manufacture and sale. Indeed, it does not merely change the standards applicable to off-road construction equipment throughout much of its useful

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[76] *Id.* At 36983; *See also Am. Motors Corp. v. Blum*, 603 F.2d 978, 981 (D.C. Cir. 1979).

[77] 603 F.2d at 981 (quoting Waiver of Federal Preemption, 46 Fed. Reg. 26,371, 26,372 (1981)).

[78] Section 202(d) explains that the Administrator shall set regulations determining the useful life of regulated vehicles. The statute specifically designates 5 years or 50,000 miles or 10 years and 100,000 miles depending on the circumstances. The regulations indicate that some heavy duty diesel engines have useful lives of up to 290,000 miles. 40 C.F.R §§ 86.001-2 to 86.001-9.

life. The Rule goes so far as to require contractors to retire such equipment before it reaches that point.

Consideration of Cost: Section 202(a)(2) requires that agencies "giv[e] appropriate consideration to the cost of compliance." In this case, the record indicates that CARB did not adequately and appropriately consider such costs. As demonstrated by CARB's cost explanations during their recent workshops, CARB appears to fundamentally misunderstand the true costs of compliance with the Rule. Additionally, there is nothing in the record to show that CARB considered the availability of financing to ensure compliance.

And as noted above, the entire cost paradigm has shifted dramatically over the months since CARB adopted the Rule. The severe drop off in construction work, along with problems with VDECS availability and safety that CARB itself Recognizes make large portions of the Rule not viable, all point to the critical need to reevaluate the cost of compliance.

With the change in the California economy over the past 6 months, it is undisputed that the costs of compliance are not as anticipated in the Rule. Therefore, the waiver must be denied as inconsistent with 202(a)(2).

For the reasons set forth above, the EPA cannot lawfully grant the state's request for a waiver. At most, EPA can defer a decision on that request, pending CARB's reconsideration of the Rule both on its own initiative and response to the AGC petition setting forth with specificity the significant changes in circumstances that require revision of assumptions underlying the Rule Should EPA choose the latter course, it will be important for the Agency to hold renewed hearings and provide sufficient opportunity to comment.

We therefore request that EPA either (1) deny the waiver or (2) expressly announce that it will postpone consideration of the waiver until after CARB has acted on the amendments and the petition for reconsideration pending before it. At that time, EPA should hold hearings in California and provide a new opportunity for written comment. Should EPA not take either of these courses of action, we renew our request for hearings in California on the pending request for a waiver.

We appreciate your consideration of these comments and look forward to participating in this proceeding.

Sincerely,

Michèle B. Corash
Morrison & Foerster
(Counsel to AGC)

Enclosures

cc: Michael Kennedy, General Counsel, AGC
Michael J. Steel, Morrison & Foerster