

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

~~Draft~~ Staff Report

Proposed Rule 2449 – Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles

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Deputy Executive Officer

Science and Technology Advancement
Chung Liu, D.Env

Assistant Deputy Executive Officer

Science and Technology Advancement
Mobile Source Division
Henry Hogo

Planning and Rules Manager

Science and Technology Advancement
Mobile Source Division – Off-Road Section
Zorik Pirveysian

AUTHORS:

Science and Technology Advancement
Randall Pasek – Program Supervisor

REVIEWED BY:

District Counsel
Kurt Wiese – District Counsel

CONTRIBUTORS:

Science and Technology Advancement
Fred Minassian – Technology Implementation Manager
Michael Geller – Air Quality Specialist

Planning, Rule Development, and Area Sources

Steve Smith – Program Supervisor
Barbara Radlein – Air Quality Specialist

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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DENNIS YATES
Mayor, City of Chino
Cities Representative, San Bernardino County

VACANT
Cities Representative, Los Angeles County, Eastern Region

EXECUTIVE OFFICER

BARRY R. WALLERSTEIN, D.Env.

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EXECUTIVE SUMMARY

The South Coast Air Quality Management District (AQMD or District) is proposing to achieve additional emission reductions of oxides of nitrogen (NOx) from in-use off-road diesel vehicles by implementing the state regulation provision outlined in Title 13, California Code of Regulations (CCR), Section 2449.3, "Requirements for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen". This section of the regulation is also known as the Surplus Off-road Opt-in for NOx (SOON) program since an air district must formally opt-in to this provision and the NOx emission reductions must be surplus. The SOON program is one of the control measures in the 2007 State Implementation Plan adopted by the California Air Resources Board (CARB) in September 2007. Staff is recommending that the AQMD Governing Board opt-in to the SOON provision of the state rule to achieve additional NOx reductions from in-use [off-road diesel](#) vehicles. Staff is also proposing that the Board adopt Proposed Rule (PR) 2449– Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles to incorporate by reference Section 2449.3 into the AQMD Rules and Regulations. In addition, staff is proposing additional administrative guidelines necessary to implement the SOON Program as required under Section 2449.3. The description of PR 2449, which simply incorporates the CARB regulation in full by reference, is provided in Appendix A.

Under the SOON program, incentive funds are provided to assist fleets in achieving additional reductions from off-road vehicles (e.g. repowers, replacement, and retrofits) beyond those that would be achieved with the state regulation. The AQMD Governing Board Administrative Committee approved a staff recommendation, pending full Board approval, for an initial set-aside of \$120 million over a ~~four~~ [four](#)-year period to fund the SOON Program. Upon release of a solicitation, fleets over 20,000 hp that operate vehicles in the South Coast Air Basin, and have over 40% Tier 0 and Tier 1 vehicles in their statewide fleet as of January 1, 2008 must apply for sufficient incentive funds to meet the more stringent SOON NOx emissions targets. Fleets receiving funds must implement the projects for which they were awarded. It is anticipated that the \$120 million will be made available over the next four years (2008-2011) to implement projects for approximately 1,000 to 1,500 vehicles beyond those projects needed to meet the statewide regulation to achieve 12 tons per day (TPD) NOx reductions by 2014.

INTRODUCTION

Despite the significant progress that has been made in reducing both mobile and stationary source emissions over the past several decades, the South Coast Air Basin (Basin) continues to experience poor air quality with mobile sources being the most significant contributors to the air quality problem. The Basin has the worst air quality in the nation for the 8-hour ozone and PM2.5 federal ambient air quality standards. Since NOx emissions are important precursors to both PM and ozone formation, control of NOx emissions from all major source categories is critical to meeting the PM2.5 and 8-hr ozone ambient air quality standards by 2015 and by 2024, respectively. Off-road diesel motor vehicles affected by this rule are the second largest source of NOx emissions at approximately 19% of the total basin-wide NOx emissions and have been relatively uncontrolled until very recently. Over the last decade, new models of off-road equipment have had to meet progressively cleaner emission

standards. However, off-road diesel vehicles typically operate for many decades. As a result, off-road diesel vehicle emissions are expected to remain high even with the availability of much cleaner new vehicles. Accelerating the rate of introduction of the newer cleaner engine technologies would provide a substantial fraction of the important and necessary NOx emission reductions.

BACKGROUND

The Basin, which includes Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties, is designated as non-attainment for PM_{2.5} and severe-17 for ozone (proposed for reclassification to extreme) by U.S. EPA. Mobile sources emit significant amounts of both particulate matter and NOx in the Basin, as highlighted in the 2007 Air Quality Management Plan (AQMP). The 2007 AQMP identifies NOx emission reductions of 192 TPD (29%) in 2014 and 383 TPD (76%) in 2023 as needed to meet the PM_{2.5} and 8-hr ozone standards. The off-road diesel vehicle category is one of the largest sources of NOx emissions in the Basin as well as a significant contributor of PM_{2.5} emissions. CARB, in recognition of the off-road diesel vehicles' large contribution of NOx and PM emissions, recently promulgated the "In-use Off-road Diesel Vehicle" regulation to control these emissions by requiring fleets to meet increasingly stringent fleet average NOx and PM targets or minimum BACT turnover and PM retrofit requirements. While CARB's regulation will achieve substantial reductions from this sector, additional NOx reductions are necessary in the South Coast Air Basin to attain the Federal PM_{2.5} standard in 2015 and longer term reductions by 2023-2024 to meet the 8-hr ozone standard.

To allow air districts to better address their regional air quality needs, CARB's regulation was designed with a voluntary opt-in provision (the SOON program). After an air district formally opts-in to the SOON program, it can use incentive funds to garner additional NOx emission reductions since fleets subject to the SOON program must meet more stringent SOON NOx fleet targets. In addition to providing incentive funds, the air district must develop administrative guidelines detailing additional requirements necessary to implement the SOON program, and obtain CARB approval of the guidelines. When an air district prepares a program announcement offering incentive funds under the SOON program, fleets with more than 40% Tier 1 and Tier 0 vehicles, a statewide fleet over 20,000 hp, and operate vehicles in a district must apply for sufficient incentive funds to meet the more stringent SOON NOx target levels. A fleet if awarded funding must implement the proposed projects as detailed in the application for funding.

The AQMD Governing Board approved the release of Program Announcement (PA#2008-01) on November 2, 2007 to solicit up to \$30 million of projects in 2008. An implementation working group was formed to provide input from stakeholders on the SOON program.

CONTROL TECHNOLOGY

New off-road engines must meet certification standards that are designated by Tier based on their year of manufacture and their size. Currently most new engines must meet Tier 3 standards and have NOx emissions that are three to four times cleaner than the older uncontrolled engines that comprise approximately 50% of today's fleets. The Tier 4 engines due out in the 2014 timeframe will have NOx emissions 30 to 40 times lower than

uncontrolled engines. It is expected that most new engines funded in the SOON program will meet the Tier 3 standards or better.

NOx emission reduction options available for funding would include repowers where the existing engine is replaced with a new cleaner engine, vehicle replacement where the entire vehicle is replaced with a new vehicle, and retrofits where after-market add-on controls are used to control emissions. Initially, repowering is expected to be the predominant choice among fleet owners because of the relatively mature repowering market developed over the past several years from the successful implementation and funding of many repowers under the Carl Moyer Memorial Air Quality Program. However, replacement and retrofit projects are also expected to be awarded under the SOON program.

CARL MOYER MEMORIAL AIR QUALITY PROGRAM

SOON program funding is proposed to be from Carl Moyer Memorial Air Quality Program (Moyer) funds. CARB is required to develop Carl Moyer Program guidelines to assist in implementing the program and is revising its 2005 guidelines. The 2008 Carl Moyer Program Guideline Revisions are expected to be finalized early in 2008. For projects funded in 2008, the most current version of the 2008 Moyer Guideline Revisions expected to be adopted by CARB prior to the deadline for the SOON program is proposed to be used for the SOON program.

Several of the proposed changes identified in the 2008 Moyer Guideline Revisions would directly affect the SOON program¹. These include:

- Co-Funding – The minimum co-fund is proposed to be 15% of the full Tier 3 repower costs. Most, if not all, of the expected SOON repower projects will be to Tier 3 or better and unless the applicant requests a lower funding level, the SOON program will provide funding up to the ~~cost~~-cost-effectiveness cap or 85% of the repower costs, whichever is lower, consistent with the proposed 2008 Moyer Guideline Revisions.
- Project Cost-Effectiveness Limit – The revisions increase the Moyer project cost-effectiveness limit to \$16,000 per Moyer weighted ton (includes NOx+VOC+PM₁₀+20 times PM). Historically, repower projects similar to those expected in the SOON program have had cost-effectiveness values below \$5,000 per ton of NOx controlled, and it is expected that most competitive SOON projects will have cost-effectiveness values near or below this benchmark level. However, projects at higher cost-effectiveness values can still be funded as long as they are below the cost-effectiveness cap mandated by the current Moyer Guidelines.
- Vehicle Replacement – The draft revisions allow for a vehicle replacement program or fleet modernization program for off-road equipment. As part of this program the AQMD will need to develop for approval by CARB, equipment replacement policies and procedures. The necessary policies and procedures to implement the equipment

¹ These requirements are subject to change until approved by the California Air Resources Governing Board

replacement element is expected to be approved by the AQMD Governing Board to allow fleets to participate in the off-road fleet modernization program for the first year and future rounds of SOON funding.

- Verified Diesel Emission Control Strategy (VDECS) requirements – The draft revisions continue the requirement for VDECS (if they are available) on any equipment repowered or replaced with Moyer funds. SOON program funding cannot be used to fund the VDECS. However, because the fleet owners will need to finance the cost of the VDECS, they will be able to count the emission reductions from the VDECS toward the statewide PM BACT or PM Target compliance provisions.

LEGISLATIVE AUTHORITY

Proposed Rule 2449 implements the SOON provision of the state regulation as authorized in Section 2449.3 Title 13, CCR, and implies no additional authority beyond that granted in Section 2449.3, Title 13, CCR.

SUMMARY OF PROPOSED RULE 2449

The purpose of PR 2449, “Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles”, is to implement the requirements of the SOON provision (once the AQMD Governing Board formally opts-in to the SOON program) of the CARB off-road diesel regulation (Title 13, CCR, Section 2449.3, “Requirements for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen”). PR2449 would incorporate by reference CCR Section 2449.3 into the AQMD Rules and Regulations. The rule language for PR2449 is provided in Appendix A. The following is a brief summary of Section 2449.3 and the full regulation is provided for information purposes in Appendix B.

- Applicable fleets include those with over 40% of their statewide fleet consisting of Tier 0 and Tier 1 equipment as of January 1, 2008, and that operate individual vehicles in the AQMD. [Title 13, CCR, Section(b)]
- Eligible SOON vehicle is a vehicle that has been used the greatest percentage of its operational time in the AQMD. [Title 13, CCR, Section(b)(2)(B) and Section(c)(2)]
- When a program announcement for SOON funding is released, all eligible fleets must apply for incentive funds for the SOON portion of their fleet to meet the more stringent SOON NOx targets. Non-SOON fleets can voluntarily apply for SOON funding. [Title 13, CCR, Section(d)]
- Fleets must also submit a compliance plan with their SOON funding application. Compliance plan must include fleet information and subsequent actions taken by fleets on each vehicle, each year for up to three years (to the next applicable SOON NOx target year 2011, 2014, 2017, 2020, or 2023), as well as all calculations and analyses necessary to show compliance with CARB’s base rule as well as the SOON program. [Title 13,

CCR, Section(e)(3)]. AQMD staff plans to develop in concert with CARB a compliance plan template to aid fleets in generating their compliance plans.

- If awarded incentive funds, fleets must complete the actions for which they were funded. [Title 13, CCR, Section (d)(1)(E)]. The AQMD Governing Board approved the release of Program Announcement PA#2008-01 on November 2, 2007 soliciting projects for funding up to \$30 million in 2008.

SUMMARY OF PR2449 ADMINISTRATIVE GUIDELINES

Pursuant to Section 2449.3(e)(7), any funding awards must be consistent with the Carl Moyer Program. The AQMD Governing Board has adopted specific policies and procedures to implement the Carl Moyer Program. The Carl Moyer Program Guidelines serve as the basis to implement the SOON Program. However, additional administrative guidelines are needed given the specific requirements of the SOON Program. The Draft Proposed Rule 2449 Administrative Guidelines which are requirements beyond the most recent state Carl Moyer Program guidelines are provided in Appendix C. Revisions to the draft guidelines released in November 2007 were made based on comments received from the implementation working group and public comments. The guidelines are summarized below:

1. Vehicle Qualification / Eligibility in SOON Fleet
 - Operation in the district is defined as operating in the AQMD in the year immediately preceding the closing date of the active SOON program announcement.
 - Calculation of the 40% Tier 0 and Tier 1 fraction of the fleet is based on fleet equipment number and not the fleet's total horsepower.
 - Vehicles that are scheduled to leave the AQMD are not to be included in a fleet's SOON fleet and are exempt from the SOON requirements. [Title 13, CCR, Section(e)(8)]
2. Compliance Plan
 - Minimum reporting requirements for fleet information and actions taken on vehicles to comply with statewide and SOON portions of the fleet are outlined. AQMD would review and provide its initial approval within 45 days after a plan is deemed complete. (CARB has a separate approval process, which the AQMD would work with CARB to obtain CARB's approval in a timely manner.)
3. Application
 - Minimum reporting requirements for fleet information, actions taken on all equipment submitted for SOON funding, and project funding request for priority are outlined.
4. Operational requirements
 - Minimum contract duration (project life) is seven (7) years.
 - The historical annual hours of operation is defined as the average number of hours operated each year for the past two years immediately preceding the active SOON program announcement closing date.

- The electronic monitoring unit (EMU) will be funded by the SOON program and as such the cost of the unit must be included in the ~~cost-cost~~-effectiveness calculations. However, the fleet will not be required to co-fund any portion of the cost of the EMU.

5. Project Award

- The majority of the funding (75%) will be awarded based on cost-effectiveness.
- The remaining (25%) of funding will be used to fund the most cost-effective projects in fleets that have requested high priority and have not been awarded funding to allow as many fleets as possible to receive funding.-
- No fleet will receive more than 10% of the total available SOON funding.
- Projects over 250 hp will be funded before those below 250 hp.

6. Co-funding

- Projects funded under SOON must meet the co-funding requirements of the Carl Moyer Program. SOON repower projects will be funded at the full incremental cost of the repower which will require the project owner to co-fund 15% of the cost of repower with the SOON program providing 85% of the repower costs.
- SOON funding of 100% of the cost of the repower may be available for projects where it could be reasonably determined that the project owner would not have incurred the rebuild costs of the replaced engine (i.e., the replaced engine had recently been rebuilt)

These guidelines will be reviewed on an annual basis from the date of their adoption and may be updated to reflect the most recent applicable Carl Moyer guidelines or other administrative or funding guidelines approved by the ~~District~~ AQMD Governing Board.

EMISSION BENEFITS

The goal of the Proposed Rule 2449 is to reduce NOx emissions from in-use off-road diesel vehicles through the introduction and use of less polluting vehicles or engines. These emission benefits are expected to play a significant role in attaining the federal PM2.5 and 8-hour ozone ambient standard in 2015 and ~~2023~~2024, respectively. Title 13, CCR, Section 2449.3 is specifically based on achieving NOx emission reductions beyond those required by CARB's in-use off-road diesel vehicle base regulation. The emission benefits are primarily based on fleets' use of cleaner engine technology.

Based on the AQMD experience over the past several years with the Carl Moyer Memorial Air Quality Program, off-road equipment repowers have generally been performed at or below a cost-effectiveness level of \$5,000 per ton of NOx reduced. Based on the set aside of \$120 million (\$30 million/year over four years) for the SOON program, the NOx emission reductions associated with the SOON program are estimated to be 12 tons/day by 2014.

COST ANALYSIS

The AQMD Administrative Committee approved a staff recommendation, pending full Board approval, to set aside \$120 million (\$30 million over 4 years) for the SOON program. The source of funding is expected to be from the Carl Moyer Memorial Air Quality

Standards Attainment Program fund AB 923 and SB 1107 accounts (or other funding sources if available), Historically, over \$50 million per year has been allocated through the Carl Moyer Program. This funding level is expected to be maintained for the foreseeable future, ensuring that there will be sufficient funds available for the SOON program. Additionally, projects that meet a \$5,000/ton or better NOx cost-effectiveness would be funded first to achieve the expected NOx emission reductions of 12 TPD by 2014.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

AQMD staff has reviewed Proposed Rule 2449 and, in accordance with the California Environmental Quality Act (CEQA) and AQMD Rule 110, has prepared a Draft Environmental Assessment (EA) with no significant adverse impacts pursuant to CEQA Guidelines §15252. The Draft EA was released for a 30-day public review and comment period beginning December 20, 2007 and ending on January 18, 2008. Any comments received during the public comment period will be responded to and incorporated into the Final EA. Prior to making a decision on the proposed project, the AQMD Governing Board must review and certify that the Final EA has provided adequate information on any potential adverse environmental impacts of the proposed project, if any exist.

PUBLIC COMMENTS

The following summarizes public comments and staff responses regarding the development of Proposed Rule 2449 – Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles. Comments were received from the ~~AQMD-formed~~ SOON Implementation Working Group which consisted of representatives from state and local agencies, private fleets, construction industry associations, and equipment manufacturers. Additionally, AQMD staff held a public workshop on December 4, 2007 which was attended by 53 people. The comment period closed on December 18, 2007 and comments were received both orally and written.

Comment 1. SOON funding will not be equally distributed, giving some fleets an advantage.

Response 1. SOON funding guidelines have been developed to ensure equitable distribution. The majority of the funding (75%) will be awarded based on cost-effectiveness. The remaining (25%) of funding will be used to fund the most cost-effective projects in fleets that have requested high priority and have not been awarded funding to allow as many fleets as possible to receive funding. Staff believes that there will be many competitive projects available to the largest fleets targeted by this rule based on the large number of equipment contained in each fleet. Additionally, no fleet can receive more than 10% of the total funding available. Staff believes this will ensure equitable distribution of funding.

Comment 2. Since fleets typically will be required to co-fund approximately 15% to 20% of the cost of a repower, fleets may be forced to repower even in the event they are unable to cover this cost.

- Response 2. While the SOON funds are required to cover only the incremental cost of a repower resulting in the fleets co-funding of 15% to 20% of the cost, the fleet will realize substantial savings in statewide compliance costs when the SOON funded vehicle completes the SOON contract and re-enters the fleet where it can assist in meeting the requirements of the statewide regulation.
- Comment 3. Fleets should receive PM credit for particulate traps.
- Response 3. SOON funded projects will be required to install verified particulate traps (if available) that must be funded by the fleet owner. As a consequence of the fleet owner purchasing the particulate trap, emission reductions from the trap can be used to show compliance with the PM BACT and PM targets of the statewide rule.
- Comment 4. Multiple comments were received regarding the contract duration. There is concern that a seven year contract will limit a fleet's ability to effectively manage its vehicles in terms of maintenance and demand. Vehicles that need to be moved out of the South Coast Air Basin will be difficult to monitor under SOON.
- Response 4. Staff understands the needs of fleets for operational flexibility and understands the limitations seven year contract duration may have on some fleets. However, the SOON program NOx reductions, critical for meeting the PM2.5 ambient air quality standards, must carry through and beyond 2015, and as such require the minimum seven year contract life. Staff believes that there is sufficient flexibility in current contracting practices to address this concern. Regardless, staff will continue to evaluate on a case-by-case basis to include flexibility in terms of contract duration as the program progresses.
- Comment 5. Vehicles may need to be retired prior to SOON contract expiration because other parts of the vehicle are past their useful life.
- Response 5. If a vehicle would normally be replaced during the SOON contract period because of parts other than the engine are past their useful life, then this vehicle would not be a good candidate for the SOON program. However, fleet owners must carefully weigh the benefits of SOON funding against the additional costs of replacing not only the engine but other parts on the vehicle to ensure its operational viability through the SOON contract period and later when the vehicle can aid in meeting the statewide regulation requirements. Staff also believes that fleets of the size targeted by the SOON program should have many vehicles that should easily be included in the SOON program that would not have the limitation of parts, other than the engine, past their useful life.

- Comment 6. Some vehicles spend time in multiple districts. The SOON guidelines should address the percentage of time that must be spent in the South Coast Air Basin in order to be eligible for funding.
- Response 6. Assuming all other eligibility criteria are met, a vehicle will be eligible for SOON funding if it spends a majority of its time in the South Coast Air Basin in relation to all other air districts. For example, if it spends 34% of its time in the South Coast and 33% of its time in two other districts, it would be eligible for funding. Once the project receives funding, the vehicle must spend 75% of its operating time during the contract period in the AQMD.
- Comment 7. Contract duration should be based on total number of operating hours and not on a fixed number of years.
- Response 7. The SOON award process is based on cost-effectiveness which incorporates operational hours. In addition the SOON contract language specifies a range of annual hours of operation that the project must meet. These criteria ensure that the operational hours are included in the project. In the rare instance where the operational hours fall short or exceed the contractual obligations, there is flexibility available to allow modification to the contract so that the project remains in compliance with the SOON program requirements, and achieves equivalent reductions.
- Comment 8. Because of the long time frame of the compliance plan, fleets may not be able to follow the plan due to changes in business climate, operational demands, etc.
- Response 8. The compliance plan is expected to be a “living” document that can be annually updated. This would be in concert with the statewide regulation annual reporting requirements and staff believes that during this process changes to the compliance plan could be most easily made and reported.
- Comment 9. AQMD may have to adopt the SOON component of the statewide regulation before the CARB statewide regulation is certified by the Office of Administrative Law (OAL).
- Response 9. The AQMD Governing Board will be considering proposed Rule 2449 with the understanding that the Rule takes effect when the CARB regulation is certified by the Secretary of the State. In addition, the AQMD Governing Board approved an early release of a Program Announcement for the SOON program to provide sufficient time for affected fleets to work with staff and CARB to implement the Program for the first round of funding. Funding award is not anticipated until after the Regulation has been finalized. AQMD staff recognizes that this will cause some uncertainty for this first year of funding, but will continue to work with CARB staff and the affected fleets to ensure that the exact

requirements necessary to complete the SOON application process are available and clearly communicated.

Comment 10. Originally, this program was voluntary. Making it mandatory will make it difficult for contractors to comply and will therefore hurt them. Contractors will not have enough funds to meet both the CARB statewide regulation and the SOON rule unless they receive full funding.

Response 10. The SOON program was never drafted as a voluntary program. Regardless, staff believes that the cost of overall compliance will be reduced with participation in the SOON program because SOON funded vehicles will ultimately return to the fleet and assist in complying with the statewide regulation. In addition, the design of the statewide regulation and the SOON provision allow fleets significant flexibility to determine the least costly compliance path.

Comment 11. The application process will require large time and financial commitments for relatively little funding. Time and efforts spent by many fleets will be wasted because many will not be funded in the end.

Response 11. Fleets will need to report their fleet makeup under the statewide regulations. As such, staff is committed to working with CARB staff to develop one set of tools and reporting procedures to help fleets with the application process in order to minimize time and money spent by all parties in the process.

Comment 12. Eligibility should be based on the number of high-horsepower engines in a fleet. This will streamline the number of applications by removing large fleets with mostly low-horsepower engines from the application process.

Response 12. Staff considered this approach, but at this time believes that there is insufficient information available on all fleets subject to the SOON program to develop a such a criteria and still ensure that enough fleets and vehicles would be subject to the SOON program to realize the necessary NOx reductions. However, staff will encourage fleets to submit their higher horsepower vehicles first during the bidders workshops to be held in January and February, 2008.

Comment 13. SOON will cause overcompliance with the CARB statewide regulation because emissions reductions from Tier 0's and Tier 1's won't be counted towards statewide compliance, which will result in higher turnover requirements.

Response 13. Staff believes that this will not occur because the vehicle will fall back into the fleet and be counted towards statewide regulation requirements after the SOON contract expires. Staff has used CARB's benefits model to model the effect of the SOON program. The results indicate that SOON

has little effect on the overall compliance path (i.e., number of equipment repowered).

Comment 14. If multiple air districts opt-in, and fleets operate in two or more of these districts, they will have to follow multiple compliance plans. There should be compatibility between air districts.

Response 14. Fleets will be required to follow one compliance plan. However, since there is the potential that multiple compliance plan formats and reporting requirements could be realized, staff is working with CARB and other air district staff to ensure that the compliance plan formats and reporting requirements are as consistent as possible.

Comment 15. Contract length and the compliance plan length should match.

Response 15. Contract length must be a minimum of seven (7) years to ensure the emission reductions are in place to meet the PM_{2.5} ambient air quality standards. Compliance plans, at a minimum, need to show fleet actions up to the next applicable SOON NO_x target date. However, the compliance plan planning horizon is not limited by the next SOON target date. Fleets are encouraged to consider future NO_x SOON target dates as part of their compliance plan to better determine their SOON and statewide requirements.

Comment 16. The cost-effectiveness requirement is unnecessary. Because these emissions are excess to CARB's requirements, the low cost-effectiveness threshold will unfairly burden the larger contractors who use their equipment more hours annually.

Response 16. While it is financially prudent to fund the most cost-effective projects, the award criteria have a 10% cap on the amount of funding that can be awarded to one fleet. Additionally, 25% of the funding will be distributed to ensure that at least one project in each fleet requesting high priority is funded as long as it is below the mandated Moyer cost-effectiveness cap. These criteria would allow more fleets to receive funding.

Comment 17. The SOON program needs to be removed from the CARB rule and simplified.

Response 17. Staff believes that the SOON regulation adopted by the CARB Board can be implemented in an efficient manner given the longer compliance period between the NO_x targets (i.e., 3 years). The SOON regulation is intended to complement the Statewide Regulation and could not be separated since affected fleets must demonstrate compliance beyond the base statewide regulation.

- Comment 18. The eligibility date and percentage are arbitrary and problematic. The January 1, 2008 and 40% vehicle eligibility threshold exclude many large contractors with 39% or fewer eligible vehicles and preclude those who can drop below the 40% from exiting the SOON program. Contractors whose fleets become 40% Tier 0 and Tier 1 after January 1, 2008 are excluded from the program.
- Response 18. The eligibility language was adopted to ensure that only the older fleets with the largest number of Tier 0 and Tier 1 equipment would participate in the SOON program. The design of the program and the associated emission reductions require that the fleets, once included in the program, need to stay in the program. The January 1, 2008 deadline is needed to coordinate with the timing of the first program announcement, as fleets would need to know if they were required to participate in the SOON program.
- Comment 19. The annual CARB NOx fleet averages coupled with the SOON 3-year averages, make it impossible for contractors to develop reasonable compliance plans. The only way the SOON program can be implemented is if the CARB NOx fleet averages are made every three years for those in the SOON program.
- Response 19. While the administrative requirements are somewhat more involved because of the two different NOx target timeframes, staff does not believe this makes the development of the compliance plan untenable. Staff believes that the compliance plan will most likely need to be updated on an annual basis which coordinates well with the annual reporting requirements of the statewide rule.
- Comment 20. Fleets are required to provide a report of all information required under section 2449(g) with the air district and CARB on their total statewide fleet and that part of their fleet that has operated within the air district. Guidelines should be revised to read: "If the part of the fleet operating within the district is a separate division or subsidiary of the statewide fleet, these fleet portions may report to the air district and fulfill their SOON program requirements as this separate division or subsidiary."
- Response 20. The Statewide Regulation allows reporting and compliance to be demonstrated by divisions and subsidiaries. As such, the SOON program would allow similar reporting.
- Comment 21. CARB and AQMD should expand the existing calculator to create a compliance strategy reporting tool, which would give fleets time to compile data and develop a strategy by the deadline. The compliance tool should include the baseline fleet information and a non-binding proposed ARB Compliance Strategy through the next SOON compliance date.

- Response 21. Staff is currently working with CARB staff to develop tools to assist fleets in reporting and demonstrating compliance with the SOON requirements. Staff will continue to work with CARB and other air districts and plans to release these in time for fleets to use before the final SOON application deadline.
- Comment 22. Where the NOx average from the CARB compliance strategy is lower than SOON NOx targets, SOON compliance is complete and fleets are not required to provide any additional information.
- Response 22. If a fleet demonstrates through a compliance plan or through the required Statewide Regulation reporting that the fleet will comply with the applicable SOON NOx targets, the fleet does not need to apply for SOON funding.
- Comment 23. Comment was made that fleets should be allowed to exempt projects from applying for SOON funds based on cost-effectiveness, annual hours of operation, or engine tier.
- Response 23. The SOON provision of the Statewide Regulation requires that fleets need to submit a sufficient number of SOON projects to meet the SOON NOx targets independent of cost-effectiveness or other criteria.
- Comment 24. The SOON program requires new engines to be outfitted with PM traps, but these traps are not funded with SOON/Moyer money. PM emission benefits are not included in the cost-effectiveness calculations, so the participating fleet would not receive a benefit for this added cost. Fleets should be able to select a different piece of equipment to outfit with the PM trap from a new SOON engine if higher emission reduction can be achieved this way.
- Response 24. Vehicles repowered with Moyer funds under the SOON program are required to also retrofit with a PM VDECS if available as provided in the CARB Carl Moyer Guidelines. Staff will work with CARB staff to determine if the additional flexibility of placing the VDECS on equipment other than the equipment funded through the SOON program could be allowed.
- Comment 25. Flexibility is needed in regard to cost effectiveness-caps, weighted formulae and project lives to keep the SOON program viable for public fleets because award amounts are often less than the non-reimbursable costs of participating. Public fleets should have a separate competitive category and project criteria from private fleets.
- Response 25. While public fleets have different funding mechanisms than do private fleets, we believe the awarding criteria are sufficiently flexible to provide equitable distribution of the funding for both private and public fleets.

- Comment 26. It is recommended that both Tier 0 and Tier 1 projects receive SOON/Moyer funding to allow fleets to meet their SOON program requirements.
- Response 26. The SOON program does allow both Tier 0 and Tier 1 projects to be submitted for funding.
- Comment 27. There is a great deal of information in the Draft Staff Report that is not included in the Proposed Rule Language in Appendix A.
- Response 27. The proposed rule language adopts the SOON provision of the Statewide Regulation by reference. The SOON provisions are designed as a complement to the Statewide Regulation. In addition, the regulation requires the development of district guidelines to implement the SOON program.
- Comment 28. Please specify how the fleet should calculate 40% of Tier 0 and Tier 1 vehicles, by horsepower or vehicle population.
- Response 28. The 40% calculation is based on vehicle number and not horsepower. Staff agrees that this should be clarified and have added a this clarification in section A(1) of the guidelines.
- Comment 30. Large fleets may not be able to meet the May 2, 2008 reporting deadline, especially if storms or other emergencies occur in the coming months. Please provide an abbreviated reporting requirement and allow more time to provide all required information.
- Response 30. AQMD staff has been working with CARB staff to develop a reporting tool that will simplify the reporting process. Staff believes that all fleets will have ample time to report required fleet information by the May 2, 2008 deadline. However, should a fleet have extraordinary circumstances, staff will consider on a case-by-case basis.
- Comment 31. SOON funding should be extended to retrofit, repower, or replace diesel-powered portable equipment associated with off-road vehicles.
- Response 31. Portable equipment is not regulated under the Statewide Regulation. As such, SOON funding is not applicable for portable equipment.

PRELIMINARY DRAFT FINDINGS AND COMPARATIVE ANALYSIS

Proposed Rule 2449 is part of the AQMD's strategy to attain federal and state ambient air quality standards. Long-term air quality benefits are expected from attaining and maintaining the ambient air quality standards for particulate matter. Improved air quality will ultimately reduce negative public health impacts from particulate matter.

Proposed Rule 2449 incorporates CARB's opt-in SOON program in order to achieve NOx emission reductions from off-road diesel-powered vehicles. The proposed rule addresses concerns raised by the public, wherever possible. Therefore, staff recommends the adoption of Proposed Rule 2449.

These findings are being made in compliance with state law requirements.

Draft Findings Required by the California Health and Safety Code

Health and Safety Code (HSC) Section 40727 requires the AQMD to adopt written findings of necessity, authority, clarity, consistency, non-duplication, and reference.

Necessity - The emission reductions associated with Proposed Rule 2449 are needed for the following reasons:

- a) State and federal health-based ambient air quality standards for particulate matter and ozone are regularly and significantly violated in the South Coast Air Basin. The reduction of nitrogen dioxide emissions from diesel powered vehicles through the implementation of Proposed Rule 2449 is needed to meet federal and state air quality standards.
- b) By exceeding state and federal air quality standards, the health of people within the South Coast Air Basin is impaired.
- c) By exceeding state and federal air quality standards, the quality of life is reduced in the South Coast Air Basin in numerous respects.
- d) The California Clean Air Act (HSC Section 40910 et seq.) requires that the air districts make every effort to attain federal and state ambient air quality standards as soon as practicable.

Authority - The AQMD Board obtains its authority to adopt, amend, or repeal rules and regulations from HSC Sections 40000, 40001, 40440, 40441, 40447.5, 40463, 40702, 40725 through 40728, and 40910 through 40920.5, inclusive. Authorization for the AQMD's adoption of the SOON Program is specified in Title 13, California Code of Regulations, Section 2449.3

Clarity - The AQMD Board determines that Proposed Rule 2449 is written or displayed so that its meaning can be easily understood by persons directly affected by it.

Consistency - The AQMD Board determines that Proposed Rule 2449 is in harmony with, and not in conflict with or contradictory to, existing federal or state statutes, court decisions, or regulations.

Non-Duplication - Proposed Rule 2449 does not impose the same requirements as any existing state or federal regulation and is necessary and proper to execute the powers and duties granted to, and imposed upon, the AQMD.

Reference - In adopting this proposed rule, the Board references the following statutes which the AQMD hereby implements, interprets, or makes specific: HSC Sections 40001 (rules to achieve ambient air quality standards) and 40440(a) (rules to carry out AQMP).

Draft Comparative Analysis

Health and Safety Code Section 40727.2 requires a written comparison of a proposed rule with existing federal and local regulations imposed on the same source. The U.S. EPA adopted emission standards for off-road vehicles in 1998 again in 2004 that provided for new NOx plus nonmethane hydrocarbons, PM, and carbon monoxide emission standards for engines within different power categories in a tiered approach (Title 40, Code of Federal Regulations, Part 89). The California Air Resources Board adopted the federal emission standards and are contained in Title 13, California Code of Regulations, Section 2423(b)(1). The regulations that apply to in-use emissions control of off-road diesel vehicles are those adopted by the California Air Resources Board on July 26, 2007, which adds to Title 13, California Code of Regulations, Sections 2449 *et. seq.* Proposed Rule 2449 incorporates by reference Title 13, California Code of Regulations, Section 2449.3 - Requirements for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen. There are no other State or local air pollution regulations or monitoring/recordkeeping/reporting requirements relative to control of emissions from in-use off-road diesel vehicles.

PRELIMINARY DRAFT FINDINGS AND COMPARATIVE ANALYSIS

~~Proposed Rule 2449 is part of the AQMD's strategy to attain federal and state ambient air quality standards. Long term air quality benefits are expected from attaining and maintaining the ambient air quality standards for particulate matter. Improved air quality will ultimately reduce negative public health impacts from particulate matter.~~

~~Proposed Rule 2449 incorporates CARB's opt-in SOON program in order to achieve NOx emission reductions from off road diesel powered vehicles. The proposed rule addresses concerns raised by the public, wherever possible. Therefore, staff recommends the adoption of Proposed Rule 2449.~~

~~These findings are being made in compliance with state law requirements.~~

APPENDIX A

PROPOSED RULE LANGUAGE

**PROPOSED RULE 2449 IS PROVIDED IN AN EARLIER PART OF
THE BOARD PACKAGE AND WILL BE INSERTED HERE UPON
ADOPTION BY THE AQMD GOVERNING BOARD**

APPENDIX B

TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2449.3 REQUIREMENT FOR LARGEST FLEETS TO ACHIEVE ADDITIONAL REDUCTIONS OF OXIDES OF NITROGEN

(NOTE: This section of the California Code of Regulations is provided for reference purposes only. The regulation is taken from the California Air Resources Board website: <http://www.arb.ca.gov/regact/2007/ordiesl07/resattachc.pdf>

2449.3 Requirement for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen

(a) **Purpose** – To achieve additional reductions of oxides of nitrogen (NO_x) emissions from in-use off-road diesel-fueled vehicles in California. The reductions must be surplus to those that would otherwise be achieved through implementation of title 13, California Code of Regulations, section 2449, “Regulation for In-Use Off-Road Diesel Vehicles”.

(b) Applicability

(1) **District Applicability** -Section 2449.3 applies to any air quality management district or air pollution control district (jointly referred to hereafter as air district) whose governing board elects to opt into the provisions of this section as set forth in section 2449.3(f) below.

(2) **Fleet Applicability** – Section 2449.3 applies only to fleets that:

- (A) As of January 1, 2008, on a statewide level, consisted of more than 40 percent Tier 0 and Tier 1 vehicles, and;
- (B) Operate individual vehicles within the air district.

(c) Definitions

The definitions in title 13, CCR, section 2449(c) apply, along with the following definitions:

- (1) **Contract period** means the period of time in which the vehicle participates in the program and is under contract to the air district to achieve additional emission reductions.
- (2) **Operated within the district** means a vehicle that currently operates within the boundaries of the air district and, during the three years immediately prior to the solicitation deadline, operated at least one hundred hours per year and operated more hours within the boundaries of the air district than in any other district.
- (3) **Project** means actions on one vehicle to reduce NO_x emissions, such as retrofit, repower, or vehicle replacement, for which funding is requested.
- (4) **Solicitation** means a public announcement by the air district, requesting that fleets submit grant applications to the air district to participate in emission reduction incentive programs under this section.
- (5) **Solicitation deadline** means the last day, as provided in the solicitation, that an application may be physically received by the air district.

(d) Requirements

- (1) If an air district, having held a public hearing and opted into this regulation,

issues a solicitation for applications for funding under this Surplus Off-road Opt-in for NOx (SOON) program, fleets that have a statewide fleet with maximum power greater than 20,000 horsepower (hp) and meet the applicability criteria of subsection (b) must, before the solicitation deadline, do the following:

- (A) **Report to District and ARB** – File a report of all information required under section 2449(g) with the air district and ARB on their total statewide fleet and that part of their fleet that has operated within the air district. If the solicitation deadline is before April 1, 2009, the fleet must provide information regarding the fleet as of January 1, 2008. If the solicitation deadline is on or after April 1, 2009, the fleet must provide the information that was reported to ARB on the most recent April 1 reporting date.
- (B) **Calculate NOx index** -Determine the NOx index for vehicles that operated within the air district for the year in which the solicitation deadline occurs according to the formula in section 2449(d)(1)(A)1.
- (C) **Calculate NOx target rate** -Determine the NOx target rate for vehicles that operated within the air district for the year in which the solicitation deadline occurs according to the formula in section 2449(d)(1)(A)1, and using the NOx targets set forth in Table 1 below. If there is no NOx target rate for the year in which the solicitation deadline occurs, the nearest future target rate should be used.

Table 1: NOx Targets for each Max Hp Group								
Compliance Date: March 1 of Year	25-49 hp	50-74 hp	75-99 hp	100-174 hp	175-299 hp	300-599 hp	600-750 hp	>750 hp
2011	5.6	6.2	6.7	6.0	5.4	5.1	5.3	6.4
2014	4.9	5.1	5.2	4.7	2.8	2.7	2.7	4.2
2017	4.2	4.1	3.8	3.4	1.5	1.5	1.5	3.2
2020	3.5	3.2	2.4	2.2	0.9	0.9	0.9	2.6
2023	3.5	3.2	2.4	2.2	0.9	0.9	0.9	2.6

- (D) **Apply for funding** – Fleets for which the NOx index, as calculated in section 2449.3(d)(1)(B), is greater than the NOx target rate, as calculated in section 2449.3(d)(1)(C), must apply for SOON funding. The application submitted must be completed according to the guidelines and conditions established under the solicitation. Fleets must apply such that the NOx retrofits, repowers, or vehicle replacements for which funding is requested are sufficient to bring the NOx index for vehicles that operated within the air district from where it would have been under compliance with section 2449 to less than or equal to the NOx target rate calculated in 2449.3(d)(1)(C). On each SOON program project application, fleets must indicate whether they wish the project to receive high priority for SOON program funding.

The funding priority shall be determined under the air district guidelines developed per section 2449.3(f)(2).

- (E) **Achieve NOx reductions** – Fleets that receive SOON program funding must complete the actions for which they were funded per the conditions of the solicitation. Fleets that do not receive requested SOON program funding are not required to take actions beyond compliance with the in-use off-road diesel vehicle regulation, as specified in section 2449.
- (2) Fleets that meet the applicability provisions of section 2449.3(b)(2) but have a statewide fleet with maximum power less than or equal to 20,000 hp are not required to file a report with the ARB or the air district as required for larger fleets under section 2449.3(d)(1). They are also not required to apply for funding under subsection (d)(1)(D), but may do so if the NOx index calculated for their fleet operating within the air district exceeds the NOx target rate, and the fleet would like to qualify for funding. If the fleet's application is accepted, it must achieve the NOx reductions as set forth in subsection (d)(1)(E).
- (3) Air districts that opt into the SOON program must prioritize requested projects based on the optimum NOx cost-effectiveness and on whether the fleet requesting the SOON program funding requested high priority for SOON program funding. Air districts must report to ARB all projects funded under the SOON program, including the equipment identification number of all vehicles funded.

(e) Special Provisions –

- (1) **Accounting for the in-use off-road diesel vehicle rule** – Reductions achieved through the SOON program must be surplus, over the entire contract period, to those required by the "Regulation for In-Use Off-Road Diesel Vehicles". During the contract period, vehicles equipped with NOx retrofits, repowered with new engines, or that have been replaced using SOON program funding, cannot use this lower emission rate to calculate NOx indices, PM indices, NOx target rates, PM target rates, turnover credit and retrofit credit under section 2449. Instead, for the purposes of calculating NOx indices, PM indices, NOx target rates, PM target rates, turnover credit and retrofit credit under section 2449, these vehicles must be reflected as if the actions taken under the SOON program did not occur. Actions taken using SOON program funding may be used for determining compliance under section 2449 after the completion of the SOON program project contract period for that vehicle. For example, if a Tier 0 vehicle is repowered with a Tier 3 engine with SOON program funds, for purposes of compliance with Section 2449, that vehicle is still treated as if it were a Tier 0 until the end of the contract period for the SOON program project. If a fleet pays for a retrofit that is installed concurrently with a repower or vehicle replacement funded with SOON

program funding, the fleet may count the retrofit toward determining compliance under section 2449. If a fleet's vehicle is repowered using SOON program funding with a Tier 4 engine that comes with an original engine manufacturer diesel particulate filter, and if the fleet pays a portion of the repower costs such that it offsets the cost of an equivalent retrofit diesel particulate filter, the fleet may count the retrofit toward determining compliance under section 2449.

- (2) **Turnover in section 2449** -A fleet may apply to the Executive Officer for an extension from the requirements in section 2449(d)(2)(A) if, using the accounting provisions in section 2449.3(e)(1), section 2449(d)(2)(A) would require, prior to March 1, 2014, a fleet to turn over vehicles that are Tier 2 or better.
- (3) **Compliance plans** – Fleets applying for SOON program funding must prepare and submit to the air district along with their SOON program application a compliance plan laying out the actions they are required to take under Section 2449 and the actions for which they are applying for funding under Section 2449.3.
- (4) **Surplus** -Participation in the SOON program does not reduce the actions required for any fleet to comply with any requirements in the statewide in-use off-road diesel vehicle regulation under Section 2449.
- (5) **Tracking devices** – An air district may require any vehicle repowered, retrofitted, or replaced with incentive money through the SOON program to be equipped with a vehicle location device (per the air district's guidelines and conditions for receiving funding) to ensure that the vehicle is used in the air district for the required percent of operating hours.
- (6) **Particulate Matter Retrofits** -The exemption from retrofit requirements for engines in vehicles less than 5 years old in 2449(d)(2)(B)4.a. does not apply to vehicles that are replaced or repowered with SOON program funds.
- (7) **Funding Guidelines**-Projects funded under the SOON program with Carl Moyer program money must be administered consistent with applicable Carl Moyer program guidelines. If a project is funded from other sources, the SOON program must be administered consistent with any applicable guidelines. The air district shall develop guidelines for administration of the SOON program, as provided in Section 2449.3(f)(2).
- (8) **Vehicles Scheduled to Leave District** –A fleet that has operated within the air district as defined in section 2449.3(c)(1) but that is planning to move vehicles out of the air district such that the vehicles will not operate enough hours in the air district to qualify for SOON funding may leave such vehicles out of the NOx index calculation in section 2449.3(d)(1)(B), the NOx target rate calculation in section 2449.3(d)(1)(C), and the application for funding in section 2449.3(d)(1)(D). The fleet must submit a statement under penalty of perjury to the district for each such vehicle stating its intent to move each such vehicle out of the district.

(f) Local Air District Opt-In

- (1) To participate in the SOON program, an air district's governing board must hold a formally noticed public hearing, where public comment is taken, and, by majority vote, elect to opt into the program.
- (2) **District Guidelines** -An air district opting into Section 2449.3 must develop, through a public process including a duly noticed public workshop and formally noticed public hearing, additional administrative provisions necessary to implement this section, including, but not limited to, funding guidelines (as required under section 2449.3(e)(7)) and reporting and monitoring requirements. Funding guidelines may include limitations on the cost-effectiveness of projects that may be funded and must include the method used for prioritizing projects based on cost-effectiveness and whether applying fleets requested high priority for SOON program funding. Air district guidelines may include a pre-application process that collects vehicle data (model year, horsepower, hours of use) and then requires full SOON project applications only for vehicles likely to receive funding.
- (3) **ARB Approval of District Guidelines** -Before any guidelines, including administrative or funding guidelines, approved by an air district take effect, they must be approved by the Executive Officer. Air district staff shall submit proposed guidelines to the Executive Officer before they are acted on by the district's governing board. The Executive Officer will respond within 30 days with a description of any required changes to the proposed guidelines necessary for Executive Officer approval. In evaluating proposed air district guidelines, the Executive Officer shall consider, among other factors, the adequacy of cost-effectiveness criteria, whether fleet requests for high priority for SOON funding are given preference, and uniformity of district guidelines between air districts. After guidelines are adopted by a district's governing board, air district staff shall submit the adopted guidelines to the Executive Officer. The Executive Officer will respond within 30 days with approval or a description of any required changes to the guidelines.

APPENDIX C

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PROPOSED RULE 2449 ADMINISTRATIVE GUIDELINES

PROPOSED RULE 2449 ADMINISTRATIVE GUIDELINES

INTRODUCTION

Title 13, Section 2449 of the California Code of Regulation (CCR), “Emission Standards for In-Use Off-Road Diesel-Fueled Fleets,” was adopted by the California Air Resources Board (CARB) in July 2007. The regulation requires off-road diesel vehicle fleets to meet increasingly more stringent NOx and PM fleet average standards beginning in 2010 to achieve NOx and PM2.5 reductions. A provision of this rule (Title 13, CCR, Section 2449.3) allows air districts to opt-in and require the largest fleets to apply for funds to meet more stringent NOx targets, thereby achieving additional NOx reductions earlier. Emission reductions achieved must be surplus to those required from the statewide regulation (Title 13, CCR, Section 2449.1 and 2449.2).

The opt-in provision is also known as the Surplus Off-road Opt-in for NOx (SOON) program. If an air district formally opts-in to the SOON program, it is required to develop administrative and funding guidelines that outline additional provisions beyond existing guidelines such as the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) necessary to implement the SOON program. Pursuant to Section 2449.3(e)(7), any funding awards must be consistent with the Carl Moyer Program. The South Coast Air Quality Management District (AQMD) has adopted specific policies and procedures to implement the Carl Moyer Program. The policies and procedures for the implementation of the Carl Moyer Program will serve as the basis for the SOON program. Additional administrative or funding guidelines must be developed to implement the SOON Program. At a minimum, the additional guidelines must include project selection criteria, co-funding requirements, and reporting and monitoring requirements.

Proposed Rule (PR) 2449 – Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles, incorporates by reference Title 13, CCR, Section 2449.3 upon adoption by the AQMD Governing Board. The following sets forth additional guidelines as required under Title 13, CCR, Section 2449.3(f)(2). These guidelines will be reviewed on an annual basis from the date of their adoption and may be updated to reflect the most recent applicable Carl Moyer guidelines or other administrative or funding guidelines approved by the District Governing Board.

GUIDELINES

The guidelines described below are proposed to be in addition to the most current Policies and Procedures for the Carl Moyer Program adopted by the AQMD Governing Board. Any fleet that operates off-road diesel vehicles in the AQMD that are subject to Title 13, CCR, Section 2449.3(b) must apply for funding for those off-road vehicles operating a majority of the time in the AQMD, and the emission reductions must be surplus to the provisions of Sections 2449.1 and 2449.2, Title 13, CCR.

A. Vehicle Qualification / Eligibility in SOON Fleet

Pursuant to Title 13, CCR, Section 2449.3(b)(2), a fleet is subject to the SOON requirements if it consists of more than 40 percent of Tier 0 and Tier 1 vehicles statewide as of January 1, 2008, and operates individual vehicles within the district.

1. Percentage of fleet that is Tier 0 and Tier 1 is based on vehicle number and not horsepower. However, calculation of the SOON NOx index and SOON NOx targets in section 2449.3 (d)(1)(B) and 2449.3 (d)(1)(C) will be based on each engine. For example if a vehicle has two engines then the NOx Index and NOx target calculations will be determined using each engine separately and not as the total horsepower combined.
2. *Operated within the district* is defined [Title 13, CCR, Section 2449.3(c)(2)] as a vehicle that currently operates in the district and for the three years immediately preceding the AQMD SOON program announcement deadline – usually the first Friday in May – operated more than 100 hours annually and operated more hours within the boundaries of the AQMD than any other air district.
 - *Currently operates* is defined as having operated or will operate in the AQMD during the year immediately preceding the active SOON program announcement deadline.
 - *Operated more hours within the AQMD's boundaries than in any other district* means that the total number of hours operated in the AQMD's boundaries in the three years immediately preceding the active SOON program announcement deadline are greater than the total hours operated over the same timeframe within any other single district's boundaries.
3. Pursuant to Section 2449.3(d)(2) fleets with a statewide maximum power less than or equal to 20,000 (hp) are not subject to the SOON provisions, but may apply for SOON funding if they meet the applicability requirements and do not meet the SOON NOx targets.
4. Pursuant to Section 2449.3(e)(8), fleets with vehicles that qualify for inclusion in the SOON program but are scheduled to move any of their vehicles out of the AQMD such that they will not operate the majority of their time in the AQMD are not required to include the vehicle in the SOON fleet in meeting the requirements of the SOON program.

B. Compliance Plan Requirements

Title 13, CCR, Section 2449.3(e)(3), requires fleets applying for SOON funding to submit a compliance plan ~~with their application~~. The compliance plan must describe actions the fleet must take to meet the fleet average and BACT requirements of the statewide regulation (Title 13, CCR, Sections 2449.1 and 2449.2) and actions to meet the more stringent SOON NOx fleet targets. AQMD would review and provide its initial approval within 45 days after a plan is deemed complete. (CARB has a separate approval process, which the AQMD would work with CARB to obtain CARB's approval in a timely manner.) Information that must be submitted as part of the compliance plan includes:

1. Fleet Information –

- a. Information required as part of Title 13, CCR, Section 2449(g)(1)(B), for each vehicle and includes:
 - Vehicle type;
 - Vehicle manufacturer;
 - Vehicle model;
 - Vehicle model year;
 - Vehicle serial number;
 - If vehicle is low use, specialty, dedicated emergency, dedicated snow removal, or is used for agricultural operations for over half of its annual operating hours;
 - For each engine that propels the vehicle, the engine manufacturer, USEPA certified engine family (if any), engine serial number, engine model year and/or production year, engine maximum power (net horsepower, or net flywheel horsepower as certified by the Society of Automotive Engineers (SAE), or if this is not readily available, a horsepower on the label of the engine, or in the service literature for the engine can be used), type of retrofit emission control (if any), date installed, and its verification level.
 - Whether the vehicle has been retrofit, repowered, or replaced with SOON funding, and if so, the start and end of dates of the contract period.
- b. Information necessary to demonstrate eligibility for vehicles subject to AQMD SOON provisions:
 - Percentage of Tier 0 and Tier 1 equipment as of January 1, 2008
 - Total fleet horsepower subject to CARB regulation
 - Vehicle operational time and location for past three (3) years
 - Whether the vehicle is scheduled to leave the AQMD, and if so, the appropriate statement under penalty of perjury stating the fleet's intent to move the vehicle out of the AQMD.
- c. If credit will be taken for early repowers, retirements, or retrofits for the purpose of complying with the statewide rule, fleet information must be submitted from the year of the earliest action to the current year for all vehicles used to generate the early credits.

2. Fleet Actions –

Sufficient information must be supplied in the compliance plan detailing actions planned or taken on each piece of equipment in a fleet to meet the statewide requirements as well as the actions necessary to meet the SOON NOx targets. As the SOON NOx targets are set for every 3 years (2011, 2014, 2017, 2020, 2023), additional actions taken each year from the current year to the next future applicable SOON NOx target date must be identified. If credit will be taken for early repowers, retirements, or retrofits, fleet actions taken before the current year must be submitted for all vehicles used to generate the early credits. Information must include for each year and each vehicle:

- Action taken – retire, replace, repower, or retrofit
- For replacement, all information listed in Section 2449 (g)(1)(B) for the new vehicle
- For repower, information about the new engine including engine manufacturer, engine family (if any), engine serial number, engine model year, engine maximum power, type of retrofit emission control equipment installed (if any), date installed and its verification level.
- For retrofit, type of retrofit emission control equipment, and verification level.

C. SOON Application Requirements

1. Application -

Pursuant to Section 2449.3(d)(1)(D) a fleet must apply for sufficient funding to repower, replace, or retrofit vehicles so that the SOON portion of the fleet (all vehicles in the fleet that operated within the district) will meet or exceed the applicable fleet NOx target if all projects were funded. The application and all necessary information needed as part of the application are explained in the program announcement. Information required includes:

- Contact information
- Vehicle information (make, model, model year, etc.)
- Project life (minimum is 7 years)
- Project type
- Vehicle activity information (i.e. fuel usage, hours of operation)
- Cost information (including vendor quotes)

2. High Priority Request -

Pursuant to Title 13, CCR, Section 2449.3(d)(1)(D), fleets must designate for each SOON program project application whether they wish the project to receive high priority for funding.

3. Annual Hours of Operation -

A project's annual hours of operation will be equal to the average of the operating hours over the two years immediately preceding the active SOON program announcement deadline.

D. Operational Requirements

1. **Contract duration –**
Minimum contract duration or project life is set at seven (7) years unless otherwise noted in the program announcement.
2. **Electronic Monitoring Unit –**
SOON funded vehicles are required to install a district approved electronic monitoring unit. The unit will be funded with SOON funds, and as such will be included in the cost effectiveness calculation and must meet the cost-effectiveness cap. The full cost of the unit will be funded by the SOON program and is not included in the determination of the incremental cost (i.e., the fleet will not need to co-fund a portion of the unit as they would have to if it were included in the total cost of the repower).

E. Project Award

The first 75% of the available funding will be awarded strictly on cost-effectiveness criteria. A \$5,000 per ton of NOx reduced cost-effectiveness value will be used as the benchmark. Most projects are expected to be below this benchmark (i.e. will be more cost-effective). However, projects at higher cost-effectiveness values can still be funded as long as they are below the cost-effectiveness cap mandated by the applicable Moyer Guidelines. The remaining 25% will be distributed to the most cost-effective project presented by each fleet with the goal of funding at least one project per fleet. The funding will be distributed beginning with the most cost-effective projects presented by a fleet not having received funding in the first round and requesting high priority for the projects until the 25% of the funding is all awarded. If funding is still available after all fleets have at least one project funded, the remaining funds will go to the next most cost-effective projects available from all of the fleets. At no time will a fleet receive more than 10% of the available SOON funding. All other criteria being equal, projects greater than 250 horsepower will receive funding before projects less than 250 horsepower.

F. Co-funding

Most SOON projects are expected to be repowers to Tier 3 engines or cleaner. Consistent with the draft 2008 Carl Moyer Program Revisions, SOON repower projects will be funded at the full incremental cost of the repower which will require the project owner to co-fund 15% of the cost of the repower with the SOON program providing 85% of the repower costs. The exception to this requirement is where it could reasonably be determined that the fleet would not have incurred the rebuild cost (e.g. the replaced engine was recently rebuilt). For the purpose of this provision, a rebuild refers to a rebuild of an engine or engine system, including a major overhaul in which you replace the engine's pistons or power assemblies or make other changes that significantly increase the service life of the engine. It may also include replacing or rebuilding an engine's turbocharger or aftercooler or the engine's

systems for fuel metering or electronic control so to significantly increase the service life of the engine. The following maintenance does not constitute a rebuild:

- (1) Scheduled emission-related maintenance during the useful life period (such as replacing fuel injectors).
- (2) Unscheduled maintenance that occurs commonly within the useful life period. For example, replacing a water pump is not rebuilding an engine.

If the engine rebuild was completed in the 12 months prior to the contract date, the grantee must provide the AQMD with documentation of the rebuild to qualify for this provision. Rebuild documentation may include, but is not be limited to, dated work orders, sale invoices for parts, and/or maintenance records. For engine rebuilds completed in the 13 to 36 months prior to the contract date, the grantee must provide the AQMD with documentation of the rebuild and documentation that grantee's normal business practice is to rebuild on an interval equal to or greater than the contract project life plus the time since last rebuild to qualify for this provision. Documentation for extended rebuild intervals includes, but is not limited to, historical maintenance records for the equipment or fleet policy on rebuild intervals. Engine rebuilds completed more than 36 months prior to contract date are not considered "recent" and do not qualify for this provision.