

California Environmental Protection Agency
 **Air Resources Board**

Final Statement of Reasons for Rulemaking
Including Summary of Comments and Agency Responses

**PUBLIC HEARING TO CONSIDER THE ADOPTION OF PROPOSED
MODIFICATIONS TO THE REGULATION FOR IN-USE OFF-ROAD
DIESEL-FUELED FLEETS**

Public Hearing Date: January 22, 2009
Agenda Item No.: 09-1-4

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State of California
AIR RESOURCES BOARD

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I GENERAL

In this rulemaking, the Air Resources Board (ARB, Board) approved modifications to the regulation for In-Use Off-Road Diesel Fueled Fleets (off-road regulation), set forth in California Code of Regulations (Cal. Code Regs.), title 13, sections 2449 through 2449.3. These modifications include amending:

- Section 2449.2(a)(2)(A)2.a.i to extend the deadline for receiving double credits for early installation of particulate matter (PM) retrofits by 10 months from March 1, 2009 to January 1, 2010;
- Section 2449(d)(4)(A) to modify the changing-fleet-size requirements to not penalize fleets that change from small fleets to larger fleets, and then subsequently become a small fleet again;
- Section 2449(h)(8) to clarify that all sellers, and not just dealers, of off-road vehicles must maintain records of the disclosure of regulation applicability;
- Section 2449.1(a)(2)(A)5. to clarify that the provision for delay of Tier 1 turnover exempts Tier 1 vehicles from turnover only until the March 1, 2012, compliance deadline; and
- Section 2449(g)(1)(D) to clarify the reporting requirements for verified diesel emission control strategies (VDECS).

On December 4, 2008, ARB issued a notice for a public hearing to consider the modifications to the off-road regulation at the Board's January 22-23, 2009 hearing. A "Staff Report: Initial Statement of Reasons" (Staff Report), describing the rationale for the modifications, was also made available for public review and comment starting December 4, 2008. The text of the modifications, which includes amendments to sections 2449, 2449.1, 2449.2, and 2449.3 in title 13, CCR, was included as Appendix A, to the Staff Report. The Notice and Staff Report are incorporated by reference herein. These documents were also posted on the ARB's internet site for the rulemaking on December 4, 2008 at: <http://www.arb.ca.gov/regact/2009/ordiesl09/ordiesl09.htm> ("ARB's internet site").

On January 22, 2009, the Board conducted a public hearing to consider the staff's proposal for adoption of the modifications to the off-road regulation. Written and oral comments were received at the hearing, and the Board adopted Resolution 09-3, approving the proposed modifications to the off-road regulation with no changes.

This Final Statement of Reasons (FSOR) for this rulemaking summarizes written and oral comments the Board received on the proposed modifications to the off-road regulation during the formal rulemaking process and the ARB's responses to those comments.

Documents Incorporated by Reference. There are no documents incorporated by reference in title 13, Cal. Code Regs., section 2449, 2449.1, 2449.2, or 2449.3.

Fiscal Impacts. The fiscal impacts of the modifications to the off-road regulation are discussed below.

Costs to State Government and Local Agencies

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has prepared an estimate in accordance with instructions adopted by the Department of Finance, and determined that the regulatory action would not create overall costs or savings to any state agency or in federal funding to the state, costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other nondiscretionary cost or savings to state or local agencies.

The modification to extend early double credit will provide fleets additional time to install early VDECS, and thereby the opportunity to accumulate additional credits and spread out their compliance costs over several years, without increasing or decreasing the total cost of the regulation. The ability to spread out initial compliance costs will benefit the state, federal, and larger municipal fleets whose first compliance date is March 1, 2010, more than local municipalities that are small or medium fleets, because their earlier first compliance dates mean their need for early credit is more urgent.

Effect on Private Persons and Businesses

Pursuant to Government Code section 11346.5(a)(9), ARB has evaluated the potential economic impacts on representative private persons or businesses and the Executive Officer has determined that a representative private person and business would incur minimal, if any, cost impacts because of the modifications to the off-road regulation. The only amendment that would potentially result in additional costs is including all sellers in the disclosure retention provision.

However, the cost of retaining such records is expected to be negligible. In addition, it was staff's original intent to include all sellers in the disclosure requirements, and thus any additional cost of maintaining these records was accounted for in the statewide cost analysis for the in-use off-road regulation when it was originally adopted.

As discussed previously, the modification to extend early double credit is not expected to result in any additional costs or savings on businesses overall. Instead, it will provide a benefit to them by enabling fleets additional time to install early VDECS, and thereby accumulate credit that will enable them to spread out their compliance costs in later years.

The Executive Officer has also determined, pursuant to CCR, title 1, section 4, that the regulatory action may affect small businesses.

Effect on State Economy

Pursuant to Government Code section 11346.5(a)(8), the Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code sections 11346.5(a)(10) and 11346.3(b), the Executive Officer has further determined that the regulatory action would not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the regulatory action and its effect on California businesses can be found in the ISOR.

Consideration of Alternatives. The modifications to the off-road regulation were the subject of discussions involving staff and the affected owners, operators, and sellers of in-use off-road diesel vehicles in California. A discussion of alternatives to the proposed modifications to the off-road regulation is found in Chapter VII of the Staff Report. For the reasons set forth in the Staff Report, staff's comments and responses at the hearings, and this FSOR, the Board has determined that none of the alternatives considered by the agency would be more effective in carrying out the purpose for which the modifications to the off-road regulation were proposed or would be as effective and less burdensome to affected private persons than the action taken by the Board.

II SUMMARY OF COMMENTS AND AGENCY RESPONSES

The Board received numerous written and oral comments in the formal 45-day rulemaking comment period leading up to the January 2009 Board meeting, beginning with the notice publication December 4, 2008, and ending with the closing of the record on January 22, 2009. Comments that were not pertinent to modifying the off-road regulation or to the proposed modifications were not included in this document. Table II-1 below lists commenters that submitted timely, pertinent comments, and identifies the date and form of their comments. Following the table is a list of those comments that were wholly in support of the modifications to the off-road regulation.

Following those lists is a summary of each objection or recommendation regarding the proposed action, together with an agency response providing an explanation of how the proposed action has been changed to accommodate the objection or recommendation or the reasons for making no change. The comments have been grouped by topic whenever possible. Comments not involving objections or recommendations specifically directed towards the off-road regulation, the current rulemaking, or to the procedures followed by the ARB in this rulemaking are not summarized or responded to. Additionally, any other referenced documents are not summarized below.

Comments during the 45-day Comment Period Up to and at the Board Hearing

Table II-1 below lists the comments pertinent to the rulemaking that were received during the 45-day comment period up to and at the Board Hearing and the Reference Code assigned to each.

Table II-1 Comments From Up To and At the Board Hearing

Reference Code	Commenter	Affiliation	Date Received
AGC1	Corash, Michelle	Associated General Contractors	January 22, 2009
AGC2	Steel, Michael	Associated General Contractors	January 22, 2009
ALAC	Holmes-Gen, Bonnie	American Lung Association of California	January 22, 2009
ATA1	Pohle, Timothy	Air Transport Association	January 21, 2009
ATA2	Pohle, Tim	Air Transport Association	January 22, 2009
BAYCITIES	Michaelson, Rod	Bay Cities Paving and Grading	January 22, 2009
CAMARILLO1	Porcher, Dave	Camarillo Engineering Inc.	January 5, 2009

Reference Code	Commenter	Affiliation	Date Received
CAMARILLO2	Porcher, Dave	Camarillo Engineering	January 22, 2009
CIAQC1	Lewis, Michael	Construction Industry Air Quality Coal	January 21, 2009
CIAQC2	Lewis, Mike	Construction Industry Air Quality Coalition	January 22, 2009
CIAQC3	Miller, Clayton	Construction Industry Air Quality Coalition	January 22, 2009
CLEAIRE1	Edgar, Bradley	Cleaire Advanced Emission Controls	January 8, 2009
CLEAIRE2	Swenson, Tom	Cleaire Advanced Emission Controls	January 22, 2009
COLLINS	Collins, Lesli	Collins, Lesli	January 20, 2009
CRAM	Cram, Rob	Cram, Rob	January 21, 2009
DDGE	Defty, Spencer	Diamond D General Engineering	January 21, 2009
DOWNS	Ambrose, Brant	Downs Equipment Rental	January 22, 2009
ECCO	Rohman, Gary	ECCO Equipment Corporation	January 22, 2009
GCI1	Pfeifer, Nick	Granite Construction Inc.	January 20, 2009
GCI2	Pfeifer, Nick	Granite Construction Inc.	January 22, 2009
KEY	Key, Michael	Key, Michael	December 5, 2008
KNAPP	Knapp, Greg	Knapp, Greg	January 27, 2009
LEWIS	Lewis, Michael	Lewis, Michael	January 27, 2009
MCCLELLAND	McClelland, John	McClelland, John	January 19, 2009
MCDONALD1	McDonald, Steve	McDonald, Steve	December 10, 2008
MCDONALD2	McDonald, Steve	McDonald, Steve	December 17, 2008
MECA1	Brezny, Rasto	Manufacturers of Emission Controls Association	January 21, 2009
MECA2	Kubsch, Joe	Manufacturers Emissions Control Association	January 22, 2009

Reference Code	Commenter	Affiliation	Date Received
NETT	Mannan, MA	Nett Technologies	January 21, 2009
NRDC	Bailey, Diane	Natural Resources Defense Council	January 22, 2009
NWS	Thomas, James	Neighbors Well Services	January 22, 2009
QUINN	Shepherd, Bob	Quinn Group	January 19, 2009
RCRC1	Pitto, Mary	Regional Council of Rural Counties	January 27, 2009
RCRC2	Pitto, Mary	Regional Council of Rural Counties	January 22, 2009
REED	Reed MD, John	Reed MD, John	December 29, 2008
SCCA1	Davis, Bill	Southern California Contractors Association	January 27, 2009
SCCA2	Davis, Bill	Southern California Contractors Association	January 22, 2009
SIERRA	Bray, Andrew	Sierra at Tahoe Ski Resort	January 22, 2009
SYBLON	Hunt, Jim	Syblon Reid	January 22, 2009
UCS1	Anair, Don	Union of Concerned Scientists	January 8, 2009
UCS2	Anair, Don	Union of Concerned Scientists	January 22, 2009
VCMI	Dietl, Bruno	Vulcan Construction & Maintenance, Inc.	January 21, 2009
WIPF	Wipf, Ernest	Wipf, Ernest	December 11, 2008

Of the comments above in Table II-1, the following Reference Codes pertain to comments that were wholly in support of the modifications to the off-road regulation. If a comment was partially in support of the modifications to the off-road regulation but also suggested changes to the proposed modifications, it is not included below, but is responded to in the agency responses later in this document.

Reference Code
ALAC
CAMARILLO1
CAMARILLO2
CLEAIRE1
CLEAIRE2
CRAM
MECA1
MECA2
NETT
NRDC
SIERRA
UCS2

Sections 1. through 4. below respond to those comments directly related to the modifications to the off-road regulation approved by the Board in January 2009. In addition to these comments, some comments received did not directly pertain to the modifications to the off-road regulation, but were requests for additional modifications because of the current economic downturn. Although these comments do not pertain directly to the modifications to the off-road regulation, because they are peripherally relevant to the rulemaking, staff has responded to them as well below. Finally, staff also received several comments pertaining to the costs, technical feasibility or other provisions of the regulation. Although many of these comments were responded to in the FSOR for the original regulation and do not pertain directly to the modifications to the off-road regulation, staff has restated some of these responses below for completeness and because they are peripherally relevant to the regulatory action covered by this FSOR.

1. Requirements for Fleet Size Changes

Comment: The proposed requirement for fleet size changes is a step in the right direction. However, this change to the regulation should be afforded to the large fleets also. The large fleets will feel the negative effects of these regulations years before the medium and small fleets. These large fleets are also the largest contributors to the state's income through taxes and allowing them the ability to move from medium to large as their dormant fleets become active again will further assist them in this economic downturn and will help to support that tax base. (MCDONALD1)(MCDONALD2)

Agency Response: We (ARB staff) believe that the commenter above misunderstood the proposed revisions for the changing fleet size requirements. Under section 2449(d)(4)(A) of the regulation, a medium fleet increases in size and becomes a large fleet, that fleet has two years to phase into the larger fleet

requirements (which in some years are stricter than the medium fleet requirements). The same is true for a small fleet that increases in size and becomes a medium or large fleet. This is intended to give fleets time to adjust to and comply with the stricter requirements of the larger fleet size category. Additionally, if a fleet ever shrinks into a smaller fleet size category (for example, from large to medium, or from medium to small), that fleet is allowed to start complying immediately with the smaller fleet size requirements. Overall, the changing fleet size provisions allow a growing fleet to have extra time to comply with the new, stricter requirements, while at the same time allowing fleets that shrink to take advantage of the smaller fleet's less stringent requirements immediately.

Originally, this provision also stated that if a small fleet grew into a medium or large fleet, and then subsequently reverted back to a small fleet, that fleet was required to keep meeting the medium or large fleet requirements for two years after shrinking back into the small fleet size category. As stated in the Staff Report for these amendments, this provision was initially developed to prevent fleets from taking advantage of a potential loophole under the regulation by deliberately growing and then shrinking a fleet's size and being subject only to the small fleet requirements. However, after further review of this requirement staff has determined that the possible complexity of this provision in practice, especially in situations where a fleet may frequently change in size over time, far outweighs the potential for fleets to abuse the changing fleet size provisions.

The commenter appears to want to relax requirements for large fleets that change fleet size; however, as described above, the current changing fleet size provisions already provides for this. This aspect of the provision was not affected by the amendments adopted in January 2009. Therefore, staff believes that the commenter's concern is already addressed in the current provisions for changing fleet sizes.

2. Tier 1 Delay

Comment: We do not support the changes to the Tier 1 delay. Whenever you repower a Tier 0 to a Tier 1, you realize a 58 percent reduction in PM and a 55 percent reduction in NOx.

Those Tiers 1s have been generating those reductions for anywhere between eight and 12 years. During the time of the development of the regulation, this was a small incentive for the Tier 1 fleets and we believe it should remain the same. (NWS)

Agency Response: As stated in the Staff Report for these amendments, the intent of the Tier 1 delay provision in section 2449.1(a)(2)(A)5. of the regulation as approved by the Board in 2007 was always to exempt Tier 1 vehicles from the turnover requirements of the regulation until a fleet was required to meet their

March 1, 2013, compliance deadline. That is, the original regulation language was intended to require fleets to begin turning over their Tier 1 vehicles between March 1, 2012 and March 1, 2013, to meet the March 1, 2013, compliance requirements. The intent of these amendments was to make that intent clear, rather than to change any requirements. A misunderstanding of this provision is most likely why the commenter above believed this provision was changing. The fact that commenter NWS misunderstood the original language supports the need for clarifying the language, as the amendments to section 2449.1(a)(2)(A)5. do.

3. Monitor Emissions Losses from Amendments

Comment: While we support the proposed amendments, we urge staff and the Board to build in requirements for monitoring their effects on emissions and allow for additional modifications if needed to preserve the regulation's emission reduction benefits. Furthermore we strongly oppose any rollbacks of compliance deadlines.

Specifically, we request that CARB consider the following:

- **Double Credit Extension:** Without data on the number of fleets that have taken advantage of the early compliance provision so far, it is even harder to predict how many fleets would take advantage of the proposed extension going forward. This creates great uncertainty on how the proposed extension would impact early PM clean up and how early actions would influence future emissions reductions. CARB should monitor how this provision is affecting emission reductions and adjust the rule to reduce available credits if staff discovers that emissions goals are falling short.
- **Fleet Size Modifications:** CARB should monitor this proposed modification to ensure that in practice, fleets do not exploit this provision. Emissions reductions could be lost. (UCS1)

Agency Response: We agree that the effects of these amendments should be monitored, and will be doing so through the regulatory implementation process. In addition, if it appears that these amendments are causing a shortfall in emissions reductions expected from this regulation, staff will report this information during one of the future scheduled updates to the Board.

We would also like to clarify that these amendments to the regulation do not lessen the overall requirements of the regulation.

4. Double Credit Not Enough to Encourage Retrofitting

Comment: Allowing the extension of the double credit for early PM retrofits by 10 months will provide the additional time needed for device manufacturers to sort out the additional requirements put on them by the ARB during the ever changing verification process. However, it will not make cash available for those employers required to purchase and install those retrofit devices. Unlike our State and Federal Governments, employers usually don't spend cash that they don't have or foresee as income and therefore the purchase of these devices will be delayed until such a time as the work load will justify and pay for their purchase. Also, on pages 14 and 19 of the Staff Report, I believe that staff has once again overstated their VDECS estimates. The burden of installing VDECS to meet the staff projection of 30 percent by 2011 will fall largely upon the shoulder of the large fleets to the tune of approximately 59,500 units, as medium fleets first compliance is 2013 and small in 2015, and I would disagree that medium and small fleets will find the double credit to be a large enough benefit to retrofit early. Particularly when cash flow is low. (MCDONALD1)(MCDONALD2)

Comment: We appreciate the proposal to extend double-credit for early PM retrofit, but those devices are not yet proven to be safe or economically feasible at this point. I urge CARB to please DO MORE! There are still too many flaws and unclarified questions that must be answered! (COLLINS)

Comment: The double credit incentive does not seem to be enough incentive to overcome the obstacles to installation of the devices and will not produce the results that ARB had anticipated. Without substantial double-credit, the ARB cost analysis of cost of compliance with the rule needs to be revised. (CIAQC1)

Agency Response: Staff acknowledges the impact that the current economic recession is having on some fleets, and realizes that some fleets may not be able to take advantage of the early VDECS double credit because of a lack of funds. However, at the July 2009 Board Hearing, the deadline for receiving VDECS double credit was extended further for small and medium fleets, until March 1, 2012. Therefore, even if they choose to wait until after the current economic recession eases, small and medium fleets will still be able to take advantage of the early credit available to help spread out compliance costs. For further discussion on VDECS costs, please see the responses in Sections 6 and 11 below.

Commenter CIAQC1 stated that the cost analysis of the regulation needs to be revised if substantial double credit is not received by fleets. However, as stated in the Staff Report and Technical Support Document (TSD) for the original regulation, no early retrofitting was modeled in the original cost analysis. If any fleets take advantage of the early double credit provisions, a cost savings for those fleets will result. Therefore, the statewide cost of the regulation in the early years of implementation could only decrease from what was estimated.

Additionally, the commenters above suggested that double credit for early VDECS installations was not enough to encourage fleets to retrofit vehicles early; however, staff disagrees with this statement. Although staff acknowledges that not all fleets will take advantage of the early retrofit credit, we believe that the double credit will be enough to spur some additional and early VDECS installations. Staff did not propose to give any additional credit (beyond double credit) because offering more than double credit could result in a further delay of VDECS installations, which could result in overall emissions disbenefits.

See response in Section 10 below regarding VDECS for a discussion of how the regulation only requires the use of VDECS when they can be installed and utilized safely.

5. Modify the Regulation Due To the Current Economic Downturn

Comment: CIAQC recognizes the need for the continued reduction of Particulate Matter, Oxides of Nitrogen and visible emissions from off-road diesel vehicles; we are convinced, however, that the staff proposed amendments to the regulation do not provide all that is needed at this time for it to succeed. (CIAQC1)

Comment: Today we come before you to make the case for additional amendments to the off-road diesel regulation, which is also far from perfect.

During this process -- and I was certainly an active participant in it, there were issues about the economic analysis that stated that the construction industry could easily afford to replace all of its equipment over the next ten years.

We have provided a chart that illustrates these economic projections and the terrible reality that our industry faces today.

Madame Chairman, you described our current economic situation as recession. For the construction industry, it's a depression. We have unemployment well in excess of 25 percent in most of our union trades, and it's going to get far, far worse. (SCCA2)

Comment: We filed a petition on December 15th to modify the rule to reflect the dramatic change in the economic, technological, and for that matter, emissions conditions as contrasted to those that were anticipated when you adopted the rule in 2007.

The double credit modification is appreciated and is helpful, but it is far short of what is needed today.

What we are seeking is simply your endorsement of our quest to the staff to engage in a process of looking at the rule and what modifications are necessary

and are appropriate to reflect today's realities. And in order to keep our feet to the fire. And because of the eminence of the short term deadlines, that you give us a short term deadline for getting back to you. And in fact that you have us report to you every month on our progress.

Those discussions should also include taking a look at what revisions might be appropriate to allow us to access federal and State funding from which we are currently barred, because we are talking about required emissions reductions. And that seems to be counterproductive.

Now why is this? The fact is that while the staff has described to you enforcement policies, the economic and technological realities that you're hearing about are forcing large parts of this industry to be out of compliance by the time the near-term deadlines come or to be out of business. (AGC1)

Comment: Moreover, we believe it is prudent for the Board to consider an extension of the initial compliance dates of the regulation concurrently with the extension of the double credit deadline. While an extension of the initial compliance dates of the regulation may create a concern as to a loss of emission reductions; the current state of the economy is creating its own emissions reduction. (GCI1)

Comment: When the In-Use Off-Road Diesel Fleet Rule was adopted on July 26, 2007, California's economy and California's construction industry were both booming. Since that time, we have seen the mortgage meltdown, the credit crunch, and the Wall Street bailout all contribute to the economic recession for California and the construction industry. This means that we are doing less work and contributing fewer emissions.

A reduction of construction work over the past 18 months has led to a significant decrease in equipment and utilization across California. This decrease in utilization correlates directly with a reduction of emissions purely through economic factors. Adding to the absolute reduction in emissions is the fact that the equipment still being operating is newer and emits fewer pollutants than the equipment being parked.

CARB Staff and the Board should take into consideration the current economically driving reduction of emissions relative to the modeling conducted for compliance with the Off-road rule and adjust the initial compliance dates accordingly. (GCI1)

Comment: Re-evaluate the schedule and timing for the rule. The most appropriate approach for the ARB is to give itself time to redo the rule. Register the fleet, if you must, enforce the idling, identification and sales provisions. Fix this before its failures undo the intent of the effort. (CIAQC1)

Comment: ATA has consistently supported ARB's emission reduction goals for the regulated vehicles, including airport ground support equipment (GSE), but cannot support the inefficient and unduly burdensome approach for achieving those goals embodied in the ORD Rule.

As more fully explained in the attached, the proposed amendments are welcome, but are not nearly adequate to reflect the real impact of the economic downturn and the lack of verified retrofits feasible for airport ground support equipment (GSE). As a result of the dramatic economic downturn, ATA believes equipment use has dropped far enough so that the near-term emission reductions targeted by the ORD Rule already have been achieved. There is no emission or economic basis for imposing the Rule's near-term requirements on GSE.

In this environment, the emission requirements of the Rule should be deferred, at least as applied to GSE, long enough to allow a complete assessment of the measures needed to achieve emissions reduction targets in light of the economic downturn and empirical fleet data due in April, June, and August, 2009 (for large, medium, and small fleets, respectively). ATA commits to work in full cooperation with Staff in this effort, so that it can be completed as expeditiously as possible. Deferring the ORD Rule's requirements for GSE would be as effective in carrying out the purpose of the Rule as proceeding to implement on the present schedule, and would be less burdensome on the regulated community. (ATA1)

Comment: As you well know, the California economy as a whole and the construction industry in particular, are in a deep recession. The detailed comments below will illustrate how this downturn itself has caused emission reductions from the subject engines equal to or in excess of this regulation. Lehigh Hanson proposes that the full implementation of this rule be delayed until economic conditions make compliance feasible.

At this time in January 2009, the California Construction industry is recording significantly depressed activity levels, largely caused by the worst housing market conditions in the US since the Great Depression. The related credit availability crisis has also contributed to the reduction in construction spending.

As the statistics describe, the drop in construction activity alone has equaled or exceeded the proposed ORD PM emission reductions required by the regulation. This reduction has come at a great cost to the California economy.

It is proposed that the implementation of the ORD regulation be delayed until Construction and Mining industry activity levels begin to rise and then proceed at a pace that will allow attainment of the 2020 PM emissions target.

This delay will also allow the implementation problems discussed above (and others) to be addressed and hopefully solved. (KNAPP)

Comment: I'd also like to make a comment that I would request that the Board consider postponement of the regulatory deadlines concurrently with the postponement of the early credit deadline. I don't make this comment lightly. I realize it's a huge shift in the regulation. But I think given the current economic downturn, the current decrease in operating hours, fuel consumption, the emissions coming out of the stacks of equipment across the state has simply gone down since the regulation was adopted. (GCI2)

Comment: The good news is that the environmental impact of this economic downturn has been a positive one. Lower overall emissions. Fuel consumption for our fleet has dropped from 1.2 million gallons annually in 2006 to under 600,000 gallons annually last year. Our hours of utilization have dropped by more than 50 percent. Those are real emissions reductions. But we get no credit for them. If we were to receive credit for them, that would be two-and-a-half years of PM credit and almost five years under the NOx portion of the rule.

To conclude, in light of the current economic downturn, soon to be known as the depression, I think that the Board should consider what AGC has suggested and delay the implementation of the rule. (DOWNS)

Comment: I think though that you really cannot deny that we are in a very severe economic crisis with a very severe downturn in construction activity.

We're asking that given these changed circumstances that the staff work with the industry and other stakeholders to take a hard look at what the data yields in March or April, what the actual facts are, and that we make decisions about whether this rule needs to be modified or can be modified based on facts.

The construction industry needs your help. It needs the staff to work with us to evaluate this data and look at these near term deadlines and determine whether there is some flexibility there because of the economic downturn.

What we're saying is that given this current environment, you actually have some room to breath, some flexibility here. And we ought to take that opportunity and take a hard look at whether there are ways the rule can be modified without impairing public health given the economic downturn to give some breathing room to these companies so they can survive. (AGC2)

Comment: California Air Resources Board's new emission standards have been out of reach for many contractors from the start. We feel that CARB's efforts are noble, but over ambitious. Many companies were proactive and opted to purchase the highest tier equipment available through the last decade. The current rules are punishing these firms who took a proactive position to clean up their fleets and lower their carbon foot prints far ahead of the state's ruling. These efforts have come at great expense to these firms with anticipation that they would be rewarded. While their competitors have been rewarded by the

state for their continued use of non tier high emission output equipment that is low costs.

Proactive firms that have taken on debt for years to come and are now faced with the dilemma of having to update their fleets once again as the technology has outpaced the life of their fleets. All this while still having to pay off some of their existing debt on early tier compliant equipment. This early tier equipment has a low residual value due to the CARB's ambitious goals, thus further punishing proactive companies for their noble efforts. All this has happened during this economic down turn that has effected off road fleets more than any other sector in the business community.

For these firms that have made a real attempt to do the right thing this has come as a shock. CARB should work with the companies that can demonstrate their proactive efforts to clean up their fleet emissions during the early stages. These companies have benefitted the state's air quality for the past decade, and should be rewarded for these efforts.

Furthermore, CARB's current goals are far over reaching for our industries current economic time. The state will force quality companies to face hard decisions to either close their doors or have to greatly down size their companies to stay in business. These companies will also be forced to pass this additional cost on to their customer base that will further add to the economic crisis we are facing. (DDGE)

Comment: As a company, we're behind you. We don't have a problem meeting your requirements and your goals. We have a problem paying for them, especially in the next year or two.

So a lot of things are not going our way right now. Things will get better. But your consideration and action on AGC's recommendations before you will go a long way towards ensuring our survival the next couple of years. (SYBLON)

Comment: I would also ask that the ARB reconsider the time frames and the impact of these regulations with respect to our current financial situation as a whole on the employer. (MCDONALD1)(MCDONALD2)

Comment: It is economically impossible for ECCO to consider the compliance mandates at this time. And ECCO is respectfully requesting your help with this regulation so that we even have any possibility of making it. (ECCO)

Comment: Please don't force so many of us California Contractors out of business during this down turn in the economy! (COLLINS)

Comment: It is impossible to evaluate the impact of the off-road regulation without examining the current economic state of the construction industry in

California. The picture has changed dramatically since 2006 when the staff compiled their original optimistic assumptions about the future of the industry. Not only were the ARB assumptions way off base, but the framework of the existing rule goes well beyond the economy in crippling the industry in California. We believe that significant and substantial relief is warranted given these facts.

1. Currently there are 120,000 construction workers unemployed and the projection is for 200,000 to be unemployed by the end of 2009. ARB assumed only increases in the size and operation of the industry and the fleet.
2. Emissions from construction activity have dropped dramatically. Operating Engineers' hours, the individuals who operate this heavy duty equipment, are down over 28%. Estimates place the hours at more than a 35% reduction or more by the end of 2009. ARB's assumptions never anticipated a downturn in the economy, the industry or its capacity to emit.
3. Some of the largest contractors, with the largest fleets, report having more than 50% of their fleets parked since August of 2008. Small and medium size fleets are faring no better. This condition was not included in ARB staff's original projections.
4. Off-Road diesel fuel consumption used by contractors has declined by over 30%. There is a virtual one-for-one correlation between operator unemployment, machine utilization and fuel consumption. ARB staff recently assumed only a 10% reduction. By not attempting to corroborate the industry specific data with the Board of Equalization's off-road fuel data to tease out just the construction portion ARB's emissions estimates are grossly overstated.
5. Equipment sales and auction data indicate that more equipment has left the state than has been purchased new in California indicating an overall shrinkage in the number of vehicles in California. This is the exact opposite of what ARB staff estimated.
6. A sample of 12 fleets ranging in size from 16 to 1000 machines reveals that every fleet has shrunk in both the number of engines and total horsepower, AND that the make-up of engine tiers matches what ARB projected it to be in 2010. ARB did not anticipate this rapid transformation of the fleet.

Put simply, things are not at all what ARB staff projected. Emissions are down substantially, based on fuel usage, hours of operation, employment and numbers of idled equipment and will continue to decline for the next year or more. Further, the fleet is smaller than projected, by a substantial margin and continuing to shrink. In addition, the fleet is reducing older equipment quicker and the percentage of newer equipment is increasing faster than ARB projected, putting the fleet ahead of ARB's projections for emissions reductions.

Given the smaller and newer California off-road fleet there is little likelihood that an overnight improvement in the economy (which isn't going to happen anyway) can produce a spike in emissions from the construction industry as the staff would have everyone believe, as older equipment is prohibited from re-entering the fleet.

A re-examination of the economic and emission impacts of the rule is warranted and necessary if ARB and the Administration are interested in maintaining a healthy construction industry as well as a healthy environment. (CIAQC1)

Comment: I respectfully request that the rulemaking for New Limits on Emissions from Existing Fleets of Off-Road Diesel Equipment be reopened and re-evaluated in light of the serious downturn in the economy.

Decline in the Consumption of Diesel Fuel:

Consumption of diesel fuel for our company has declined by 79% as compared to a normal year.

Resale Value of Equipment in an Existing Fleet:

In anticipation of the new California Air Resources Board rules our company sold at an auction all except one Tier 0 equipment. Our observation has been that resale values of older equipment have drastically declined.

Credit Being Extended to Construction Contractors:

We are experiencing severe restrictions on available credits in addition to very tight covenants.

I strongly believe it would be in the best interest of Californians to revisit the costly new CARB rules, especially in light of the troublesome economy automatically resulting in reduced emissions. Strict enforcement will result in many contractor's going out of business. (VCMI)

Comment: ATA always has supported achieving the emissions reductions sought under the ORD Rule, but has not supported the regulation as currently structured. The proposed amendments are welcome, but not nearly enough. As a result of the dramatic economic downturn, ATA believes equipment use has dropped far enough so that the near-term emission reductions targeted by the ORD Rule already have been achieved. There is no emissions or economic basis for imposing the Rule's near-term requirements on airport ground support equipment (GSE).

The emissions requirements of the Rule should be deferred, at least as applied to GSE, long enough to allow a complete assessment of the measures needed to achieve emissions reduction targets in light of the economic downturn and the empirical fleet data due in April, June, and August, 2009, for large, medium, and small fleets, respectively.

The present regulatory structure cannot be justified economically, even in relatively good economic conditions.

The economic downturn has been and likely will continue to be very painful; the silver lining is that it has resulted in drastically reduced emissions as a result of the reduction in equipment activity.

The Near-Term Reductions in GSE Emissions Will be Achieved Even Without the ORD Rule Due to the Dramatic Economic Downturn.

GSE does not operate unless planes are flying – when planes do fly, GSE does not operate at the same levels if servicing reduced passenger and cargo loads. The ORD Rule was premised on projected airline activity growth:

ARB Projected Growth in GSE Population (Percent)

	2008	2010	2011
from 2000 Baseline	18.8%	23.1%	28.5%
from 2004 Baseline	7.9%	11.8%	16.7%

Source: Growth Rates applied GSE in OFFROAD2007 Model
In fact, aircraft operations in California have dropped dramatically.

Change in Scheduled Aircraft Activity (Percent)

	2008	2009
from 2000 Baseline	-11.2%	-19.5%
from 2004 Baseline	1.2%	- 8.2%

Source: ATA, based on Seabury APGDat airline schedules.

Data from California's large airports shows the decline is even more dramatic at the airports in Non-Attainment Areas (data subject to update).

Actual Airline Activity as Reported by Large & Medium Hub Airports (LAX, SAN, SFO, BUR, OAK, ONT, SJC, SMF, SNA) (YTD November)

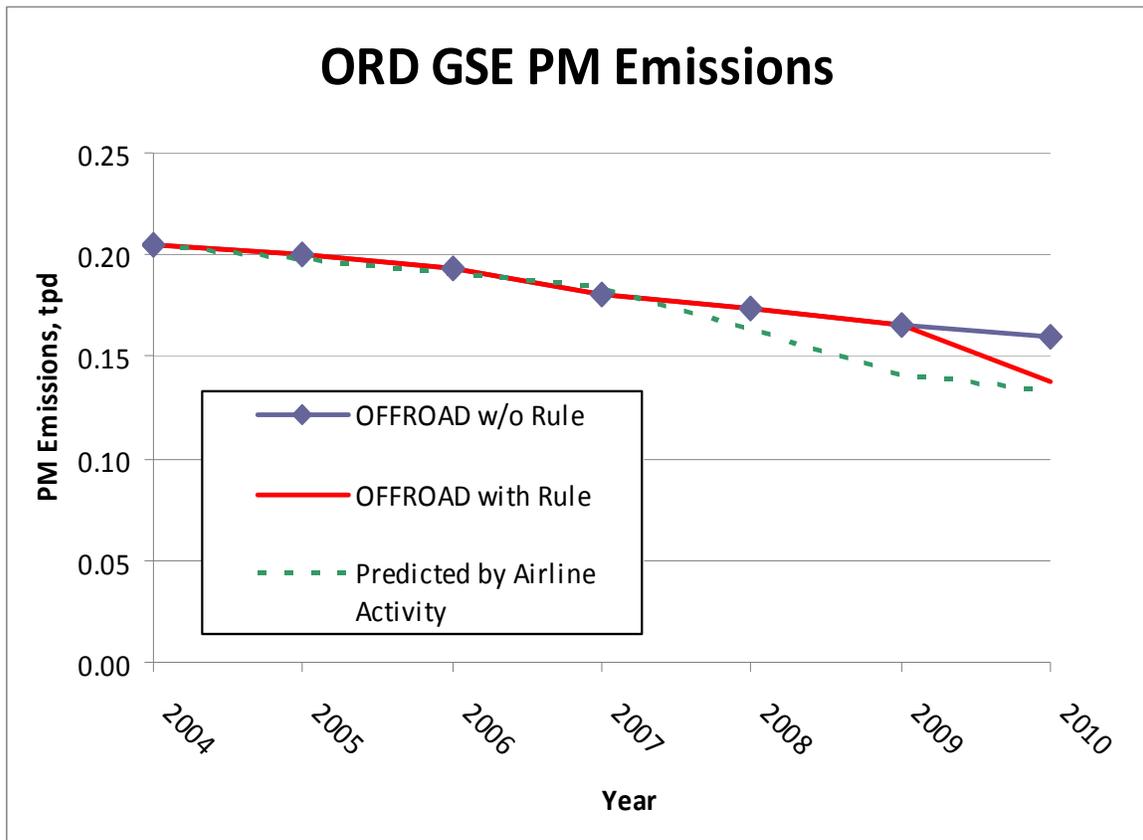
	2004	2007	2008	
				Δ from 2004
Aircraft Movements*	1,234,672	1,241,754	1,084,870	-12.1 %
Passengers	152,015,717	159,926,891	139,541,884	-8.2 %
Cargo (tons)*	3,245,333	3,196,645	2,367,975	-27.0 %

* Excludes Oakland because data not available

Airlines do not anticipate restoring service levels in California in the foreseeable future, with further reductions possible, and already are reducing GSE fleet sizes.

The ORD Rule was intended to reduce PM emissions by 14% compared to the baseline in 2010. In 2011, the Rule was to achieve about a 25% PM reduction. See Initial Statement of Reasons for Proposed Regulation of In-Use Off-Road Diesel Vehicles (April 2007) at 34 & 35, Figure VI-2 (“ISOR”).

Under any reasonable scenario, GSE emissions will remain below the levels targeted by the ORD Rule at least through 2010 or 2011, even without the Rule’s requirements.



The high penetration of electric GSE in the South Coast, and the de minimis GSE population in the San Joaquin, further ensure that deferring the Rule for GSE will not adversely effect South Coast and San Joaquin attainment efforts.

ARB Staff Has Understated the Impact of the Economic Downturn

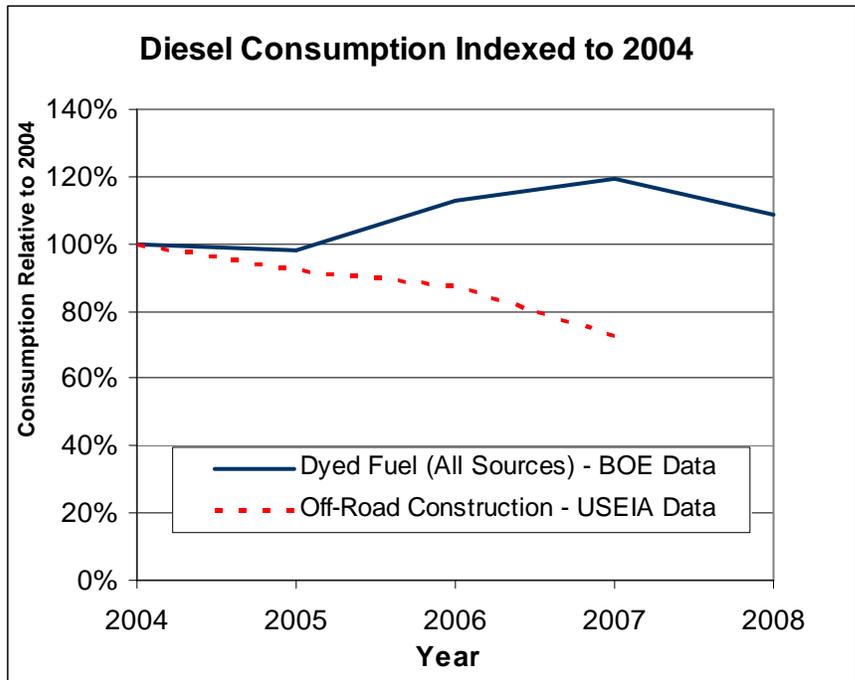
After issuing the proposed Amendments, Staff used data from the California Board of Equalization (BOE) to conclude that regulated vehicle activity in 2008 was slightly higher than in 2004, and is consistent with the assumptions underlying the ORD Rule.

Staff correctly acknowledged that “the specific changes in fuel use by fleets affected by the regulation (for example, the construction industry) cannot be derived from this data,” but incorrectly assumed that the data “is likely reflective of general trends from all users of off-road diesel fuel.” Staff Report at 39.

Fuel use data from the U.S. Energy Information Agency (U.S. EIA) establishes that diesel use in the sectors covered by the ORD Rule is down significantly.

Of the sectors covered by the ORD Rule, only off-road construction diesel use is tracked as a separate category by the U.S. EIA. That data shows diesel use for off-road construction has declined steadily since 2004 and, as of 2007, was 27% below 2004 levels.¹ This sector accounts for at least 50% of emissions covered by the regulation.

Data from the U.S. EIA shows diesel use in the rail sector has remained high and is now 2.5 times larger than construction use; marine use is 127% higher than in 2004. The inescapable conclusion is that the inclusion of other sectors in the BOE data masks the dramatic declines in usage in the construction sector.



With the corroborating economic data from the airline and construction industry, one can only conclude that diesel use in these sectors has declined dramatically.

The Rule’s Economic Basis is Gone -- Implementing it Now Will Cause Needless Economic Harm.

¹ U.S. Energy Information Administration, data available here: http://tonto.eia.doe.gov/dnav/pet/pet_cons_821use_dcu_SCA_a.htm

When adopted in July 2007, Staff concluded that the ORD Rule requirements were at “the economic limit of what industry could bear.” ISOR at 3 (emphasis added).

As the data above shows, airline economic activity has declined rapidly and the decline is accelerating.

Construction activity (50% of emissions covered by the Rule) has dropped at least as dramatically.

Given the economic crisis, the near-term Rule requirements are now plainly beyond “the economic limit of what industry could bear.”

Staff has not even estimated the job losses and economic impact of the ORD Rule in the current economy. (ATA1)

Comment: I came here to ask the Board, given the extraordinary economic circumstances that we find ourselves in, to step back and consider the effort or the effect of the economic downturn and how emissions reductions targeted by the rule can be achieved without afflicting unnecessary economic harm.

Let me be clear. The Air Transport Association has always supported the emission reduction targets of this rule. We understand how important it is to work with you to protect public health and the environment. I think the staff will agree that we've done that throughout this process and we continue to want to do that. I'm not here to ask you for a handout or a free pass. I'm asking you to take a breath and assess what in fact is needed in these circumstances to achieve the emission reduction targets that we all support.

We've submitted comments that you all should have which include data on the effect of the economic downturn. When you all pass this rule, you expected, as we did, that the air transport industry would grow. The fact is that we've contracted. There are far fewer passengers being transported, far less cargo, far fewer planes being operated. Even as we're speaking today, airlines are reporting their financial results and projecting that they're going to reduce capacity even further.

This means that emissions are down. And they're far below what was anticipated. Coupled with staff's conclusion over a year ago that the rule imposes requirements at the limits what industry could bear, there's simply no reason to barge ahead with a rule without taking time to consider what is needed and economically feasible to achieve the reductions we all support.

Pausing now won't hurt the environment. I think pausing will certainly cause unnecessary economic harm to our industry that's already hurting.

It seems to me that staff today -- and I don't want to put words in their mouth -- but it seems they're saying they need more information to assess the effect of the economic downturn. We agree with that. We don't think that the remedy is to simply monitor the situation. Because the fact is the first requirements are coming up quickly, and we need to work now to get ourselves in a position to comply. So if something needs to be done, its needs to be done now. (ATA2)

Comment: The projected ORD PM emission in 2010 were -26.2% from 2000 levels. The drastic reduction from 2000 levels in California Construction & Mining industry activity in 2007 -19.3%, and the projected levels for 2010, -26 to -32%, indicate that the economic conditions have equaled or exceeded the PM emission reductions that would have been attributed to the ORD regulatory program. (KNAPP)

Comment: And so it is that we come before you today to make the case for additional amendments to the off-road diesel regulation, which is far from perfect.

First among its flaws was the ludicrous economic analysis that showed how the construction industry could easily afford to replace all of its equipment over the next ten years.

We support the amendments before you today, but we also petition the Board to consider CIAQC's proposal to revisit this flawed regulation and get it right before implementation and enforcement. To do otherwise is to compound the flaws and watch the rule fail to meet its objectives of cleaning up emissions from the construction fleet. (SCCA1)

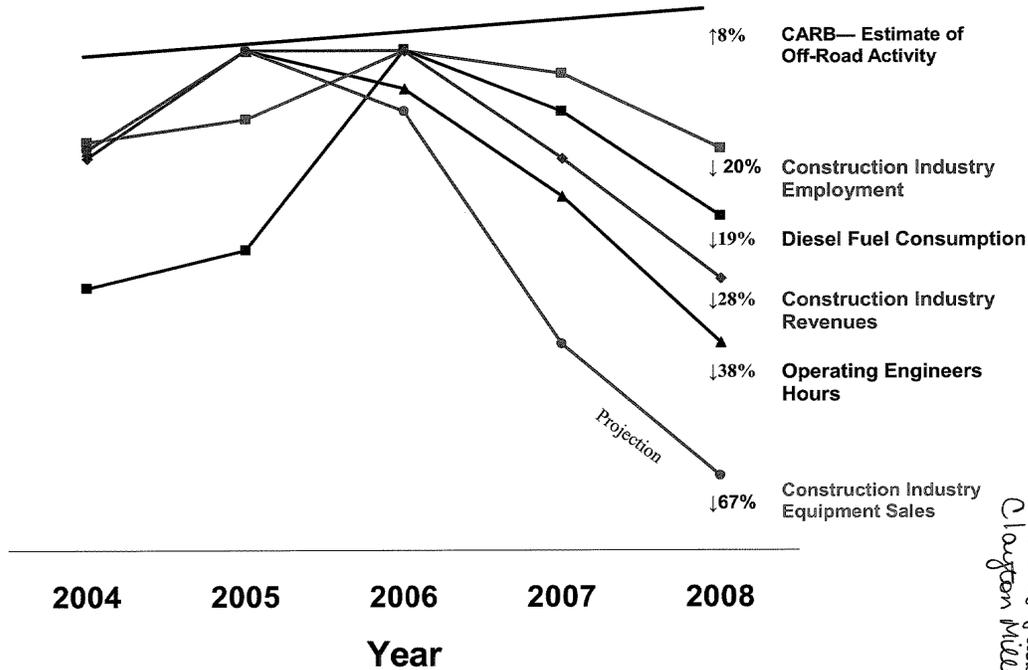
Comment: Essentially, everything in the construction industry peaked in July of '06, which we tried to tell your staff back when this rule was being adopted. And it's been going down and has shrunk considerably sense.

Most importantly, if you want to know what's happening with emissions, you have to look at operating engineers hours, because those are the guys that drive the equipment. Their hours are currently down 40 percent and expected to continue to drop for the next 18 months.

So if I can summarize, we think you need to make a very thorough and independent evaluation of economic impacts of the rule and the industry's ability to comply, particularly with regard to the safety issues. (CIAQC2)

Comment: (Submitted in conjunction with comment CIAQC2 above)

Construction Industry Activity Trends for the State of California



*Data for Construction Industry Revenues obtained from the [United States Bureau of Economic Analysis](#)

*Data for Construction Industry Employment obtained from [The U.S. Bureau of Labor Statistics](#)

*Data for Operating Engineer Hours obtained from [California Associated General Contractors](#)

*Data for Diesel Fuel Consumption obtained [The California Board of Equalization](#)

*Data for Construction Industry Equipment Sales Obtained from [Sales Tracking Association](#)

*Data for CARB – Estimate of Off-Road Activity obtained from [California Air Resources Board](#)

(LEWIS)

Comment: The last one I'd like to bring up is the current state of the economy. Our industry is changing drastically weekly. Our industry has reduced -- our customers have reduced their activity and the capital that they are investing in their facilities. This has resulted in a decline in our revenues, a decline in the utilization of our equipment, a decline in emissions. And our goal is just to survive this period of time.

Our capital budget has dried up to -- our capital budget has been reduced by 75 percent. We cannot pass any cost on to our customers. We're heading the other way. The compliance cost dollars are going away. And we ask that you take some time and just re-evaluate the current economy. It's changing drastically.

(NWS)

Comment: Staff also stated in their rule back in July 2007 somewhere between 1400 and 3400 jobs annually will be lost under this rule. That could be as many as 71,400 jobs over the 21-year-period. I suggest that that is the wrong time to knowingly put people out of work. I believe staff would find there is a closer relationship between poverty and public health than PM emissions and public health. (DOWNS)

Comment: As far as financially, hopefully I will be able to stand with you next year giving you an update. I'm not sure. We've bid a Caltrans job. The engineering estimates used to be where you would start was a \$60 million job. We got the job, 43 million. But tenth bidder was 49 million. And that's not unusual right now. We are just out there trying to stay alive right now.

It is a recession. Our emissions are a lot lower. We're not using our equipment. And we need your support to make sure we survive.

1989, the earthquakes, we were there taking apart the bridge where the people were trapped. If we have a disaster, we need the contractors -- the heavy civil engineering contractors to be around to help us out. (BAYCITIES)

Comment: This delay will also allow the implementation problems to be addressed and hopefully solved. (KNAPP)

Agency Response: As stated in the staff report for these amendments, we recognize that the economy is in a recession. However, at the time these amendments were proposed in January 2009, we did not have adequate data to determine the effect of this recession on off-road vehicle emissions. Because of the lack of data, we did not propose any additional amendments beyond extending the deadline for retrofit double credit to further relax the requirements of the regulation, even though many commenters (including CIAQC1, AGC2, ATA1, and ATA2) stated that the recession had downsized the size of the state's fleet of off-road vehicles, resulting in reduced fleet emissions.

Overall, while staff found that lowered fleet activity has likely decreased emissions from staff's previous estimates, changes in fleet turnover practices during an economic downturn, on the other hand, can result in increased emissions, that somewhat offset the reductions from reduced activity. Consequently, it was necessary to have a thorough understanding of the makeup of fleets and vehicle turnover to accurately estimate the emissions impact. At the time of the Board hearing, staff did not yet have adequate data to quantify the effect of changes in turnover practices, and is continuing to evaluate the data using fleets' initial reporting information from 2009 and data that will be reported in 2010. Staff is committed to return to the Board in December 2009 and report on current economic conditions and the most recent data reported during the 2009 initial reporting period of the regulation.

Beyond staff's commitment to evaluate and report on economic conditions and their effect of state fleets, shortly after the January 2009 Board Hearing, the California Legislature adopted Assembly Bill 8 2X (AB 8 2X, which is also often cited as ABX2 8), which directed ARB to make several amendments to the off-road regulation, as part of the California budget. These amendments, referred to as the AB 8 2X amendments were then approved by the Board at the July 23, 2009 Board Hearing.

The stated legislative intent of AB 8 2X is to provide economic relief and to preserve jobs in the construction industry, and effectively allow fleets heavily impacted by the recession to delay compliance with the in-use off-road regulation's requirements, especially in compliance years 2010 and 2011. The AB 8 2X amendments allow large fleets to claim both PM and NOx credits in 2010 and 2011 if they have experienced a reduction in fleet activity from July 2007 to March 2010. Additionally, the amendments allow for PM and NOx credit (for all fleet sizes) if the fleet has reduced its total horsepower from March 1, 2006 to March 1, 2010.

The AB 8 2X amendments also provide additional compliance flexibility by allowing large fleets the option of delaying a portion of their compliance obligations for 2011 and 2012 until 2013. The AB 8 2X amendments will significantly reduce compliance costs for off-road fleets over the next several years.

Although the commenters above requested the Board to take more actions to modify the regulation at the January 2009 Board Hearing, we believe the addition of the AB 8 2X amendments adequately addresses their concerns, but, as stated, staff is continuing to evaluate the issue. The commenters are correct that the regulation was developed during a period of industry growth and that the current economic downturn was unforeseeable when the regulation was developed. However, staff believes that the AB 8 2X amendments will give fleets additional flexibility during this downturn.

Commenter DDGE is concerned that ARB is punishing those fleets that have been proactive, and have upgraded their vehicles over the past several years. Staff does not believe this to be true. For fleets that have complied, the regulation provides a large number of early credits for actions previously taken to upgrade vehicles; this includes credits for repowers, exhaust retrofits and vehicle replacements and/or retirements. In addition, fleets that took action early to move to cleaner, higher tier vehicles have cleaner fleet averages and are therefore closer to meeting the regulation's fleet average targets than other fleets. Additionally, as stated in Chapter III.A.3 of the FSOR for the original regulation, staff does not believe that the regulation will decrease the value of most vehicles. The off-road vehicle market is a global one, and therefore the regulation alone is not expected to cause a drop in equipment value.

Commenter DOWNS expressed concern regarding the number of jobs lost over the course of the regulation; however, staff believes this commenter misinterpreted the original job loss estimates presented in Chapter XI of the TSD for the original regulation; these numbers were lower than the numbers presented by the commenter above. The original job loss analysis estimated that in its highest cost year, the regulation could result in a loss of 1,000 jobs across the California economy. However, a job loss estimate of this magnitude is not expected each year. Additionally, this estimate did not take into account jobs created by the regulation in areas such as exhaust retrofit manufacturing. Also, with the addition of the AB 8 2X amendments, many fleets will be able to spread out their compliance requirements (and costs) during the initial, more costly years of the regulation, therefore avoiding potential job losses.

Commenter KNAPP stated that delaying the regulation would allow ARB staff to solve any implementation problems that have arisen. However, staff believes that it is necessary to implement this regulation now to achieve necessary emissions reductions across the state, and does not believe there are severe implementation problems that justify delaying implementation of the regulation. Staff will continue to implement the regulation as scheduled, and will update the Board periodically on the status of any compliance issues that may have arisen during the course of implementation.

Commenter ATA2 argued that delaying the regulation now will not result in any harm to the environment; however, staff disagrees. As stated above, if it can not be definitively shown that emissions have decreased, delaying the regulation will result in a decrease in emissions benefits. Therefore, a delay in the regulation could harm the environment if a lack of emissions reductions occurs.

For a response to the comments requesting a change in the regulation due to the lack of current technology, please see the response in Section 6 below.

6. Modify the Regulation Due to the Lack of Technology

Comment: The continuing lag in technology makes a postponement of compliance dates a necessary and logical step.
(GC11)

Comment: While it is encouraging to see the development of retrofit technology over the past few months, the six VDECS currently verified for mobile off-road applications still only cover a fraction of Granite's fleet. Furthermore, the most recent verifications have only served to duplicate potential retrofit installations rather than to expand the pool of possible retrofits.

Granite's California fleet of off-highway diesel equipment is made up of approximately 1100 pieces of equipment totaling nearly 220,000 horsepower. Even if Granite is able to take full advantage of the double credit extension, the

task of retrofitting 110 machines/22,000 horsepower in the next year with limited technology available is a huge challenge.

To break down Granite's fleet, 600 of Granite's 1100 California machines (including most high-horsepower machines) do not have a verified VDECS. Of the 500 machines that do technically fall under a verification, 170 are in low-load applications that do not support the verification requirements. Taking into account additional requirements such as turbocharger arrangements, safety, operability, and feasibility, the number of machines in Granite's fleet that can realistically be retrofitted with a DPF falls to under 200, or less than 18% of Granite's fleet.

With the extension of the double credit deadline, Granite will be able to meet the 2010 requirements of the off-road regulation, but compliance beyond 2010 is not possible without extensive additional verifications. At this point, it is not possible for us to adequately plan or implement emissions reduction strategies beyond 2010 in the absence of viable technology. It imposes an oppressive burden if our industry is left to guess what technology may or may not become available in the next few years.

To conclude, Granite Construction is fully in favor of the proposed extension of double credit for compliance with the In-Use Off-Road Rule. Additionally, we hope you will consider an extension of the initial compliance dates of the regulation to provide more technological certainty, since this extension can be offset through realistic modeling adjustments to reflect existing conditions in the marketplace. (GCI1)

Comment: Re-evaluate the schedule and timing for the rule. With the crushing pressure of economic, technical and safety failures weighing on this regulation, the most appropriate approach for the ARB is to give itself time to redo the rule. Register the fleet, if you must, enforce the idling, identification and sales provisions. Fix this before its failures undo the intent of the effort. (CIAQC1)

Comment: CIAQC supports the proposed changes in the regulation but question whether or not they will achieve any significant results due to conditions that will prevent contractors from taking advantage of the extended deadline for double credit. Those factors include the lack of verified VDECS that can meet the industry's rigorous performance requirements.

Reduce the VDECS requirements. At least until the supply can equal demand. This is not a free-market economic scenario—it is a command and control economic approach. VDECS manufacturers have no incentive to reduce prices as they are guaranteed a market for their products—and they still can't meet the artificial regulatory demand. Even if the manufacturers could meet demand there are not a sufficient number of qualified installers to actually put the things on the machines. (CIAQC1)

Comment: The second major error in the off-road diesel regulation is its over-reliance on promises of the VDECS suppliers that there would be adequate supplies of these devices to meet the requirements of the rule. Now, with the reality staring us in the face we know that there are perhaps six suppliers who can cover less than 20 percent of the fleet. (SCCA1)

Comment: I'd also like to express my concern about the availability of technology even given an extension of the double credit deadline to meet the requirements of the regulation. When you look at Granite's fleet and you start whittling away at the pieces of equipment that don't have a verified device for that engine, you whittle away the older equipment, you whittle away the new equipment, you whittle away the large equipment, you whittle away the low load equipment, and you whittle the equipment that need the specific requirements of each verification, you end up with some number under 20 percent of our total fleet horsepower that can be retrofitted.

There needs to be significant additional devices verified. There needs to be, you know, a wide variety of both active and passive devices for a wide range of engine horsepowers to meet the requirements of the regulation. And given where we stand now, that's just not available. (GCI2)

Comment: The current regulation will require VDECS to be installed on the California construction fleet at the rate of 20% of the vehicles each year. By 2010 ARB estimates that 35,412 devices will need to be purchased and installed in the statewide fleet. Currently, after five years of effort there are approximately 450 devices installed statewide. In addition, the ARB Showcase which was to have 250 devices installed over a year ago has less than one-dozen in place and little idea when the balance will be installed, if ever. Staff dismisses the very real obstacles (contracts, reduced usage, retirement, inability to match devices to machines, manufacturers withdrawing) to implementing the Showcase. Nevertheless, the hurdles encountered by the Showcase participants are being experienced by every contractor in the state and are very real impediments to installing VDECS. (CIAQC1)

Agency Response: Many of the commenters (including commenter GCI1) argued that the timeline of the regulation should be delayed based on the lack of verified technologies. As stated in section 2449(e)(8) of the regulation, if a VDECS is not available, or one cannot be safely installed on a vehicle, that vehicle does not have to install a VDECS in that year; no other action must be taken on that vehicle because there is no available VDECS. Therefore, a fleet is not penalized if there is no VDECS available for a vehicle. Since there is no penalty for lack of VDECS, staff does not believe a postponement in the regulation is necessary.

Additionally, commenter GCI1 is concerned that there are VDECS available for only half of their vehicles, and stated that compliance beyond 2010 would be

impossible. However, as stated above, if no VDECS are available, a fleet will not be penalized, or considered out of compliance because of a lack of VDECS available. Therefore, commenter GCI1 should not be concerned about being out of compliance if there are no VDECS available for all vehicles in its fleet.

Additionally, staff disagrees that there are not enough available, proven, or safe VDECS currently in the market. As stated in the staff report for these amendments, 60 percent of the horsepower of affected off-road vehicles are capable of having a passive VDECS installed; an even larger percentage are capable of having active VDECS installed. Also, since the release of the staff report for these amendments, several new devices have been verified and a few devices have expanded their verification. Therefore, staff does not believe there is a lack of available technology, and does not agree that the regulation should be postponed for this reason.

Commenter GCI1 was also concerned that many of the new verifications serve to only duplicate potential retrofit installs. However, staff does not see this as a problem, rather, an opportunity to lower retrofit costs by introducing more retrofit options for fleets into the market. Additional verifications in areas where there are currently verified devices do not directly address the commenters concerns regarding the limited number of devices, but see response to commenter's concerns in first several paragraphs of this response. The commenter should be aware that this scenario will most likely result in more choices and potentially less costly devices for its vehicles that can be retrofitted.

For a response to delaying or modifying the regulation due to the current economic downturn, please see the response to Section 5 above.

For a response to the safety issue raised by commenter CIAQC1, please see the response to Section 10 below.

Comment: Deferring the GSE Requirements Will Not Compromise Emission Reductions, and May Allow More Efficient Investment in Tier 4.

A deferral may allow airlines to invest directly in more new Tier 4 vehicles (the most efficient and best technology). Tier 4 nonroad vehicles are expected to become available starting in 2011-2013 (depending on horsepower). (ATA1)

Agency Response: Staff disagrees that deferring GSE requirements would not lead to a lack of emissions reductions, and would also like to note that there are many provisions in the regulation which allow GSE vehicles to comply with the regulation in ways that do not require the installation of VDECS. Therefore, a deferral of the regulation is not necessary. As stated in Chapter III.A.3. of the FSOR for the original regulation, staff anticipates that many GSE fleets will use alternative compliance methods that will not include the use of VDECS. Airline stakeholders told staff several times during the workshop process for the

regulation that they prefer to comply without installing retrofits. The off-road regulation contains section 2449(d)(1)(A)3.b., which states that any electric vehicles added to a fleet between 2010 and 2016 will receive double credit (i.e., all electric vehicles added to the fleet will count as double the horsepower with PM and NOx emission factors of zero). This provision, which was added to the regulation at the request of the Air Transport Association, will allow GSE equipment to be replaced with electric vehicles, and potentially lower a GSE fleet's PM averages enough to avoid installing PM VDECS. The electric double credit provision lasts through 2016, at which time Tier 4 vehicles will be available, allowing GSE fleets to upgrade to Tier 4 vehicles that do not require the installation of VDECS. Since the regulation already provides the flexibility for GSE fleets to avoid VDECS until Tier 4 vehicles are available, a delay in the regulation is not necessary at this time.

7. VDECS Do Not Work and Are Not Reliable

Comment: There is ample anecdotal evidence from contractors that the devices do not perform to a level suitable for the duty cycle of most off-road construction equipment. A device that performs for only two hours before it requires the shut-down of the machine in order to regenerate is not suitable for most applications in the industry. Unfortunately the ARB verification process only determines a device's level of performance while it is operating, regardless of how short a period of time it actually operates. It gives a very misleading picture of how many verified devices are really available, when most cannot operate an entire work shift without regenerating. Contractors are not going to install devices that will require work interruptions due to frequent regeneration or unreliable operation. (CIAQC1)

Comment: If the SHOWCASE is any indication, the data logging, development of installation specifications and matching devices to the specific machine duty cycle is a time consuming exercise. In addition each installation requires a unique design. Merely grabbing a device off the shelf and slapping it on a machine is impossible. It takes months of analysis and review. No contractor is going to do more than one of these costly devices at a time until it is proven that the device will actually work reliably on a give type of equipment, something ARB has been unable to demonstrate with any degree of certainty. (CIAQC1)

Comment: In closing, we have been researching retrofit devices. In most cases, the devices presently available complicate the operation of the equipment that they will be placed on. (WIPF)

Comment: The control effectiveness of the DPFs and their frequent malfunctions are also testing the viability of this technology. (KNAPP)

Comment: I don't think you can deny that VDECS haven't performed as predicted. How badly they're off that prediction is a matter of debate. (AGC2)

Comment: On the technology front, I'd like to share an in-field experience. My company just installed a 2008 on-road engine that has a passive diesel particulate filter. It has been installed for 60 days. And in that 60 days, it's regenerated every day. And we've had two manual regenerations that require the use of a computer to tie into the brain of the engine. Our customer is not willing to pay for the down time. (NWS)

Comment: A device being verified is no indication that the device is applicable to a piece of equipment and safety issues need to be resolved.

Another challenge for the construction industry is the ample evidence that the devices don't always perform with the duty cycles of the engines, making the equipment not suitable for the construction industry. And that has to do with the duty cycle and how often these active devices need to regenerate. We've heard instances where after just a couple hours the construction equipment needs to be shut down while device or devices two in some instances or more independently need to regenerate. And that's a problem. (CIAQC3)

Comment: I think the fact that you need to do this is sort of symptomatic of the bigger problem that we've got with VDECS. There aren't sufficient options. The installations are problematic, particularly with regard to safety. And I would encourage you not to show those photos to OSHA, because many of those installations aren't going to pass the safety test.

And the devices simply don't work on the engines for which they're verified. The staff estimated originally they would need to install 35,000 of these devices over the next 13 months. That's a billion dollars. The construction industry doesn't have that kind of money to spend in that period of time.

In the showcase, you were talking about doing approximately 250 engines over -- that program was supposed to be in place and fully done by over a year ago. You had the money. You had the machines. And you had the devices. The fact that you've only been able to get nine of them installed ought to be a big red flag. You haven't been able to data log most of those machines, and that's the first step and the easiest step in making what is a very complex device selection and machine pairing process.

You're going to hear from contractors today how difficult it is or impossible to match a device that will work with their equipment. And they have the added burden of not having money or the choice of options that you had in the showcase.

And that's why we're going to be recommending that you take a good hard look at this program and reassess that burdens that you've placed on the construction industry. We don't concur with the staff's assumption that somehow they are

going to get greater emissions as a consequence of any further changes in the rule. (CIAQC2)

Agency Response: Many commenters stated that VDECS are complicated to use or install, and are unreliable. Similarly, some of the comments mentioned the Showcase, and that this program has started out slow because of device installation and performance issues. Staff acknowledges that some VDECS are complex; however, if passive devices are used, these VDECS can function as direct muffler replacements, which are more desirable for the vehicle operator. When staff reported to the Board in January, it acknowledged that fewer devices than expected had been installed to date through the Showcase program; however, much of the delay was due to contract issues with certain fleets participating in the program, not retrofit complexity.

Even though staff expected thousands of VDECS to be installed during the initial years of the regulation, this is not the only way for fleets to meet their PM compliance requirements. For example, a fleet may elect to add cleaner vehicles to its fleet, replace older, dirtier vehicles with cleaner ones, or simply to retire the older, dirtier vehicles and thereby downsize the fleet.

For a further discussion on why the regulation should not be changed because of the issues with VDECS, please see the response to Section 6 above.

8. VDECS Are Not Appropriate for GSE

Comment: The ORD Rule's heavy reliance on retrofitting existing equipment with VDECS in early years is wasteful, since the retrofitted equipment must be replaced with new Tier 4 to meet the Rule's later NOx fleet average targets.

This is particularly true for GSE:

VDECS are ill-suited to GSE, which are very specialized vehicles. To our knowledge, level 3 VDECS have never been successfully installed on GSE, and airlines' initial compliance efforts have confirmed the technical and safety problems.

GSE are less than 1% of the vehicles regulated by the ORD Rule, and represent a very small and unprofitable sector for VDECS makers because GSE's specialization requires custom installation attempts.

ARB's stated interest in ensuring a market for retrofit makers would not be impacted by a deferral for GSE. Only about 1,500 GSE are subject to the regulation (less than 1% of the total), and they are too specialized to provide economies of scale for retrofit makers. Further, GSE are subject to stringent safety protocols and procedures that do not apply to other off-road equipment. Thus, GSE do not provide a profitable market for retrofit makers, and allowing

GSE to reduce emissions by other means will not undermine ARB's goal of supporting retrofit makers. (ATA1)

Agency Response: Commenter ATA1 expressed concern that retrofitted equipment must be replaced by Tier 4 equipment by the end of the regulation; however, this is not accurate. As presented by staff at the May 25, 2007 Board meeting, a fleet does not need all Tier 4 and Tier 4 Interim vehicles to comply with the final requirements of the regulation. Staff has shown that a fleet can comply with the final compliance requirements utilizing a mix of vehicles with Tier 2, Tier 3, and Tier 4 engines. Therefore, if a vehicle that is Tier 2 or 3 is retrofit now, it is likely that that vehicle can remain in the fleet and still meet the final compliance requirements. For a more detailed response to commenter ATA1's concern about the appropriateness of VDECS on GSE equipment, please see the response to Section 6 above.

9. VDECS Safety Issues

Comment: For nearly a year, CIAQC has been raising the issue of the safe installation and operation of the VDECS devices. Because of their size, heat generation, fuel consumption and weight, the installation of the devices raises serious safety issues for fleet owners. Since most VDECS retrofits are external to the engine compartment these issues are valid on almost every machine in the off-road fleet. Reductions in operator visibility are a major concern for OSHA and MSHA and many of the existing installations have been deemed a violation of those agencies' regulations. Since 2000 there has been one fatal or severe crushing accident, every month, without the installation of these devices. Widespread enforcement by OSHA and MSHA could result in the removal of most of the existing installations. ARB staff dismisses the seriousness of this issue and points to a cumbersome and yet-to-be-utilized appeals process as a way to resolve the issue. Contractors are not going to risk employee safety and/or potential OSHA violations without an advance determination of the safety of the installation. This issue stands as a significant barrier to the early installation of the VDECS and could undermine the entire retrofit element of the off-road rule. ARB, OSHA and MSHA are putting all contractors in jeopardy of double violations by not resolving the issue of their conflicting regulations. The double credit incentive does not seem to be enough incentive to overcome the obstacles to installation of the devices and will not produce the results that ARB had anticipated. Without substantial double-credit, the ARB cost analysis of cost of compliance with the rule needs to be revised.

Safety has to be resolved. There is a significant difference between a theoretical "premature death" and the real death of construction workers crushed by a big yellow machine driven by an operator who simply can't see. The current exemption and appeals process will significantly slow the installation of VDECS while contractors await decisions of the "process." Further, contractors are not going to apply for exemptions until it becomes time to install the device on their

own machine. It is already clear that the certain devices are unsafe on many machines. ARB should at least post warnings on their web site pending the decisions of the exemption process. (CIAQC1)

Comment: Another problem is the feasibility of applying DPFs to large horsepower equipment that were not originally designed for these filters. Safety concerns due to blocked visibility and higher operating temperatures are becoming apparent with these installations. (KNAPP)

Comment: During 2006-2007, we repowered 29 pieces of equipment using Carl Moyer funding. For the last ten, we were required by the Carl Moyer contract to put on DPFs which we did. We tried to get out of the installations, and asked CARB to grant us a waiver so we wouldn't have to install them. We also asked the district for a waiver, but we were not successful, therefore, we had to install the DPFs.

And once we had the first one repowered, I could see some real strong concerns. I requested CARB to come over and take a look at those, which they did. We never got a response from them. So we had to rent them we had needs for that equipment.

Once we got them out on the job site, I had calls for safety concerns, operational concerns. One customer told us they are unsafe. As soon as that happened, I had to park all the machines. I wrote a letter to the Executive Officer of CARB on June 11th asking for a waiver so we could get out of those.

On June 11th, we had a meeting -- on August 1st, we had a meeting with CARB and OSHA. We had another one on August 1st -- on September 30th. We finally received a letter from CARB saying we don't find them fundamentally unsafe. But if you do, you can take them off, which we did because we had to go to work. (ECCO)

Comment: I just wanted to address couple of the challenges that industry is finding and experiencing with the VDECS. That a device can be verified is no indication that the device is applicable to a piece of equipment. Also safety issues need to be resolved.

Nobody wants to move forward with installing devices on their equipment if there's any sort of potential to harm or injure or in worst case kill somebody because of problems with heat or problems with visibility, and we just think that it needs to be resolved as to whether or not these devices are safe on a particular application.

And it needs to happen quickly, because in March of next year 35,000 devices are supposed to be in place, or at least that's the estimate for the regulation. (CIAQC3)

Comment: I think the fact that you need to do this is sort of symptomatic of the bigger problem that we've got with VDECS. There aren't sufficient options. The installations are problematic, particularly with regard to safety. And I would encourage you not to show those photos to OSHA, because many of those installations aren't going to pass the safety test. (CIAQC2)

Agency Response: Staff would like to note that the regulation only requires retrofits if they are verified under ARB's verification procedure and can be safely installed. If a vehicle does not have a highest level VDECS or if one cannot be safely installed, section 2449(e)(8) of the regulation exempts that vehicle from the retrofit requirements. Therefore, a fleet is never required to install a device that is not proven, or is unsafe.

Additionally, as stated in the staff report for the January amendments, 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. Because of this, staff is currently working with staff from the California Occupational Safety and Health Administration (Cal\OSHA), the Mining Safety and Health Administration (MSHA), the construction and retrofit industries, and organized labor to develop the protocol for evaluating claims of unsafe installation of VDECS. Cal\OSHA and MSHA staffs have been helpful in assisting staff in compiling a summary of all relevant safety regulations. Cal\OSHA and MSHA staffs have also agreed to work with ARB as part of a group that will review safety appeals. Staff also anticipates working with this group to develop amendments necessary to Cal\OSHA regulations to establish more objective criteria for determining whether a specific VDECS installation presents an unsafe condition.

10. Cost of VDECS

Comment: Staff has also conceded that the cost of the devices is higher than they originally estimated, (CIAQC pointed this out repeatedly since the early development stages of the rule) and many manufacturers have chosen to abandon the off-road market. (Something CIAQC also predicted would happen when manufacturers realized how small and difficult the market would be to serve.) Staff has provided no evidence for their contention that the cost of devices will be lower in the future. In fact, fewer manufacturers with fewer options would dictate that costs would in fact be higher, not lower. (CIAQC1)

Comment: CIAQC supports the proposed changes in the regulation but question whether or not they will achieve any significant result due to conditions that will prevent contractors from taking advantage of the extended deadline for double credit. Those factors include...the higher than anticipated costs of the devices...These issues coupled with the dramatic downturn in the economy and

the devastating impact it has had on the construction industry make it nearly impossible for contractors to comply with the regulation by 2010. (CIAQC1)

Comment: You folks have been touting this showcase. It's been two years in the making with \$4.9 million and a fleet of 202 machines and you've done nine retrofits so far.

We have a fleet that will require us to do 53 DPFs in the first year without double credit. And we don't have a budget of \$4.9 million, nor do we have a staff of thousands to get this done.

This should speak volumes about this 20 percent annual requirement under BACT. This rule for our company without that double credit will require us to spend \$1.18 million on DPF in the first year, and that does not include the NOx part of the rule.

Starting with the verified DPFs to date, they've added DPF conditionally verified units in the last 18 months for a very limited number of rubber off-road equipment. Staff is reporting the costs are 30 percent higher than they were estimated to be.

I want to remind everyone this is a 21-year rule. Yet, as stated in July 2007, 50 percent of the cost of this rule will be incurred by those large fleets within the first three years of this rule. It's doubtful to me these future low cost DPFs are going to be much good to fleets when most of the costs come up front. (DOWNS)

Comment: I just wanted to address a couple of the challenges that industry is finding and experiencing with the VDECS. These are that the VDECS are more costly than originally promised.

The cost of the retrofit is proving to be more expensive than anticipated. We heard today 30 percent more. We haven't heard or seen anything that would lead us to believe that those prices are going to decrease-- but will likely increase -- over time.

We don't see the evidence for a decrease in costs, and we also note that the staff report indicates that some of the manufacturers are limiting the resources that they are providing for off-road VDECS or verification and focusing instead of on-road systems. So that doesn't look too promising from this perspective. (CIAQC3)

Agency Response: Staff acknowledges that VDECS costs have been higher than initially estimated in the staff report for the original regulation. However, as stated in the staff report for the January amendments, staff's initial cost analysis was based on estimates of the average prices for VDECS over the entire course of the regulation. Staff expects the volume of sales, as well as the increased

number of VDECS options fleets may choose from, to lower overall retrofits costs in the coming years. Additionally, the AB8 2X amendments will postpone the VDECS installation requirements for many fleets, allowing more devices to become verified, and for the prices of those devices to decrease.

Although the commenters above are concerned that many retrofit manufacturers are leaving the off-road market, there are still many companies supplying off-road devices pursuing verification, and staff does not believe that there will be a lack of off-road retrofit manufacturers, or off-road retrofits, in the future.

11. Cannot Afford the Regulation

Comment: I am a contractor with approximately 30 Diesel Engines in my spread of equipment. My equipment ranges in HP from less than 10 HP to 100 HP. It also ranges in age from 1972 to 2006. The majority is within 15 years old. A majority of the equipment is on stand-by for when I may have a need for it. Many pieces only work 300 to 400 hours a year. This represents approximately 2 months out of a year.

I have been working the past 35 years to get to the point that most of my equipment is paid for and now I am being told that I must Retro-fit my equipment to meet or exceed the ARB (and Federal) Regulations. It would cost me MANY years PROFITS to retro-fit all my equipment. (KEY)

Comment: It should not require the "Small Business Owners" to go out of business to comply with the regulations. (KEY)

Comment: As a small excavation and trucking contractor, we will be heavily impacted by these regulations. The capital investment required to meet those regulations, within the time frames outlined, cannot be supported by most companies. Only the large multi-state or multi-national companies will be able to survive. They will be able to accomplish compliance, only by shipping their older trucks and equipment to other states to work, replacing this equipment with new in California. Smaller contractors will not have the ability of having their older equipment support their new equipment as we have in the past. This will create a large competitive advantage for the very large contractors, putting most smaller contractors out of business.

We have been in business for 20 years, and by best calculations, we would have to put 100% of our net profits into retrofitting or replacing our equipment for the next 20 years to become compliant. The regulations, as proposed, will require us to be compliant in less than 7 years. How can we be expected to remain in business when our rates would need to triple in order to pay off the capital investment that would be required, while the very large contractors will be mostly replacing their equipment as usual, moving old pieces out of state. Companies

such as ours require our older equipment to support the new pieces we purchase, it is the only way we can compete and survive. (WIPF)

Comment: I have owned my own construction business in San Diego County for 30 years and am now facing some of the most difficult economic times that I can remember. ALL of my off-road equipment is Tier One and I am faced with phasing out my Backhoes long before their useful life is over. Though I am a Small Fleet and my compliance dates are more lenient than others, it will be difficult if not impossible to meet the guidelines and still be able to afford to be in business. (COLLINS)

Agency Response: As discussed in Chapter III.A.3 of the FSOR for the original regulation, staff recognizes that compliance with the regulation may be financially challenging for owners of regulated vehicles. Many fleets may have to change how they allocate capital resources, and they may need to borrow money to purchase retrofits and repowers, or to upgrade their vehicles.

However, the regulation contains many provisions that provide fleets with compliance flexibility. It includes options such as NOx or PM retrofitting and repowering that can help fleets avoid the costs of replacing vehicles. Also, it gives credit for early repowers, turnovers and retrofits to reward early actions and help fleets spread out their compliance costs and avoid spikes in compliance costs in early years. The early credit provisions, including those provided by the AB 8 2X amendments, include:

- Double credit for any PM exhaust retrofits installed before January 1, 2010 for large fleets, and March 1, 2012 for medium and small fleets;
- Single credit for any repower (to at least a Tier 1 engine) that was performed at any time before March 1, 2009, as long as that repowered vehicle is still in operation in the fleet;
- Credit for retirement/replacement of Tier 0 vehicles in excess of 8 percent per year on average between March 1, 2006 and March 1, 2009; and
- PM and NOx credit if a fleet can show reduced fleet activity July 1, 2007 and March 1, 2010, or, if they have reduced their total fleet horsepower between March 1, 2006 and March 1, 2010.

Because a fleet has numerous options for complying with the regulation, the costs of compliance for every fleet will vary. In addition, early credit and financing options are also available to spread costs in the early years for fleets.

Also, the regulation does have more a more relaxed timeline and requirements for small fleets; allowing them more time to access incentive funds, financing, and double credit for early VDECS installations.

Staff would like to note that commenter COLLINS may not fully understand the requirements for small fleets. COLLINS stated that they are faced with phasing out all of their backhoes long before their useful life is over. However, a small

fleet (one with 2,500 horsepower or less) is never required to phase out their equipment; only the installation of VDECS is required, and that requirement does not begin to phase in until 2015.

For more responses to the affordability or cost of the regulation, please see Chapter III.A.3 of the FSOR for the original regulation.

12. Re-do the Economic Analysis

Comment: ARB needs to reassess the economic impacts of the rule, the current state of the industry especially with regard to the California and national economic conditions. An independent economic evaluation should be done of the overall cost of the rule to the industry. ARB's lack of skill in economic analysis is the subject of academic and legal criticism throughout the nation. Staff's original assumptions and cost savings have not been realized and the cost of the rule has increased significantly at a time when the industry simply cannot afford it. (CIAQC1)

Agency Response: As stated in Chapter III.A.3 of the FSOR for the original regulation, staff did not solicit an independent economic evaluation of staff's economic analysis because our methodology was fundamentally sound and our results reasonable and accurate. Also, as discussed in section a)i)1) of that Chapter, certain stakeholders did solicit such an analysis and it was supportive of staff's conclusions.

Additionally, with the addition of the adoption of the AB8 2X amendments in July 2009, many fleets will be able to postpone their compliance requirements. Therefore, staff believes that many fleets will not have to take any actions to comply with the regulation for at least a year or two. Because of this, staff does not believe another economic assessment of the rule is necessary, due to fact that many fleets no longer have regulatory requirements in the beginning years of the regulation.

For a more details on the AB8 2X amendments, please see the response in Section 5 above.

13. Regulation Will Affect the Economy

Comment: This overwhelming burden to repower, retrofit or replace equipment will only further diminish those much needed tax revenues by the state to meet budgetary requirements. (MCDONALD1)(MCDONALD2)

Comment: This state is in a financial crisis and needs to protect potential revenues. While it is an undeniable fact that the air quality of California is a great concern for everyone, we must also balance this concern with what is financially

feasible at this time of economic crisis. Cleaning the air and saving lives is the goal, bankrupting the state and employers is not. If we are to survive this economic downturn we must all make concessions and that includes those at the regulatory level. (MCDONALD1)(MCDONALD2)

Agency Response: Staff acknowledges the current recession; however, due to the AB8 2X amendments to the regulation adopted in July 2009, staff does not believe further modifications to the regulation are necessary at this time but is continuing to review the issue. The AB8 2X amendments should provide several years of relief to fleets that must comply with the regulation in its early years of implementation and should offset the potential economic impacts associated with complying with the regulation. For more details on the AB8 2X amendments, please see the response in Section 5 above.

14. Cannot Pass on Costs

Comment: In the early stages of the regulations development, staff argued that employers would cover the costs of compliance to the regulation through increases in revenues from competitive bidding, ongoing housing development, business growth and increased infrastructure needs.

As we enter 2009 these projections by staff have not come to pass. In fact with construction and housing starts in a tremendous downturn and banks unwilling or unable to extend credit, it becomes increasingly more difficult for employers to meet payroll let alone come up with the tens of thousands of dollars required to meet the requirements set forth by the regulation.
(MCDONALD1)(MCDONALD2)

Comment: Compared to a "normal" year our present construction volume has declined by 42%. We now see anywhere from 10 to 15 bidders on public projects where ordinarily there are 4 to 5 bidders. With such a competitive market it is impossible to pass on any higher cost. Like most California contractor's we are struggling to survive this serious downturn. (VCMI)

Agency Response: Staff acknowledges that due to the recession, there may be greater competition for construction projects that may prevent some fleets from passing on the costs of the regulation to their customers. However, for those that cannot absorb or pass on the costs of the regulation, the AB8 2X amendments will postpone and/or spread out the fleet's initial compliance requirements over a number of years.

For a more details on the AB 8 2X amendments, please see the response in Section 5 above.

15. Fleets are Downsizing

Comment: Most companies are in survival mode as they down size and lay off employees just to keep their balance sheets from going into the red.
(MCDONALD1)(MCDONALD2)

Agency Response: Staff acknowledges that some companies may have to downsize their workforce and sell off portions of their fleets to survive this economic recession. However, with the adoption of the AB 8 2X amendments, fleets that have had to reduce the amount that they operate their vehicles (by reducing operator hours, for example) and/or decrease their total fleet horsepower (by selling and not replacing off-road vehicles) will be able to earn both PM and NOx credits, thereby deferring their compliance requirements further into the future.

For a more details on the AB 8 2X amendments, please see the response in Section 5 above.

16. Tier 4 Engines Are Not Available

Comment: The Construction & Mining Industry has been preparing for the implementation of the regulation as set forth in the rule. However, discussion with the suppliers of ORD equipment and DPFs have revealed some implementation problems.

One assumption that CARB made was that Tier 4 engines would be available by 2011. For the large horsepower equipment widely used in the industry (>200 horsepower), equipment manufacturers are indicating that it is more likely that Tier 4 engines will not be available until 2015 or 2016. Tier 4 engines are expected to have lower emission rates than a Tier 3 engine controlled with the highest level DPF. This delayed availability will make compliance difficult, if not impossible, for this industry. (KNAPP)

Agency Response: Staff is not sure where commenter KNAPP read that final Tier 4 engines would be available in 2011, but believes that the technology to comply with the regulation does exist. Tier 4 interim engines will be available in 2011, and that for most horsepower groups, these engines will have OEM filters, and have PM emissions equivalent to the Tier 4 final engines expected in the 2015 timeframe. Since most Tier 4 interim engines will have the same PM emission factors as Tier 4 final engines, they too will have lower PM emission rates than a Tier 3 engine controlled with the highest level DPF. Additionally, the regulation contains section 2449(e)(9), which states that if there is a delay in availability of vehicles with engines meeting the Tier 3 or Tier 4 interim or final emission standards, the Executive Office may issue extensions to fleets that need these vehicles to comply with the regulation. Therefore, if the Tier 4 interim

or final technology does not become available when expected, fleets will not find it impossible to comply with the regulation.

17. Analyze the Impacts of Multiple Regulations

Comment: Staff must also consider that this is not the only ARB regulation that employers are required to comply with. Most of these employers also must comply with the PERP, ATCM, and the upcoming On-Road Rule.

Employers that have the burden of meeting three or more regulations simultaneously will find it difficult at best to become fully compliant. I believe we should look at the bigger picture when considering the compliance strategy for these employers. The goal is to reduce emissions and therefore the overall reduction of the combined diesel fleet (PERP, ATCM, Off-Road and On-Road) should be an additional path to compliance. There must be a point to which everyone affected by the multitude of regulations and the quality of our air can find acceptance and practical applicability with all of our endeavors.

(MCDONALD1)(MCDONALD2)

Agency Response: As stated in the FSOR for the original regulation, staff is aware that many fleets will be subject to other regulations, such as the portable equipment Air Toxics Control Measure (ATCM), the off-road regulation, and the Statewide Truck and Bus Regulation (on-road regulation). For fleets subject to the off-road regulation, we do not expect that the portable equipment ATCM would add significant costs. Although staff does not have adequate survey data from fleets to know how much portable equipment is owned by fleets also affected by the off-road regulation, as stated in the Staff Report for the portable equipment ATCM, the total overall cost of the portable equipment ATCM for all fleets (both those subject to the off-road regulation and those not subject to it) is expected to be \$15 million per year. As stated in the original off-road Staff Report, the annual cost of the off-road regulation is approximately \$243 million per year, on average. Thus, even if all portable equipment covered by the portable equipment ATCM were owned by fleets also affected by the off-road regulation (which is not the case), the cumulative costs from the portable ATCM would not add significantly to the overall costs faced by off-road fleets.

When the off-road regulation was initially adopted, the on-road regulation was still in development, and therefore, at that time, a cumulative cost analysis including the on-road regulation could not be done. However, when the on-road regulation was adopted in December 2008, a cumulative cost analysis was performed and presented in the staff report and TSD for the on-road regulation. The Board considered this cumulative impact when approving the on-road regulation. Additionally, with the addition of the AB 8 2X changes to the off-road regulation, compliance costs for large construction fleets will be significantly reduced over the next several years. For more details on these amendments, please see the response to Section 5 above.

For construction fleets that are considered medium or small fleets under the off-road regulation, off-road compliance requirements do not begin until 2013 or 2015, respectively. Therefore, for both medium and small off-road fleets, the compliance requirements for the off-road and on-road regulation may not overlap. Also, small off-road fleets are only required to retrofit their off-road vehicles (no replacement/retirement necessary), resulting in off-road compliance costs much lower than those of medium and large fleets. Overall, as stated in Chapter XIV of the TSD for the on-road regulation, staff evaluated the potential cumulative costs of the on-road regulation for small fleets, and concluded that the on-road regulation will not impose any significant overlapping costs on small fleets. Also, many fleets will need to begin retrofitting or upgrading their on-road trucks before the compliance requirements for the off-road regulation come into effect, which will result in little overlapping compliance requirements.

18. Alternatives to the Regulation

Comment: We would propose a plan to build more mass transit, give people tax credits for utilizing mass transit, removing maybe 10 to 25% of the cars off the road. This would yield a 7.4 to 18.5 percent net benefit in greenhouse gas emissions. This plan would also generate construction jobs in our sagging state economy, injecting capital helping us to update our fleets.

Why don't we attack our greenhouse gases from another angle, and allow our trucks and equipment to cycle out as age and wear require their replacement as it was done with passenger vehicles. (WIPF)

Agency Response: As stated in the FSOR for the original regulation, ARB's mission is to promote and protect public health, welfare and ecological resources through regulations that effectively and efficiently reduce air pollutants where ARB has the regulatory authority to do so. Under state law, ARB has been directed by the Legislature to adopt airborne toxic control measures to address health risks posed by toxic air contaminants, including diesel particulate matter (PM), which has been identified as a known carcinogen (Health and Safety Code (H&SC) §§ 39650 et seq.). It has also been mandated to adopt as expeditiously as practicable, regulations to control, among other things, NOx and PM emission controls for off-road vehicles and equipment (H&SC §§ 43013(b) and 43018). The commenter's proposal to build more mass transit is outside the scope of ARB's regulatory authority.

For more detailed information on why the off-road regulation is necessary, please see the responses in Chapter III.A.18 of the FSOR for the original regulation.

Comment: Turnover of heavy duty trucks, buses and equipment will NOT be rapid enough to attain the 2020 emissions goals. Conversion of existing in-use

engines is the only practical way to attain this goal. Please level the playing field for Natural Gas conversion technology. (REED)

Agency Response: Staff disagrees. As stated in the staff report for the original regulation, the off-road regulation is a necessary and integral part of California's State Implementation Plan (SIP), and Diesel Risk Reduction Plan (DDRP) to reduce pollution throughout California. This regulation in combination with several other ARB regulations (such as the on-road regulation adopted in December 2008), will help to lower pollution levels significantly by 2020. Additionally, the off-road regulation does allow the conversion of diesel off-road vehicles to natural gas as one of many viable compliance options.

19. Labeling Amendment

Commenter: Quinn Group, Inc., a Caterpillar equipment distributor in California, respectfully requests an additional administrative amendment be added to the proposed changes for the off-road regulation to allow flexibility for rental and leasing companies to comply with installation of EINs for equipment presently out on rent or lease.

Currently, Section 2449(f)(2) of the regulation requires Equipment Identification Numbers (EIN) to be installed on vehicles within 30 days of receipt of the ARB-issued EIN. For reasons noted below, this requirement will be overly burdensome and virtually an impossible task for our large rental fleet of nearly 1,500 vehicles:

Many of our vehicles are out on rent or lease, and most at undisclosed locations. These machines, that are typically picked up at our facilities by our customers or delivered by hauler to a customer's place of business or jobsite, are often subsequently moved by the customer to an undisclosed location. In some cases the machines are moved multiple times during the rentals. This hampers our ability to locate the vehicles and install the EINs.

Machines out on rent can be anywhere in the State. We do not have the resources to feasibly contact all our customers and arrange for a machine to be available, and to install the EINs on all our machines out on rent within the 30-day period.

A machine out on rent or lease is under operational control of the lessee. Pulling a machine out of operation from the lessee introduces several consequences:

- it disrupts a customer's ability to perform the work they have been hired to accomplish,
- it leaves their hired operator idle while the EIN is being installed,

- it puts us in conflict with the terms of our rental agreement putting us in a position of providing a payment concession to compensate for the down time,

In order to avoid a disruption to the lessee's operation, it will require our company to schedule the EIN installation after-hours, thereby increasing our costs and also creating a burden for the renter to provide after-hours access to their property.

Our technicians are currently backlogged with production and maintenance repairs on our customer's machines. Scheduling them for installation of these EINs in the field on our own rental machines removes them from providing the services we are required to perform for our customers as a distributor under our contract with Caterpillar, Inc.

Costs to perform the installations of the EINs while the machines are off rent and in our possession will be far less than those we will incur for installing the EINs in the field. These costs were not addressed in the Initial Statement of Reasons.

While we will do our best to follow Staff's recommendation to report early to get EINs assigned and installed in advance, with the large number of machines, even early reporting will not ensure we have the proper amount of time to locate all our machines in time, and install the EINs economically and without disruption to the renters. Additionally, even now we are still collecting engine data from non-Caterpillar vendors making it difficult to provide accurate data for early reporting.

Therefore, I would like to recommend the following administrative change be made to the regulatory language to allow flexibility for rental and leasing companies:

"2449(f)(3) Installation of Equipment Identification Numbers for Rental Fleets and Leasing Companies – Owners of rental fleets and owners with vehicles out on lease shall permanently affix or paint the EIN(s) on the vehicle as per 2449(f)(2) in accordance with the following schedule for all vehicles reported prior to the initial reporting date:

Within 30 days of receipt of the ARB-issued EIN for all machines not out on rent or lease;

If a machine is out on rent or lease, within 20 days of the vehicle being returned to the rental/lease yard;

For all rental or leased vehicles, no later than December 31, 2009.

All other rental or leased vehicles added to the fleet subsequent to initial reporting shall follow requirements of 2449(f)(1) and (f)(2).

Rental and leasing companies shall specify at the time of initial reporting their intention to follow this schedule. Evidence must be provided demonstrating the company operates as a rental or leasing company.”

On behalf of Quinn Group, Inc., and the other Caterpillar dealers operating in the State of California, I appreciate your consideration of this administrative request. We feel this request does not affect emissions reductions and it affords the owners of these vehicles an economical and flexible solution for complying with the initial EIN installation. (QUINN)

Comment: The American Rental Association represents several hundred equipment rental businesses in California. Section 2449(f)(2) of the referenced regulation details when equipment identification numbers (EINs) must be affixed on vehicles. For the initial report, Staff has interpreted this section to mean that EINs must be affixed within 30 days after the initial reporting date of the fleet. The fleets with the largest amount of equipment, large fleets, must meet this requirement at the earliest date, April 1, 2009. A number of ARA member rental companies may have difficulty meeting this requirement because of the large number of units in their fleets.

Our members are diligently collecting data and preparing their initial reports. No members have asked for an extension to the initial reporting date. However, there may be difficulty affixing EINs to equipment rented and in the field since that equipment is not always easily accessible to the firm that owns it.

According to the rule, there are no emission benefits gained by the regulation in 2009. The first large fleet compliance date is March 1, 2010. Thus, there is no air quality benefit to be gained via enforcement during 2009 that results from affixing EINs.

We ask the Board to consider extending the time period for affixing EINs to the end of Calendar 2009 so as to not create a hardship on rental companies that have limited access to their fleet vehicles. (MCCLELLAND)

Agency Response: Staff does not believe that this change to the regulation is necessary; a fleet has 30 days to affix its EIN labels if they report on its required reporting deadline. If a fleet reported before its reporting deadline, the fleet was not required to have its vehicles labeled until 30 days after its reporting deadline. Therefore, if a fleet reported early (i.e., before their reporting deadline), staff gave those fleets additional time to label their vehicles.

For example, the large fleet reporting deadline was April 1, 2009. If a large fleet reported on that date, it would have had only 30 days to affix its EINs. However, if a fleet reported any time before April 1, 2009, it would have had until April 30, 2009 (30 days after the reporting deadline for large fleets) to affix its EINs.

The Diesel Off-road Online Reporting System (DOORS), the reporting tool for the regulation, became active online and able to accept fleet reporting information beginning in late June 2008. Therefore, if a large fleet reported in late summer 2008, they would have had approximately 10 months to label its reported vehicles. Many large fleets with hundreds of vehicles spent numerous hours reporting early, and were able to report and label their vehicles through DOORS during the end of 2008 and the beginning of 2009. Therefore, since many large fleets spent a significant amount of effort to report and label their vehicles early, staff believes that it would not be fair to those large fleets if additional time was given to some large rental fleets, but not all larger fleets.

Staff also believes it is appropriate to keep the reporting and labeling deadlines of the regulation as scheduled, and that they should not be postponed until December 2009. Although both commenters believe that it is not necessary to have all vehicles labeled and reported before the end of 2009, staff disagrees, and believes that the current provisions are necessary so that the enforcement of the reporting and labeling requirements may begin during the fall of 2009. If not all fleets are reported and labeled, it will be difficult for ARB to enforce these provisions, since it may be difficult and time consuming to distinguish between rental and non-rental vehicles.

Staff would also like to note that both commenters above were active participants during the development of the off-road regulation, and have known for many years that the regulation would require the reporting and labeling of their fleets. Therefore, ample time has been given to these large fleets to report and label their vehicles before the labeling deadline occurred.

Also, when estimating the costs of compliance for the off-road regulation, staff did assume that reporting and labeling vehicles would result in some costs to the affected fleets. However, these costs were expected to be minimal, and could be reduced if spread out over a larger amount of time. As stated above, staff believes that these fleets have had ample time to report their vehicles; time which could have been used to reduce the resources necessary to locate and report each rental vehicle.

20. Captive Attainment Area Fleet Extension

Comment: We appreciate ARB staff's efforts to understand and address the issues that have arisen during the implementation of the Off-Road Rule and would like to express our support of the proposed amendments.

However, many fleet owners will still have financial distress complying with the proposed regulation, especially in rural areas. We ask the Board again consider extending the "Captive Attainment Area Fleet" to those rural counties that are classified as nonattainment for National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter (PM) 2.5 strictly due to transport.

The regulation currently exempts fleets located in ozone and PM2.5 attainment areas from the NOx requirements, if the vehicles are used in only attainment areas. Private fleets in a number of our rural counties will benefit from this provision. Meeting NOx reductions is a considerable financial impact to fleets, which will have a disproportionate negative economic impact in our rural counties. RCRC would ask ARB to reconsider that those counties in nonattainment strictly due to intrastate transport of air pollution also be exempt, (i.e., western Nevada, Amador, Calaveras, Tuolumne, Mariposa). Emissions reductions from the contributing upwind districts will lead to the downwind area attainment. (RCRC1)

Comment: We recognize that the proposed amendments do not address our comment, but I simply would like to state that we would still like to see the NOx exemption for the captive attainment area fleets extended to those rural counties who are non-attainment strictly due to transport. (RCRC2)

Agency Response: As stated in the FSOR for the original regulation, staff disagrees with extending the “Captive Attainment Area Fleet” definition to include areas that are classified as non-attainment as a result of transport. These areas have been designated by the U.S. EPA as violating the federal 8-hour ozone standard, and the air quality in some of these areas is degrading, potentially warranting a future redesignation as severe non-attainment for the federal ozone standard. Local NOx contributions add to the severity of the ozone problem, and therefore, staff believes that actions must be taken within these areas to meet this standard, and at the regulation will provide important emission reductions towards that end.

For a more detailed response to the economic impacts of the regulation, please see the response to Section 5 above.