

FINAL 2007 AQMP APPENDIX IV-B-3

DISTRICT IMPLEMENTATION OF THE CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM

JUNE 2007

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SECTION 2 THE 2005 CARL MOYER PROGRAM GUIDELINES

This section may be found on the California Air Resources Board website:

www.arb.ca.gov/msprog/moyer/guidelines/current.htm. For the purpose of the State Implementation Plan submittal to the U.S. Environmental Protection Agency, the Program Guidelines are provided in this section.

PREFACE

This appendix is prepared as part of the 2007 Air Quality Management Plan to illustrate how emission reductions produced by mobile source projects funded by the California Carl Moyer Memorial Air Quality Standards Attainment Program can be SIP creditable. It explains how projects are selected, contracts executed, emissions quantified, recorded, reported, and field audits conducted. This appendix contains the California Carl Moyer Memorial Air Quality Standards Attainment Program Policies and Procedures Manual as implemented by the South Coast Air Quality Management District (SCAQMD). The Policies and Procedures Manual provided in this Appendix was approved by the SCAQMD Governing Board on October 6, 2006. The Manual contains procedures for the SCAQMD's day-to-day operation of the Program in order to meet the requirements of the California Health and Safety Code, the 2005 Carl Moyer Program Guidelines, California Air Resources Board's (CARB) Technical Advisories, and the SCAQMD's policies and procedures. The Manual is also intended to provide direction and guidance to the SCAQMD staff for implementation of the Carl Moyer Program.

The 2005 Carl Moyer Program Guidelines, published by CARB on January 6, 2006, provide the minimum requirements under which the Program is administered by CARB and local air districts. There are four parts to the Guidelines:

- **Part I** - Executive Summary, Program Overview and Administrative Requirements
- **Part II** - Project Criteria
- **Part III** - Agricultural Assistance Program
- **Part IV** - Appendices

Appendix B provided in Part IV of the State Guidelines contains tables providing the data used to calculate emissions reduction and cost-effectiveness of potential projects. Included are data such as engine emission factors, load factors, and other conversion factors used in the calculations discussed in Appendix C: Cost-Effectiveness Calculation Methodology and Appendix D: Example Calculations.

Section 1 of this Appendix contains the SCAQMD Policies and Procedures Manual. Section 2 is the reference to the 2005 Carl Moyer Program Guidelines adopted by the California Air Resources Board in November 2005. The complete documentation can be found on the CARB's website at: www.arb.ca.gov/msprog/moyer/guidelines/current.htm. For purposes of State Implementation Plan submittal to the U.S. Environmental Protection Agency, the 2005 Carl Moyer Program Guidelines are provided in this section.

SECTION 1

POLICIES AND PROCEDURES FOR ADMINISTRATION OF THE CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM

August 31, 2006

South Coast Air Quality Management District

Policies and Procedures for Administration

Of the

Carl Moyer Memorial Air Quality Standards Attainment Program

(Carl Moyer Program)

October 6, 2006

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SECTION I: PURPOSE

- A. It is the policy of the South Coast Air Quality Management District (AQMD) to reduce emissions from on- and off-road vehicles through participation in the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program).
- B. The policies and procedures set forth in this document govern the AQMD process for awarding of Carl Moyer Program funds by the Science and Technology Advancement Office (STA).
- C. This document incorporates as part of the Appendices, the AQMD STA Policy for Contracting and Project funding, the AQMD retention policy, pertinent forms, samples of Carl Moyer Program documents, and other program and policy information.
- D. The execution of this policy is the function of the Executive Officer, the Deputy Executive Officer (DEO) for STA, and any other responsible officer as identified in this policy.

SECTION II: GOVERNING BODY AND APPLICABLE LAWS

- A. The AQMD is organized pursuant to Chapter 5.5, Part 3, Division 26 of the Health and Safety Code (Health & Safety Code).
- B. The governing body of the AQMD is a Board of Directors composed in accordance with Health & Safety Code Section 40420 ("AQMD Board").
- C. Under Health & Safety Code Section 40489, the AQMD may contract for professional assistance as may be necessary or convenient for the exercise of any duty imposed on the AQMD under law.
- D. Health & Safety Code Sections 43023.5 44091.1, 44229(a), 44229(b), 44229.2(a), 44286, 44287(e), 44287(k), and 44288(a) provide the parameters for the administration of the Carl Moyer Program.
- E. The Carl Moyer Program State Guidelines (State Guidelines), adopted by the California Air Resources Board (ARB) provide additional parameters for administration of the program and call upon individual air districts to adopt policies and procedures for the administration of the Carl Moyer Program.

SECTION III: RESPONSIBILITIES OF AQMD PERSONNEL

A. The Deputy Executive Officer for STA and STA staff shall have primary responsibility for:

1. Implementing all aspects of this policy as set forth below.

B. The Manager of the Procurement Section shall be responsible for:

1. Assisting STA to ensure proper implementation of this policy and the STA Policy for Contracting and Project Funding;
2. Assisting STA in the review of Requests for Proposals (RFPs) and Program Announcements (Pas) to ensure compliance with all policies before public release of the RFP or PA;
3. Assisting STA in publication of PAs and RFPs; and
4. Reviewing STA Carl Moyer Program contracts and awards to ensure compliance with all policies and applicable laws.

C. The AQMD Controller is responsible for final review, approval and payment on all Carl Moyer Program invoices.

D. The District Counsel shall be responsible for:

1. Assisting STA in compliance with the legal requirements of the Carl Moyer Program;
2. Providing legal opinions regarding the interpretation of RFPs, PAs and contract provisions;
3. Reviewing STA Carl Moyer Program contracts and awards and approve as to form; and
4. Representing the AQMD in all litigation over implementation of this policy.

SECTION IV: ARB CARL MOYER PROGRAM AWARD PROCESS

A. ARB Award of Funds.

The ARB determines the tentative awards for each year in accordance with the formula identified in Health & Safety Code Section 44299.2(a). The AQMD receives 43.7% of the state's available Carl Moyer Program funding for any particular fiscal year.

B. ARB Solicitation Process.

The ARB sends a solicitation packet to the Executive Officer in mid-September. The application packet must be completed and submitted by the posted deadline, which is 60 days from the date of the solicitation. The application packet includes:

1. The completed application with original signature;
2. Documentation for the match commitment;
3. Board resolution;
4. Implementation plan for obligating the grant award; and
5. Documentation of obligation and expenditure of previous grant awards.

Detailed requirements for each of these items are included in the Program Administration section of the State Guidelines. The Technology Implementation Program Supervisor is responsible for the preparation of the AQMD's application to ARB. The Program Supervisor may assign responsibility to other staff to complete individual portions of the application. The completed application packet is reviewed by the Technology Implementation Manager, the DEO, and the Executive Officer, who also signs the document. A copy of the application is filed in the appropriate year Carl Moyer Program binder in the STA central filing area.

C. ARB Application Instructions.

The ARB application form includes:

1. District Name, address, and contact person information;
2. Requested allocation of funding. ARB encourages districts to apply for more than the tentative allocation in case more stated funds become available;
3. Match funding amount. See the State Guidelines for the match funding calculation formula. As of 2006, the AQMD uses AB 923 monies/projects to meet match requirements; and
4. Signature page is completed with the signature and date by the Executive Officer.

D. Grant Award and Authorization.

Final awards are determined by ARB based on applications for funds received from the air districts. The awards are incorporated into a Grant Award and Authorization, which specifies the amount of the award including the administrative funding allocation. Two original copies are sent to the AQMD. The Executive Officer signs both copies; one is returned to ARB. The other signed document is placed in the appropriate year Carl Moyer Program binder in the STA office, and a copy of the document provided to Finance. April 30 of each year is the deadline for acceptance of a grant award.

E. Requesting Funds.

Upon execution of the Grant Award and Authorization, a Grant Disbursement Request is submitted to the ARB for 10 percent of the AQMD's allocation and one-half the administrative funds. The remainder of the funds is requested at the time the AQMD Board approves the Carl Moyer Program awards and backup list (see Section VIII, Proposal Evaluation and Project Award). Grant awards and disbursements are further described in the Program Administration section of the State Guidelines.

F. Match Funds.

Districts are required to provide \$1 in match funding for every \$2 of state Carl Moyer Program funding awarded by ARB, with a cap on statewide match funds at a total of \$12 million. The State Guidelines include the formula for determining a district's required matching funds. The AQMD's match is provided through AB 923-funded projects. These projects are administered in the same manner as Carl Moyer Program projects and are managed by the Technology Implementation staff. All project files are kept for the life of the project, plus five years, and are housed in the STA central filing area.

G. Receipt of Funding.

When ARB receives the fully-executed Grant Award and Authorization, the ARB authorizes the State Controller to issue a check for the funding. The funding is entered into the AQMD's financial reporting system by Finance.

Any Carl Moyer Program funds provided by the State of California that are deposited in interest bearing accounts must be reported to ARB. The interest income must be used to fund projects that meet the current Carl Moyer Program State Guidelines. The AQMD deposits Carl Moyer Program funding in an interest bearing account. The interest earned is placed in the Carl Moyer Program fund and reported by Finance to STA staff.

H. Administrative Funds.

Under the State Guidelines and the Health & Safety Code, funds are set aside by ARB to assist air districts with program administration costs. Program expenditures are tracked by Finance. These records are retained for three years in Finance files.

SECTION V: CARL MOYER PROGRAM SOLICITATION PROCEDURES

A. General.

The AQMD staff follows the AQMD's STA Policy for Contracting and Project Funding, pertinent provisions of the Health & Safety Code, and the State Guidelines to conduct solicitations for Carl Moyer Program projects. AQMD solicitation methods for the Carl Moyer Program include both a competitive solicitation, utilizing an RFP, and a first come, first served solicitation, utilizing a

PA. The criteria for using either of these solicitations are set forth in the attached STA Policy for Contracting and Project Funding.

B. Alternative Fuel and Zero-Emission Technologies.

The AQMD encourages the use of alternative fuel and zero-emission technologies. A solicitation may limit funding to only alternative fuel projects in certain categories. In addition, the AQMD may utilize a more stringent cost-effectiveness threshold for some categories than that allowed in the State Guidelines. The solicitation categories, funding, and cost-effectiveness criteria are approved by the AQMD's Governing Board as part of the solicitation process. Specific project selection criteria are included in the RFP or PA.

C. Timeline for Solicitation.

In the case of a competitive solicitation utilizing an RFP, approximately three months from the date of solicitation release to proposal due date is allowed. In the case of a first-come, first-served solicitation utilizing a PA, proposals are accepted from the first day of announcement to the final day for proposal submittal, as detailed in the PA.

D. Third Party Applications.

In accordance with the State Guidelines, third party applications are not allowed. The owner of the engine must sign and agree to the application. However, a third party such as an engine dealer or distributor may complete an application or part of an application on an owner's behalf. The third party must sign the applicable section of the project application. The third party must also reveal if they are being paid to complete the application and the source of funding for this payment.

VI: PROPOSAL EVALUATION AND PROJECT AWARD

A. Minimum Requirements.

All projects must meet the minimum requirements as stated in the RFP or PA, the State Guidelines and ARB Technical Advisories.

B. Review of Proposals.

The Technology Implementation Manager assigns proposals for review to individual project officers, according to project category. The Staff Assistant documents these assignments and distributes the proposals to the individual project managers. Project officers enter the proposal data into a spreadsheet. The individual spreadsheets are sent to an independent contractor who checks the data input for completeness and accuracy. An independent contractor compiles the spreadsheets into a combined master spreadsheet before actual selection of projects is completed. The final master spreadsheet is placed on the shared computer drive after Board approval of the projects. It may be accessed by the project officers to check information when approving invoices, etc. The Technology Implementation Program Supervisor oversees the spreadsheet. A

copy of the final master spreadsheet is kept in the binder for each specific project year, beginning with Year 8, housed in the central filing area of STA.

C. Disproportionately Impacted Areas.

Health & Safety Code section 43023.5 requires that districts with greater than one million inhabitants must allocate at least 50% of their Carl Moyer Program funding in a manner that directly benefits low-income communities and communities of color that are disproportionately affected by air pollution. Additional criteria are included in the the AQMD's STA Policy for Contracting and Awarding Program Funds. Proposals not awarded under the fifty percent disproportional impact funding are then ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Carl Moyer Program funds are exhausted. Documentation of the disproportionately impacted area program is domiciled with the Senior Staff Specialist in Planning, Rule Development and Area Sources.

D. Back-Up Projects.

All proposals are ranked according to the selection criteria included in the solicitation package. Projects are selected for funding until the program funding threshold has been reached. Staff creates a "back-up list" of projects that meet the minimum selection criteria but were not selected because of program funding constraints. If selected projects are not completed, staff selects projects from the back-up list. The Chairman of the Governing Board has authority to execute contracts from the back-up list without seeking subsequent Board approval to ensure that all funds are fully encumbered and expended within the required timeframes.

E. Timeline for Award of Contracts.

Typically, the time from the proposal due date to Board approval of the selected projects and the back-up list is three months. An additional three months is allowed for preparation of the contract. The contractor is allowed 60 days from the date the contract is sent for signature to the return of a signed contract to the AQMD.

F. Multi-District Funding.

Health & Safety Code section 44286 grants ARB the authority to set aside ten percent of the annual Carl Moyer Program funds for projects that are multi-district in nature. The ARB multi-district solicitation is intended to pay for projects that operate a portion of the time or miles outside their primary district of operation within California. This includes projects that have significant air quality impacts in neighboring districts as a result of air pollution transport.

ARB conducts the solicitation and selects projects for funding. However, management of the selected projects is passed to the home district of the project proponent. ARB issues a Grant Award and Authorization to the district for the

total funding necessary for the selected proposals, and forwards the proposals to the district. The multi-district projects are processed and administered in the same manner as the AQMD Carl Moyer projects.

G. Other Projects.

Occasionally, a proposal is received that does not meet the strict parameters of the State Guidelines. The State Guidelines contain provision for submitting these projects to ARB for review and potential approval. Any proposed project falling into this area must be brought to the attention of the Technology Implementation Manager for approval to contact ARB. AQMD staff will utilize an independent consultant, as necessary, in presenting the project to ARB. If ARB approves the proposed project, documentation to that affect must be included in the project file.

H. Fleet Modernization.

The Fleet Modernization component of the Carl Moyer Program provides incentives to replace old high-polluting heavy-duty vehicles with newer, lower emission replacement vehicles (see Chapter II of the State Guidelines). The AQMD has submitted a Fleet Modernization plan to ARB and received approval to conduct such a program. The AQMD Fleet Modernization Program is conducted on a first come, first served basis. A PA is used to solicit projects to replace pre-1990 heavy-duty diesel-fueled trucks with model year 2006 diesel or natural gas trucks. Applications for the program are accepted on a first-come, first-served basis. The program provides up to 80 percent of the cost of the newer replacement truck. Selected projects must be approved by the AQMD Technology Committee and the Governing Board. Contracts are processed in the same manner as other Carl Moyer Program contracts.

I. Light-Duty Vehicle Program.

A light-duty vehicle program was introduced by ARB in the 2005 State Guidelines (see Chapter XI). Light-duty vehicles include passenger cars and light-duty trucks such as pick-up trucks, sport utility vehicles and vans. ARB has identified two areas as eligible for funding under the Carl Moyer Program: voluntary accelerated vehicle retirement (VAVR) and voluntary vehicle repair (VVR). ARB staff is proposing the use of remote sensing devices (RSD) to identify high-emitting vehicles that can then be contacted for participation in voluntary early retirement programs.

ARB is considering authorization of an RSD-based "High-Emitting Vehicle Identification, Repair, and Scrapping Program" to be conducted by the AQMD. The "South Coast Air Quality Management District Light Duty Vehicle Remote Sensing, Repair, and Scrapping Program Plan" is included in the appendix. ARB would use the data from this program to revise the VAVR regulation and provide additional Carl Moyer Program Guidance in 2006 to fully incorporate RSD. The proposed project would be the first time an RSD-based VAVR program has been implemented. The program is currently under development. As it progresses,

appropriate modifications will be made to these Policies and Procedures and the AQMD's STA Policy for Contracting and Awarding Program Funds.

VII: OBLIGATION OF FUNDS TO PROJECTS/CONTRACT DEVELOPMENT

A. AQMD Board Approval of Projects.

Approval of funded projects and back-up projects is accomplished through the AQMD Board and its standing Technology Committee, using the standard Board Letter process, and following the AQMD's STA Policy for Contracting and Awarding Project Funds.

B. Contractor Workshop.

The purpose of this mandatory workshop is to introduce pertinent AQMD staff to the contractors, and explain the AQMD's procurement process. It is scheduled following Governing Board's approval of projects. Contractors are provided with a project category specific boilerplate contract for review. At this meeting, the contractor is provided with information regarding the necessary information and documents for contract execution, pre- and post-inspections, and for the invoicing process. Following the workshop, AQMD project officers meet individually with contractors to further explain the process, specific to their project.

C. Preparation of the Contract File.

Following Governing Board approval of projects, the Technology Implementation Staff Assistant creates the contract file. Initially, this file contains the solicitation and any applicable appendices, Board Letters authorizing release of the solicitation and award of funds, the applicant's proposal, which contains notes, clarifications and documentation during the review process, and any project approval received from ARB. Additionally, the file must contain documentation of cost-effectiveness calculations, disproportionately impacted area evaluations, and project ranking if an RFP was utilized; insurance (workers comp and liability); and correspondence.

D. Preparation of the Contract Request.

1. The individual project files are distributed to the project officers to write the work statement, including deliverables and milestones and payment schedule, specific to each project. The Staff Assistant checks to see that all information in the package is complete, including but not limited to, funding amount, and ARB Executive Order or other engine documentation. If any information or documentation is missing, the Staff Assistant informs the project officer. All information and documentation must be in the contract file prior to final execution of the contract.

2. The Staff Assistant prepares a contract package, including the Contract Request Approval Memorandum (two copies for Procurement, one for office file), solicitation (two copies for Procurement, one copy for office), Board Letter approving the solicitation (two copies for Procurement, one copy for office file), the specific proposal (one copy for Procurement, one for office file) and the Board Letter approving it (two copies for Procurement, one for office file), work statement, deliverables and project milestones, payment schedule (three copies for Procurement, one for office file), and forwards this material to the Procurement Office for contract preparation, using the appropriate Carl Moyer Program contract template.
 3. The Procurement Office drafts each project contract, and sets up a contract file with the documentation provided by STA. The contract is recorded in the Finance database. This database can be accessed by all AQMD staff (read only) to check on the status of any contract. The contract is then returned to STA for review and approval by the project officer, program manager and DEO. The approval process also includes the Procurement Manager and District Counsel.
- E. Contract Execution.
1. The Contractor is sent two originals of the contract, to be signed and returned to the AQMD. When the contract is sent to the contractor for signature, the cover letter (prepared by the Staff Assistant) cites a deadline for return of the signed contract (usually 60 days). If the signed original contracts are not returned by that date, the contract is cancelled and another project is selected from the back-up list. Although the project officer may contact the contractor to remind them of the deadline, the AQMD is under no obligation to further inform the contractor.
 2. After the two signed originals of the contract are returned to the AQMD, Procurement obtains the signature of the Chairperson of Governing Board. The two fully-executed copies of the contract are returned to Procurement. Procurement enters the contract into the People Soft trackingsystem. This system identifies the vendor, contract amount and source of funds, and other pertinent information. The People Soft system is available to Procurement, Budgets and Accounting, all of which are units of the Finance Office. A hard copy of this information is placed in the Procurement contract file. The Procurement unit generates a monthly report that indicates contracts that will expire in the next 16 weeks. This report is sent to the individual project officers and the

appropriate DEO. The contract file is retained for the life of the contract plus five years.

3. Procurement sends one fully-executed original contract to the Staff Assistant. The Staff Assistant sends the fully-executed original copy to the contractor, and retains one copy in the contract file. At this time, a copy of the fully-executed contract is also sent to the AQMD's liaison at ARB. The Staff Assistant keeps a log of contracts sent to ARB.

F. Insurance Documentation.

All contractors are required to carry liability and workers compensation insurance, and provide verification of that insurance to the AQMD. The contractor is required to name the AQMD as an additional insured on all liability policies, and provide an insurance certificate to that effect. The contractor is instructed to include the insurance documentation when returning the signed contracts. The Staff Assistant logs in receipt of the documents and forwards them to Risk Management for review and approval. If the documentation is approved, Risk Management returns a copy to the Staff Assistant. If there is a problem with the documentation, Risk Management contacts the contractor directly, and informs the Staff Assistant. If the contractor does not send the insurance documentation, the Staff Assistant notifies the project officer for follow up with the contractor. No invoices can be approved if the insurance documentation is not in the project file. Contractors are required to update insurance information annually, if necessary.

VIII: CONTRACT AMENDMENTS AND DE-OBLIGATION OF FUNDS

A. General.

After a contract for a project is fully executed, there may be a change in the scope or parameters of the project. For example there may be a simple change with respect to engine manufacturer and/or model. A contractor may determine that he or she cannot proceed with the program or may not be able to accomplish all engine/vehicle projects required in the original contract. In either case, changes to the original contract must be made to reflect the new legal obligations of the contractor, and if necessary to de-obligate program funds so they may be used on other Carl Moyer Projects.

B. Contract Modifications.

If the technical terms of a project are modified, such as the type or model of an engine, a contract amendment must be executed. A request for contract amendment is processed in the same manner as the original contract request. Before beginning a contract amendment process, the project officer discusses the need for a modification with the Technology Implementation Manager. Any issues with an amendment are expected to be resolved within 60 days. If the request is for additional funding and/or the project has changed substantially

from its original application, Technology Committee and Governing Board approval may be necessary. If the amendment is to reduce funding, extend the contract performance time, and/or modify the make or model year of specific equipment that does not result in lower emission reductions, the Executive Officer is authorized to sign the contract. Procurement posts the signed amended contracts to the People Soft financial system to ensure that the contract amount is accurate when an invoice is processed for payment.

C. De-obligation of Funds.

If a contractor requests to back out of the Carl Moyer Program, or seeks to reduce the size of his or her Carl Moyer award amount, AQMD must take necessary steps to legally de-obligate these funds in order to make them available for additional Carl Moyer Projects, or in some circumstance revert the de-obligated funds to ARB. De-obligations are handled through either a contract amendment or contract termination.

1. De-obligation through contract amendment. If the scope of a project is reduced, the corresponding amount of funding must be de-obligated. This is accomplished through the contract amendment process. Once the amendment has been fully executed, Finance will formally de-obligate the funds.
2. De-obligation through contract termination. If a contract is terminated before any work is accomplished, funds are de-obligated through a termination letter. The contractor must initiate this process by requesting, in writing, termination of the contract. The request must include the date termination is requested, the reason for termination, and acknowledgement that project funding is no longer available. Once this request is received, the project officer will review the request with the Technology Implementation Manager. If it is agreed that termination is the best approach, the project officer will initiate termination via a termination letter. The letter is reviewed and approved by the Technology Implementation Manager. A copy of the letter is sent to Procurement and Finance to initiate the de-obligation process.

D. Re-obligation of Funds.

To re-obligate funds, staff selects projects from the back-up list previously approved by the Board. Re-obligation of funds occurs after Finance has formally de-obligated the subject funding. Because time is of the essence in expenditure of funds, staff may proceed with the process of re-obligation of funds via a new project contract before an amendment to an existing project contract has been fully executed. In this case, the new contract must include a clause stating that funding is contingent on the completion of the de-obligation process described above. In the case of contract termination, re-obligation may take place once the termination letter has been sent.

E. Return of Funds to ARB.

If funds must be returned to the ARB, it is the responsibility of STA staff to inform Finance of the need to return funds. If this situation should occur, project staff must inform the Technology Implementation Manager. The Technology Implementation Manager will make the final determination of the action to be taken. Finance is responsible for actual return of funds to ARB.

IX: PROJECT MONITORING

A. General.

Pre- and post inspections are performed for each project. The same form is used for both pre- and post inspections, and for any future project audits. This ensures that there is a complete and accurate record of both inspections that can be referenced during the invoice approval process, and during any audit. Inspection forms and photographs will remain with the project officer until invoices are processed. The inspection form, along with all pre- and post-inspection photos, is maintained in the project file. A project officer or compliance officer performs inspections. All staff performing inspections must be trained and equipped with appropriate safety gear.

B. Pre-Inspection of Equipment.

Requirements for pre-inspection of equipment are detailed in the State Guidelines. Documentation photos are taken for the file. If the engine plates are illegible or missing, the contractor may engrave the chassis number of the vehicle on the engine as documentation. Other forms of identification may be acceptable as determined by the project or compliance officer performing the inspection. The contractor calls the AQMD project officer to schedule an inspection, which is typically scheduled within five working days of the request. The inspection may be conducted at the contractor's place of business or the location where the engine replacement activity takes place. Once the inspection has been completed, the AQMD project or compliance officer retains the forms for use in the post-inspection.

The AQMD requires public fleet applicants to provide documentation of engines and use as part of the application. Documentation of the engine includes: engine make, model, model year, and engine family, VIN or other vehicle identification number. Each public fleet applicant is also required to provide historical usage information as part of their application.

C. Post-inspection of Equipment.

Post inspection occurs after completion of the engine replacement, prior to AQMD's final reimbursement for the engine, and is performed by the AQMD project or compliance officer. The inspection usually takes place when an invoice is received, but the contractor may contact the AQMD project officer to schedule the post inspection. The inspection generally takes place within five

working days of the contractor contact. The requirements for post inspection are detailed in the State Guidelines. The inspection forms will remain with the project officer until invoices are processed. The inspection form is circulated with the invoices as documentation of the completed work.

In the case of public fleets, where more than 20 of the vehicles in the fleet are included in the project, the AQMD performs post-inspection of a random, statistically significant, sample of the vehicles included in the project. If all the project vehicles in the fleet are the same engine make, model, year, and horsepower, the AQMD performs a post-inspection of ten percent of the project vehicles. If the project vehicles have engines of varying engine makes, models, years and horsepower, at least one of each specific engine make, model, year, and horsepower will be inspected.

X: SUBMITTAL OF FALSE DATA AND DEBARMENT

False data is defined as falsifying information in a proposal, on an application, in the application disclosure statement; or in progress reports, such as falsely reporting equipment usage. Submittal of false data by a contractor may subject the contractor to a number of actions by the AQMD. These actions may include:

- Immediate termination of the contract;
- 100 percent payback of contract funding;
- Debarment from participation in the Carl Moyer Program, and other AQMD incentive programs, for a period of three years; and
- Notification to ARB and other air districts of the incident.

If program staff suspects that false information has been provided under any circumstances, the project officer should immediately inform the Technology Implementation Manager for further action.

XI: PROJECT FUNDING AND INVOICE PROCESSING

A. General.

Time is of the essence in obligation and expenditure of funding through the Carl Moyer Program. From June 30 following the full execution of the Grant Award and Authorization, the AQMD has 12 months to obligate funds and 24 months to expend the grant award. Any funds not obligated and expended within 24 months must be returned to ARB (Health & Safety Code section 44287(k)).

B. Receipt of Project Invoices.

When invoices are received, the Staff Assistant stamps the invoice with the proper account and specific funding to be charged. The Staff Assistant also verifies that a copy of the front and back of cancelled check(s) is included, verifying that the contractor is requesting reimbursement from the AQMD, and that required progress reports are in the file.

C. Review by STA Project Officer.

The invoice and report(s), along with the invoice payment form and the inspection form, and the contract file, are given to the project officer for review and approval. The project officer reviews the invoice for completeness and accuracy and checks the inspection form to ensure that both pre- and post inspections have been completed, that insurance documentation is on file, and that all required progress reports have been received. If all the documentation is complete and correct, the project officer approves the invoice by signing off on the invoice payment form. Sign-off on this form also indicates that the progress report has been reviewed and approved. If the post-inspection has not yet been performed, the project officer schedules the inspection and performs it before approving and forward the invoice for further approval.

D. STA Approval.

The invoice package is forwarded to the Technology Implementation Manager. The Technology Implementation Manager signs the invoice, again ensuring that all the documentation is complete and correct. The invoice is then sent to the DEO, STA, for review and approval. After complete STA approval, the inspection form is removed from the package and placed in the project file, and the invoice is sent to Accounting.

E. AQMD Controller's Review and Approval.

Accounting reviews the contract funding amount with the amount requested on the invoice. If funding is available, the invoice is approved and a check issued and sent to the contractor. The invoice approval process takes 30-40 days. Since the contractor has already expended the money and is requesting reimbursement, it is important that the invoice be expedited as much as possible. The Accounting Unit generates a monthly trial balance on a Generally Accepted Accounting Principles (GAAP) basis. Upon request, this trial balance, which includes the balance sheet, is issued to the Division. The Budget Unit distributes a monthly report on a budgetary basis indicating account commitments, expenditures to date and balances available. This budgetary report is sent to the project managers, Technology Implementation Manager, and STA DEO.

XII: PROJECT AUDITS

A. General.

The 2005 State Guidelines require the districts to audit projects, beginning with Year 8 Carl Moyer Program funding. The AQMD adopted use of the State Guidelines for Year 7 funding (2005-06 fiscal year), and will perform the required audits for Year 7 and future projects.

B. Projects with More than a Three-Year Project Life and Within Two Years of Contract Expiration.

Programmatic audits are conducted on at least ten percent (or a statistically significant number) of the subject contracts. Also included are all of the projects whose owners fail to report annually. Projects are randomly selected from the AQMD's project tracking reports. Open contracts as of June 30 of each year are considered. The Staff Assistant provides a list of these projects to the Technology Implementation Manager, who randomly selects the projects for audit.

The audit includes verification that the engines paid for are still operational in the same equipment and meet the mileage, fuel usage, or hours of operation indicated on the executed contract. This is accomplished by checking the serial number of the engine; witnessing the engine operate; and checking the odometer, hour meter/usage device, fuel receipts, or EMU. The audit is completed by STA project or compliance officers. The project or compliance officers use the Pre- and Post-Inspection and Audit Form to verify the required information. Each project or compliance officer reviews the audit results and if all the information is verified, approves the audit and places it in the project file. If the information required is not verified, the project or compliance officer forwards the audit to the Technology Implementation Manager with recommendation for corrective action.

C. Projects at the End of the Contract Term.

The AQMD also randomly audits at least five percent (or a statistically significant number) of projects at the end of the contract term. Included are projects whose owners failed to report annually and those projects that were found to be below the level of use during the audit two years prior to the end of the contract.

At a minimum, the end-of-contract audit includes verification that the engines paid for are still operational in the same equipment and meet the mileage, fuel usage, or hours of operation indicated on the executed contract. This is accomplished by checking the serial number of the engine; witnessing the engine operate; and checking the odometer, hour meter/usage device, fuel receipts, or EMU. The audit is also completed by STA project or compliance officers, and follows the same process as detailed above.

If any audited project is more than 30 percent below or above an annual average level of use as outlined in the executed contract, the AQMD will audit all of the Carl Moyer Program-funded engines owned by the same contractor. In the case of usage below that specified in the contract, the AQMD will work with the contractor and ARB to determine a plan to "make up" the reduced emission

reductions. Contracts may also be referred to the District Counsel's office to determine if there has been a breach of contract.

XIII: REPORTING

A. Contractor Reporting.

All Carl Moyer Program contractors are required throughout the contract term to produce quarterly progress reports until all engine replacement is completed, plus an annual report thereafter for five years, and biannually after that for the life of the project. Requirements and format of these reports is included in the boilerplate contract language.

B. AQMD Reporting.

As required by the 2005 State Guidelines, the AQMD reports to ARB on the status of each year of Carl Moyer Program funding three times:

1. A status report submitted to ARB in mid-November, to describe progress in meeting projected milestones from the current year's Carl Moyer Program funds;
2. An annual report due to ARB no later than June 30 of the year following ARB funding allocation; and
3. A final report due no later than June 30 of the second year following award, when all Carl Moyer Program funds and local match commitments are required to have been expended

The Technology Implementation Program Supervisor is responsible for generating each report. The Program Supervisor may delegate specific tasks to staff in each project category. The specific information and documents required for each report are detailed below.

1. *Status Report*

The Status Report is submitted to ARB in mid-November. The report uses the ARB-prescribed format to discuss progress in meeting projected milestones from the current year's Carl Moyer Program funds. "Current year" is the year in which the funds were awarded to the AQMD by ARB. This public report provides information on the district's progress in meeting its projected milestones from the current year's Carl Moyer Program. Obligated funds are documented by updating the database. The database is updated on an ongoing basis by the Technology Implementation Manager. The Technology Implementation Program Supervisor uses the database and other information to complete the status report and submit it to ARB. A copy of the status report is filed with the program documentation for that year funding. If all funds have been obligated and the database updated, this status report may

satisfy the requirement for the annual report (due June 30 of the next calendar year) if ARB so approves.

2. Annual Report

The annual report is due to ARB no later than June 30 of the year following ARB funding allocation. This public report includes a narrative on Carl Moyer Program implementation and an updated database. Information required by ARB includes total applications received; efforts to meet disproportionately impacted areas mandates; efforts to outreach to potential zero-emission and small business projects; monitoring and auditing efforts and results; enforcement actions and recaptured funds, if any; outstanding features and accomplishments; and challenges in implementation. The report must include copies of invoices documenting expenditure of funds. The Technology Implementation Program Supervisor prepares this report, sends it to ARB, and files a copy in the appropriate funding year program files.

Updated project information includes:

- a. Carl Moyer Program projects, including those funded by state funds and local match funds;
- b. Interest accrued on state funds, and projects funded by the interest;
- c. Projects funded by AB 923;
- d. Any significant deviations relative to the original projects, including the status of emissions reductions by projects in the implementation phase; and
- e. Copies of executed contracts for all Carl Moyer Program projects and AB 923 funded projects not previously submitted.

3. Final Report

The final report is due no later than June 30 of the second year following award, when all Carl Moyer Program funds and local match commitments are required to have been expended. It is prepared by the Technology Implementation Program Supervisor, who sends it to ARB and files a copy in the appropriate year program files. In addition to an updated database, the report includes a narrative describing:

- a. Results of disproportionate area impact efforts;
- b. Results of outreach efforts to zero-emission and small business projects;
- c. Monitoring and auditing efforts and results;
- d. Enforcement actions and recaptured funds, if any;
- e. Outstanding features and accomplishments;

- f. Challenges in implementation; and
- g. For Year 8 only, information on the average and median time to expend funds (from contract execution to invoice payment).

The update will ensure that the data in the database is current and accurate. The update shall include:

- a. Modifications to Carl Moyer Program projects, including both state funds, interest accrued on state funds, and local matching funds;
- b. Modifications to AB 923-funded projects not meeting Carl Moyer Program requirements;
- c. Any significant deviations relative to the original project shall be provided as an update. The status of emissions reductions by projects in the implementation phase is assumed to be as originally submitted, unless updated by the AQMD.
- d. Copies of executed contracts that obligate Carl Moyer Program and local match funds to projects, which were not previously submitted; and
- e. Copies of invoices that document the amount of Carl Moyer Program funds or local match funds expended for each project.

If a satisfactory annual report was previously submitted, all funds have been expended and the database updated, a combined annual report and final report brief narrative may satisfy the requirement for the final report (with ARB approval).

XIV: TRAINING

The AQMD conducts periodic contract manager training for all staff involved in Carl Moyer Program contract management. This training provides an update of any changes to the Carl Moyer Program during the previous year, including legislative changes to the statewide program, State Guideline changes, and new regulations affecting the Carl Moyer Program; a review of the Policies & Procedures; and specific direction regarding work statements, inspections, and invoice approval. The training is conducted by the Technology Implementation Manager, and may include Procurement, Finance and Legal as needed. In addition, all project and compliance officers are provided abbreviated inspector training to familiarize them with the protocols and safety considerations of inspecting equipment at construction sites, ports, and fleet operations. All staff involved in inspections is provided with the appropriate safety equipment, including but not limited to, safety shoes, safety glasses, and hard hats.

XV: COORDINATION WITH ARB

A. General.

ARB has assigned staff liaisons for each district. AQMD staff shall document any correspondence with ARB staff regarding ARB interpretations, clarification, guidance or possible deviations from the State Guidelines. All documentation shall be kept in the Carl Moyer Program project files. Project files are kept for the life of the contract plus five years. The STA project files are kept in the central filing area of the office.

B. Incentive Program Implementation Team.

The ARB holds Carl Moyer Program Incentive Program Implementation (IPI) team meetings once a quarter, or as needed. These meetings provide the opportunity to be kept informed about evolving issues in the Carl Moyer Program, including the formation of Technical Advisories and State Guideline modifications. It is also an opportunity to keep informed about other local district Carl Moyer Program activities, and to be informed on related ARB activities. All districts are required to attend at least two IPI meetings per year. Typically, the Technology Implementation Manager and the Technology Implementation Program Supervisor attend the IPI meetings. Other staff may attend as deemed necessary by the Technology Implementation Manager.

C. Database.

ARB is developing a centralized database for all Carl Moyer Program projects. All districts will be required to use this database once it is implemented. ARB will provide training to district staff in the use of the database. Currently AQMD utilizes its own database. One Air Quality Specialist is assigned responsibility for the database. Upon completion of the ARB database, AQMD will transition to use of that database. Until the database is implemented, AQMD will update and provide its own spreadsheet to ARB as documentation of funded projects.

XVI: STATE OVERSIGHT

As part of their oversight responsibilities, ARB staff performs desk reviews of district Carl Moyer Program activities, and may perform on-site monitoring and audits. Audit of a district's program may involve other state agencies, such as the Department of Finance and State Bureau of Audits. Audits may be fiscal, programmatic, or both. Notification of audit typically is sent to the Executive Officer, who then directs staff appropriately. Program audits include the participation of the DEO, Technology Implementation Manager and Program Supervisor, and project managers as appropriate. Fiscal audits are directed to the Finance unit, with assistance from program staff as appropriate.

XVII: REVISIONS TO THE POLICIES & PROCEDURES

These Policies & Procedures may be updated or revised at any time, as necessary, to reflect legislative direction, revisions to State Guidelines, or changes in AQMD policies and procedures.

APPENDICES

Appendix A

Documents included in Appendix A are housed in the central filing area of Science and Technology Advancement, under the care and custody of the Staff Assistant, Technology Implementation. They are included in this document by reference, and include the following:

- ARB Solicitation Package and AQMD completed application for each funding year of the Carl Moyer Program, including pertinent Board Letters.
- ARB Grant Award and Authorization for each funding year.
- AQMD Carl Moyer Program solicitation documents for each funding year, including pertinent Board Letters.
- Final Calculation Spreadsheets for each funding year of the Carl Moyer Program.

Appendix B

Carl Moyer Program Flow chart

Appendix C

Finance Carl Moyer Program Disbursement Flow Chart

Appendix D

Board Letter Approving \$2 increase in vehicle registration fees

Appendix E

Sample Application for Carl Moyer Funding

Appendix F

Sample Carl Moyer Program Disbursement Request

Appendix G

Sample Grant Award & Authorization Form

Appendix H

Light-Duty Vehicle Remote Sensing, Repair, and Scrapping Program Plan

Appendix I

Sample Request for Proposals, including Board Letter

Appendix J

Sample Program Announcement, including Board Letter

Appendix K

Sample incomplete proposal letter

Appendix L

Sample Board Letter, Award of Carl Moyer Program Contracts

Appendix M

Contract Request Approval Memorandum

Appendix N

AQMD Carl Moyer Program contract template for each project category

Appendix O

Sample contract award letter

Appendix P

Sample, fully-executed contract letter

Appendix Q

Pre- and Post- Inspection and Audit Form

Appendix R

Invoice Payment Form

Appendix S

Contractor Checklist

Appendix T

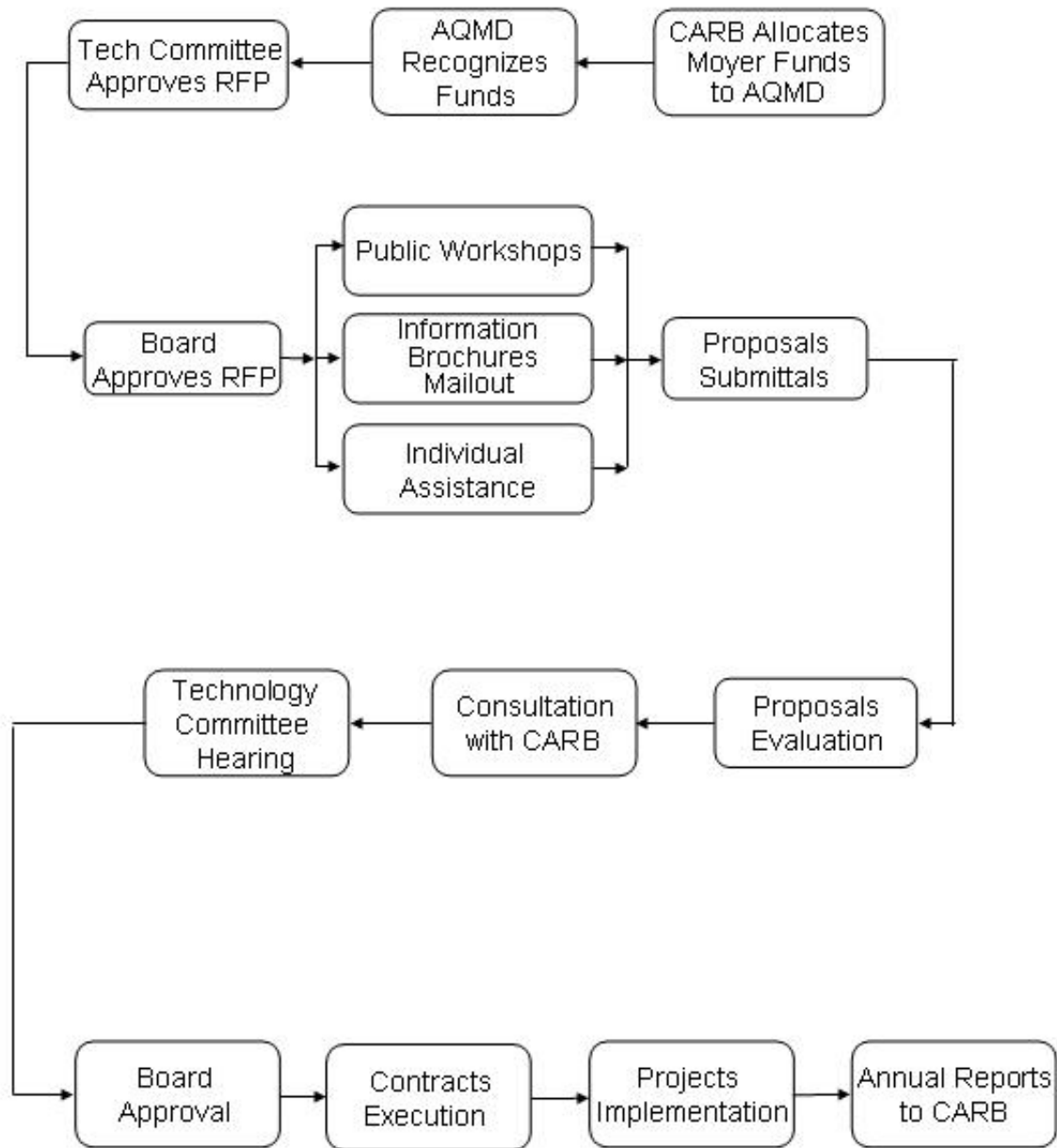
AQMD STA Policy for Contracting and Awarding Program Funds

Appendix U

AQMD Records Retention Policy

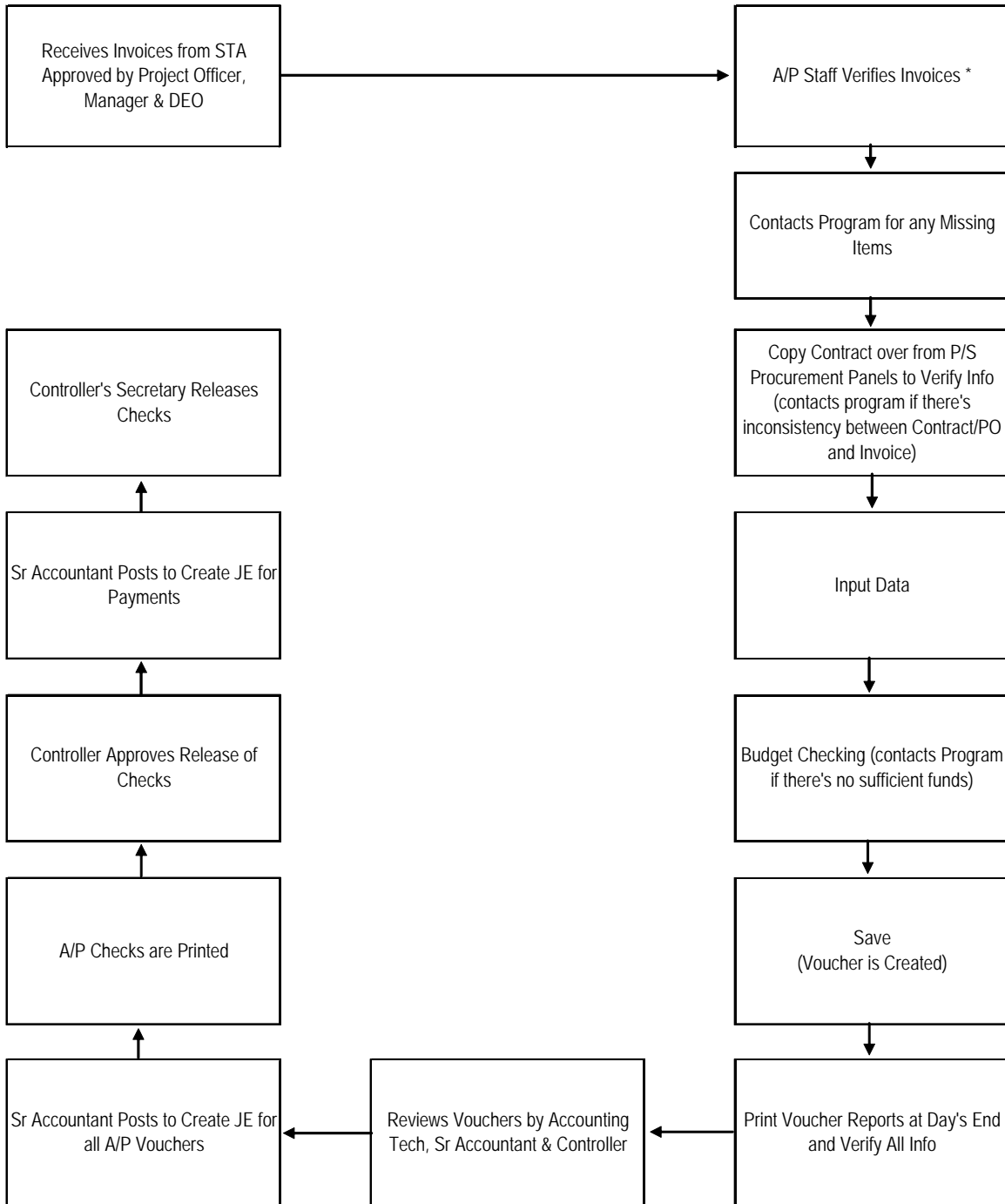
Appendix B
Carl Moyer Program Flow chart

South Coast AQMD's Carl Moyer Program Flow Chart



Appendix C
Finance Carl Moyer Program Disbursement Flow Chart

South Coast Air Quality Management District
 FINANCE
 CARL MOYER PROGRAM DISBURSEMENT FLOW CHART



*

Originals
PO/Contract #
Invoice #
Invoice Date
Amount Due
Extensions
Approvals
Which Fund
Any Sub-Account
Account Charged

Appendix D

Board Letter Approving \$2 increase in vehicle registration fees



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

BOARD MEETING DATE: December 3, 2004

AGENDA NO. 39B

PROPOSAL: Approve Resolution Requesting Additional Two Dollar Increase in Vehicle Registration Fees Strictly for Incentive Programs Until 2015

SYNOPSIS: On September 23, 2004, the Governor signed AB 923 (Firebaugh) which allows air districts to adopt an additional two dollar surcharge on motor vehicle registration fees to be used toward incentive funding programs. Funds may only be used for the Carl Moyer program, the school bus program, agricultural sources or light-duty vehicle projects.

COMMITTEE: Not Applicable

RECOMMENDED ACTION:

Approve the attached resolution and authorize the Executive Officer to forward a funding request to the California Department of Motor Vehicles prior to January 1, 2005.

A handwritten signature in black ink, appearing to read 'Barry R. Wallerstein', is written over a horizontal line.

Barry R. Wallerstein, D.Env.
Executive Officer

CSL:HH:FM:CAD

Background

On September 23, 2004 the Governor Schwarzenegger signed AB 923 (Firebaugh) which made possible a significant increase in potential funding available for the Carl Moyer program. AB 923 was spearheaded by CalEPA and supported by a wide range of public and private entities. The Bill received bipartisan support from the Legislature and the full support of Schwarzenegger Administration. Table 1 shows the organizations that supported and opposed the bill. As indicated, the Measure received significant support from Business and Environmental groups.

AB 923 allows air districts in state non-attainment areas for any motor vehicle pollutant to adopt an additional two dollar surcharge on motor vehicle registration fees, from four dollars to six dollars, to be used strictly incentive-based emission reduction funding

programs. This action has the potential to generate approximately \$22 million per year in additional incentive funding for AQMD programs. Staff is proposing that a portion of these funds be used to supplement the local government match requirement of the Carl Moyer program. Both the Bay Area Air Quality Management District and the Sacramento Metropolitan Air Quality Management District Boards have already approved similar requests.

Proposal

Approved the attached resolution that will allow the AQMD to take advantage of the opportunity provided through AB 923 to increase the motor vehicle registration fee by two dollars in the South Coast Air Quality Management District. This action will result in approximate revenues of \$22 million dollars a year until January 1, 2015 for the AQMD to use as Moyer match funds and also to expand other funding programs.

The fee can be implemented on either April 1 or October 1, depending on when the requested is submitted to the California Department of Motor Vehicles (DMV). Staff is bringing this request forward to meet the January submittal deadline which DMV has established to be able to begin collecting the fees by April 1. This fee will remain in effect until January 1, 2015.

The use of the additional fees is limited by state law to:

1. The Carl Moyer Program: Fees may be used as the required local government match portion or used in its entirety subject to the CARB approved Carl Moyer Guidelines.
2. School buses: Fees may be used pursuant to the clean school bus program adopted by the Governing Board and subject to the approved CARB guidelines.
3. Light-duty programs: Fees may be used for scrap or repair programs adopted by CARB.
4. Agricultural sources: Fees may be used for the new purchase, retrofit, repower or add-on equipment for previously unregulated agricultural sources for a period of three years from the date of adoption of an applicable CARB rule, or until the compliance date of that rule, whichever is later.

The Governing Board may elect to fund one or all of these options at its discretion. Staff will return to the Board early next year to seek direction on how the funds should be distributed among these four areas.

AB923 contains specific provisions for board approval. Approval is subject to the majority vote of both the local air district's elected board members and the entire Governing Board.

Table 1
AB 923 Support & Opposition

Support	Opposition
Sierra Club – California	California Motor Car Dealers Association
California Farm Bureau Federation	California Tire Dealers Association
California Council For Environmental and Economic Balance (CCEEB)	Independent Tire Dealers Association
Western States Petroleum Association (WSPA)	
Coalition for Clean Air	
California Communities Against Toxics	
California Environmental Rights Alliance	
Planning and Conservation League	
Physicians for Social Responsibility	
California League of Conservation Voters	
Environment California	
American Lung Association of California	
Union of Concerned Scientists	
Natural Resources Defense Council	
Environmental Defense	
Medical Advocates for Healthy Air	
Fresno Metro Ministry	
Agricultural Council of California	
California Association of Wheat Growers	
California Association of Winegrape Growers	
California Bean Shippers Association	
California Citrus Mutual	
California Cotton Ginners Association	
California Cotton Growers Association	
California Grain and Feed Association	
California Grape and Tree Fruit League	
California Seed Association	
California State Floral Association	
California Warehouse Association	
Nisei Farmers League	
Pacific Egg and Poultry Association	
Bay Area Air Quality Management District	
Sacramento Air Quality Management District	

Benefits to AQMD

The successful implementation of the current incentive programs (Carl Moyer, School Bus and MSRC) has resulted in significant reductions in PM10 and NOx emissions in the AQMD. The influx of additional funding will continue the successful progress toward cleaning the air begun with the implementation of the incentive programs. In addition, the expansion of the incentive programs and funding will also produce concurrent toxic air contaminant emission reductions, which is an additional benefit. Use of the a portion

of the funds as the required match may free up to \$6 million dollars from the Clean Fuel Funds that may be used for other types of projects that are not included in the Moyer Program.

Resource Impacts

There are not additional monetary impacts as a result of this action; however additional staff time will be necessary to implement new or expand existing programs. Additionally, if a portion of the funds is used as the required local match, approximately \$5 million dollars annually from the Clean Fuels Fund can be used for other programs.

Attachment

Resolution

RESOLUTION NO. 04-

A Resolution of the South Coast Air Quality Management District Board to Increase the Department of Motor Vehicles Annual Registration Fees

WHEREAS, Under Health & Safety Code §40400 the South Coast Air Quality Management District (AQMD) is the local agency with the primary responsibility for the development, implementation, monitoring and enforcement of air pollution control strategies, clean fuels programs and motor vehicle use reduction measures; and

WHEREAS, the AQMD is authorized by Health & Safety Code §40402 and 40440 to implement programs to reduce transportation emissions, including programs to encourage the use of alternative fuels and low-emission vehicles; to develop and implement other strategies and measures to reduce air contaminants and achieve the state and federal air quality standards; and

WHEREAS, the Board has adopted several programs to reduce emissions from on-road and off-road vehicles, as well as emissions from other equipment, including the School Bus Incentive program and the Carl Moyer Program; and

WHEREAS, the AQMD is designated as a severe non-attainment area for ozone and as such is required to utilize all feasible means to meet the National Ambient Air Quality Standards.

WHEREAS, under Health and Safety Code §44225, as amended by Assembly Bill 923, the AQMD is authorized to increase the surcharge on motor vehicles from \$4.00 to \$6.00 for vehicles registered in the AQMD, provided: i) a resolution providing for both the fee increase and a corresponding program for expenditure of the increased fee for the reduction of air pollution from motor vehicles pursuant to, and for related planning, monitoring, enforcement, and technical studies necessary for the implementation of the California Clean Air Act of 1988 is adopted and approved by the governing board; and ii) approval of one surcharge increase is approved by both a majority of the governing board and a majority of the board members who are elected officials; and

WHEREAS, these funds will be held in the Carl Moyer trust fund and may be used for one of the following: the Carl Moyer program; school buses; light-duty vehicles; and agricultural sources as allowed under Health and Safety Code §44229(b).

THEREFORE, BE IT RESOLVED that the Board of the South Coast Air Quality Management District, State of California, in regular session assembled on December 3, 2004, does hereby approve, effective January 1, 2005, an increase in the surcharge on motor-vehicle registration fees from \$4.00 to \$6.00, and this increase will be applicable to all vehicles registered within the AQMD boundaries; and

BE IT FURTHER RESOLVED that the Executive Officer is authorized and directed to take all steps necessary to carry out this Resolution.

Date

Clerk of the Board

Appendix E
Sample Application for Carl Moyer Funding



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • www.aqmd.gov

Ms. Stacey Dorais
Air Resources Board
Mobile Source Compliance Division
P.O. Box 2815
Sacramento, Ca 95812

March 8, 2006

Dear Ms. Dorais:

The SCAQMD is anxious to get started on the eight year of the Carl Moyer Program (CMP). As you know the CMP funds are always anxiously awaited and oversubscribed.

We released a Request for Proposals on February 10, 2006 and have already begun conducting workshops for applicants. Per the requirements of the grant award enclosed is a signed grant disbursement request, a copy of the RFP board letter containing the resolution accepting the terms and conditions of the grant award, and a copy of our outreach brochure.

I would like to thank you and your staff for acting as a technical resource through the CMP process. We appreciate the assistance and support received from CARB staff over the years, and look forward to a continuing productive relationship.

Respectfully,

A handwritten signature in black ink, appearing to read "Barry R. Wallerstein", is written over a faint, larger version of the same signature.

Barry R. Wallerstein, D.Env.
Executive Officer

Encl.

C: Lucina Negrete



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

*Office of the Executive Officer
Barry R. Wallerstein, D.Env.
909.396.2100, fax 909.396.3340*

November 9, 2005

Ms. Stacey Dorais
Air Resources Board
Mobile Source Control Division
P.O. Box 2815
Sacramento, CA 95812

Dear Ms. Dorais:

The South Coast Air Quality Management District is pleased to submit our year eight application for funding under the Carl Moyer Memorial Air Quality Standards Attainment Program. This application package contains the following information:

- 1). Year 8 Application form;
- 2). The Carl Moyer Air Quality Standards Attainment Program Guidelines, adopted by our governing board in July 2005; and
- 3). A copy of our proposed program timeline for Year 8.

The required funding resolution will be heard by our Governing Board on February 3, 2006. At that time our Board will also be setting the funding levels for each program category, advertising workshop dates and finalizing the program timeline. It is our intent to submit this information to CARB no later than April 30, 2006 as required by your application guidance.

Should you have any questions or require additional information, please feel free to contact Ms. Connie Day at (909) 396-3055 or by e-mail at cday@aqmd.gov. We look forward to continuing our successful partnership in this program.

Sincerely,

A handwritten signature in black ink that reads "Barry R. Wallerstein".

Barry R. Wallerstein, D.Env.
Executive Officer

Attachments

CSL:HH:FM:CD

Carl Moyer Memorial Air Quality Standards Attainment Program
ATTACHMENT B
GRANT DISBURSEMENT REQUEST
Year 8

See instructions on reverse

Carl Moyer Program Funding by Category	Amount of Funds
1. Total Grant Award for Projects.	\$34,478,931
2. Total Grant Award for Administration.	\$798,123
3. Total District Match Funding Required.	\$5,411,006
4. Grant Award Funds for Projects Received to Date.	\$0.00
5. Grant Funds for District Administration Received to Date.	\$0.00
6. District Match Funds Obligated to Date.	\$1,159,112 (allocated in Year 7)
7. Grant Award Funds for Projects Obligated to Date.	\$0.00
8. Current Funds Request from Grant Award for Projects.	\$3,447,893
9. Current Funds Request from Grant Award for District Administration	\$399,061
10. Total Funds Request from Grant Award.	\$3,846,954

I certify to the best of my knowledge and belief that the information contained in this grant disbursement request, including the amount of project funding obligated contract, is correct and complete and is in accordance with the grant. In addition, I hereby authorize the Air Resources Board to make any inquiries to confirm this information.

District: South Coast Air Quality Management District



Name: Barry R. Wallerstein, D.Env
 Title: Executive Officer
 South Coast Air Quality Management District

Date 3/15/06

Connie

500
FedEx Express US Airbill 8481 6976 7917 02J5 96 FedEx Copy

1 From Sender's FedEx Account Number 1046-9510-8

Date 1046-9510-8

Sender's Name MALE CENTER MINNAPOLIS MN 909 396-3450

Company SOUTH COAST AIR QUALITY MGMT

Address 21965 COPLEY DR

City DIAMOND BAR State CA Zip 91765-4178

2 Your Internal Billing Reference

3 To Company Name STONEY DONAIS Phone 916 322-7353

Address 1001 I STREET

City SACRAMENTO State CA Zip 95814

Address (MISSED)

Barcode 8481 6976 7917

Barcode 0284559157

LIVE WITH US SERVICE

YEAR 8 FUNDING APPLICATION

4a Express Package Service
 FedEx Priority Overnight
 FedEx Standard Overnight
 FedEx Free Overnight

30 FedEx 2Day
20 FedEx Express Saver

4b Express Freight Service
8 FedEx 1Day Freight
8 FedEx 2Day Freight
83 FedEx 3Day Freight

5 Packaging
 FedEx Envelope
 FedEx Flat Mail Box
 FedEx Mail Box
 FedEx Tube
 Other

6 Special Handling
 Saturday Delivery
 Signature Required
 Insured
 Fragile
 Restricted
 Hazardous
 Other

7 Payment
 Sender
 Recipient
 Third Party
 Credit Card
 Cash/Check

8 Sign to Authorize Delivery Without a Signature

Total Packages 1
Total Weight 1.00
Total Declared Value \$ 1.00
Total Charges 00

466

**CARL MOYER MEMORIAL AIR QUALITY STANDARDS ATTAINMENT PROGRAM
FISCAL YEAR 2005-2006 (YEAR 8) APPLICATION**

1. APPLICANT DISTRICT

District Name: South Coast Air Quality Management District
Street Address: 21865 Copley Drive
City/Zip: Diamond Bar, CA 91765
Contact Person: Connie Day
Phone: (909) 396-3055 Email Address: cday@aqmd.gov

2. CARL MOYER PROGRAM FUNDING REQUESTED

Check one box. If box 2b or 2c is checked, complete the requested amount.

- a. District requests the minimum allocation of \$200,000
 b. District requests the tentative allocation (Table 1 or 2) of
 c. District requests, and has match for, up to **\$37,000,000** _____
 d. District declines the funds for Year 8

3. DISTRICT MATCHING FUNDS

a. District funds already obligated for projects _____

Attach detailed project descriptions, using ARB's FY 2004/2005 reporting spreadsheet, to document the projects qualified as Carl Moyer Program match funding.

b. District funds for future match

Motor Vehicle Registration

Fee Funds (AB 923):

\$5,230,664 of which \$1.3 million will be obligated on February 3, 2006 as part of the Year 7 program.

Total district funds for future match

\$5,230,664

4. BOARD RESOLUTION

Check one box. If box 4b is checked, complete the date.

- a. This application has been duly approved and authorized by the governing board of the applicant, as specified in the attached resolution.
 b. This application is scheduled to go before the district board on February 3, 2006

5. DISTRICT

To the best of my knowledge and belief, the information in this application is true and correct.



**Barry R. Wallerstein, D.Env.
Executive Officer**

November 9, 2006

Attachment 1

Carl Moyer Air Quality Standards Attainment Program Guideline Under SB 1107 & AB 923

Background

The Carl Moyer Program (CMP) originally started in 1998 and continued for six years with various amounts of funding, each year as allocated in the state budget. Funds have been used to repower and purchase new heavy-duty on- and off-road vehicles and equipment to reduce NOx emissions at a maximum cost-effectiveness limit of \$13,600 per ton. In August and September 2004, Senate Bill 1107 and Assembly Bill 923 were signed by the Governor to provide continuous funding for the Carl Moyer Program.

Based on the Basin's population proportion within the state, the AQMD will be receiving approximately \$23.8 million annually from CARB under SB1107, and as approved by the Board on December 3, 2004, the AQMD will also receive approximately \$22 million per year in DMV surcharge fees under AB923. In addition, AB923 allows a 75¢ per tire fee increase for 2005-06, and a 50¢ per tire fee increase for 2007-15. AQMD's portion of the tire fee will be approximately \$6 million per year in 2005-06, and \$10 million per year in 2007-15. The total amount of available funding for the Carl Moyer Program will be approximately \$51.8 million annually in 2005 & 06, and \$55.8 million annually from 2007 to 2015. Total funding for a ten-year period will be approximately \$550 million.

The scope of the Carl Moyer program has been expanded under SB1107 and AB923. In addition to heavy-duty on- and off-road vehicles and equipment as funded in previous years, funds can now be used to fund school buses, light-duty vehicle programs, and internal combustion engines in agricultural operations. The school bus program can only be funded under AB923 and is not subject to cost-effectiveness. Projects reducing NOx, VOC, and PM10 emissions will be eligible. The cost-effectiveness limit set by the AQMD for certain equipment categories is more stringent than the state limits.

Estimated Funding Required

The Carl Moyer Program has been very successful in reducing NOx emissions from heavy-duty on- and off-road vehicles in the past six years statewide. The availability of continuous funding and the expansion of the program with inclusion of light-duty vehicles, school buses, and agricultural engines is a positive step in reducing NOx, VOC, and PM10 emissions in the South Coast Air Basin. Even with the newly increased amount of funding the number of eligible vehicles and equipment in different categories is much larger than the amount of available funding. Considering all eligible categories for funding under SB1107 and AB 923, the following table shows an estimate of the total

amount of funding needed and each category's cost-effectiveness and emissions reductions if all the eligible engines/vehicles were funded:

Table 1: Estimate of All Eligible Categories

Category	Previous Funding	Needed Funding	NOx** tons/yr	PM** tons/yr	VOC** tons/yr	Cost-Effectiveness
Heavy-Duty Diesel Trucks						
Alt. Fuel Trucks	\$23,036,300	\$1,127,464,000	12,740	147		\$9,300
Retrofit Traps	\$4,197,600*	\$208,800,000		339		\$13,420
Urban Buses	\$11,633,300	\$23,247,000	510	8		\$4,000
Locomotives	\$9,110,500	\$10,500,000	159	4		\$3,500
Marine Vessels	\$27,575,700*	\$15,000,000	309	2		\$3,850
Construction and Forklifts	\$24,641,800*	\$149,190,000	6,008	107		\$2,500
Agricultural Equipment	\$1,700,000*	\$6,048,000	219	10		\$2,250
School Buses						Not subject to cost-effectiveness
Pre-1987 Bus Replacement	\$41,894,000*	\$148,000,000	169	21		
Retrofit	\$13,655,000*	\$11,250,000		25		
Light-Duty Program						
Remote Sensing & Repair		\$410,000,000	1,100		13,650	
Scrapping	\$9,117,000*	\$491,000,000	10,230		23,970	\$5,100
Truck Stop Electrification, & Auxiliary Power Units	\$1,091,000	\$17,500,000				
Total	\$167,652,200*	\$2,617,999,000	31,444	663	37,620	

*Includes incentive funding provided entirely or partially by incentive programs other than the Carl Moyer.

**Emission estimates reflect reductions achieved through previous years incentive funding programs.

Assumptions

- Heavy-Duty Trucks: For alternative fuel trucks it is based on 33 percent of fleet inventory being older than 15 years and project life of ten years. For truck retrofits it is based on 25 percent of 1994 and newer trucks being eligible for retrofits and five years project life.
- Urban Buses: Based 19 percent of diesel buses being older than 15 years and 12 years project life.
- Locomotives: Based on 20 years project life.
- Marine Vessels: Based on CARB survey indicating at least 50 percent are older than 15 years, of which 80 percent are eligible, and a project life of 15 years.
- Construction and Forklifts: No age data. Assuming 50 percent are older than 15 years and 50 percent of that population is viable candidates, and ten years project life
- Agricultural Equipment: No age data. Assuming 50 percent of the inventory is older than 15 years, of which 50 to 60 percent are viable.
- School Buses: Based on pre-1987 buses for replacements, and 1994 and newer buses for retrofits with funding amounts similar to the state's Lower-Emission School Bus Program.
- Light-Duty Program: Assuming one-million vehicles as high emitters in the Basin with half being scrapped and the other half repaired, including the cost of remote sensing for vehicle identification.
- Truck stop electrification and auxiliary power units are type of technologies that reduce idling, assuming half of 3,500 truck stops being eligible for electrification or other technologies.

In addition to the above categories, fleet modernization will be allowed after adoption of the program guidelines by CARB. The cost associated with fleet modernization will be part of the amount indicated for heavy-duty diesel trucks indicated in Table 1.

Proposed Ten-Year Guideline

Based on the number of eligible vehicles and equipment qualifying for funding, it is advisable to adopt a preliminary ten year strategy and a balanced program implementation plan to achieve the highest emission reductions focusing on addressing the following regulatory priorities:

- Goods Movements
 - Environmental Justice
 - Cost Effectiveness
 - Low Emission Engine/Vehicle Preference
 - Early Commercialization of Advanced Technologies/Fuels
 - Fleet Rules
 - School Buses
-
- **Goods Movements:** Funds allocated for trucks, locomotives, marine vessels, and part of off-road vehicles will have direct effect on goods movements as they are mostly used for transportation of goods to and from the ports. Staff proposes that **no less than 40 percent** of the Carl Moyer Program expenditure will be allocated for eligible categories to support less polluting goods movements.
 - **Environmental Justice:** AB1390 requires that no less than 50 percent of the Carl Moyer Program funds be expended in a manner that directly reduces air contaminants or reduces public health risks in communities with the most significant exposure to air contaminants, including, but not limited to communities of minority populations or low-income populations or both. Since the adoption of AB1390 the AQMD has consistently appropriated approximately 60 percent of its funding to disproportionately impacted areas. Staff proposes that the policy of **at least 50 percent** expenditure in disproportionately impacted areas be retained with funding under SB1107 and AB923 even after the sunset date of AB1390 on January 1, 2007.
 - **Cost Effectiveness:** Funding will be appropriated to the most cost-effective projects in all eligible categories. Staff proposes that like previous years, more stringent cost-effectiveness criteria than the current state NOx cap of \$13,600/ton may be implemented for specific source categories to achieve additional emission reductions.
 - **Low Emission Engine/Vehicle Preference:** Since the inception of the Carl Moyer Program, the AQMD has implemented a **low emission engine/vehicle preference** policy for source categories with commercially available optional standard (lowest emission) products. Most notably, on-road heavy- and medium-duty vehicles have been funded under this policy to promote the use of lower emitting clean fuel

technologies. Staff proposes the continuation of this policy for projects funded under SB1107 and AB923 in future years. It should be noted, however, that diesel technology based projects have received 47% of past Carl Moyer funding.

- **Early Commercialization of Advanced Technologies/Fuels:** Funding will be appropriated for early compliance with future effective, technology forcing regulations adopted or planned by federal, state, and local agencies. Such action will support early commercialization of needed new technologies/fuels and help ensure that AQMD rules and regulations are implemented on schedule through real world demonstration of advanced pollution controls. Staff will review available regulatory schedules and develop annual priorities based on such information.
- **Fleet Rules:** Funding will be used to help fleet operators with the implementation of the SCAQMD Fleet Rules whenever allowed by the specific rules.
- **School Buses:** Exhaust emissions from high emitting diesel-fueled school buses are harmful to children's health and are a key source of public exposure. The AQMD Board through its adoption of the Children's Health Initiative has placed a high priority on reducing children's exposure to harmful emissions and has provided funding for replacement of older diesel school buses and retrofit of newer buses with particulate traps. Funding of school buses will continue to be a priority with funds generated under AB923.

Considering the above criteria, and based on an annual funding amount of approximately \$55.8 million, comprised of \$23.8 million under SB1107, and \$22 million in DMV fee and \$10 million in tire fee under AB923, staff proposes annual funding allocations for each category as shown in Table 2. This table only serves as a general guideline for implementation of the program. A specific annual plan will be presented to the Board for consideration.

Table 2: Proposed Annual Expenditure Guideline

Category	SB1107 Funding	AB923 DMV Fee Funding	AB923 Tire Fee Funding	Percent of Total Funding
On-Road				
Trucks & Buses:				
New Low Emission Vehicles & In-Use Retrofits	10-20%	20-30%	30-60%	17-31%
Fleet Modernization	10-20%	0	20-40%	7-16%
Light-Duty Scrap & Repair	0	10-30%	30-50%	9-21%
School Bus	0	30-60%	0	11-24%
Off-Road				
Agricultural Engines	0	5-20%	0	2-8%
Construction	20-40%	15-25%	0	14-27%
All Other Off-Road	30-50%	15-25%	0	18-32%
Total	\$23.8 M	\$22 M	\$10 M	\$55.8 M

There are on-going legislative efforts that may create more revenue streams for additional Moyer Program funding in future years. As more funds become available, staff will review the on-going needs and priorities, and will bring back revised recommendations for Board's consideration.

Attachment II

FY2005-06 Year 8 Program

- AQMD to apply for approximately \$34.1M for funds under SB1107

Year 8 Program Cycle (anticipated)

- Submit application to CARB: Before November 18, 2005
- Issue RFP: February 3, 2006
- Awards approval: September 2006
- Complete contracts executions: January 2007
- CARB's deadline for contracts: June 30, 2007
- CARB's deadline to expend funds: June 30, 2008
- Final report to CARB: July 31, 2008

Appendix F
Sample Carl Moyer Program Disbursement Request

State of California
Air Resources Board
Carl Moyer Memorial Air Quality Standards Attainment Program
INITIAL REPORT SUMMARY

District: South Coast Air Quality Management District
Funding Year: Year 7
Date: September 2, 2005

District Staff Contact for the Moyer Program:

Name: Connie Day _____

Title: Program Supervisor _____

Telephone : (909) 396-3055 _____

Email: cday@aqmd.gov _____

1. Program Implementation

A. Which Carl Moyer Program categories will the district target? Check all that apply.

- | | |
|---|--|
| <input checked="" type="checkbox"/> On-Road | <input checked="" type="checkbox"/> Marine Vessels |
| <input checked="" type="checkbox"/> Off-Road | <input checked="" type="checkbox"/> Locomotives |
| <input checked="" type="checkbox"/> Ag Pumps | <input checked="" type="checkbox"/> GSE |
| <input checked="" type="checkbox"/> Forklifts | <input checked="" type="checkbox"/> APU |
| <input checked="" type="checkbox"/> Other (explain) On-Road Retrofits _____ | |

B. Describe the method used to select qualifying projects (i.e., competitive rating and ranking, first-come first-serve, etc.). Competitive ranking.

C. Describe the steps the district uses to implement the program, such as: outreach activities (i.e., published solicitations, telephone calls, mailers); application deadlines; application review; board approval of funding allocations; and, project verification and monitoring.

Release of RFP (published solicitation-in several language papers. See attached RFP), e-mails, direct mailing of over 15,000 brochures, website postings (local clean cities coalitions, consultants, private companies, SCAG, WRCOG, CALSTART, etc.

2. Carl Moyer Funding in Environmental Justice Areas

Districts with >1 million residents are required to complete this section. It is recommended that smaller districts complete this section.

A. **What is the district's environmental justice funding requirement? \$9.3 million**
This is 50% of the Carl Moyer Program funding allocation to applicable districts.

B. **Describe the district's efforts to meet the Carl Moyer Program environmental justice (EJ) mandates.** This should include the following elements: **See Attachment**

- 1) Describe the criteria used to identify the areas eligible for Carl Moyer Program EJ funding. Examples of this include: socioeconomic make-up, identification of sensitive populations, and areas affected by criteria or toxic pollutant exposure.

INITIAL REPORT SUMMARY

District: _____

Date: _____

Page 2 of _____

- 2) Describe the methodology used to identify disproportionately impacted areas. Examples of this include: local planning designations, census information, and air monitoring results. **See Attachment**
- 3) Describe the outreach efforts used to recruit potential project applicants in EJ areas. **See 1C above.**
- 4) Describe the methods used to identify and select projects located in EJ areas. This can include ranking or designations used by the district. **See Attachment**
3. **Describe any outstanding features and accomplishments of the district's Carl Moyer Program.** Outreach to new segments such as farmers and small construction operations.
4. **Describe any challenges or obstacles in implementing the district's Carl Moyer Program.**
The biggest challenge is dealing with all the changes coming from ARB's rules and the development of the new guidelines.
5. **List all attachments included with this report.**

Governing Board letter and RFP #2006-01 for the Moyer Program
Moyer Program Brochure
SCAQMD EJ criteria

**Carl Moyer Memorial Air Quality Standards Attainment Program
ATTACHMENT B
GRANT DISBURSEMENT REQUEST
Year 8**

See instructions on reverse

Carl Moyer Program Funding by Category	Amount of Funds
1. Total Grant Award for Projects.	\$34,478,931
2. Total Grant Award for Administration.	\$798,123
3. Total District Match Funding Required.	\$5,411,006
4. Grant Award Funds for Projects Received to Date.	\$0.00
5. Grant Funds for District Administration Received to Date.	\$0.00
6. District Match Funds Obligated to Date.	\$1,159,112 (allocated in Year 7)
7. Grant Award Funds for Projects Obligated to Date.	\$0.00
8. Current Funds Request from Grant Award for Projects.	\$3,447,893
9. Current Funds Request from Grant Award for District Administration	\$399,061
10. Total Funds Request from Grant Award.	\$3,846,954

I certify to the best of my knowledge and belief that the information contained in this grant disbursement request, including the amount of project funding obligated contract, is correct and complete and is in accordance with the grant. In addition, I hereby authorize the Air Resources Board to make any inquiries to confirm this information.

District: South Coast Air Quality Management District

Name: Barry R. Wallerstein, D.Env
Title: Executive Officer
South Coast Air Quality Management District

Date

Appendix G
Sample Grant Award & Authorization Form

State of California
Air Resources Board
Carl Moyer Memorial Air Quality Standards Attainment Program
GRANT AWARD & AUTHORIZATION FORM
Fiscal Year: 2005 – 2006 (Year 8)

Carl Moyer Memorial Air Quality Standards Attainment Program funds have been approved as follows:

District: South Coast Air Quality Management District
Grant Number: G05-M24
Grant Award:

Project Funds	\$34,478,931
Administration Funds	<u>\$ 798,123</u>
TOTAL	\$35,277,055

Required Match Amount: \$5,411,006

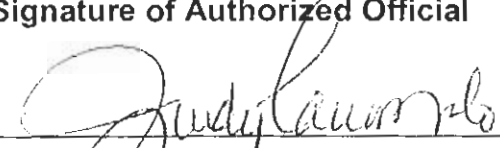
Terms:

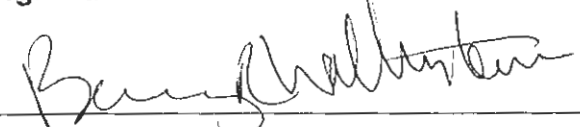
- A. Receipt of this award is conditional on the Air Resources Board receipt of the following documentation by April 30, 2006:
 - 1. Air district board resolution accepting the terms and conditions of the grant award.
 - 2. Program Implementation Plan.
- B. Districts must submit documentation of full obligation of all prior Carl Moyer Program funding before receipt of any Year 8 funds.
- C. The district is authorized to administer a local program according to the requirements described in the following documents, which are incorporated as part of this grant:
 - 1. Completed Application to Administer Program (incorporated by reference)
 - 2. Carl Moyer Program Guidelines and program advisories (incorporated by reference)
 - 3. Contacts (Attachment A)
 - 4. Grant Disbursement Request (Attachment B)

The undersigned parties agree to the terms and conditions as set forth in this grant. The undersigned parties certify under the penalty of perjury that they are duly authorized to bind the parties to this grant.

California Air Resources Board:
Signature of Authorized Official

Air District: South Coast AQMD
Signature of Authorized Official


 Name: Marie LaVergne
 Title: Administrative Services Division Chief
 Date: 12/29/05


 Name: Barry R. Wallerstein, D.Env.
 Title: Executive Officer
 Date: 1/13/06



Alan C. Lloyd, Ph.D.
Agency Secretary

Air Resources Board

1001 J Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov



Arnold Schwarzenegger
Governor

06 JAN -3 2006

December 30, 2005

South Coast AQMD
Dr. Barry Wallerstein, APCO
21865 E. Copley Dr.
Diamond Bar, CA 91765-4182

Received
Date 1-3-06
Barce

P.S. Please provide Connie Day, THD
a signed copy for their files.
Amy

Dear Dr. Wallerstein:

The Air Resources Board (ARB) is pleased to announce the allocation of \$84.9 million to continue implementation of the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program). Last year, SB 1107 and AB 923 (Firebaugh) were enacted, establishing a continued source of funding and enhanced program requirements. We look forward to implementing the 2005-2006 (Year 8) program. This year our program includes the following key elements:

1. Revised requirements have been incorporated in the November 2005 guideline revision. For fiscal year (FY) 2005-2006 (Year 8), the Carl Moyer Program must be administered according to the requirements included in the approved November 2005 Carl Moyer Program Guidelines.
2. Two percent of total program funds have been set aside for local district outreach, including staffing, the cost of outreach materials, and outreach events. Your grant award will list the amount of funds allocated specifically for outreach purposes in your district.
3. Districts will receive their initial distribution of funds after returning copies of the "Grant Award and Authorization" and the "Grant Disbursement Request" by April 30, 2006, and all stipulations have been met. The initial distribution amount is \$100,000 or ten percent of a district's total allocation, whichever amount is greater.

We have enclosed two copies of the "Grant Award and Authorization" form. Please review the terms and conditions set forth in the grant award. If you agree with all the provisions, sign both copies. Keep one original for your records, and return the other original, signed copy to:

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption.
For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Air Pollution Control and Air Quality Management Districts
December 30, 2005
Page 2

Ms. Stacey Dorais
California Air Resources Board
Mobile Source Control Division
P.O. Box 2815
Sacramento, California 95812

ARB must encumber funds for Year 8 by June 30, 2006. In order to meet this deadline, districts must provide ARB with all documentation specified in your "Grant Award and Authorization" form. All conditions included in the "Grant Award and Authorization" form must be fulfilled. All specified documents must be returned to ARB along with the district's signed "Grant Award and Authorization" form by April 30, 2006. Districts that do not provide the ARB with this information by April 30, 2006 may be in jeopardy of losing their allocation.

A "Grant Disbursement Request" form is also enclosed for you to submit when you are ready to request your initial disbursement of funds from Year 8. The "Grant Disbursement Request" form must only be submitted after all funds from prior years have been obligated and complete documentation is submitted and approved by ARB. Required documentation includes Year 6 (FY 03-04) final report and Year 7 (FY 04-05) annual report.

Please note that due to the significant changes to the Carl Moyer Program and the formalized administrative requirements, all districts are required to attend a two-day training session prior to receiving future funds. Six two-day training sessions have been scheduled for January through March 2006. Your district Carl Moyer Program contact will receive information directly on the dates and locations of the training sessions.

Thank you for participating in the Carl Moyer Program and for your commitment to clean air. If you have any questions, please call your ARB Carl Moyer Program liaison (see enclosed list) or contact Ms. Lucina Negrete, Manager, Alternative Strategies Section, at (916) 445-6138 or email to lnegrete@arb.ca.gov.

Sincerely,



Jack Kitowski, Chief
On-Road Controls Branch
Mobile Source Control Division

Air Pollution Control and Air Quality Management Districts
December 30, 2005
Page 3

Enclosures

1. Grant Award and Authorization Form with Attachments
2. Schedule for Year 8 funds
3. List of ARB Liaisons for the Moyer Program

cc: Ms. Lucina Negrete, Manager
Alternative Strategies Section
Mobile Source Control Division

Appendix H

Light-Duty Vehicle Remote Sensing, Repair, and Scrapping Program Plan

South Coast Air Quality Management District Light Duty Vehicle Remote Sensing, Repair, and Scrapping Program Plan

Purpose

Light duty vehicles are major contributors of air pollutants in the South Coast Air Basin. While vehicle miles traveled increased more than 50% over the last 20 years, vehicle emissions have dropped by a factor of almost three due to increasingly stringent vehicle emission standards. Yet the light duty vehicle fleet continues to contribute more than a third of the Basin's total emissions of ozone and particulate matter forming pollutants in part due to high emitting vehicles. Studies show that the highest emitting 10% of the light duty fleet contribute well over 50% of the fleet's total emissions of ozone and particulate matter forming pollutants emphasizing the need to identify and repair these high emitting vehicles to ensure further emission reductions from the light duty vehicle fleet.

The purpose of the South Coast Air Quality Management District's Light Duty Vehicle Remote Sensing, Repair, and Scrapping Program (AQMD program) is to identify these higher emitting vehicles using remote sensing technology and to solicit their participation in the AQMD program (by offering incentives such as free or reduced vehicle emissions testing and repairs) to reduce the emissions from this portion of the fleet. Remote sensing is a proven technology that has been used successfully by other state regulatory agencies, and has proven a very cost effective method for monitoring a large fraction of the fleet to identify the high emitting vehicles. Using this technology in the AQMD program will ensure the most effective use of incentive funds to reduce emissions from this major source category.

Background

On September 23, 2004 the Governor signed AB 923 (Firebaugh) which resulted in a significant increase in incentive funding for programs that achieve emission reductions from vehicular sources and off-road engines. The legislation identified and emphasized that in-use higher emitting vehicles are sources that need additional scrutiny and control in part because of their large contribution to the fleet's total emissions. To address this, the South Coast AQMD has developed and will implement, with the aid of the AB923 incentive funds, this Program to identify and repair or retire high emitting in-use vehicles.

Historically incentive funded accelerated vehicle retirement programs have focused on oldest vehicles in the fleet. However the light duty fleet is particularly challenging because the high emitting vehicles (and the greatest reduction benefits potential) are not necessarily the oldest vehicles. Relatively new vehicles can have very high emissions and focusing solely on the oldest vehicles misses significant emission reduction

opportunities. In fact, one study¹ indicated that only about 10% of the high emitting vehicles in the fleet would be likely candidates for retirement. This would imply that the majority of the emission reductions are not captured in traditional programs and a more successful program design would include methods to identify and repair the significantly larger number of high emitting vehicles too new to retire.

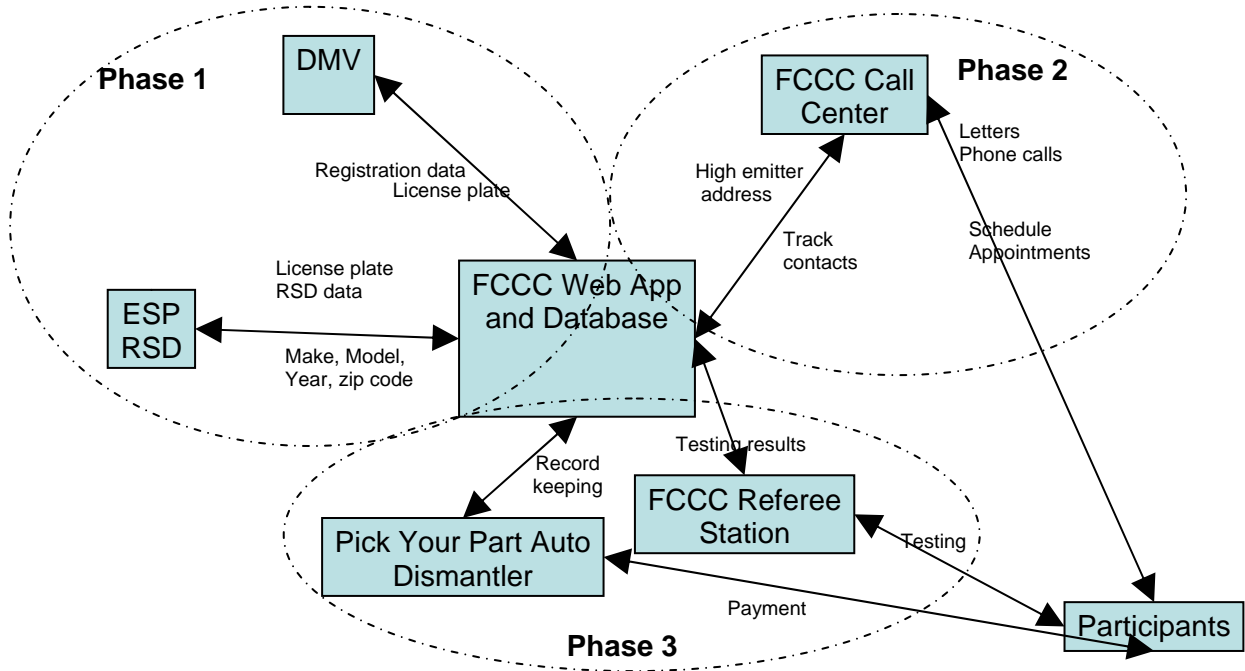
To successfully identify these high emitting vehicles in the fleet the AQMD program design includes the use of remote sensing technology. Remote sensing technology is proven technology used in many other states programs to identify high emitting vehicles, and when used appropriately by trained technicians can easily determine the emissions from thousands of vehicles per day at a cost of approximately \$5-\$10 per vehicle. The technology is almost invisible to vehicle operator using a beam of light to instantaneously determine the emissions from the vehicle as it passes by, and a digital camera to record the vehicle's license plate for identification purposes. Through appropriate site selection, data analysis, and identification procedures the high emitting vehicle can be identified almost immediately and the information used to invite the vehicle owner to participate further in the repair or retirement assistance portions of the AQMD program.

Overview of the AQMD Program

The AQMD program can be divided into three distinct phases – Phase 1: the identification phase; Phase 2: the solicitation phase and; Phase 3: the testing and repair or scrapping phase. All three phases will be operating simultaneously to ensure that the maximum numbers of participants complete the program and the largest amount of emission reductions are realized. The majority of the functions associated with the phases will be contracted out to groups with the appropriate expertise in the respected areas. For the identification phase, Environmental Systems Products Holdings Inc., (ESP) world recognized remote sensing specialists will perform the remote sensing and high emitter identification portion of the program. The Foundation for California Community Colleges (FCCC) the agency responsible for the day to day operations of the Bureau of Automotive Repairs (BAR) referee test centers and call centers will perform the testing and repairs of the vehicles as well as perform tasks associated with soliciting participation in the program. Pick your Part an AQMD certified auto dismantling company will be responsible for scrapping vehicles and the administrative requirements associated with this portion of the program. Tying all these groups together will be the database and web application being developed by the FCCC that will automate as much as possible the data exchange and information record keeping associated with each phase of the program. Each phase is illustrated in more detail in Figure 1 and will be further explained below.

¹ Lawson et al, Program for the Use of Remote Sensing Devices to Detect High-Emitting Vehicles, 1996

FIGURE 1
SCAQMD LDV Remote Sensing, Repair
and Scrapping Program



Database and Web Application Development

FCCC will be responsible for developing the database that will house the remote sensing data measurements as well as the additional information necessary to implement the AQMD program (e.g. emission reductions achieved, cost of repairs, etc.). They will be responsible for ensuring the security and quality of the data, developing the protocols and processes for allowing access to the data, and documenting the database and access protocols. In addition to the database, FCCC will also develop the web application that will link all the AQMD program contractors to the database allowing retrieval and storage of relevant data. For example the test engineers at the referee centers will be able to automatically enter the test results, or call center staff will be able to automatically generate solicitation letters to be sent to identified high emitting vehicle owners. The database and web application tool will be developed with the main goal being to automate as thoroughly as possible the entire AQMD program.

The FCCC staff are uniquely qualified to develop this database and web application because of their responsibilities in operating the Referee function for California’s existing Smog Check Program. In this capacity their program handles the testing of vehicles that

are too unique to be tested at standard “test only” or “test and repair” stations. Their experience in dealing with special vehicles as well as their development of the separate databases, software, and web applications needed to operate the Referee program separately from the Smog Check program will prove invaluable in developing a similar database and web application for this Program.

Phase 1 - Identification

ESP will conduct remote sensing measurements in the South Coast Air Basin to identify the high emitting vehicles. ESP is a recognized leader in remote sensing of light duty vehicle fleets having performed over 40 studies as well as developed and commercialized the remote sensing technology. They have monitored millions of vehicles in programs ranging in size from several thousand vehicle measurements to programs where more than 19 million vehicle’s emissions were measured. Through their 13 years of measurements they have developed exacting quality assurance and quality control protocols which they have codified into their Operator’s Manual. The manual covers all aspects of calibration and maintenance of the equipment as well as site set up to ensure the highest level of valid data collection. A copy of the manual developed for this program is attached in Appendix B. In addition to the operation procedures they have also developed software that provides performance checks on the data being collected to ensure the quality and usefulness of the readings. For example they have developed software that screens the data hourly to ensure that vehicles are not in the cold start mode as they pass through the site. To summarize, ESP has the experience and the procedures in place to ensure that the remote sensing equipment will be operated in a manner to ensure highest quality readings using the most cost effective and time efficient methods.

Over approximately a year time period (October 2006 to September 2007) they will collect close to 3 million valid readings yielding approximately 1 million unique vehicle emission measurements (~10% of the vehicle fleet in the basin) at locations throughout the district. Locations and sampling times at each location will be chosen to ensure that a representative sampling of the light duty vehicle fleet in the basin is achieved. Every week all valid RSD readings including license plate information will be placed into the database via the web application developed by the FCCC. The FCCC staff will query the California Department of Motor Vehicles (DMV) to obtain the vehicle’s make, model, year, and registration zip code for each vehicle measured by ESP. This information will be placed in the database where ESP will use the information to ensure adequate coverage of the district as well as to aid in identifying the high emitting vehicles. High emitting vehicles will be determined using several criteria including RSD cutpoints based on identifying the highest emitting one or two percent of the vehicles measured, past smog check history, and other parameters identified during the implementation of the program. The ultimate goal will be to best identify the high emitting vehicles that would most likely participate in the program. Software developed by ESP, AQMD, and FCCC staff will generate a list of high emitting vehicles from the readings submitted that week and this list will be stored in the database to be used in the next phase of the AQMD program – the solicitation phase.

Phase 2 - Solicitation

The FCCC will be responsible through their Referee program call centers for contacting potential Program participants and scheduling their appointments with the Referee program's testing staff. The call center staff are uniquely qualified to perform this task because of their experience with the Referee function of the Smog Check Program where they interact with consumers in resolving conflicts between consumers and the smog check stations. Through this experience they will be well able to handle the concerns and issues that potential AQMD program participants may have when identified as owning a high emitting vehicle. Additionally, the FCCC was an integral part of the State's Consumer Assistance Program which offers consumers assistance in repairing or retiring their vehicles, and this experience will be useful in implementing the incentive portion of this Program. Finally the call center staff routinely handle consumer inquiries and schedule appointments at the Referee Centers, a necessary task for this Program.

The high emitting vehicle list will be used to query the DMV to gather additional information including owner address, length of time registered in the district, next smog check testing date to determine the vehicle's eligibility in the AMD Program. For those that qualify a letter will be automatically generated and sent to the registered owner of the vehicle to solicit their participation in the AQMD program. The Program solicitation letters will be modeled after those used by the State of Colorado and Texas (see Appendix A). Call center staff will be listed as the main contact in the letter and will be the participant's contact for information about the program and scheduling appointments for testing at the Referee Centers.

The call center staff will be responsible for tracking the fate of each of the letters sent out to prospective participants. A second follow up letter will be sent if no response to the first was received, and if there is still no response after the second letter, the call center staff will attempt to call the prospective participant. This was the procedure used by the staff in Colorado for a similar program and they achieved an approximate 10% participation rate. All relevant statistics (e.g. number of responses after first letter, second letter etc.) to aid in improving the program will automatically be stored in the database as the call center uses the web application to track each participant's progress. When the participants respond and their appointments are made they will progress to the testing and repair or scrapping phase.

Phase 3 - The Testing and Repair or Scrappage

Testing and repairs will be performed by the Referee Center staff. The staff at the Referee Center are licensed and experienced mechanics, and each center is a BAR approved repair station. In addition the center staff routinely perform vehicle testing on the vehicles that are not eligible to be tested at the regular stations (e.g., gray market

vehicles, vehicles with engine replacements, and “kit” cars). Their experience with handling these non-routine situations will be invaluable in performing the tasks associated with the AQMD Program where some of the responsibilities will be outside the normal scope of the Smog Check program (e.g., emissions reduction quantification, measurement of pollutants not in Smog Check (PM)).

Referee Center staff will test each recruited vehicle using a variety of test methods including Acceleration Simulation Mode (ASM) and two speed idle (TSI) tests to determine the pass/fail status of the vehicle. All testing results will be automatically tracked and added to the database via the web application developed by FCCC. In addition to the standard tests mentioned above, additional tests including tests of the evaporation control equipment will be performed on some of the vehicles, as well as quantification of PM emissions before and after repairs so that these emission reductions can be determined and credited toward the AQMD program. Evaporative emission reductions will be obtained using the Low Pressure Evaporation testing equipment to determine if the high tail pipe emitting vehicles also have an evaporative control equipment leak and if so the leak will be repaired. Reductions will be calculated using the procedures outlined in the draft ARB report titled “Environmental Benefits of Implementing a Low Pressure Evaporative Test in the California Smog Check Program.”² As ftp testing for PM is too expensive for this program we propose to utilize a relatively new continuous PM measurement device to quantify the emission reductions. The device is currently undergoing acceptance testing and we are confident it will adequately quantify the PM emissions and reductions.

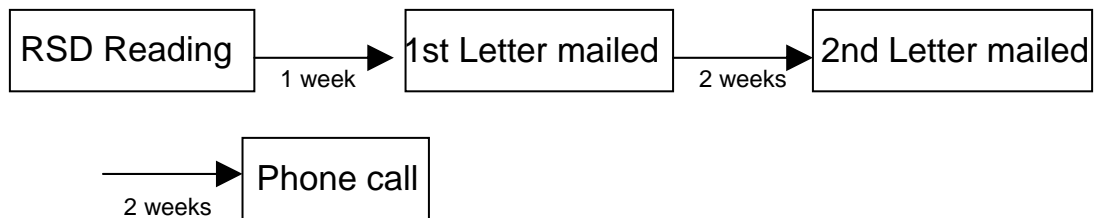
Because of the design of this program most of the vehicles recruited will fail one or both of these tests and will be slated for repairs. Referee Center staff will diagnose and repair all vehicles where the repairs costs are below a set threshold (in the range of \$500). The vehicles will be retested after repairs have been made and the new emission levels will be used to calculate the emission reductions. If the repairs costs are too high, the participant will be given the choice of paying the additional costs or scrapping the vehicle. Referee Center staff will explain these options and will be able to assist the participant in performing the required administrative tasks to scrap their vehicle if they choose this option. An ASM test will be the only test performed if the vehicle owner is only interested in scrapping the vehicle and chooses not to participate in the repair portion of the program. Ultimately the participant will drive their vehicle to Pick Your Part and receive payment for the vehicle. All necessary forms and requirements will be tracked and added to the database through the web application.

Pick Your Part auto dismantlers will be responsible for scrapping the vehicles and is an AQMD certified scrapper. As part of their obligations to perform the scrapping part of the program they will be required to meet the relevant requirements of Rule 1610, an ARB approved VAVR program. A copy of Pick Your Part’s contract is attached in Appendix C. To ensure proper operation of this portion of the program, AQMD staff may perform audits of Pick Your Part’s facilities at any point during the program.

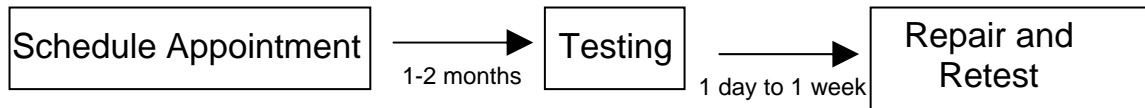
² Air Resources Board, “Environmental Impacts of Implementing a Low Pressure Evaporative Test in the California Smog Check Program,” Draft Report, November, 2005

Figure 2 below illustrates the typical time a participant would be involved in the AQMD program from the time of the vehicle’s first remote sensing reading to exit of the AQMD program. ESP will collect the RSD readings and record them weekly to the database. The information will be analyzed and the highest emitting 1% to 2% of the vehicles measured will be identified and letters mailed out to solicit their participation. It is expected that this process will take from 1 to 2 weeks. If no response is received during the two weeks after the first letter is mailed out, a second letter will be mailed. If after another two weeks no response is received, the call center staff will attempt to contact the vehicle owner by telephone. When a vehicle owner agrees to participate, the call center will be able to schedule an appointment within 2 to 3 weeks. Testing will be performed the day of the appointment and for most vehicles repairs and retesting would occur the same day. If the vehicle owner chooses to scrap the vehicle because repairs would be too costly, it is expected to take 1 to 2 weeks to get the paperwork in order to scrap the vehicle. Summing the times shows that the typical time in the AQMD Program (from emission measurement via remote sensing to program exit) would range from 1 to 3 months.

Typical Time in Program for Participants



If vehicle owner volunteers to participate –



If vehicle owner decides to scrap –

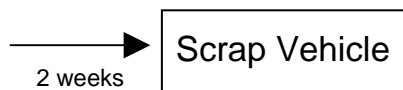


Figure 2 – Timeline of Participant in Program

Environmental Justice

The South Coast AQMD has been and continues to be very active in ensuring that environmental justice is a high priority in all projects and activities performed by the agency. The Light Duty Vehicle Remote Sensing, Repair, and Scrapping Program will be no exception. Every effort will be made in the design and implementation of the program to ensure that remote sensing measurements are made in all representative areas of the South Coast Air Basin and that access to the testing, repair, and scrapping portion of the program is easily accessible to all communities. Information and solicitation letters will be made in several languages to ensure easy access to all SCAQMD residents. With appropriate design and implementation of the program we are certain that equal access and air quality benefits will be enjoyed by all area residents.

Implementation Schedule

Implementation of the AQMD program should occur relatively quickly with the first remote sensing measurements and the solicitation letters mailed out 5 to 6 months after the AQMD program begins. The database and web application will be developed in concert with the remote sensing measurement plan and should be completed within 1 to 2 months. The remote sensing measurement plan will document the procedures and processes to be used for site selection, high emitting vehicle identification, and data collection and reporting. The database and web application will be exercised using existing remote sensing data collected last year, and with this information the goal is to recruit several participants and have them complete the AQMD Program to test and refine the procedures, the database, and the web application. It is expected that this testing phase will between 3 to 4 months to complete.

Concurrent with the exercising of the database and web application, the first several remote sensing sites will be selected, and necessary permission to operate at the sites will be obtained. The preparation of instruments, training of the testing crews, and development of the logistical support procedures will be performed. Remote sensing measurements should commence approximately 4-5 months after the start of the AQMD program and run for 1 year. The selection of additional sites and permission to operate at the sites will be ongoing throughout the entire measurement phase. Close to 3 million valid measurements will be made and approximately 250 vehicles will participate in the program each month resulting in close to 3000 vehicles being repaired or retired. An additional 6 months will be needed to generate the necessary final report with results, conclusions, and recommendations for future expansion of the AQMD program explained. In total the Program is expected to run approximately 2 years. Figure 3 illustrates the implementation schedule of the Program.

SCAQMD LDV Remote Sensing, Repair and Scrapping Program Implementation Schedule

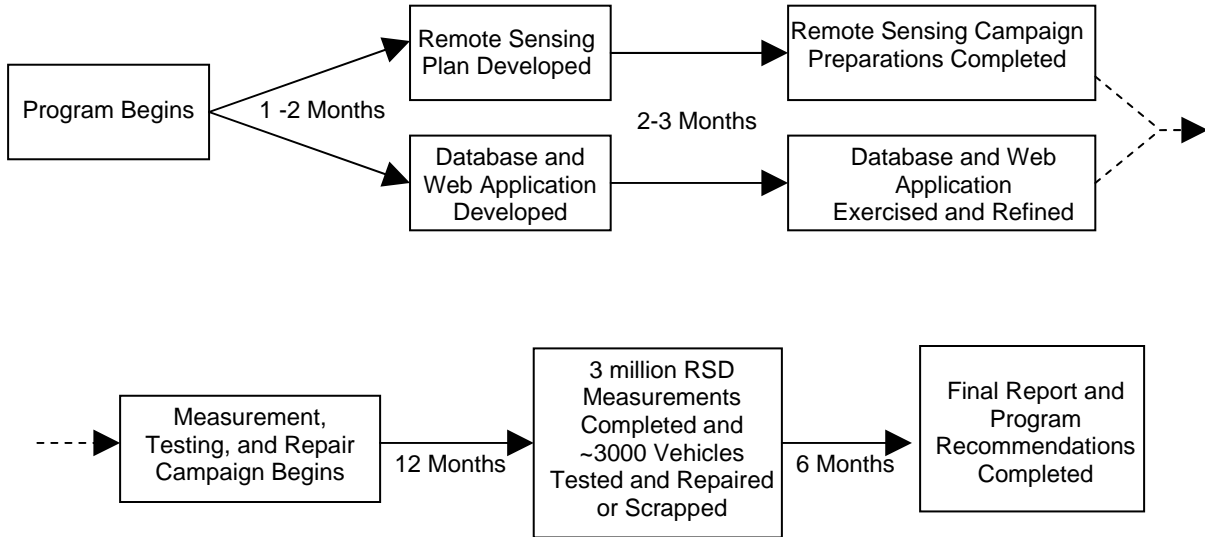


Figure 3 – Program Implementation Schedule

Cost effectiveness Analysis

Analysis of ARB/BAR 2004 Remote Sensing Program

To better characterize the expected emission reductions from the Pilot Program the 2004 ARB/BAR remote sensing program data for the South Coast Air Basin were analyzed. From March 2004 through January 2005, over 700,000 vehicles (including automobiles and light and medium duty trucks) emission readings were obtained in the South Coast Air Basin. These were filtered to eliminate multiple readings on the same vehicle and to ensure the vehicle was operating in a representative way to ensure a minimum number of false readings. ESP experience has shown that high emissions measured when the vehicle is operating in a vehicle specific power (VSP) range between 5 and 20 KW/ton correlate well to high emissions measured when the vehicle is tested using the traditional tail pipe probe measuring equipment. After appropriate filtering approximately 245,000 unique RSD readings were utilized in the analysis.

A comparison of the light and medium duty fleet by model year was performed against the fleet information contained in the EMFAC 2002 model. The results are graphed below in Figure 4 and shows that the RSD fleet is comprised of significantly higher number of newer vehicles. Recognizing that the EMFAC derived fleet information more

correctly represents the actual fleet, the results of this analysis should represent a more conservative estimate of the reductions available because it emphasizes newer and cleaner vehicles. However, in spite of this limitation we believe the analysis gives a fairly robust estimate of the emission reductions the Pilot Program will realize when implemented.

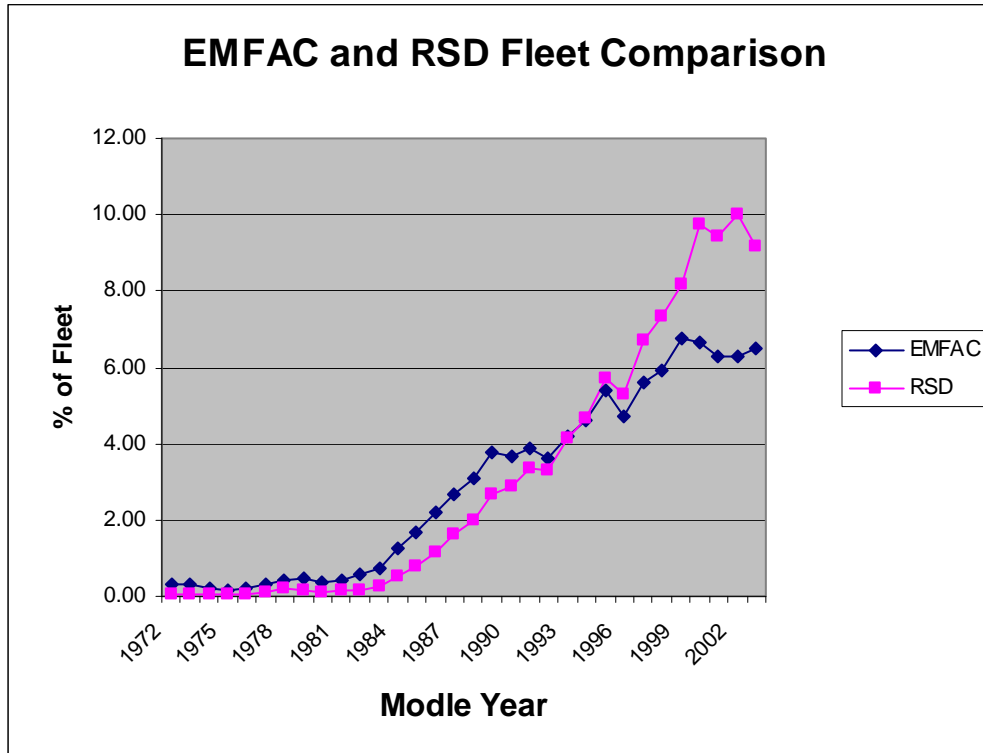


Figure 4 – Comparison of RSD 2004 Fleet and EMFAC 2004 Fleet by Model Year

Reductions from Repaired Vehicles

Once the filtered fleet data base was established, the data was sorted both on the hydrocarbon readings and NOx readings to identify the vehicles with the highest emissions. The highest 2% in the NOx sorting and the highest 1% in the hydrocarbon sorting were subjected to further analysis because it is expected that a minimum of 20,000 vehicle owners will need to be contacted to ensure an adequate number of vehicle owners participate in the repair or scrapping portion of the program (with this sorting strategy approximately 27,000 unique vehicles will be identified). A similar program, the Repair Your Air Campaign³ in Denver, has seen a participation rate of approximately 10%, and with the Pilot program goal of scrapping or repairing 2000 to 3000 vehicles, the 27,000 vehicles identified should prove adequate.

³ <http://www.repairyourair.org/>

During the operation of the Pilot Program we will use the ASM derived emissions to calculate emission reductions. However, to estimate the expected emission reductions from the vehicles participating in the Pilot program, the RSD measurements were converted into emission rates for each vehicle measured. RSD instruments measure the concentration of pollutants in the exhaust and by using a simple combustion model, these readings can be converted into grams-of-pollutant-formed/gallon-of-fuel-burned emission factors. These combined with average fuel economy for 2004 model year South Coast fleet and average yearly mileage by model year from the EMFAC 2002 model yield tons per year emissions. NO_x and hydrocarbon emission reductions for vehicles that were repaired and not scrapped were obtained assuming that vehicles repairs corrected the emissions to the smog check cut point levels. As a conservative estimate of reductions from repairs the higher light duty truck (LDT1) smog check cut points were converted from ASM 5010 and 2525 standards using the revised ASM-FTP correlation equations⁴ that predict FTP gm/mile emission estimates from ASM readings. The LDT1 cut points which are higher than those for automobiles were used as estimates as many of the vehicles in the RSD database were not identified as either automobiles or trucks. No PM reductions are assumed because there is little or no information on the effects on PM emissions when vehicles are repaired for high NO_x or hydrocarbon emissions. A flowchart of the reduction calculations for repairs is shown below.

NO_x and HC Emissions Reductions Calculation Flowchart

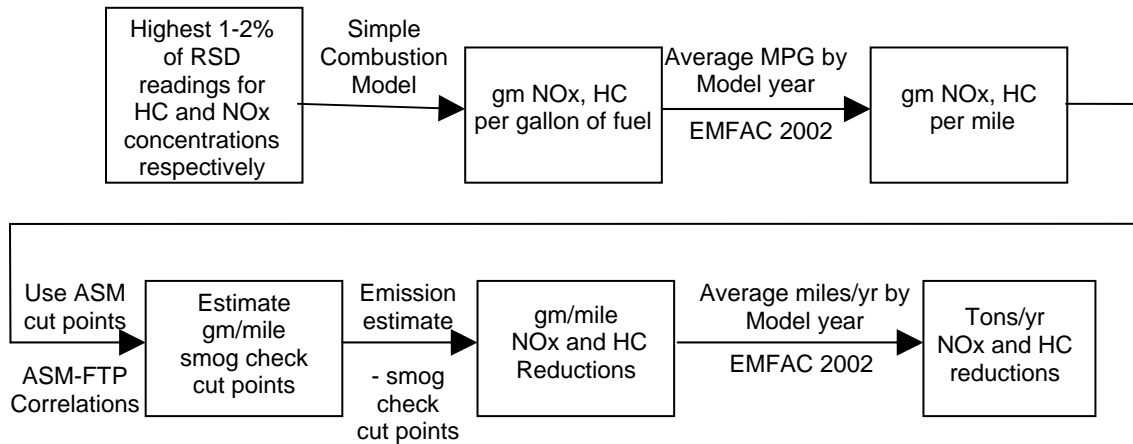


Figure 5 – Flowchart for Emission Reduction Calculations

A final refinement to the emission reduction estimates were made for the late-model vehicles. As required for SIP purposes, only off-cycle emission reductions (emission reductions generated above and beyond those that would be generated and credited toward the existing Smog Check Program) are eligible for inclusion in the program. For

⁴ Technical Support Document for Evaluation of the California Enhanced Vehicle I&M Program, April 2004 Draft Report to the Inspection and Maintenance Review Committee, June 2004

vehicles 6 years and older, only one year of emission reductions are assumed as on average a vehicle's emissions would be corrected within a year during its next smog check cycle. However, vehicles 6 years old or newer are exempt from smog check. Emission reductions for these vehicles were multiplied by the number of years remaining in their exemption. The RSD data was collected in 2004 so that model year 1999 reductions were multiplied by 2; model year 2000 reductions were multiplied by 3; and so on. The reductions associated with these late model vehicles not yet in the Smog Check system are substantial totaling almost 20% of the total reductions expected from the program.

Emission Reductions from Scrapped Vehicles

For vehicles that were scrapped, a three year remaining life was assumed. The replacement vehicle was assumed to be driven the same number of miles annually as the scrapped vehicle had been, and the replacement vehicles emissions were equivalent to that of the fleet average emissions for the RSD fleet. The reductions for NOx and hydrocarbons during year one are assumed to be the difference between the tons of pollutants emitted by the scrapped vehicle and those emitted by the RSD fleet average emissions replacement vehicle. For years 2 and 3 it was assumed that the vehicle would be repaired at its next smog check and the emissions would be corrected to the smog check cut point levels. The emissions reductions for years 2 and 3 are the difference between the pollutants emitted from the repaired scrapped vehicle and those emitted for the year from the replacement vehicle. For the PM and evaporative hydrocarbon emission reduction estimates, guidelines developed by the Air Resources Board (ARB) as part of the Carl Moyer Program were used⁵.

The number of vehicles scrapped is estimated based on results from the 1995 Orange County study⁶ where it was found that approximately 10% of the vehicles were candidates for scrapping (when their repairs exceeded their market value). While repairs exceeding the value of the vehicle will not be the sole criteria used in the program to identify vehicles for scrapping, it is believed that it should yield a reasonable estimate of the program's scrapping volume. Of the 10% of the vehicles scrapped it is conservatively assumed that all who qualify for low income incentive funds will use these funds. The expected qualifying level will be vehicle owners at or below 200% of the federal poverty level, and as approximately 40% of LA county adults live at or below this level, 40% of the estimated scrapped vehicles are assumed to use the additional incentive monies.

Additional PM and Hydrocarbon Reductions

Additional PM reductions will be obtained using the AQMD Smoking Vehicle Database. Over 11,000 vehicles annually are reported for visible smoke, providing an easily mined

⁵ The Carl Moyer Program Guidelines, Part II, Project Criteria, Table 11-2, p. XI-11, November 17, 2005

⁶ Lawson, D.R., et. al., "Program for the Use of Remote Sensing Devices to Detect High-Emitting Vehicles," report prepared for South Coast AQMD, April, 1996.

dataset to solicit participation in the scrapping portion of the program. Emission reduction estimates were calculated following the methodology outlined in the Technical Support Document⁷ for evaluation of the enhanced I&M program. Using studies of smoking vehicles the authors developed an average emission reduction rate of approximately 0.25 g/mi. This rate combined with an average miles driven per year (assumed to be 10,000 miles) yields the expected emission reduction per smoking vehicle scrapped. Of the 11,000 vehicles an assumed participation rate of 1% is used to calculate the PM reductions. HC and NOx reductions are assumed to be negligible as it is conservatively assumed that the emissions of these pollutants from the smoking vehicles will be similar to the emissions from the replacement vehicle. A three year remaining life is assumed for the smoking vehicle.

Additional hydrocarbon reductions will be obtained by testing each vehicle participating in the program for evaporative system malfunctions using the low pressure evaporative test developed for BAR. Emission reductions were estimated using the methodology developed by ARB in their draft report investigating the environmental impacts of using the test in the Smog Check Program.⁸ ARB staff analyzed the results of several studies and determined that the test was applicable to 1976-1995 vehicles, and that approximately 11% of these vehicles would fail the test. Repairs of the system results in hydrocarbon emission reductions from hot soak, diurnal, and running loss emissions of approximately 3.28, 2.07, and 12.7 grams/day per vehicle repaired respectively. These assumptions with the number of applicable vehicles expected in the program will yield the estimated tons of hydrocarbon reductions expected from the Pilot program.

Cost Effectiveness Analysis Results

Reductions from Repairs

All the assumptions and estimates were used to develop emission or reductions per vehicle. This with the cost of repairs or scrapping per vehicle were combined to determine the minimum number of vehicles needed to participate in the program to meet the Moyer cost effectiveness ratio of \$14,300 per ton of emissions reduced. The average tons per year emissions or emission reductions per vehicle repairs are shown in Figure 6 below. The first two categories (RSD fleet and EMFAC) represent the average HC+NOx emissions per vehicle in the 245,000 vehicle RSD fleet and the entire South Coast Air Basin fleet estimated by the EMFAC 2002 model respectively (note that sorting on HC or NOx is meaningless for the entire fleet and for ease of plotting they are shown as equal). The RSD fleet average was calculated by determining the tons per year emissions from each vehicle using the RSD measurements for hydrocarbons and NOx and following the procedure outlined above. As can be seen, the agreement between the EMFAC

⁷ Technical Support Document for Evaluation of the California Enhanced Vehicle I&M Program, April 2004 Draft Report to the Inspection and Maintenance Review Committee, p. 2-31, June 2004

⁸ Air Resources Board, "Environmental Impacts of Implementing a Low Pressure Evaporative Test in the California Smog Check Program," Draft Report, November, 2005

calculated average and the average calculated from the RSD readings is very good, and as expected, the EMFAC average emissions being slightly higher. From Figure 4 it is known that the RSD fleet is comprised of more late-model cars when compared to the EMFAC fleet and therefore it would be expected to be slightly cleaner on average as is demonstrated in Figure 6. This finding points to the robustness of the analysis.

The next category shows the average estimated per vehicle emissions associated with the highest emitting 1% or 2% of the RSD fleet. The two columns correspond to the two methods used to determine this portion of the fleet. As was described earlier, the data were ranked by either NOx or hydrocarbon RSD readings to determine the 2% or 1% of the fleet with the highest measured NOx or hydrocarbons respectively. Because NOx and hydrocarbon emissions are negatively correlated (when one is high the other is low), the resulting two data sets contain very few of the same vehicles (on the order of 10%). This allows for maximum use of the collected RSD data when determining which vehicles to target for repairs and subsequent emission reductions.

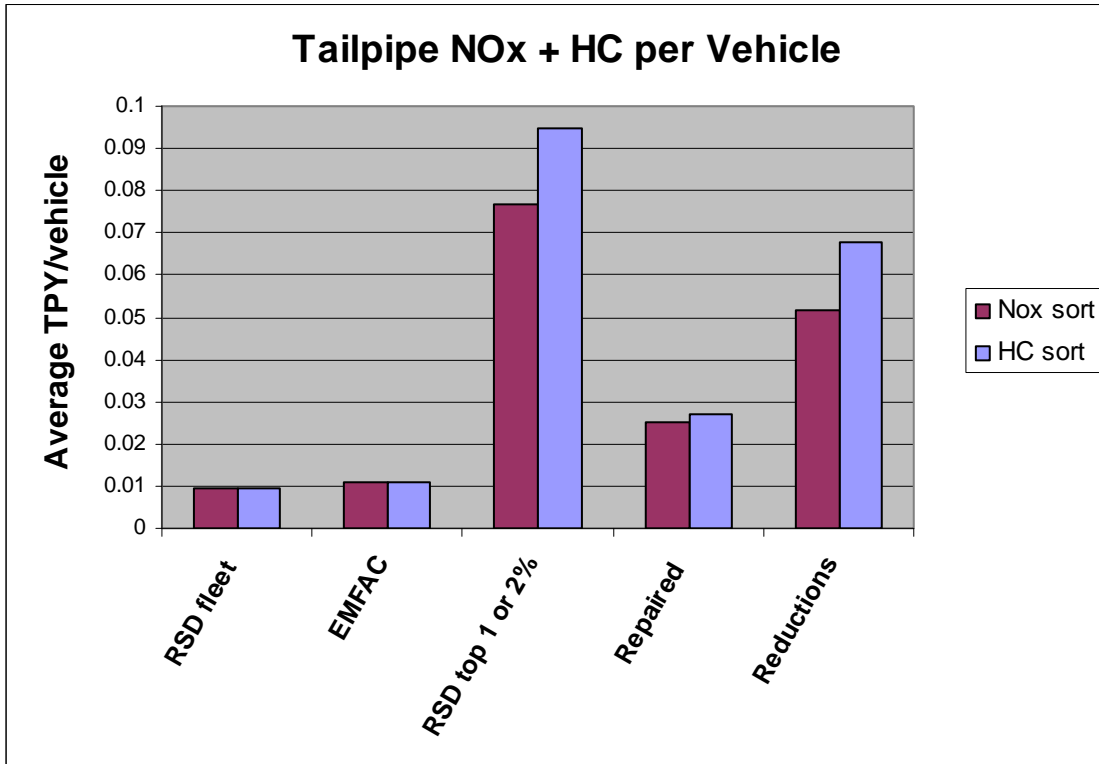


Figure 6 – Average NOx + Hydrocarbon Emissions or Reductions per Vehicle

Sorting the data also shows significantly different per vehicle reductions as well as emission rates. While the hydrocarbon sort provides more per vehicle emission reductions, there are fewer (1% versus 2% of the total sampled fleet for the NOx sort) and it will be necessary to solicit participation from both high hydrocarbon and NOx

emitters. For the program we anticipate that about one third will come from the hydrocarbon sort list, and the remainder from the NOx sort list.

The next set of bars shows the average emissions of the highest 1% or 2% of the fleet assuming all vehicles were repaired to their ASM cut point levels. The last set of bars shows the emission reductions which is simply the difference between the average emission rate (third set of bars) and the average emissions of the repaired fleet (the fourth set of bars). These results give a simple picture of the magnitude of emission reductions that will be achieved by the program as compared to the fleet average emission rates and shows that the reductions available by identifying and repairing the highest emitting vehicles are significant. It is worth noting that these estimates for reductions from repairs are conservative and if one were to assume that the repairs effectively reduced the vehicle's emissions down to the fleet average emissions, more reductions would be realized.

Reductions from Scrapping

The results shown in Figure 6 can also be used to determine the NOx and hydrocarbon reductions realized by scrapping a vehicle. These would be the reductions shown in the last set of bars for the first year, plus the reductions represented by the difference between the repaired emissions and the fleet average of the RSD fleet (fourth set of bars minus the second set of bars) emissions for each of the remaining two years of the assumed vehicle's life. The NOx and hydrocarbon tailpipe emission reductions as well as the PM emission and evaporative hydrocarbon emission reductions are shown in Figure 7.

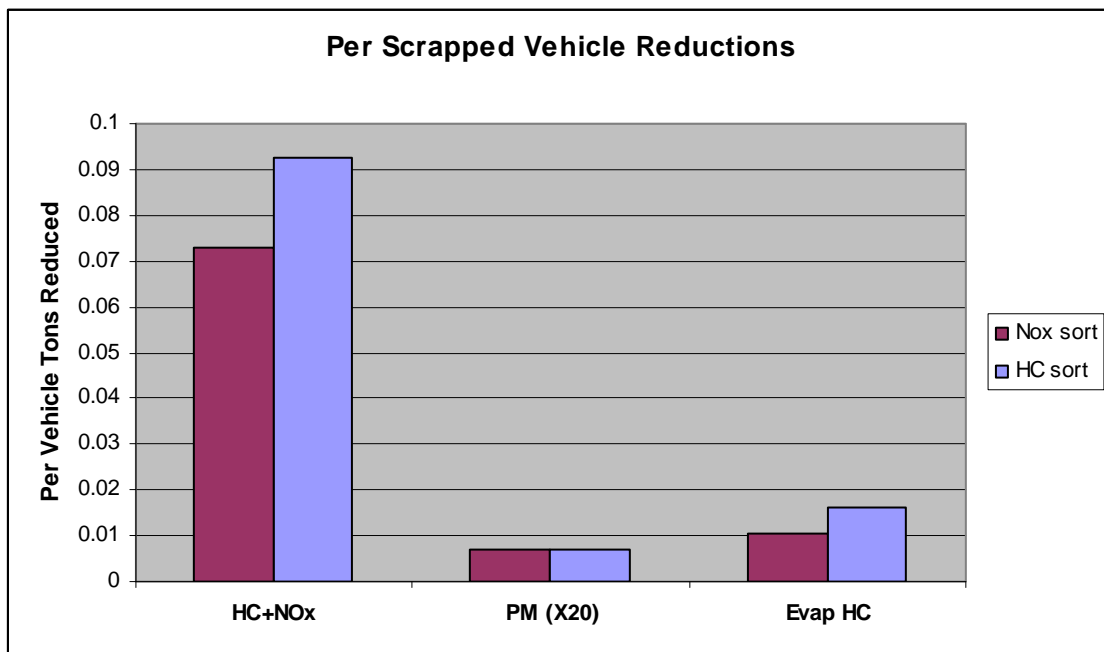


Figure 7 – Scrapped Vehicle Reductions (average per vehicle)

As expected the majority of the emissions reductions are realized from the reduction in tailpipe HC and NOx reductions. Additionally it can be seen that the scrapping emission reductions are significantly larger than that for the repairs (approximately 75%). However, as the costs for scrapping the vehicle are approximately 2 to 3 times the costs of repairs, repairs present a more cost effective method of achieving reductions.

Additional PM and Hydrocarbon Emission Reductions

In addition to vehicles identified by remote sensing for inclusion in the program, we plan to use the SCAQMD smoking vehicle database to identify additional vehicles for scrapping. We expect that all vehicles recruited from this list will be PM high emitters and will be replaced by a fleet average PM emitter. The lifetime is again assumed to be three years. Additional HC and NOx reductions are not expected as it is assumed the replacement vehicle has similar emissions of these two pollutants. The average per vehicle PM reductions are shown in Figure 8. All vehicles participating in the program will also be tested for evaporative system leaks using the low pressure evaporative emissions test where technically feasible. Average per vehicle HC emission reductions obtained from the low pressure evaporative emissions testing and repairs are also shown in Figure 8.

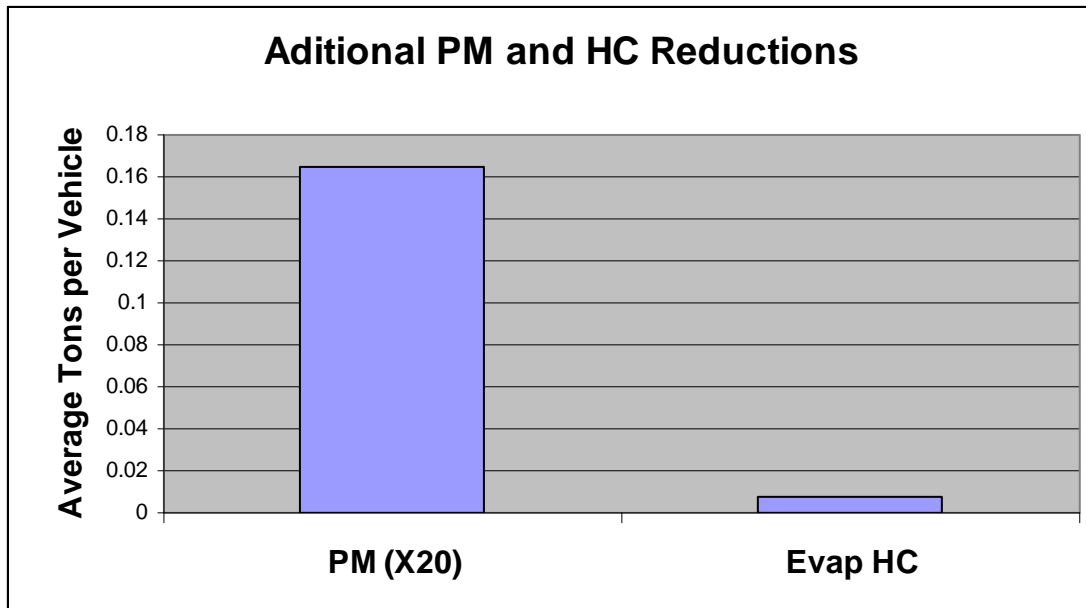


Figure 8 – Average per Vehicle Emission Reductions for Smoking Vehicles and Evaporative Emissions Equipment Leak Testing

The emission reductions from the high PM emitters are substantial, but we expect a small number to participate in the program resulting in only a modest contribution to the overall program’s emission reductions. The low pressure evaporative test offers a small additional reduction benefit to the program.

To ensure the cost effectiveness of the program, a bounding analysis was used where all possible costs associated with the program were included with the exception of a 2% administrative cost. In addition the least certain emission reductions (PM from the smoking vehicle database recruited vehicles as well as the hydrocarbon emission reductions expected from the low pressure evaporative tests were not included. Under this scenario it was determined that approximately 2500 vehicles would need to be repaired (~2250 repaired) or scrapped (~250 scrapped) at a total cost of approximately \$2.4 million, and this would yield approximately 165 tons of hydrocarbon, NOx, and PM reductions. Recruiting approximately 2500 participants is well within the anticipated participation rate expected for the program. The reductions are shown in Table 1 below.

South Coast AQMD Remote Sensing Pilot Program		
Expected Emission Reductions		
Tons Reduced	Repairs	Scrapping
NOx+HC	130	33
PM (20X)	0	2
Total	165	

Table 1 – Remote Sensing Pilot Program Expected Emission Reductions

Including the emission reductions from the vehicles recruited from the Smoking Vehicles Database and the hydrocarbon reductions from the Low Pressure Evaporative test and repairs would reduce the number of vehicles needed to participate in the program by approximately 150. It is evident that the program will be below the cost effectiveness threshold with the recruitment of a reasonable number of volunteers to participate in the program. Detailed costs associated with the program are listed in Table 2 below.

Program Costs for 2500 Vehicles Processed	
RSD	\$860,000.00
Database and Web Application	\$300,000.00
Vehicle Solicitation/Outreach	\$88,725.00
Vehicle Repair	\$798,525.00
Vehicle Scrapping	\$354,900.00
Administrative	\$40,945.00
Total (less Admin)	\$2,361,205.00

Table 2 – Detailed Program Costs

With the exception of the administrative costs, all other costs are essential to the proper operation of the program and have been included in the cost effectiveness calculation. Identifying high emitters in the fleet and reaching out to each identified high emitting vehicle owner for participation in the AQMD program requires specific tools and methods critical to the success of the program, and these go well beyond the outreach and information tracking systems historically considered administrative in other Moyer programs. For example the extraordinary volume of data that must be tracked and analyzed in identifying the high emitting vehicles requires the development of the web based application and database to ensure that the program does not falter under the sheer weight of the information necessary for the identification phase. In addition, outreach and solicitation to unique owners of identified high emitting vehicles goes well beyond the traditional outreach of other Moyer programs, and is critical to the success of the AQMD program. While we recognize that more discussion is needed before agreement is reached on what ultimately should be included as a programmatic cost and included in the cost effectiveness calculations, we have included all we believe are relevant and do show a cost effective program. If ultimately some of these costs were to be excluded, it would improve the overall cost effectiveness of the program, and increasing the likelihood that the cost effectiveness criteria mandated by the Moyer program will be met.

Summary

The South Coast AQMD plans to implement a Pilot Remote Sensing Program using Moyer incentive funds to identify the highest emitting portion of the light and medium duty fleet in the Basin. Through incentives such as free testing and repairs as well as substantial incentive monies to retire vehicles early, sufficient participation in the volunteer program will be realized to achieve approximately 175 additional tons of pollutant reductions in the Basin over the 2 year life of the Program. Through the use of technical experts in the field of remotes sensing as well as vehicle repairs and repair programs the AQMD will achieve these reductions at or below the Moyer Program's mandatory cost effectiveness threshold of \$14,300.

Contact Information

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Appendix A

State of Colorado and Texas Sample Solicitation Letters

SCAQMD LDV Remote Sensing, Repair, and Scrapping Program Plan

January 29, 2007

RE: Program ID: HE1234-05
VIN:
Make: FOR
Model:
Year: 1993

Dear John Doe,

You have received this letter because your vehicle was identified as a potentially high-polluting vehicle by one of several roadside emissions testing vans located throughout the Denver metro area. We invite you to take part in the Repair Your Air Campaign – you may be eligible for up to **\$1,000 in FREE emissions-related repairs**. Even if you have recently passed your emissions test, your vehicle could still have an emissions problem that needs repaired!

To improve air quality, the Regional Air Quality Council in collaboration with the State of Colorado has developed the Repair Your Air Campaign (RYAC) to help vehicle owners meet emissions standards. Funded by federal grants, RYAC offers identified vehicle owners cash incentives for emissions-related vehicle repairs.

Participating is easy – just follow these steps:

- 1) **CALL:** First, call the **Repair Your Air Campaign Hotline at (303) 629-5835**. We will help you set up an appointment for a FREE emissions test.
- 2) **TEST:** Receive a **FREE emissions test** at a State designated facility.
- 3) **REPAIR:** If repairs are needed, you may receive **FREE** emissions-related repairs up to **\$1,000**. You may also receive a FREE rental car while your vehicle is in the shop.
- 4) **PASS:** Receive a FREE final emissions test to verify your vehicle passes emissions!

The Repair Your Air Campaign benefits you and all Coloradoans:

- You will receive a FREE emissions test. This test is required to register your vehicle in Colorado and usually costs \$15-25.
- You can take advantage of **FREE** emissions-related repairs up to **\$1,000**. Average repair cost is around \$375. A well-maintained vehicle will save you gas and money.
- Cleaner air is better for your health and the health of your family. Ground-level ozone, a key ingredient in urban smog, is harmful to breathe in high concentrations and can trigger respiratory and other health problems.

To learn more about the campaign and the RapidScreen vans that identified your vehicle, please visit **www.RepairYourAir.org**. To schedule an appointment, **please call (303) 629-5835**.

Sincerely,



Steven D. McCannon
Program Manager
Regional Air Quality Council



DUDLEY M. THOMAS
DIRECTOR

THOMAS A DAVIS
ASST. DIRECTOR

TEXAS DEPARTMENT OF PUBLIC SAFETY
VEHICLE INSPECTION & EMISSIONS
305 N. LAMAR BLVD. - BOX 4087 - AUSTIN, TEXAS 78773-0543



COMMISSION
JAMES B. FRANCIS, JR.
CHAIRMAN
ROBERT B. HOLT
M. COLLEEN M'HOUGH
COMMISSIONERS

<DATE (mmmm dd, yyyy)>

<Registered Owner's Name>
<Registered Owner's Mailing Address>
<Registered Owner's City, State, & Zip>

In October of 1998, the Department began a gross polluter identification and on-road testing component as the latest in its efforts to reduce pollutants being emitted by cars and trucks driven in and around some of the major metropolitan areas of Texas. The Federal law authorizing this program requires the State to identify gross polluting vehicles and compel the owners to bring the vehicles into compliance with the National Ambient Air Quality Standards (NAAQS). In Texas, we have chosen to do this through mandatory station-based testing and remote sensing.

Your vehicle, <vehicle description here>, was recently sampled by on-road testing equipment and determined to be seriously out of compliance with these regulations.

Instead of requiring you to bring your vehicle into compliance, at this time, we are seeking your assistance in evaluating the accuracy of the on-road testing equipment. This will involve having your vehicle tested at an Official Vehicle Inspection Station certified to do emissions testing. Most vehicle inspection stations in Dallas, El Paso, Harris, and Tarrant counties are capable of conducting emissions tests.

As an incentive to get your voluntary participation, the **DEPARTMENT WILL PAY FOR THE TEST** and **EXEMPT YOUR VEHICLE** from future "gross-polluter" designations for a period of one year from your test date. We only ask that you **DO NOT MAKE ANY REPAIRS OR MODIFICATIONS TO YOUR VEHICLE PRIOR TO THE TEST**. There is no penalty for failing the test but even the slightest adjustment (such as introducing a fuel additive) could invalidate the evaluation.

If you would like to participate, your vehicle must be tested before <Letter date +30 days>. Call the Gross Polluter Identification Program information line at 1-800-316-9394 for information or assistance.

Sincerely,

Burford James Guckian, Program Administrator
Remote Sensing and Program Evaluation

South Coast Solicitation Letter to be Added Later

Appendix B

Remote Sensing Device Operators Manual

(to be added when completed as part of contract with ESP the remote sensing measurement contractor)

Appendix C

Pick Your Part Auto Wrecking dba Pick Your Part Auto Recycling Contract

(to be added when completed)

Appendix I
Sample Request for Proposals, including Board Letter



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

BOARD MEETING DATE: February 3, 2006

AGENDA NO. 10

PROPOSAL: Adopt Resolution Accepting Terms and Conditions for FY 2005-06 Carl Moyer Program Award and Issue Carl Moyer Program RFP for FY 2005-06

SYNOPSIS: This action is to adopt a resolution recognizing up to \$35,277,055 in Carl Moyer grant award under SB 1107 with its terms and conditions for FY 2005-06. The grant designates \$34,478,932 for project funding and \$798,123 for administrative cost. This action is also to approve the release of an RFP to provide incentives for low emission on- and off-road vehicles and equipment for the FY 2005-06 Carl Moyer Program. Total amount of available funding will be approximately \$30.1 million comprised of approximately \$21.8 million from SB 1107 and approximately \$8.3 million from AB 923. Staff is also proposing that the Board set aside an additional \$12 million for fleet modernization projects and heavy-duty LNG truck projects at the ports. If more funds become available by the time of awards approval, more projects will be awarded accordingly.

COMMITTEE: Technology, January 27, 2006. Less than a quorum was present during the discussion of this item; the Chairman communicated his concurrence and recommendation that this item be forwarded for Board consideration.

RECOMMENDED ACTIONS:

1. Adopt the attached resolution to recognize up to \$35,277,055 from CARB under SB 1107 for the Carl Moyer Program and place it in the Carl Moyer Fund and accept the terms and conditions for the FY 2005-06 Carl Moyer Grant award.
2. Approve issuance of RFP# P2006-15, in the amount of \$30.1 million, to solicit projects for the FY 2005-06 Carl Moyer Memorial Air Quality Standards Attainment Program.

A handwritten signature in black ink, appearing to read 'Barry R. Wallerstein', is written over a horizontal line.

Barry R. Wallerstein, D.Env.
Executive Officer

Background

The Carl Moyer Memorial Air Quality Standards Attainment Program (CMP) provides funds on an incentive basis for the incremental cost of purchasing cleaner than required engines and equipment. Eligible projects include cleaner on- and off-road, marine, locomotive, and agricultural engines, as well as forklifts, airport ground support equipment, and auxiliary power units.

This is the eighth year of the CMP and the second year of the program with funding from SB 1107 and AB 923. CARB has allocated \$35,277,055 to the AQMD under SB 1107 for implementation of the FY 2005-06 CMP. Of this amount, \$798,123 is designated by CARB for administrative and outreach efforts, and \$34,478,932 for projects funding. In addition, \$5,230,664 is required from the AQMD as its local match funding. AQMD receives revenues for AB 923 directly from the Department of Motor Vehicles and as previously approved by the Board uses that revenue for its required local match.

Proposal

For year eight of the CMP, staff is requesting approval to release RFP# P2006-15 for approximately \$30.1 million, consisting of \$21,778,932 in funding from SB 1107 and \$8.3 million in funding from AB9 23. Staff is recommending that the Board set-aside the remaining \$12 million from SB 1107 for truck modernization projects and heavy-duty LNG truck projects at the ports. The details of the funding are outlined in Table 1:

Table 1. Details of Available Funding

Funding Source	Funding Amount	Comment
SB 1107	\$21,778,932	From \$35,277,055 allocated by CARB: less \$798,123 in administration cost; less \$700,000 set aside for electronic monitoring of projects; less \$6M proposed set-aside for fleet modernization projects; and less \$6M proposed set-aside for LNG trucks at the ports
AB 923	\$3.9 million	Remaining from \$4M, allocated by the Board for agricultural engines on February 4, 2005
AB 923	\$4.4 million	This amount plus the \$6.6 million allocated in Year 7, fulfills Board's allocation of \$11M for Moyer projects as approved on February 4, 2005, and exceeds required local match
Total	\$30.1 million	

If additional funds become available by the time of award approval, additional projects will be recommended for award up to the total amount of funds available. The new program guidelines approved by CARB on November 17, 2005, will be used for the implementation of this program. The CMP guidelines require that the emission reductions be a minimum of 15 percent for repower or retrofit applications and 30 percent for new engines. Staff proposes more stringent criteria for cost-effectiveness in some sectors based on experiences derived from past solicitations. Table 2 outlines the proposed minimum funding allocations and the maximum allowed cost-effectiveness requirements for each category and subcategory:

Table 2. Proposed Funding and Cost-Effectiveness Limits

Category	Minimum Amount* (\$ millions)	Cost-Effectiveness \$/ton
ON-ROAD		
(A) Trucks		
- Class 7-8	3.5	14,300
- Class 5-6	1.0	14,300
- Other**	0.5	14,300
(B) Buses		
- Transit	2.5	14,300
(C) Heavy-Duty Diesel Vehicle Retrofits	2.5	14,300
(D) Fleet Modernization***	6.0	14,300
(E) LNG Trucks in the Port****	6.0	14,300
OFF-ROAD		
(A) Marine	2.7	5,000
(B) Construction/Other Off-Road	8.0	5,000
(C) Forklift	1.0	electric 7,000/5,000
(D) Locomotives	3.0	14,300
(E) Agricultural engines	3.9	5,000
(F) Ground Support Equipment, Truck Stop Electrification & Auxiliary Power Unit	1.5	5,000
<i>Electronic Monitoring Cost*****</i>	<i>0.7</i>	

* The minimum amounts may be lowered if the category is undersubscribed and remaining amounts may be recommended to fund projects in other categories where there is an oversubscription.

** Small fleets (20 or fewer vehicles, with GVW 14,001 lbs. and above), and public sector, APUs.

*** Funding for Fleet Modernization and LNG Truck Projects will be available separately with the Board's approval.

****The amount indicated above will be set aside for the installation and operation of electronic monitoring units required by the Carl Moyer Program as a program cost.

The sum of a project's NO_x, PM₁₀ and VOC emission reductions will be used to calculate cost-effectiveness. This will allow projects that reduce one, two, or all of the covered pollutants to receive funding. VOC and NO_x reductions will be given equal weight. However, emission reductions for PM will carry greater weight in the calculation (per the Carl Moyer Guidelines). The formula for the cost-effectiveness calculation is shown below:

$$\text{Cost-Effectiveness (\$/ton)} = \frac{\text{Annualized Cost (\$/year)}}{(\text{NO}_x + \text{VOC} + 20 \times \text{PM}_C) \text{ tons/year}}$$

Where NO_x = NO_x Emission reductions
 VOC = VOC emission Reductions
 PM_C = Combustion-related PM₁₀ reductions

The Carl Moyer Program RFP (RFP# P2006-15) is provided as Attachment 2. The proposed RFP will solicit projects for on- and off-road vehicles and equipment, including refuse haulers, on-road trucks, transit buses, locomotives, agricultural engines, marine and port applications, and other vehicles and equipment. New engines, repowers and retrofits are allowed within the program. As in previous years, AQMD will fund diesel to diesel applications only when alternative fuel engines/vehicles are not commercially available or certified by CARB. At least 40 percent of funding will be awarded to projects related to goods movement. Projects to retrofit on-road heavy-duty diesel vehicles with CARB verified particulate traps will be allowed to compete for funding, as particulate matter is now one of the criteria pollutants qualifying for funding. Projects must meet the established cost-effectiveness criteria and all other requirements of the program.

Proposals for all categories will be due by 1:00 pm on Friday, May 5, 2006. Staff anticipates finalizing the review and evaluation of proposals received and recommend awards for Board approval on or before the September 8, 2006 Board meeting, contingent upon receiving the required funds from CARB.

Program Guidelines

At its July 8, 2005 meeting, the Board approved a long term Program Guideline for the implementation of the Carl Moyer Program in the South Coast air district with continuous funding from SB1107 and AB923 until 2015. The proposed funding distribution for different equipment categories is according to the criteria outlined in the Program Guideline with emphasis on the following priorities in order to achieve the highest emission reductions:

- Goods Movement (40 percent allocation)
- Environmental Justice (50 percent allocation)

- Cost Effectiveness
- Low Emission Engine / Vehicle Preference
- Early Commercialization of Advanced Technologies/Fuels
- Fleet Rules
- School Buses

Funding Distribution

As required by AB1390 (Firebaugh), the new CMP guidelines include the requirement that at least 50 percent of the program funds must be spent in disproportionately impacted areas. Funding allocated under SB1107 and AB923 will be approximately \$41.8 million. Therefore, approximately \$20.9 million will be awarded to projects located in disproportionately impacted areas. It has been the policy of the AQMD to allocate at least 50 percent of all funding available in the CMP, including roll-over funding from previous years and turn-back funds to disproportionately impacted areas.

Disproportionately Impacted Areas Point Ranking

The requirements of the CMP will be implemented according to the following criteria.

- 1) All projects must qualify for the Carl Moyer program by meeting the cost effectiveness limits established in the RFP.
- 2) All projects will be evaluated according to the following criteria to qualify for funding as a disproportionately impacted area:
 - a) Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, are eligible to be included in this category, and
 - b) PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c) Air Toxics Exposure: All projects in areas with a cancer risk of 1,000 in a million and above (based on Mates II estimates) will be eligible to be ranked in this category.

The maximum score will be comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Special circumstances exist in some areas, such as the Ports of Long Beach and Los Angeles. Since there are no residents within the ports, poverty ranking could not be established. In this case, the poverty ranking from the adjacent on-shore areas were extended to the port since these populated areas are directly impacted by port activities.

Outreach

In accordance with AQMD's Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County Press Enterprise newspapers to leverage the most cost-effective method of outreach to the entire South Coast Basin.

Additionally, potential bidders may be notified utilizing the Los Angeles County MTA Directory of Certified Firms, the Inland Area Opportunity Pages Ethnic/Women Business & Professional Directory; and AQMD's own electronic listing of certified minority vendors. Notice of the RFP/RFQ will be mailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at AQMD's Web site (<http://www.aqmd.gov> where it can be viewed by making menu selections "Inside AQMD"/"Employment and Business Opportunities"/"Business Opportunities" or by going directly to <http://www.aqmd.gov/rfp/index.html>). Information is also available on AQMD's bidder's 24-hour telephone message line (909) 396-2724.

Benefits to AQMD

AQMD's Clean Fuels Program has been active in funding the development and demonstration of low emission, alternative fuel technologies within its Technology Advancement Office. The AQMD has also supported a number of activities directed to commercialization of low-emission alternative fuel technologies. The successful implementation of the Carl Moyer Program is a direct result of these Technology Advancement activities. The vehicles and equipment funded under this RFP will operate many years, providing long-term emissions reductions.

Resource Impacts

Total amount of available funds for the Carl Moyer Program under RFP# P2006-15 is approximately \$30.1 million comprised of approximately \$21.8 million from funds under SB1107 and \$8.3 million from funds under AB923.

Attachments:

- 1 - Resolution of the South Coast Air Quality Management District Board Recognizing and Accepting the Terms and Conditions of the 2005-06 Carl Moyer Grant Award
- 2 - RFP# P2006-15

ATTACHMENT 1

RESOLUTION NO. 06-xx

A Resolution of the South Coast Air Quality Management District Board Recognizing and Accepting the Terms and Conditions of the FY 2005-06 Carl Moyer Grant Award

WHEREAS, under Health & Safety Code §40400 *et seq.* the South Coast Air Quality Management District (AQMD) is the local agency with the primary responsibility for the development, implementation, monitoring and enforcement of air pollution control strategies, clean fuels programs and motor vehicle use reduction measures; and

WHEREAS, the AQMD is authorized by Health & Safety Code §§40402, 40440, and 40448.5 to implement programs to reduce transportation emissions, including programs to encourage the use of alternative fuels and low-emission vehicles; to develop and implement other strategies and measures to reduce air contaminants and achieve the state and federal air quality standards; and

WHEREAS, the Board has adopted several programs to reduce emissions from on-road and off-road vehicles, as well as emissions from other equipment, including the School Bus Incentive Program and the Carl Moyer Program; and

WHEREAS, the South Coast Air Quality Management District is designated as an extreme nonattainment area for ozone and as such is required to utilize all feasible means to meet national ambient air quality standards.

THEREFORE, BE IT RESOLVED that the Board of the South Coast Air Quality Management District, State of California, in regular session assembled on February 3, 2006, does hereby accept the terms and conditions of the 2005-06 (year 8) Carl Moyer Program grant award and recognizes up to \$35,277,055 in SB 1107 funds.

BE IT FURTHER RESOLVED that the Executive Officer is authorized and directed to take all steps necessary to carry out this Resolution.

Date

Clerk of the Board

ATTACHMENT 2

2006
**CARL MOYER MEMORIAL
 AIR QUALITY STANDARDS ATTAINMENT PROGRAM
 REQUEST FOR PROPOSALS**

AQMD RFP# P2006-15

The South Coast Air Quality Management District (AQMD) requests proposals for the following purpose according to terms and conditions attached. In the preparation of this Request for Proposals (RFP) the words "Proposer," "Applicant," "Contractor," and "Consultant" are used interchangeably.

SECTION I – OVERVIEW

PURPOSE

The AQMD is seeking proposals for the 2006 Carl Moyer Memorial Air Quality Standards Attainment Program (CMP). The primary purpose of this program is to provide financial incentives to assist in the purchase of low-emission heavy-duty engine technologies to achieve near-term nitrogen oxides (NOx), particulate matter (PM10) and Reactive Organic Gases (ROG) emission reductions from these sources.

INTRODUCTION

The CMP is administered by the California Air Resources Board (CARB) and is named after the late Dr. Carl Moyer, in recognition of his work in the air quality field, and his efforts in bringing about this incentive program.

The purpose of the CMP is to help speed the introduction of low-emission, heavy-duty engines. Funding is provided via two bills, SB1107 and AB923. Senate Bill 1107 provides approximately \$61 million a year in statewide funding, and AB923 permits air districts in designated non-attainment areas to collect an additional two dollars in vehicle registration fees to expend on programs to reduce emissions from vehicular sources and off-road engines and assist agricultural engine users to comply with AQMD rules. A resolution approving such fees was adopted by the AQMD Board on December 3, 2004.

This is the eighth year of the CMP and the second year of the program with funding from SB1107 and AB923. CARB has allocated \$35,277,055 to the AQMD under SB1107 for the implementation of the 2006 Carl Moyer Program. Funding for this RFP will be approximately \$30.1 million, with \$21.8 million from SB1107 and \$8.3 million from AB923. Additional \$12 million from SB1107 is set aside for truck modernization projects and heavy-duty LNG projects at the ports and will be available separately with the Board's approval in the near future. If additional funds become available by the time of awards approval, additional qualified projects will be recommended for funding up to the total amount of funds available. The details of the funding are outlined in Table 1:

Table 1. Details of Available Funding

Funding Source	Funding Amount	Comment
SB1107	\$21,778,932	From \$35,277,055 allocated by CARB; less \$798,123 in administration cost; less \$700,000 set aside for electronic monitoring of projects; less \$6M proposed set-aside for fleet modernization projects; and less \$6M proposed set-aside for LNG trucks at the ports
AB923	\$3.9 million	Remaining from \$4M, allocated by the Board for agricultural engines on February 4, 2005
AB923	\$4.4 million	This amount plus the \$6.6 million allocated in Year 7, fulfills Board's allocation of \$11M for Moyer projects as approved on February 4, 2005, and exceeds required local match
Total	\$30.1 million	

All projects must meet the minimum requirement of \$14,300 per ton of emissions reduced and any additional AQMD criteria as stated in this RFP and its Appendices. Previously, cost-effectiveness was based solely on NOx. Under SB1107, the cost-effectiveness basis has been expanded to include PM10 and VOC. Potential applicants should carefully read the RFP and its associated Appendices for each applicable category.

In case there are any conflicts between CARB guidelines and AQMD criteria, the more stringent criteria will prevail. CARB staff continuously provides updates and new guidance for the CMP. AQMD will post new information and requirements on its web page, http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html as it becomes available. It is the responsibility of the applicants to ensure that the most current information and requirements are reflected in a submitted proposal.

GENERAL PROGRAM INFORMATION

The primary focus of the CMP is to achieve emission reductions from heavy-duty vehicles and equipment operating in California as early and as cost-effectively as possible. Projects should be designed to ensure that the emission reductions expected through the deployment of low-emission engines or retrofit technologies under this program are real, surplus, and quantifiable (emission reductions from stationary agricultural engines participating in the Agricultural Assistance Program (AAP) do not have to be surplus). **All emission reductions resulting from funded projects will be retired by the AQMD.** To avoid double counting of emission reductions, project vehicles and/or equipment may not receive funding from any other government grant program that is designed to reduce mobile source emissions. Specifically, these programs include, but are not limited to:

- All Mobile Source Air Pollution Reduction Review Committee (MSRC) Programs
- All CARB Emission Reduction Credit Programs
- State of California School Bus Program
- AQMD Lower-Emissions School Bus Replacement Program
- AQMD Rule 2202 Air Quality Investment Program
- AQMD RECLAIM Air Quality Investment Program for NOx
- Emission credit programs encompassed in the AQMD Rule 1600-series and 1309.1

In no case will grant funding awards exceed the cost-effectiveness criteria of \$14,300 per ton of emissions (NOx + ROG + 20* PM10) reduced as calculated per Carl Moyer Program guidelines. Some off-road categories have stricter cost-effectiveness requirements. No administrative or vehicle operational costs will be funded.

In the on-road categories, **only alternative fuel projects** are eligible for engine repowers and purchase of new vehicles. In addition, retrofit of in-use diesel vehicles with the highest available verified level PM traps or diesel oxidation catalysts verified by CARB are also allowed. In the off-road categories, both alternative fuel and diesel to diesel projects are eligible. **All projects must meet the program's cost-effectiveness limits and be operational within 12 months of contract execution.**

It is expected that multiple awards will be granted under this RFP, subject to the approval of the AQMD's Governing Board. Total funding for this RFP is **\$30.1 million**.

All proposals will be evaluated based on criteria set forth in this RFP and the attached Appendices. The AQMD will evaluate and/or verify information submitted by the applicant. At AQMD's discretion, consultants to the AQMD may conduct all or part of such evaluation and/or verification. Data verification during the evaluation and contracting process may cause initial cost-effectiveness rankings, and associated awards, to change. Furthermore, the AQMD reserves the right to make adjustments to awards based on the subsequent verification of information as well as changes in cost-effectiveness.

Definitions

Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), methanol, ethanol, propane (LPG), and electric technologies. Dual-fuel technologies such as CNG/diesel, LNG/diesel and electric hybrids are also eligible, as long as they are CARB-certified to the optional standards. Experimental technologies and fuels will be referred to the CARB for evaluation and possible eligibility in the program.

Repower

Vehicle repower refers to replacing an existing engine in an existing vehicle with a newer engine certified to lower emission standards. The replacement engine must be certified

¹ For some cases, this requirement will result in awards that are below the applicants funding request.

for sale in California to a NOx emission standard that is at least 15 percent lower than the original NOx certification level for the engine being replaced. Diesel-to-alternative fuel repowers are eligible for all categories. Diesel-to-diesel repowers will only be considered in the off-road categories.

For vehicle repower projects, the portion of the cost for a vehicle repower project to be funded through the CMP is the difference between the total cost of purchasing and installing the new emission-certified engine and the total cost of rebuilding the existing engine.

Retrofit

Add-on after-treatment devices reducing PM and possibly NOx emissions are considered retrofits. The retrofit kit must be CARB-verified to achieve specific emission reductions.

IMPORTANT PROGRAM INFORMATION

- **For this program cycle, only alternative fuel projects will be considered for funding, with the exception of the off-road categories.** On-road diesel-to-diesel repowers do not qualify for this program, but retrofits of in-use diesel vehicles with CARB verified units qualify.
- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost between a low-emission vehicle/engine/equipment option and its new non-low emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.
- Marine vessels that generally operate outside of California waters such as, fishing, charter and dive boats are not eligible. Fixed route boats such as dinner cruise, harbor tours etc., may be considered on a case-by-case basis.
- Any associated tax obligation with the award is the responsibility of the grantee.

HIGHLIGHTS FOR 2006

Important changes to the AQMD's 2006 CMP are listed below:

- The new Carl Moyer Program guidelines approved by CARB's Board on November 17, 2005, will be used for project evaluations.
- The cost-effectiveness calculation methodology is to include PM and ROG emission reductions according to the following equation:

$$\text{NOx reductions} + 20(\text{combustion PM10 reductions}) + \text{ROG reductions (tons/year)}$$

- All projects must be operational within twelve (12) months of contract execution.
- The minimum project life is three (3) years.
- No third party contracts will be executed.
- Pre- and post-inspection of all vehicles/engines/equipment approved for funding is required.
- Destruction of the engine being replaced is a new program requirement.

PROGRAM ADMINISTRATION

The CMP will be administered locally by the AQMD through the Science and Technology Advancement office.

FUNDING CATEGORIES

Specific categories of projects have been identified for funding under the AQMD's 2006 CMP solicitation. These categories are:

- On-Road Heavy Duty Vehicles, including but not limited to, on-road trucks, pickup and delivery trucks, refuse haulers, street sweepers, and transit buses. Funding opportunity for fleet modernization will be issued separately in the near future.
- Off-Road Heavy Duty Equipment/Engines, including but not limited to, construction equipment, marine engines, forklifts, locomotives, agricultural equipment and auxiliary power units.

The funding category allocations are provided below in Table 2. The AQMD reserves the right to reallocate the funds to another category or subcategory. Additionally, the AQMD reserves the right to partially fund a project.

All qualified applications submitted for each category/subcategory will be evaluated for disproportional impacts (discussed in Section IV) and ranked by emission reduction cost-effectiveness.

**Table 2
FY 2005-06 Proposed Funding and Cost-Effectiveness Limits**

Category	Minimum Amount* (\$ millions)	Cost-Effectiveness \$/ton
ON-ROAD		
(A) Trucks		
- Class 7-8	3.5	14,300
- Class 5-6	1.0	14,300
- Other**	0.5	14,300
(B) Buses		
- Transit	2.5	14,300
(C) Heavy-Duty Diesel Vehicle Retrofits	2.5	14,300
OFF-ROAD		
(A) Marine	2.7	5,000
(B) Construction/Other Off-Road Forklift	8.0	5,000
(C) Forklift	1.0	electric 7,000/5,000
(D) Locomotives	3.0	14,300
(E) Agricultural engines	3.9	5,000
(F) Ground Support Equipment, Transport Refrigeration Units, Truck Stop Electrification & Auxiliary Power Units	1.5	5,000
TOTAL	30.1	

**The above indicated amounts are the minimum amounts but not necessarily the maximum amounts of funding available to be awarded to each vehicle/equipment category in case of oversubscription in its category.*

***Small fleets (20 or fewer vehicles, with GVW 14,001 lbs. and above), and public sector, APUs.*

Up to \$700,000 in SB1107 funds is proposed to be set aside for the installation and operation of electronic monitoring units required by the Carl Moyer Program as a program cost.

Approximately \$6 million is proposed to be set-aside for Fleet Modernization and \$6 million for LNG Truck Projects and will be available separately with the Board's approval.

It is noteworthy that proposals for fuel and engine technologies not certified by CARB, or falling outside the categories specifically discussed in this RFP, will be referred to CARB for determination of CMP eligibility.

SCHEDULE OF EVENTS

Release of RFP February 3, 2006
Workshops February through April 2006
All Applications Due by 1:00 pm **Friday, May 5, 2006**
Awards Consideration by the Board September 8, 2006

**ALL PROPOSALS MUST BE RECEIVED AT THE AQMD HEADQUARTERS
NO LATER THAN 1:00 P.M. ON FRIDAY, MAY 5, 2006**

Postmarks will not be accepted. Faxed or e-mail proposals will not be accepted. Proposers may hand-deliver proposals to the AQMD by submitting the proposal to the AQMD reception desk. The proposal will be date and time-stamped and the person delivering the proposal will be given a receipt.

SCHEDULE OF CMP WORKSHOPS:

GENERAL WORKSHOPS

THURSDAY, FEBRUARY 16, 2006 - 10 A.M.
SOUTH COAST AQMD HEADQUARTER
CONFERENCE ROOM GB
21865 COPLEY DRIVE
DIAMOND BAR, CA 91765

THURSDAY, MARCH 16, 2006 - 10 A.M.
SOUTH COAST AQMD HEADQUARTER
CONFERENCE ROOM GB
21865 COPLEY DRIVE
DIAMOND BAR, CA 91765

THURSDAY, MARCH 23, 2006 – 1:30 P.M.
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
1995 MARKET STREET
RIVERSIDE, CA 92501
(951) 955-1200 Ask for Sheila

MARINE/CARGO HANDLING/ON-ROAD WORKSHOP

TUESDAY, MARCH 14, 2006 – 10 A.M.
PORT OF LOS ANGELES
ADMINISTRATIVE BOARD ROOM
425 S. PALO VERDE STREET
SAN PEDRO, CA 90731

AGRICULTURAL ENGINE WORKSHOP

THURSDAY, FEBRUARY 23, 2006 – 1:30 P.M.
RIVERSIDE COUNTY FARM BUREAU
21160 BOX SPRINGS ROAD, SUITE 102
MORENO VALLEY, CA 92557

The schedule of additional workshops will be posted on our website at www.aqmd.gov.

AQMD may issue subsequent solicitations if insufficient applications are received in the initial solicitation.

STATEMENT OF COMPLIANCE

Government Code Section 12990 and California Administrative Code, Title II, Division 4, Chapter 5, require employers to agree not to unlawfully discriminate against any employee or applicant because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, sex, or age. A statement of compliance with this clause is included in all AQMD contracts.

CONTACT FOR ADDITIONAL INFORMATION

Questions regarding the content or intent of this RFP, procedural matters, or locations of workshops should be addressed to:

Lani Montojo
Science and Technology Advancement
South Coast Air Quality Management District
21865 East Copley Drive, Diamond Bar, CA 91765
(909) 396-2231/3252 FAX

SECTION II: WORK STATEMENT/SCHEDULE OF DELIVERABLES

All applicants that are selected for funding awards must complete the Work Statement and Schedule of Deliverables described below as part of the contracting process. Development of these materials for the initial application is NOT required; however, applicants must sign the Application form indicating their understanding of the requirements for submittal of additional project information to finalize a contract and that all vehicles, engines or equipment must be in operation within twelve (12) months of contract execution. **Unsigned applications will be deemed ineligible and will NOT be considered for funding.**

WORK STATEMENT

The scope of work involves a series of tasks and deliverables that demonstrate compliance with the requirements of the CMP as administered by CARB and the AQMD. The responsibility for developing detailed project plans that address the program criteria is the project applicant's. In addition, alternative fuel project applicants must discuss their plan for refueling the proposed vehicles/equipment, and if appropriate, should provide a letter of agreement from their fuel provider (see Application forms).

At a minimum, any contract for funding the proposed project must meet the following criteria:

- Provide emission reductions that are real, quantifiable, enforceable and surplus (with the exception of AAP projects) in accordance with CARB and AQMD guidelines.
- Meet the cost-effectiveness limits, as described in Table 2 of this RFP.
- Provide at least 30 percent NOx emission reduction for new engine/vehicle purchases and 15 percent for repowers and retrofits, compared to baseline NOx emissions, if NO_x emission reductions are to be considered in the cost-effectiveness calculations.
- Commit that project engines or equipment operate in-service for the full project life (a minimum of three years) and at least 75 percent of annual operation must occur within the AQMD. Project life is the number of years used to determine the cost-effectiveness.
- Commit that all vehicles/engines/equipment are in operation within 12 months of contract execution.
- Provide for appropriate record-keeping during the project life (i.e., annual mileage, fuel consumption and/or hours of operation).
- Ensure that the project is in accordance with other local, state, and federal programs, and resulting emission reductions from a specific project are not required as a mitigation measure to reduce adverse environmental impacts that are identified in an environmental document prepared in accordance with the California Environmental Quality Act or the National Environmental Policy Act.
- If requested, contractor must provide a financial statement and bank reference, or other evidence of financial ability to fulfill contract requirements.

DELIVERABLES

The contract will describe how the project will be monitored and what type of information will be included in project progress reports. At a minimum, the AQMD expects to receive the following reports:

1. Quarterly status reports until the vehicle or equipment purchase, repower or retrofit, or fueling infrastructure has been accomplished. These reports shall include a discussion of any problems encountered and how they were resolved, any changes in the schedule, and recommendations for completion of the project. These progress reports are required before payment for the purchase, repower or retrofit will be made.
2. An annual report, for a minimum of three years and throughout the project life, which provides the annual miles or hours of operation, where the vehicle or equipment was operated (75 percent required in-Basin), annual fuel consumption, and operational and maintenance issues encountered and how they were resolved. AQMD reserves the right to verify the information provided.

SECTION III: PROPOSAL SUBMITTAL REQUIREMENTS

Proposers **must** complete the appropriate application forms, which are included in the Appendices, committing that the information requested in Section II, Work Statement/Schedule of Deliverables will be submitted if the Proposer's project is selected for funding. In addition, Conflict of Interest and Project Cost information, as described

below, must also be submitted with the application. It is the responsibility of the proposer to ensure that all information submitted is accurate and complete. Use the checklist provided in the Appendices to ensure all application elements are submitted.

CONFLICT OF INTEREST

Applicant must address any potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the AQMD. Although the proposer will not be automatically disqualified by reason of work performed for such firms, the AQMD reserves the right to consider the nature and extent of such work in evaluating the proposal. Conflicts of interest will be screened on a case-by-case basis by the AQMD District Counsel's Office. Conflict of interest provisions of the state law, including the Political Reform Act, may apply to work performed pursuant to this contract. Please discuss potential conflicts of interest on the application form entitled "Contracting Statements".

PROJECT COST

Applicants must provide cost information that specifies the amount of funding requested and the basis for that request by attaching vendor quotes to the application. **The CMP funds only the differential cost between existing technology and low-emission technology.** The proposed low-emission technology must be CARB-certified in most cases². Proposals will be ranked by cost-effectiveness on a vehicle/equipment-by-vehicle/equipment basis. In no case will funding exceed cost-effectiveness limit of \$14,300/ton of emissions (NO_x + ROG + 20*PM) reduced, though some off-road requirements are more stringent. No fueling infrastructure, administrative or operational costs will be funded.

All project costs must be clearly indicated in the application. In addition, applicants should be sure to include any sources of co-funding and the amount of each co-funding source in the application. **Proposers are cautioned that the project life period used in calculating emissions reductions will be used to determine the length of their data reporting obligation. In other words, a project applicant using a ten year life for the emissions reduction calculations will be required to operate and track activity for the project vehicle for the full ten years.**

While proposers are not required to calculate a project's cost-effectiveness, AQMD strongly recommends this calculation be made by the proposer in order to ensure the project meets cost-effectiveness (\$/ton) limits, and to provide the ability to strategically determine how much funding to request from this program³. Methodologies for calculating cost-effectiveness are provided in the Appendices.

² Note that an experimental permit from CARB may be considered, but the project will require special CARB approval.

³ For example, based on a request for the full incremental cost of a project, an applicant calculates a project's cost-effectiveness (CE) to be \$14,300 per ton. If the applicant requests the full incremental cost, then that applicant will be ranked at \$14,300 per ton. If the applicant were to request less funding than the incremental cost, the resulting cost-effectiveness would improve (for example, \$12,500/ton), providing a better CE ranking for the project.

PROPOSAL SUBMISSION

All proposals must be submitted according to specifications set forth herein. Failure to adhere to these specifications may be cause for rejection of the proposal.

Application Forms – Program application forms are provided in the Appendices. These must be completed and submitted with other required documents (i.e., Certifications and Representations) discussed in the application and below.

Certifications and Representations - Attachment A to this RFP must also be completed and submitted with the application. Attachment A consists of five forms: 1) State of Incorporation and Tax Standing, 2) Disabled Veteran Business Enterprise/Small Business Form, 3) Federal Tax Identification, and 4) EPA Certification.

Due Date - The proposer shall submit **six (6) complete copies of the application** in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the proposer and the words "Request for Proposals # P2006-15. All proposals/applications shall be submitted in an environmentally friendly format: stapled, not bound, black and white print; no three-ring, spiral, or plastic binders, and no card stock or colored paper.

All proposals must be received no later than **1:00 p.m., on Friday, May 5, 2006**. Postmarks are not accepted as proof of deadline compliance. **Faxed or e-mailed proposals will not be accepted.** Proposals must be directed to:

Procurement Unit
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Any correction or resubmission done by the proposer will not extend the submittal due date.

Grounds for Rejection - A proposal may be immediately rejected if:

- It is not prepared in the format described
- It is not signed by an individual authorized to represent the firm
- Does not include cost quotes, Contractor Statement Forms and other forms required in this RFP

Disposition of Proposals - The AQMD reserves the right to reject any or all proposals. All responses become the property of the AQMD. One copy of the proposal shall be retained for AQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.

Modification or Withdrawal - Once submitted, proposals cannot be altered without the prior written consent of AQMD. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days following the last day to accept proposals.

SECTION IV: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated on the cost-effectiveness of NOx, PM10 and ROG reduced on a vehicle/equipment-by-vehicle/equipment basis, as well as a project's disproportional impact evaluation (discussed below). Be aware that there is a possibility that due to program priorities, cost-effectiveness and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB1390 (Firebaugh) at least 50 percent of the CMP funds must be spent in areas that are most significantly impacted by air pollution and are low income or communities of color, or both. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. AQMD will use the following method to meet these requirements.

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for disproportionate impact funding:
 - a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level, based on the year 2000 census data, will be eligible to be included in this category, and
 - b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c. Toxic Exposure: All projects in areas with a cancer risk of 1,000 in a million and above (based on Mates II estimates) will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the 2000 U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the available funding from this RFP will be allocated among proposals located in disproportionately impacted areas. If available funding is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If on the other hand, funding requests exceed the available funding levels, then all qualified projects will be ranked for poverty level, PM and toxic exposures. The maximum score will be comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures.

All the proposals not awarded under the fifty percent disproportional impact funding will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the CMP funds are exhausted.

SECTION V: PAYMENT TERMS

For all projects, except marine vessels, full payment will be made upon installation and commencement of operation of the funded equipment. For marine vessel projects, 20 percent (see below) of the funds will be withheld to be remitted annually on a sliding scale as described below.

Upon receipt of the annual report, the twenty percent withhold will be decreased according to the following:

Year 1	15% withhold
Year 2	10% withhold
Year 3	7% withhold
Year 4	0% withhold

**FY 2005-06
THE CARL MOYER MEMORIAL
AIR QUALITY STANDARDS ATTAINMENT PROGRAM**

AQMD RFP# P2006-15

APPENDICES

The attached Appendices contain background information, description of project types, and selection criteria for each of the project categories. The AQMD staff contact for all project categories is Suresh Chaurushiya (909) 625-3325 schaurushiva@aqmd.gov or Connie Day at (909) 396-3055 or cdav@aqmd.gov

LIST OF APPENDICES

Appendix 1 -	Heavy Duty On-Road Vehicles
Appendix 2 -	Heavy Duty On-Road Fleet Modernization (To be released under separate Program opportunity)
Appendix 3 -	Idling Emissions from Heavy-Duty Vehicles (Auxiliary Power Units)
Appendix 4 -	Transport Refrigeration Units
Appendix 5 -	Compression Ignition Off-Road Equipment
Appendix 6 -	Large Spark Ignition Off-Road Equipment
Appendix 7 -	Airport Ground Support Equipment
Appendix 8 -	Locomotives
Appendix 9 -	Marine Vessels
Appendix 10 -	Agricultural Assistance Program
Appendix 11 -	Light-Duty Vehicles (To be implemented as a separate program)
Appendix 12 -	Zero-Emission Technologies



South Coast Air Quality Management District Moyer Program
2006 Application Form for use with RFP#2006-15

Instructions:

- Read the SCAQMD Moyer Program RFP#2006-15 for instructions and additional important information.
- Fill in all applicable sections with ink. Please print legibly.
- Return six (6) hard copies and one (1) electronic copy of the application on a CD-ROM or Floppy Disk to:
Procurement Unit
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

DEADLINE: Received at SCAQMD by Friday, May 5, 2006 at 1:00PM (no exceptions)

Application # _____
For internal use.

- Vocation(s) (Please list project vehicle/equipment use): _____
- Number of Units of this type: _____
- Is this Equipment Subject to CARB Rule(s): NO YES
- If yes, list rule and be sure to complete Attachment 1 of this application. _____

TOTAL GRANT REQUEST (for entire project): \$ _____

Value of financial incentives that directly reduces project price: _____
If any, list source of incentive: _____

Company Name	Mailing Address	City	State
Contact Person	City	County	State
Title	ZIP	Fill in physical address below if equipment is based at an address that is different from mailing address	
Phone Number	Physical Address	City	State
Fax Number	City	County	State
E-mail Address	ZIP	City	State
Cell Number	City	County	State
Tax ID (Check One)	<input type="checkbox"/> Federal Employers Identification Number (FEIN)	---	---
	<input type="checkbox"/> Individual or Sole Proprietor	---	---
Name of person who will sign the Funding Agreement: (please print) _____ Title: _____			

Equipment Type (check one): On-road APU TRU Off-road GSE
 Locomotive Marine Ag Engine Forklift TSE Other: _____

Vehicle / Equipment Information Form (page 1 of 3)
(Please submit separate Information Form for each type of vehicle/equipment or provide required information in an excel table format.)

Project Life (equipment must operate for this full life; this life is equivalent to the contract term, and the reporting term): _____

(See RFP appendices for default project life. Note that the default project life does not consider existing or upcoming regulatory requirements. Project life may be shorter due to regulatory requirements, or longer with documentation.)

Project Area (percent operation in SCAQMD boundaries): _____
Project Area (percent operation in California boundaries): _____

Project Type (check all that apply for this vehicle):

- New low-emission vehicle Engine repower Engine retrofit
 Other (including alternative technology)
 Check here if project vehicle is a stop-and-go vehicle as defined in the RFP.
CARB Load Factor defaults will be used unless documentation to support an alternative load factor is attached. Alternative Load Factor (if desired): _____

Main Location of operation (provide address, but also include cross streets, harbor and berth location or other landmarks)	_____
---	-------

Annual Vehicle/Engine Usage (Activity) Information (Attach supporting documentation records for the last two years to support this activity level and understand that you must achieve this level of activity each year for the entire project life.):

	BASELINE	REDUCED-EMISSION
Miles/Year		Miles/Year
Hours/Year		Hours/Year
Gallons/Year		Gallons/Year

- Check here to indicate that activity verification documentation is attached.
Two-years worth of data are required. Data may include fuel logs, mileage logs, hour-meter reports etc.
 Check here to indicate that proposed engines or equipment are not part of an averaging, banking and trading program (ABT) or other fleet average program.

Vehicle / Equipment / Engine Vendor Information (or attach business card)

Contact	Address
Company	City
Phone	ZIP
FAX	E-mail
	State



Vehicle / Equipment Information Form (page 2 of 3)
 (Please submit separate information form for each type of vehicle/equipment or provide required information in an excel table format)

Existing Vehicle and Main Engine⁴ Information (for repowers or retrofits)

Vehicle Make:	Vehicle Model:	Model Year:	GVWR:
Vehicle Identification Number:	Fleet Identification Number:	License Plate:	Odometer:
Main Engine Make and Engine Family Number:	Main Engine Model:	Model Yr:	Serial Number:
Auxiliary Engine Make and Engine Family Number:	Aux. Engine Model:	Model Yr:	Serial Number:
Total number of engines per vehicle/equipment: _____			
Existing Engine Fuel Type: <input type="checkbox"/> CNG <input type="checkbox"/> Diesel <input type="checkbox"/> LNG <input type="checkbox"/> LPG <input type="checkbox"/> Gasoline <input type="checkbox"/> Other:			
Retrofit Control Technology Description (Include Product Description and ARB Verification Reference Information):			

New Vehicle/Engine Information (Provide all available information)

Vehicle Make:	Vehicle Model:	Model Year:	GVWR:
Vehicle Identification Number:	Fleet Identification Number:	License Plate:	Odometer:
Main Engine Make and Engine Family Number:	Main Engine Model:	Model Yr:	Serial Number:
Auxiliary Engine Make and Engine Family Number:	Aux. Engine Model:	Model Yr:	Serial Number:
New equipment fuel type: <input type="checkbox"/> CNG <input type="checkbox"/> Diesel <input type="checkbox"/> LNG <input type="checkbox"/> LPG <input type="checkbox"/> Gasoline <input type="checkbox"/> Electricity <input type="checkbox"/> Other:			

ARB Executive Order # _____
 ARB Executive Order for the proposed equipment or diesel emissions control system (DECS) Verification Letter is attached. Note that engines certified to a Family Emission Limit (FEL), are NOT ELIGIBLE for new vehicle projects. They may be used in repower projects if minimum emission reduction requirements are met.

⁴ For application purposes, "engine" may also refer to a TRU "genset". For TRU projects please provide genset information in the above "boxes" for engines.



Vehicle / Equipment Information Form (page 3 of 3)
Project Cost Information

(Please submit separate information form for each type of vehicle/equipment or provide required information in an excel table format)
Attach vendor quotes, vehicle valuations, repair estimates (including a detailed cost breakdown of equipment, labor and sales tax) and any other documentation needed to justify project costs (for both the baseline, if applicable, and the proposed project).

Engine Repower Costs (per unit)	
1. New Lower-Emission Engine	
2. Total Unique Parts	
3. Labor Cost (if requested)	
4. Existing Engine Rebuild Parts Cost	
5. Existing Engine Rebuild Labor Cost	
Maximum Grant Request =[1+2+3-(4+5)]	

Engine Retrofit Costs (per unit)	
1. Engine Retrofit Parts Cost	
2. Engine Retrofit Labor Cost	
3. Engine Retrofit Maintenance Cost (if requested as part of the Grant)	
Maximum Grant Request (=1+2+3)	

New Low-Emission Vehicle (LEV)/Equipment Purchase (per unit)	
1. New LEV Purchase Cost	
2. New non-LEV Purchase Cost	
Maximum Grant Request (=1-2)	

Supporting Eligible Equipment Purchase (i.e., battery pack, installation, TSE, etc. as allowed by ARB and the RFP)	
1. Supporting Eligible Equipment Cost	
Maximum Grant Request (=1)	



Application Statement – Please Read and Sign

All information provided in this application will be used by SCAQMD staff to evaluate the eligibility of this application to receive program funds. SCAQMD staff reserves the right to request additional information and can deny the application if such requested information is not provided by the requested deadline. Incomplete or illegible applications will be returned to applicant or vendor, without evaluation. An incomplete application is an application that is missing information critical to the evaluation of the project.

- ◆ I certify to the best of my knowledge that the information contained in this application is true and accurate.
- ◆ I understand that, if awarded funding under the CMP, development and submittal of a detailed work statement, with deliverables and schedule is a requirement of the contracting process.
- ◆ I understand that it is my responsibility to ensure that all technologies are either verified or certified by the California Air Resources Board (CARB) to reduce NOx and/or PM pollutants.
- ◆ I understand that for repower projects, I am required to install a verified diesel emission control device (DECS), and that the costs of this device and associated installation are a CMP eligible expense. These costs may be included in the project grant request up to the maximum cost-effectiveness limit.
- ◆ I understand that there may be conditions placed upon receiving a grant and agree to refund the grant (or pro-rated portion thereof) if it is found that at any time I do not meet those conditions and if directed by the SCAQMD in accordance with the contract agreement.
- ◆ I understand that I will be prohibited from applying for any other form of emission reduction credits for Moyer-funded vehicles/engines, including: Emission Reduction Credit (ERC); Mobile Source Emission Reduction Credit (MSERC) and/or Certificate of Advanced Placement (CAP), for all time, from the SCAQMD, CARB or any other Air Quality Management or Air Pollution Control District.
- ◆ The proposed project has not been funded and is not being considered for Carl Moyer Program funds by another air district, CARB, or any other public agency.
- ◆ In the event that the vehicle(s)/equipment do not complete the minimum term of any agreement eventually reached from this application, I agree to ensure the equivalent project emissions reductions, or to return grant funds to the SCAQMD as required by the contract.



- ◆ I have the legal authority to apply for grant funding for the entity described in this application.
- ◆ Disclosure of that value of any current financial incentive that directly reduces the project price, including tax credits or deductions, grants, or other public financial assistance for the same engine is required.
- ◆ I understand that third party contracts are not permitted. A third party may, however complete an application on an owner's behalf. Third parties are required to list how much compensation, if any, they are receiving to prepare the application(s), and to certify that no CMP funds are being used for this compensation. (see below)
- ◆ I understand that additional project information must be submitted to finalize a contract. This information may be found under Section II: Work Statements/Schedule of Deliverables in the RFP.
- ◆ I understand that all vehicles, engines or equipment funded by this program must be operational within twelve (12) months of contract execution.
- ◆ I have initiated this bullet to indicate that there are no potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the AQMD. If this bullet is not initiated, I have attached a description to this application of the potential conflict of interest, which will be screened on a case-by-case basis by the AQMD District Counsel's Office. There is no potential conflict of interest: _____ (Please initial if applicable, otherwise attach separate sheet describing the potential conflict)

Applicant's Signature	Date
Applicant's Name (please print)	Title
If this application was prepared by an entity other than the applicant, please provide the information requested below.	
Application Preparer's Signature	Date
Application Preparer's Name (please print)	Contact Information
Compensation for application preparation: _____	

I certify that no CMP funds are the source for this compensation: _____
Signature of Preparer



Please initial each section (See RFP# 2006-15 for additional information and requirements):

The purchase of this low-emission technology is **NOT** required by any local, state, and/or federal rule or regulation (with the exception of Agricultural Assistance Program projects)

The definitions of qualifying projects are described in RFP #P2006-15. These definitions have been reviewed and this application is consistent with those definitions.

The vehicle/engine will be used within the SCAQMD boundaries (with the emission reduction system operating) for at least the projected usage shown in this application, and no less than 75 percent of the time.

All project applicants must submit documentation that supports the activity claimed in the application (i.e., fuel receipts, mileage logs and/or hour-meter readings covering the last two years). This documentation is attached.

The grant contract language can not be modified without the written consent of all parties. I have reviewed and accepted the sample contact language.

I understand that an IRS Form 1099 will be issued to me for incentive funds received under the Moyer Program. I understand that it is my responsibility to determine the tax liability associated with participating in the Moyer Program.

I understand that a SCAQMD-funded Global Positioning System (GPS) unit will be installed on vehicles/equipment not operating within SCAQMD boundaries full time. I will submit data as requested and otherwise cooperate with all data reporting requirements. I also understand that the additional cost of the GPS unit will be added to the project cost when calculating cost-effectiveness, though the SCAQMD will pay for this system directly.

I understand that the SCAQMD has the right to conduct unannounced inspections for the full project life to ensure the project equipment is fully operational at the activity level committed to by the contract.

I understand that all emission reductions resulting from funded projects will be retired. To avoid double counting of emission reductions, project vehicles and/or equipment may not receive funding from any other government grant program that is designed to reduce mobile source emissions.

I understand that a tamper proof, non-resettable digital hour meter/odometer must be installed on all vehicles/equipment and that the digital hour meter/odometer will record the hours/miles accumulated within the SCAQMD boundaries. This cost is my responsibility.



ATTACHMENT 1 – Vehicle/Fleet Information

PART ONE

Additional information is required for all repowers or retrofit project vehicles in order for ARB to conduct its Violation Compliance Check.

For each repower or retrofit project vehicle, provide the vehicle identification number (VIN). Please provide this information within the application.

PART TWO

Additional information is also required for all applicants subject to the ARB fleet rules.

For each applicant submitting a project for grant consideration, please provide the following information in Microsoft Excel format as part of the application:

1. Company name and address
2. Fleet terminal names and addresses.
3. A list of ALL fleet vehicles that are subject to the respective fleet rule. This list shall include the following:
 - Terminal out of which each vehicle operates
 - Vehicle and engine model years
 - Vehicle identification number (VIN)
 - Engine serial number
 - Engine model, series and family number
 - Each vehicle's status as "active" or "back-up" (back-up may only travel up to 1,000 miles per year).
 - Which terminal the vehicles potentially receiving CMP funds operate
 - Planned retirement date for each vehicle



ATTACHMENT 2

Supplemental Application Requirements for On-Road Vehicle Projects
NOTE: All items in the main application are required. Please also provide the following information for On-Road Vehicle Projects.

Electronic Monitoring Unit (EMU)

Will a new eligible EMU be installed as part of this project? (yes/no)?
(Note that Locomotive and Marine Vessel projects require an EMU.)

If yes, please provide:

EMU Make: _____
EMU Model: _____
EMU Model Year: _____
EMU ID Number: _____
EMU Cost (if requesting Moyer Grant co-funding): _____

Please provide the following data:

1. Department of Transportation Number (if interstate): _____
2. California Highway Patrol CA Number: _____
3. Projected Year of Purchase of New Vehicle, engine or retrofit system: _____



ATTACHMENT 3
Supplemental Application Requirements for Heavy-Duty Vehicle Idle Reduction Projects

NOTE: All items in the main application are required. Please also provide the following information for HDV Idle Reduction Projects.

Please see RFP Appendix 3 for compliance dates for Heavy-Duty Vehicle Idling Emissions Reduction Measure:

For APU or alternative technology:

(List manufacturer, model and year of APU/alternative technology under new vehicle/engine information above)

1. For 2006 and older model trucks, what is certification tier of baseline APU?
(attach certification executive order) _____
2. What LEV technology is proposed? _____
3. Annual hours idled
 _____baseline (with certified APU)
 _____with LEV APU or alternative technology



ATTACHMENT 4
Supplemental Application Requirements for Transport Refrigeration Unit (TRU) Projects
NOTE: All items in the main application are required. Please also provide the following information for TRU Projects.

Truck, Trailer, Shipping Container, or Railcar I.D. Number (e.g., VIN, railcar recording mark and car number, container number, company I.D. number, or serial number): _____

TRU Application (circle one): (Truck, Trailer, Shipping Container, or Railcar)

Year of Purchase of New Equipment: _____

TRU new equipment Tier _____. Attach ARB certification executive order

Electronic Monitoring Unit (EMU)

Will a new eligible EMU be installed as part of this project? (yes/no)?
 (Note that Locomotive and Marine Vessel projects require an EMU.)

If yes, please provide:

EMU Make: _____
 EMU Model: _____
 EMU Model Year: _____
 EMU ID Number: _____
 EMU Cost (if requesting Moyer Grant co-funding): _____

For TRU Remanufacture Projects:

TRU Remanufacture Cost – Parts: _____
 TRU Remanufacture Cost – Labor: _____



ATTACHMENT 5
Supplemental Application Requirements for Compression-Ignition Off-Road Equipment Projects
NOTE: All items in the main application are required. Please also provide the following information for CI Off-Road Equipment Projects.

Electronic Monitoring Unit (EMU)

Will a new eligible EMU be installed as part of this project? (yes/no)?
 (Note that Locomotive and Marine Vessel projects require an EMU.)

If yes, please provide:

EMU Make: _____
 EMU Model: _____
 EMU Model Year: _____
 EMU ID Number: _____
 EMU Cost (if requesting Moyer Grant co-funding): _____
 Projected Year of Purchase of New Equipment: _____



ATTACHMENT 6

Supplemental Application Requirements for Large Spark-Ignition Off-Road Equipment Projects

NOTE: All items in the main application are required. Please also provide the following information for LSI Off-Road Equipment Projects.

New Equipment Information

Forklift will be for: existing operation or facility, facility expansion, or new facility operations (circle one)

Does the applicant rent/lease forklift to others? _____

Maximum Rated Lift Capacity (pounds): _____

Forklift Class: _____

New Equipment Tier _____

Please attach CARB executive order.

Electronic Monitoring Unit (EMU)

Will a new eligible EMU be installed as part of this project? (yes/no)?
(Note that Locomotive and Marine Vessel projects require an EMU.)

If yes, please provide:

EMU Make: _____

EMU Model: _____

EMU Model Year: _____

EMU ID Number: _____

EMU Cost (if requesting Moyer Grant co-funding): _____

Supporting Eligible Equipment

1. Number of additional battery packs? _____

2. Cost per pack? _____

Projected Year of Purchase of New Equipment: _____



ATTACHMENT 7

Supplemental Application Requirements for Airport Ground Support Equipment Projects

NOTE: All items in the main application are required. Please also provide the following information for Airport GSE Projects.

New Equipment Information

1. Is equipment at an airport covered under the MOU between CARB and the Airline industry? _____

2. If yes, has the applicant attached documentation to show that the proposed project is surplus to the MOU? _____

3. What is the equipment type (circle as many as apply): A/C tugs – narrow body, AC tugs – wide body, belt loader, baggage tug, cargo loaders, ground power units, lifts) _____

4. Who operates the equipment? (circle as many as apply) Airline, airport, equipment management company or other _____

Attach CARB executive order for baseline and new engine/equipment.

Baseline Engine Tier _____

New Equipment Tier _____

Electronic Monitoring Unit (EMU)

Will a new eligible EMU be installed as part of this project? (yes/no)?
(Note that Locomotive and Marine Vessel projects require an EMU.)

If yes, please provide:

EMU Make: _____

EMU Model: _____

EMU Model Year: _____

EMU ID Number: _____

EMU Cost (if requesting Moyer Grant co-funding): _____

Projected Year of Purchase of New Equipment: _____

For Remanufacture Projects:

Remanufacture Cost – Parts: _____

Remanufacture Cost – Labor: _____



ATTACHMENT 8

Supplemental Application Requirements for Locomotive Projects

NOTE: All items in the main application are required. Please also provide the following information for Locomotive Project.

GENERAL

Railroad Class (Class 1 or Class 3): _____
Locomotive Type (Line Haul, Traditional Switcher, Alt. Technology Switcher, Passenger): _____
Does the project locomotive already have a functioning automatic engine start-stop (AESS) iLD installed? (yes / no) _____
Percent Operation in California: _____
Percent Operation in District: _____

ELECTRONIC MONITORING UNIT (EMU)

Will a new eligible EMU be installed as part of this project? (yes / no) _____
(Note that Locomotive and Marine Vessel projects require an EMU.)
EMU Make: _____
EMU Model: _____
EMU Model Year: _____
EMU ID Number: _____
EMU Cost: _____ (If seeking Moyer Program co-funding, be sure to include vendor quote).

ADDITIONAL INFORMATION –NEW PURCHASE PROJECTS ONLY

Projected Year of Purchase of New Locomotive: _____

What type of engine(s) does the new switcher use? (on-road or off-road/stationary) _____

Has this locomotive been certified by U.S. EPA? If yes:
U.S. EPA certified locomotive emission rates (g/bhp-hr):
NOx: _____ HC: _____ PM: _____

ADDITIONAL INFORMATION –LOCOMOTIVE IDLING LIMITING DEVICE OR ENGINE REMANUFACTURE KIT ONLY

For AESS iLD Projects
AESS Make: _____
AESS Model: _____
AESS Year: _____
AESS ID Number: _____
AESS Capital Cost: _____
AESS Installation Cost: _____

For Engine Remanufacture Kits
Remanufacture Kit Make: _____
Remanufacture Kit Model: _____
U.S. EPA Certified Locomotive Emission Level (Tier 0, Tier 1, or Tier 2)
Remanufacture Kit Cost: _____



ATTACHMENT 9

Supplemental Application Requirements for Marine Vessel Projects

NOTE: All items in the main application are required. Please also provide the following information for Marine Vessel Projects.

GENERAL

Vessel Name: _____
Has vessel changed names in the last two years? _____
Vessel U.S. Coast Guard Doc. No. (or IMO/Lloyd's No., if foreign flagged): _____
Vessel function (Fishing vessel, tugboat, work boat, etc...):⁵ Vessel berth location: _____
Does vessel remain within the port only (y/n): _____
Does engine use a wet exhaust system (y/n): _____

FOR MARINE VESSEL REPOWERS

Vessel model year: _____
Existing engine cylinder displacement: _____
Cost to rebuild existing engine (parts + labor): _____
New engine cylinder displacement: _____
Cost of new engine: _____
Cost to install new engine: _____
New engine vendor: _____
New engine installer: _____

FOR MARINE VESSEL RETROFITS

Retrofit equipment manufacturer and name: _____
Retrofit or add-on equipment is warranted by manufacturer (y/n): _____
Retrofit or add-on equipment is verified or certified by ARB or U.S. EPA (y/n): _____

ALLOCATION OF ACTIVITY BETWEEN MAIN AND AUXILIARY ENGINES

- 1. Percent of total fuel or gallons of fuel used by main engines? _____
- 2. Percent of total fuel or gallons of fuel used by auxiliary engines? _____

ELECTRONIC MONITORING UNIT (EMU)

Will a new eligible EMU be installed as part of this project? (yes / no) _____
(Note that Locomotive and Marine Vessel projects require an EMU.)
EMU Make, Model & Year: _____
EMU ID Number: _____
EMU Cost: _____ (If seeking Moyer Program co-funding, be sure to include vendor quote).

⁵ This is the website address where you can access U.S. Coast Guard's vessel database and extract vessel documentation and ownership data. It only retrieves documentation data about vessels which are craft that are 5 net tons or larger and are documented by the U.S. Coast Guard. Craft less than 5 net tons ("boats") are numbered by individual states. This is the National Oceanic & Atmospheric Administration (NOAA) federal website: http://www.st.nmfs.gov/st1/commercial/landings/cg_vessel2.html

Also, check U.S. Coast Guard National Vessel Documentation Center – Frequently Asked Questions - as far as marking the official number on the vessel. <http://www.uscg.mil/hq/g-m/vdoc/faq.htm#15>



ATTACHMENT 10

Supplemental Application Requirements for Stationary and Portable Agricultural Engine Projects NOTE: All items in the main application are required. Please also provide the following information for Agricultural Engine Projects.

Equipment Type: Portable or Stationary (circle one)

Is this project participating in the SCE TOU-PA-ICE Incentive Programs?

Is this project currently covered by a Moyer Program contact?

Electronic Monitoring Unit (EMU)

Will a new eligible EMU be installed as part of this project? (yes/no)?
(Note that Locomotive and Marine Vessel projects require an EMU.)

If yes, please provide:

EMU Make: _____

EMU Model: _____

EMU Model Year: _____

EMU ID Number: _____

EMU Cost (if requesting Moyer Grant co-funding): _____

Projected Year of Purchase of New Equipment: _____



South Coast Air Quality Management District

This Contract consists of *** pages.

1. **PARTIES** - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. **RECITALS**
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.
3. **PERFORMANCE REQUIREMENTS**
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper, stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance

- of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
- D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.
4. **TERM** - The term of this Contract is from the date of execution by both parties to *******, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
- A. **Project Completion** - Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
- B. **Project Implementation/Life** - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.
5. **TIME PERIOD FOR CONTRACT EXECUTION** - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.
6. **TERMINATION**
- A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
- B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the vehicles or equipment become inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.

- C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.
- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
- E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualified, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any equipment and/or vehicles purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment and/or vehicles to the AQMD or purchases such equipment and/or vehicles from the AQMD.

7. **STIPULATED PENALTIES** - CONTRACTOR is obligated to acquire and operate subject engines, equipment and/or vehicles as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. **ALTERNATIVE FUEL USE** - The purpose of this project is to reduce emissions from vehicles and equipment through the use of alternative fuels. To achieve this purpose, CONTRACTOR agrees to utilize ******* [identify fuel to be used] and the vehicles and/or equipment as specified in Attachment 1 - Statement of Work, for the duration of this Contract and the life of the subject vehicles and/or equipment. For the entire term of this Contract, CONTRACTOR shall use alternative fuel at least 75% of the annual mileage or engine hours of operation within the geographical bounds of the AQMD. In the case of a dual fuel vehicle, CONTRACTOR agrees to demonstrate use of alternative fuel over 75% of the vehicle operating cycle, and 75% of the annual mileage or engine hours. Exceptions to these requirements are vehicle(s) out of service for an extended period because of accident or repair or unavailability of fuel. CONTRACTOR is required to provide data regarding vehicle mileage accumulation and fuel purchased as part of the quarterly and annual reports. (OPTIONAL)

9. FUNDING FOR ALTERNATIVE FUEL – The AQMD shall fund the cost difference between conventional fuel and the alternative fuel used under this Contract. The fuel purchase is an integral part of the engine purchase, repower, or retrofit. (OPTIONAL)

10. INSURANCE

- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
- E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
- F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
- G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.

11. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.

12. USE OF VEHICLE AND EQUIPMENT

- A. CONTRACTOR shall accrue at least 75% of each vehicle's annual mileage or engine hours of operation within the geographical bounds of the AQMD. Information included in the annual reports required under this Contract will be used to verify this usage.
- B. CONTRACTOR is prohibited from removing the vehicles or equipment from service in California during the term of this Contract, unless the vehicles or equipment become inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.

13. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR

warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:

- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.
- B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
- C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Average Banking and Trading Program.
- D. The new engine/equipment/vehicle must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
- E. For repowers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine repower. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be repowered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.
- F. The engines, vehicles and/or equipment funded under this Contract must remain in service for the project life and operate within the State of California for the minimum usage specified in this Contract.

14. ELECTRONIC MONITORING UNIT - CONTRACTOR shall install an Electronic Monitoring Unit (EMU) for each new engine or engines that have been repowered or retrofitted with funds under this Contract. CONTRACTOR shall complete all reporting required under this contract through the electronic data system.

15. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR'S application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.
16. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine, vehicle or equipment funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the engine, vehicle, or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device or method to track vehicle usage and demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.
17. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS - If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all repowers funded under this contract. (OPTIONAL)
18. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the engine(s) and/or records relating to the engine during the term of the contract.
19. POST-INSPECTION - A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) listed in the Contract has/have been installed, that the engine is operational in the equipment or vehicle as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
20. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
21. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.
22. RECORDS AND RECORDS RETENTION - CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
23. REPORTING REQUIREMENTS - CONTRACTOR shall submit an annual report to the AQMD as specified in _____ on the operation of the vehicles or equipment for a period of _____ years from the date the last vehicle, engine, or equipment funded under this Contract is placed into service. Non-compliance with the

reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.

24. SUCCESSORS-IN-INTEREST - This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.
25. PROJECT USAGE - If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 - Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.
26. PAYMENT
- A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the vehicles, engines and/or equipment specified in Attachment 1 - SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine repower(s) and successful completion of a post inspection by AQMD.
- B. The withhold amount shall be in accordance with Attachment 2 - Payment Schedule.
- C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for repowers or paid invoices for new vehicles and completion of the post-inspection audit required under Clause **. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
- D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL)
- E. AQMD will fund up to *** Dollars (\$***) for the capital cost of an Auxiliary Power Unit (APU) and up to *** Dollars (\$***) for the actual installation cost per diesel APU and a maximum of *** Dollars (\$***) for the actual installation cost per alternative fuel APU, electric motor APU, or fuel cell APU. (OPTIONAL)
- F. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).
27. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All

validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer funds shall be owned wholly by AQMD, shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.

28. **INTELLECTUAL PROPERTY RIGHTS** - Title and full ownership rights to any intellectual property developed under this Contract shall at all times remain with AQMD. Such material is agreed to be AQMD's proprietary information.

A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.

B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.

29. **NOTICES** - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology

Advancement

CONTRACTOR: ***

Attn: ***

30. **EMPLOYEES OF CONTRACTOR**

A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.

B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

31. **PUBLICATION**

A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized

information obtained from AQMD in connection with performance under this Contract.

B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

i. "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."

C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

32. **NON-DISCRIMINATION** - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.

33. **ASSIGNMENT** - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.

34. **NON-EFFECT OF WAIVER** - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.

35. **ATTORNEYS FEES** - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

36. **FORCE MAJEURE** - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of

services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.

37. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.

38. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.

39. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.

40. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.

41. CITIZENSHIP AND ALIEN STATUS

A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.

B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.

C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.

42. APPROVAL OF SUBCONTRACTS

A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from

AQMD'S Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained. B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.

C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontract agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.

43. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS - CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.

44. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

ATTACHMENT A

CERTIFICATIONS AND REPRESENTATIONS

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____ By: _____

Dr. William A. Burke
Chairman, Governing Board
Name:
Title:

Date: _____ Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
06March2003
Last Updated: 09, December 2005

Business Information

1. Company Name and Address:

2. If the Contractor is a corporation please list your state of incorporation:

3. If the Contractor is a subsidiary or an affiliate, please list the name and address of the parent company.

Parent Company Name: _____
Address: _____

4. If the Contractor is a parent company with subsidiaries or affiliates, please list below the names of all subsidiaries or affiliates.

The Contractor hereby attests that it is in good tax standing with the State of California as of the date set forth below.

Name of Authorized Representative:

Title: _____

Date: _____

CERTIFICATION
DISABLED VETERAN BUSINESS ENTERPRISE (DVBE)
OR SMALL BUSINESS

1. To receive points in the evaluation process for being a DVBE, the Contractor must submit evidence of certification by an agency whose certification meets the requirements set forth in Section II B (3) and B (4) of this RFP.
2. To receive points in the evaluation process for being a Small Business, the Contractor must submit a self-certification attesting that the business meets the requirements set forth in Section II B (6) of this RFP, or provide a certification from the State of California Office of Small Business Certification and Resources, California Department of General Services.



United State Environmental Protection Agency
Washington, DC 20460

Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicated for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

I am unable to certify to the above statements. My explanation is attached.

EPA Form 5700-49 (11-88)

INSTRUCTIONS

Under Executive Order 12549, an individual or organization debarred or excluded from participation in federal assistance or benefit programs may not receive any assistance award under a federal program, or a sub-agreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or sub-agreement Participant thereunder must complete the attached certification or provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the referenced regulation.

Where To Submit:

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA headquarters or regional office, as required in the application instructions.

A prospective prime contractor must submit a completed certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a completed certification or explanation to the prime contractor for the project.

How To Obtain Forms:

EPA includes the certification form, instructions, and a copy of its implementing regulation (40 CFR Part 32) in each application kit. Applicants may reproduce these materials as needed and provide them to their prospective prime contractors, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies/assistance may be requested from:

Compliance Branch
Grants Administrative Division (PM-216F)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
Telephone: 202/475-8025



- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf
- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.

- Appendix A – Acronyms
- Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
- Appendix C – Cost-Effectiveness Calculation Methodology
- Appendix D – Example Calculations
- Appendix E – Description of Certification and Verification Executive Orders
- Appendix F – Retrofit Emission Control Strategies
- Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is \$14,300 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can

APPENDIX 1 - ON-ROAD HEAVY-DUTY VEHICLES

Below is additional information pertaining to the On-Road Heavy-Duty Vehicle (HDV) category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

Applicants are further cautioned that CARB recently adopted Fleet Rules for refuse haulers, transit bus fleets and public fleets. Depending on the status of a regulated entity's fleet rule compliance, these vehicles may no longer be eligible for Moyer Program funding. Projects for applicants subject to the ARB Fleet Rules will be evaluated on a case-by-case basis to determine if there are any surplus emissions that remain eligible for Moyer Program incentives. Special data submittal requirements apply and are indicated in Attachment 1 of the Application Forms.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/revisions05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

- request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.
- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.). Stop-and-go vehicle projects (i.e., refuse, street sweeper) that utilize a fuel-based calculation must provide fuel receipts for the past two years to justify the fuel consumption activity projected for the vehicle.
- All projects must be operational within twelve (12) months of contract execution.
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Additional reporting and monitoring requirements are discussed below.
- Particulate filters and diesel oxidation catalysts are eligible for funding. These diesel emission control system (DECS) retrofit devices must be verified by CARB. Further, in order to include NOx emission reductions in the cost-effectiveness evaluation, the technology must be verified to reduce NOx emissions by at least 15 percent compared to the original engine certification level.
- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For On-Road Equipment projects, this includes the main application as well as the information requested in Attachment 2 to the application.
-
- AQMD funds only alternative fuel projects for new purchases and repowers of on-road heavy duty vehicles. No new diesel fueled vehicle/engine projects are eligible for CMP on-road funding under the AQMD's Moyer Program. As indicated earlier, diesel engine *retrofits* with CARB-verified systems are eligible for program funding.
- However, retrofit of existing diesel fueled on-road heavy-duty vehicles is an eligible project category. The AQMD Moyer Program will fund the cost of purchase and installation of a CARB-verified diesel emission control device, not exceeding the Carl Moyer Program cost-effectiveness limit. For retrofit projects that only take credit for NOx reductions from a Level 3 DECS (because the PM10 reductions are already required by regulation), the baseline cost is 1/2 the proposed project cost. The maximum funding for such projects would be the retrofit cost minus the default cost.

- The cost of the retrofit, and all filters needed during the project life, may be paid for with Carl Moyer Program funding provided it meets the weighted cost-effectiveness limit.
- Part One of Attachment 1 of the AQMD Application Form requires that **all** repower and retrofit projects provide the vehicle identification numbers (VINs) for the project vehicles in both hard copy and electronic format. This information will be provided to ARB for an ARB Violation Compliance Check. Any outstanding violations for a project vehicle must be resolved in advance of contract execution.
- Part Two of Attachment 1 of the AQMD Application Form requires that **all** applicants subject to an ARB Fleet Rule (i.e., transit bus, solid waste collection vehicle, public fleets, etc.) must provide the information requested therein. The application will not be considered until ARB evaluates this information and indicates to the district that the proposed project is indeed surplus to the regulation. The applicant is free to submit this information in advance of the application due date; AQMD will facilitate early ARB review of this information in order to determine program eligibility in advance of application preparation. A letter from CARB indicating the applicant is in compliance with applicable fleet rule(s), that also indicates the eligibility terms for the proposed project is acceptable, in lieu of the information required in Attachment 1, Part Two.
- Average Banking and Trading (ABT) engines (i.e., all Family Emission Limit (FEL)-certified engines) are not eligible to participate in the Carl Moyer Program for new vehicle purchase projects since emission benefits from an engine certified to an FEL level are not surplus emissions.
- Pre- and Post-Inspection of all vehicles/engines approved for funding is required as well as verification of engine destruction. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contract execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.
- See Section III – Project Types, and Section IV – Project Criteria for additional important information regarding CMP requirements.
- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact"

evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. **Poverty Level:** All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. **PM Exposure:** All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c. **Toxic Exposure:** All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census; the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Project Life

As discussed above, a key parameter in the determination of a project's emission reduction benefit is its project life. The acceptable maximum life for calculating the project benefits of on-road vehicle projects is summarized below in Table 1.1. Applicants must provide documentation to justify a longer project life.

Table 1.1 – Maximum Project Life for On-Road Vehicle Projects

Vehicle Type	Maximum Life without Documentation
School buses > 33,000 GVWR – New	20 years
Buses > 33,000 GVWR - New	12 years
Other On-road - New	10 years
Repowers with Retrofits	5 years
Retrofits	5 years

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Records must be retained and updated throughout the project life and made available for AQMD inspection. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. The AQMD shall conduct periodic reviews of each project's operating records to ensure that the engine is operated as stated in the program application. Annual records must contain, at a minimum:

- Total miles traveled
- Total miles traveled in the South Coast Air Basin
- Annual fuel consumed
- Annual maintenance and repair information

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness². The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

- i = discount rate (4 percent)
- n = project life (at least 3 years)

Table 1.2 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

Table 1.2 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

Executive Order Interpretation

CARB certifies engines destined for sale in California and provides the engine manufacturers with an Executive Order (EO) for each certified engine family. An example of an EO is shown in Figure 1.1. The EO includes general information about the certified engine such as engine family, displacement, horsepower rating(s), intended service class, and emission control systems. It also shows the applicable certification emission standards as well as the average emission levels measured during the actual certification test procedure. **For the purpose of the CMP, only the “Direct” emission standards are used in calculating emission benefits.**


The certification emission standards are shown in the row titled “(DIRECT) STD” under the respective “FTP” column headings for each pollutant. For instance, the Cummins 8.3 liter NG engine illustrated in Figure 1.1 was certified to a NOx+NMHC emission standard of 1.8 g/bhp-hr, a CO emission standard of 15.5 g/bhp-hr, and a PM emission standard of 0.03 g/bhp-hr.

In the case where an EO shows emission values in the rows labeled “AVERAGE STD” and/or “FEL”, the engine is certified for participation in an AB&T program. AB&T engines (i.e., all FEL-certified engines) are not eligible to participate in the CMP for new vehicle purchase projects since emission benefits from an engine certified to an FEL level are not surplus. FEL-certified engine projects may participate in repower projects as discussed above.

² Unless the AQMD “buys down” the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

Below are excerpts from CARB's CMP Guidelines pertinent to the AQMD RFP.

Figure 1.1 – Sample Executive Order

 AIR RESOURCES BOARD		CUMMINS INC.		EXECUTIVE ORDER A-021-0240 New On-Road Heavy-Duty Engines	
Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code (HSC) Division 26 Part 5, Chapter 2, and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39515 and Executive Order (EO) 9-02-003; and					
Pursuant to the December 15, 1998 Settlement Agreement (SA) between ARB and the manufacturer, and any modifications thereof to the Settlement Agreement;					
IT IS ORDERED AND RESOLVED: That the engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.					
MODEL YEAR 2003	ENGINE FAMILY 3C3XN493C8K	ENGINE ISUZU 6B3	FUEL TYPE DIESEL	STANDARDS PROCEDURE DIESEL	INTENDED SERVICE CLASS GVWR
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS TB, OC, HO2S, TC, CAC, PCM		ENGINE MODEL CODES (rated power in horsepower, hp) CO-280 / 8012 (280 hp), CO-271 / 8008 (271 hp), CO-280 / 8006 (280 hp), CO-250 / 8003 (250 hp)			8,501 < 14,000 lbs 14,001 < 33,000 lbs 33,001 or more lbs

The following are the exhaust emission standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for this engine family under the "Federal Test Procedure" (FTP) (Title 13, California Code of Regulations, (13 CCR) Section 1955.1 (urban bus) or 1955.8 (other than urban bus)), and under the "California Test Procedure" (CTP) (Title 17, California Code of Regulations, (17 CCR) Section 1972.1 (urban bus) or 1972.2 (other than urban bus)). Diesel CO certification compliance may have been demonstrated pursuant to Code of Federal Regulations, Title 40, Part 86, Subpart A, Section 86.091-23(c)(2)(i) in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for diesel [] are those under 13 CCR Section 1955.1 or 1955.8 and for gasoline [] are those under 13 CCR Section 1972.1 or 1972.2.)

applicable	HC		NMHC		NOx		CO		PM		HCHO
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	
DIRECT STD	*	*	*	*	*	*	*	*	*	*	*
AVERAGE STD	*	*	*	*	*	*	*	*	*	*	*
FEL	*	*	*	*	*	*	*	*	*	*	*
CERT	*	*	*	*	*	*	*	*	*	*	*


BE IT FURTHER RESOLVED: That certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: That the listed engine models have been certified to the FTP optional NOx, or NMHC+NOx as applicable, and PM emission standard(s) listed above pursuant to 13 CCR Section 1955.1 or 1955.8.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1955 (emission control labels), and 2005 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified subject to the following conditions: (1) All SA is in effect; (2) The manufacturer is in compliance with all applicable California emission regulations; (3) The manufacturer is in compliance with all applicable Federal emission regulations; (4) The manufacturer certifies that the engine family is in compliance with the test procedures and SA. Any engine produced under the voided EO remains subject to stipulated penalties under the SA. Such penalties would begin to accrue upon manufacture of the first engine under this EO. (4) The EO expires at the end of the calendar year in which the first engine is manufactured. The manufacturer certifies that all of all conditions in this EO, and (6) ARB reserves the right to disapprove certification of this family or any family using the same or similar auxiliary emission control device (AECED) strategies as this family is employing, based on all available information.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.
 Executed at El Monte, California on this 23rd day of October 2002.


 Allen Jones, Chief
 Mobile Source Operations Division

I. Introduction

On-road HDVs encompass a large variety of vehicles such as buses, solid waste collection vehicles, street sweepers, delivery trucks and more. These vehicles are typically categorized by weight. Vehicles greater than 8,501 pounds (lbs) gross vehicle weight rating (GVWR) are considered to be HDVs which can also be subcategorized as light heavy duty (LHD), medium heavy-duty (MHD) and heavy heavy-duty (HHD) vehicles (see Table 1.3).

**Table 1.3
 Heavy-Duty Vehicle Classifications**

Vehicle Classification	GVWR
Light Heavy-Duty (LHD)	8,501 < 14,000 lbs
Medium Heavy-Duty (MHD)	14,001 < 33,000 lbs
Heavy Heavy-Duty (HHD)	33,001 or more lbs

HDVs can also be further categorized by use and fuel type. Regulations traditionally refer to the vehicle usage type such as solid waste collection vehicles (SWCV), urban buses, and street sweepers. Section III of this chapter provides information on regulations that currently impact these vehicles.

II. Regulatory Requirements

All HDVs sold in California have engines that have been certified to specific standards. Those standards are, in general, consistent nationwide and are discussed below. Urban transit buses are an exception, having more stringent requirements than other HDVs. All new purchases funded by the Carl Moyer Program must be surplus to these minimum requirements.

In addition, the ARB has developed, or is in the process of developing, additional regulations which will overlay these new engine standards for specific categories. These categories, discussed below, include transit vehicles, solid waste collection vehicles, school bus, public fleets and private fleets. Any Carl Moyer Program project must be surplus to these regulations.

A. Fleet Regulation for Transit Agencies

1. Transit Fleet Vehicles

The fleet regulation for transit agencies was amended by the Board on February 24, 2005 [ARB, 2005]. This regulation impacts vehicles owned or operated by a transit agency. The specific transit fleet vehicles impacted are on-road vehicles 8,501 pounds GVWR or greater powered by a heavy-duty engine fueled by diesel or alternative fuel

that are not urban buses. Transit agencies operating only gasoline-powered vehicles are not subject to this regulation.

The regulation establishes a fleet average NOx standard and PM emission reduction requirement for transit fleet vehicles phased-in between 2007 and 2010. Transit fleet vehicles are subject to the heavy-duty diesel engine emission standards and not the urban bus engine exhaust emission standards.

A transit agency must meet NOx emission averages of 3.2 g/bhp-hr by December 31, 2007, and 2.5 g/bhp-hr by December 31, 2010, from its transit fleet vehicles. A transit agency must also reduce diesel PM emissions of its transit fleet vehicles by 40 percent as of December 31, 2007, and 80 percent as of December 31, 2010, compared to the agency's baseline emissions as of January 1, 2005.

2. Urban Bus

An urban transit bus is a passenger-carrying vehicle powered by a heavy heavy-duty diesel engine with a load capacity of fifteen or more passengers and intended primarily for short rides and frequent stops. Urban transit buses statewide are subject to ARB's Public Transit Agency Vehicle regulation amended in 2005. The regulation required transit agencies that own, operate or lease urban buses to choose a diesel fuel or alternative fuel path and follow the requirements as described for each fuel path.

Agencies on the alternative fuel path are required to:

- Purchase or lease alternative fuel buses that meet the current standards for 85 percent of the annual purchases made by the agency, through 2015.
- Only purchase new buses with an engine certified to an optional PM standard of 0.03 g/bhp-hr or lower.
- Agencies established before January 1, 2005 that are on the alternative-fuel path shall not operate an active fleet of urban buses with:
 - Average NOx emissions in excess of 4.8 g/bhp-hr, based on the engine certification standards of the engines in the active fleet.
- Diesel PM emission totals exceeding:
 - (1) 60 percent of the agency's January 1, 2002 diesel PM average through December 31, 2006.
 - (2) 40 percent of the agency's January 1, 2002 diesel PM average beginning January 1, 2007.

Agencies on the diesel fuel path are required to:

- Purchase a diesel-fueled, dual-fueled or bi-fueled bus with 2004-2006 MY engines certified to 0.5 g/bhp-hr of NOx and 0.01 g/bhp-hr of PM or an alternative fuel bus with an engine certified to an optional PM standard of 0.03 g/bhp-hr or lower.
- Agencies established before January 1, 2005 that are on the diesel fuel path shall not operate an active fleet of urban buses with:
 - Average NOx emissions in excess of 4.8 g/bhp-hr, based on the engine

certification standards of the engines in the active fleet.

- Diesel PM emission totals exceeding:

- (1) 40 percent of the agency's January 1, 2002 diesel PM average through December 31, 2006.
- (2) 15 percent of the agency's January 1, 2002 diesel PM average or equal to 0.01 g/bhp-hr times the total number of current diesel-fueled active fleet buses whichever is greater beginning January 1, 2007.

Agencies established after January 1, 2005, regardless of which path they choose, shall not operate an active fleet of urban buses with:

- Average NOx emissions in excess of 4.0 g/bhp-hr, or the NOx average of the active fleet of the transit agency from which it was formed whichever is lower, or in the case of a merger of two or more transit agencies or parts of two or more transit agencies, the average of the NOx fleet averages, whichever is lower.
- Diesel PM exhaust emissions exceeding the following values:
 - (1) Through December 31, 2009, 0.05 g/bhp-hr times the total number of diesel-fueled buses in the active fleet.
 - (2) As of January 1, 2010, 0.01 g/bhp-hr times the total number of diesel-fueled buses in the active fleet.

B. Solid Waste Collection Vehicles

SWCVs are on-road heavy-duty vehicles with a GVWR of 14,000 pounds or more and are used for the purpose of collecting residential and commercial solid waste. SWCV are subject to a statewide diesel PM control measure adopted by the Board on September 23, 2003 [ARB, 2004]. The regulation requires each owner to use one of the best available control technologies (BACT) as described in the regulation on each engine or collection vehicle in the fleet.

BACT, as defined by the regulation, can be summarized as an engine or power system certified to the optional 0.01 g/bhp-hr PM standard; an engine or power system certified to the 0.1 g/bhp-hr PM emission standard, used in conjunction with the highest level diesel emission control system (DECS); an alternative fuel or heavy-duty pilot ignition engine, model year 2004 – 2006 certified to the optional standard; or the highest level diesel emission control strategy that is verified.

BACT compliance deadlines are phased in, and are based on a group of engine model years as listed in Table 1.4. It is important to note that Group 2 requirements apply to specific model years (MY) based on the fleet size. Compliance deadlines begin in 2004 and continue through 2010.

**Table 1.4
Implementation Schedule for Solid Waste Collection Vehicles,
Model Years 1960 to 2006**

Group	Engine Model Years	Percentage of Group to Use Best Available Control Technology	Compliance Deadline
1	1988 – 2002	10 25 50 100	December 31, 2004 December 31, 2005 December 31, 2006 December 31, 2007
2a	1960 – 1987 (Total fleet ≥ 15 collection vehicles)	15 40 60 80 100	December 31, 2005 December 31, 2006 December 31, 2007 December 31, 2008 December 31, 2009
2b	1960 – 1987 (Total fleet < 15 collection vehicles)	25 50 75 100	December 31, 2007 December 31, 2008 December 31, 2009 December 31, 2010
3	2003 – 2006 (Includes dual-fuel and bi-fuel engines)	50 100	December 31, 2009 December 31, 2010

C. Recent and Upcoming Regulations

In addition to its existing SWCV and Transit Fleet Rules, CARB adopted an in-use diesel particulate control measure for public and utility fleets in December 2005 which impacts the project criteria for these projects. Due to low mileage, public fleet projects are generally only eligible for small grant amounts. Private on-road heavy-duty diesel-fueled vehicle fleets such as in-use heavy-duty trucks are not currently regulated. The Board will also hear a proposed diesel particulate control measure for private fleets in 2006 which may impact the project criteria for these projects.

III. Potential Project Types

The Carl Moyer Program can achieve emission reductions from heavy-duty vehicles operating in California. The project criteria are designed to ensure that the emission reductions expected through the deployment of low-emission engines or retrofit technologies under this program are surplus, real, quantifiable, and enforceable.

There are four main types of HDV projects: new purchases, repowers, retrofit, and alternative fuels. Each of these are discussed below.

Commercially available low-emission HDVs are considered suitable Carl Moyer Program projects, either as new engine/vehicle purchases or new engine purchases for vehicle repowers. Recent statutory changes now allow for the potential to fund LHD projects. Due to the uncertainty of future requests, LHD projects will be considered initially on a case-by-case basis. If an appreciable number of applications are received for LHD projects, ARB will develop specific guidance.

A. New Vehicle Purchase

New vehicle purchases of LNG and CNG HDVs are expected to continue to be the most common type of project for on-road heavy-duty vehicles under the Carl Moyer Program, although LPG vehicles continue to be an option. The ARB certifies engines destined for sale in California and provides the engine manufacturers with an Executive Order (EO) for each certified engine family which is used to determine eligibility for new vehicle purchases and engine repowers. To be eligible, the new vehicle/engine must be certified to one of the ARB's current optional NOx emission standards of 1.8 g/bhp-hr NOx through 2006, regardless of fuel type or engine design. Beginning in January 2007, the optional standards will sunset, and projects for new vehicle/engine must be certified to 0.2 g/bhp-hr of NOx.

The Heavy-Duty Diesel-Engine and Vehicle Standard will continue to be used as the baseline for determining eligibility for on-road new purchases except urban buses. Engines and vehicles certified to the Heavy-Duty Otto-Cycle Engine Standard may also be eligible for funding if certified to a level equivalent to the current optional diesel standard or 30 percent less than the current diesel standard. Since new engines are certified throughout the year, districts are encouraged to contact ARB for the most current list of eligible engines.

Heavy-duty hybrid electric vehicle purchases are another new vehicle purchase project type eligible for Carl Moyer funding. Heavy-duty hybrid-electric propulsion systems combine two motive power sources: an energy storage system such as batteries or ultra-capacitors, and an internal combustion engine, turbine, or fuel cell functioning as an auxiliary power unit. An electric motor provides partial or complete power to the wheels. In addition, energy otherwise lost as heat during braking is captured through regenerative braking to charge the energy storage system.

In order to qualify for the Carl Moyer Program, the hybrid-electric drive system must be certified using the "California Interim Certification Procedures for 2004 and Subsequent Model Hybrid-Electric Vehicles, in the Urban Bus and Heavy-Duty Vehicle Classes." These test procedures provide a method to quantify the emission benefits of a hybrid-

electric drive system which is not possible through engine certification methods. At this time, one gasoline hybrid-electric drive system for use in urban buses is certified to the optional NOx standards at 0.6 g/bhp-hr and is classified as an alternative fuel bus.

Average Banking and Trading (ABT) engines (i.e., all Family Emission Limit (FEL)-certified engines) are not eligible to participate in the Carl Moyer Program for new vehicle purchase projects since emission benefits from an engine certified to an FEL level are not surplus emissions.

B. Repower

Vehicle repower refers to the replacement of an existing engine with a newer engine certified to lower emission standards. For the Carl Moyer Program, existing HDV engines, regardless of model year, must be repowered with an CARB certified engine, Model Year 1991 or newer. Engine repowers are allowed by AQMD only for projects that are using alternative fuel replacement engines. In addition, repowers are allowed only when the highest available CARB verified retrofit is installed as part of the repower project (if no verified retrofit is available, then this requirement is waived). All other eligibility criteria must also be met. Under the Carl Moyer Program, funding is not available for projects in which spark-ignition engines (i.e., natural gas or gasoline, etc.) are replaced with new diesel engines. No Diesel-to-diesel engine repowers are allowed in the on-road category.

Another possible repower option is the use of an engine that was certified to a FEL level as the replacement engine. FEL engines can be funded for vehicle repower projects only if they are certified to a level that is below the required emission standard. Due to the possibility of emission credits being generated from FEL engine averaging, specific guidelines must be followed when calculating emission reductions. These Guidelines are explained in the repower portion of the Project Criteria section below.

C. Retrofit

Retrofit involves modifications to an engine and/or fuel system such that the retrofitted engine does not have the same specifications as the original engine. Retrofit projects are allowed by AQMD for all engine model years, regardless of mechanical or electronic control. The most straightforward retrofit projects involve add-on aftertreatment. ARB has approved formal verification procedures for several retrofit kits and diesel emission control strategies (DECS). The verification process is ongoing, and applicants are encouraged to contact ARB to obtain the most current list of eligible retrofits. Retrofits may also include engine and/or fuel system component upgrades that could be done at the time of an engine rebuild, resulting in a lower emission configuration. The cost of the retrofit, and all filters needed during the project life, may be paid for with Carl Moyer Program funding provided it meets the weighted cost-effectiveness limit.

See Part IV, Appendix F of CARB's CMP Guidelines for more detailed information regarding retrofits. DECS retrofit projects are the only diesel on-road projects eligible in the AQMD Moyer Program. Table 1.5 provides the verification classifications for diesel emission control strategies.

Table 1.5 Verification Classifications for Diesel Emission Control Strategies

Pollutant	Reduction	Classification
PM	< 25%	Not verified
	≥ 25%	Level 1
	≥ 50%	Level 2
	≥ 85%, or ≤ 0.01 g/bhp-hr	Level 3

Only designated engine families for specified model years are compatible with CARB-verified diesel exhaust after-treatment devices. CARB certification levels and information are continually being updated. Applicants are required to provide engine family numbers and submit verification letters as part of the application. Verification letters as well as current information can be found at www.arb.ca.gov/diesel/verdev/verdev.htm.

IV. Project Criteria

Reduced-emission on-road heavy-duty vehicle projects which include new vehicle purchase, vehicle engine replacement (repower), and engine retrofit, can be considered for incentive funding. The project criteria listed below for on-road heavy-duty vehicles provide districts, fleet operators, transit agencies, and applicants with the minimum qualifications for the Carl Moyer Program. The primary criteria for selection are: emission reductions, cost-effectiveness, and ability for the project to be completed within the timeframe of the program. Sample calculations that illustrate the methodology for determining emission reductions and cost-effectiveness are included in Appendices C and D of Part IV of CARB's 2005 Guidelines. These may be downloaded from: <http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

A. General

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.
- Projects must meet a cost-effectiveness of \$14,300 per weighed ton (NOx + ROG + (20*PM10)) reduced calculated in accordance with CARB's cost-effectiveness methodology.
- No emission reductions generated by the Carl Moyer Program shall be used as

- marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.
- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.
- Projects must have a minimum project life of three years. ARB may approve a shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.
- The contract term must extend to the end of the project life.
- Funded projects must have at least 75 percent of the vehicle's annual miles traveled or gallons consumed within the South Coast Air Basin.
- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the AQMD suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.
- Vehicles operating under a compliance extension granted by the ARB, a local district, or the U.S. EPA are not eligible for funding.
- Maximum project life for on-road projects are as follows:

School buses > 33,000 GVWR -New	20 years
Buses > 33,000 GVWR -New	12 years
Other On-road -New	10 years
Repowers with Retrofits	5 years
Retrofits	5 years
- Applicants must provide documentation to justify a longer project life. The default project life does not consider upcoming regulatory requirements. A shorter project life may be shorter due to regulatory requirements.
- On-road heavy-duty diesel vehicles with a gross vehicle weight rating between 8,501 and 14,000 pounds may be considered for Carl Moyer Program funding for new, repower and retrofit projects on a case-by-case basis.
- All engines in new purchases and repower projects must be certified by the ARB for sale in California and must comply with durability and warranty requirements.
- All aftermarket emission controls (retrofits) must be verified by ARB.

B. Violation Compliance Check

- CARB requires a violation compliance check for all repower and retrofit projects. For these projects, the applicant must submit information regarding the project to AQMD to check for outstanding violations. The process for completing the compliance check is as follows:
- The AQMD shall email their ARB district liaison the contact name, organization or business name and vehicle identification number for the project. This

- information is provided to the AQMD from the applicant in accordance with Application Attachment 1, Part One.
- The liaison will forward that information electronically to the responsible parties at ARB. The liaison will email the district the results of the compliance check within seven working days.
- If the compliance check indicates there is an outstanding violation the district shall inform the engine owner in writing that no disbursement may be made until the owner provides proof that the violation has been corrected and the fines have been paid.
- If the outstanding violation is based on problems with the baseline engine (e.g., gross polluter) the new engine must be installed (instead of fixing the old engine), the vehicle must be operational, the engine owner must pay the violation and submit documentation of the violation being corrected with, or before submitting, the invoice.
- During inspections, districts must also check for a sticker verifying engines subject to the software upgrades for diesel trucks (i.e., chip reflash) have completed the upgrade before receiving funding.

C. New Purchase

- The following criteria apply to all on-road new vehicle purchases
- Projects must provide at least a 30 percent NOx emission reduction compared to baseline NOx emission factors for the specific vehicle type. Exceptions may be considered by CARB on a case-by-case basis.
- Fleets/agencies affected by upcoming fleet regulations may use Carl Moyer Program funding to purchase a new vehicle if the project life expires prior to the final compliance date for the reductions in the regulation. For example, if a project with a 3-year project life is funded in December 2006, the emission reductions must be surplus to any emission reductions that are required by any regulations that apply through December 2009.
- Fleets/agencies purchasing vehicles that will be affected by upcoming emission standards may use Carl Moyer funding to purchase a new vehicle up to the compliance date of the new standard.
- The Heavy-Duty Diesel-Engine and Vehicle Standard will be used as the baseline for determining eligibility for on-road new purchases. Engines and vehicles certified to the Heavy-Duty Otto-Cycle Engine Standard may be eligible if certified to a level equivalent to the current optional diesel standard or 30 percent less than the current diesel standard.
- Through 2006, new vehicles eligible for the Carl Moyer Program must have engines certified to an optional, low-emission standard of 1.8 g/bhp-hr NOx + NMHC or less.
- From 2007 to 2009, new vehicle engines eligible for the Carl Moyer Program must be certified to a 0.2 g/bhp-hr NOx emission limit.

- Engines used in any ABT program are not eligible for funding in the NEW vehicle project category.
- D. Repower**
- The following criteria apply to all on-road repower (engine replacement) projects.
- Repower replacement engines must be an ARB certified alternative fueled engine with a Model Year of 1991 or newer.
 - On-road engine repowers are allowed only when the highest available ARB retrofit is installed as part of the repower project. Check the CARB DECS verification website for
 - If a repower project does not meet the weighted cost-effective limit due to a retrofit, then the project is only eligible for the cost up to the weighted cost-effective limit.
 - If no retrofit is shown to be technically feasible to the district and ARB, the retrofit is not required.
 - Repower projects that reduce NOx emissions must be certified by ARB to a NOx reduction level of at least 15 percent from the baseline engine.
 - Fleets/agencies affected by upcoming fleet regulations may use Carl Moyer funding for repower projects if the project life expires prior to the final compliance date for the reductions in the regulation. For example, if a project with a 3-year project life is funded in December 2006, the emission reductions must be surplus to any emission reductions that are required by any regulations that apply through December 2009.
 - Funding requests for other related repowering equipment, such as the vehicle transmission, will be considered on a case-by-case basis, based upon whether it is a necessary expense, and is at the discretion of the district.
 - The full cost of a retrofit kit included in a repower project may be funded subject to the \$14,300 weighted cost-effectiveness limit.
 - The replacement engine used in vehicle repower projects may be a new, rebuilt, or remanufactured engine. Eligible rebuilt or remanufactured engines are those offered by the original engine manufacturer (OEM) or by a non-OEM rebuilder who demonstrates to the ARB that the rebuilt engine and parts are functionally equivalent from an emissions and durability standpoint to the OEM engine and components being replaced. Rebuilt and remanufactured engines that are not re-certified to new emission standards, shall use the emission standards associated with the original engine block.
 - For repowers, replacement engines manufactured after September 30, 2002, that are not certified to at least the 2.4 g/bhp-hr NOx + NMHC, or 2.5 g/bhp-hr NOx + NMHC with a 0.5 g/bhp-hr NMHC cap, are ineligible to participate in the Carl Moyer Program.
 - Engines that are certified to a FEL NOx or NOx + NMHC level that is lower than the required emission standard are eligible for use in vehicle repower projects.

However, the emission level that can be used in cost-effectiveness calculations for these engines would be the applicable emission standards and not the FEL levels.

E. Retrofit

The following criteria apply to all on-road retrofit projects:

- Only ARB-verified retrofits are eligible for funding.
- Retrofit projects that reduce NOx emissions must be verified by ARB to a NOx reduction level of at least 15 percent from the baseline engine.
- Retrofit projects that control PM must use the highest level cost-effective technology available for the equipment being retrofitted. The following are the diesel PM reductions for each ARB verified level: Level 1 (25 percent reduction), Level 2 (50 percent reduction), or Level 3 (85 percent reduction).
- Fleets/agencies affected by upcoming fleet regulations may use Carl Moyer funding for retrofit projects if the project life expires prior to the final compliance date for the reductions in the regulation. For example, if a project with a 3-year project life is funded in December 2006, the emission reductions must be surplus to any emission reductions that are required by any regulations that apply through December 2009.
- If the retrofit device reduces both NOx and PM emissions and is being installed to comply with a PM requirement, only the cost of the NOx reductions are eligible for Carl Moyer Program funding.
- The cost of the retrofit, and all filters needed during the project life, may be paid for with Carl Moyer Program funding provided it meets the weighted cost-effectiveness limit.

F. Scrap

For repowers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine repower. The destruction of the engine must be documented by the district seeing the destroyed engine or the receipt from the qualified vehicle salvage yard (see appendix for definition). Engines without a visible and legible serial number may be repowered if district staff stamps the engine block with the Moyer Program project number and the district staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction. CARB will consider alternatives to stamping the engine block on a district-by-district basis.

G. Fuel

- Carl Moyer funds can not be used for fuel projects.

H. Glider Kits

- An engine repower for a glider kit (replacement cab and chassis) is eligible for funding. The replacement engine must be newer than the glider kit and meet the general program criteria above.
- Glider kits themselves are not an eligible expense under the Carl Moyer Program.

I. Heavy-Duty Trucks

- Currently, most in-use heavy-duty trucks, or heavy-duty vehicles designed to carry an entire load such as long-haul, short-haul, delivery, and construction trucks, are not subject to any fleet rules. The ARB is developing a fleet rule for private heavy-duty vehicles that is tentatively scheduled to be presented to the Board in 2006. If approved, it may affect the project criteria for these projects. Eligible heavy-duty truck projects including new vehicle purchases, repowers, and retrofits are subject to the general criteria cited above.
- Heavy-duty trucks are eligible for funding if they meet the general program criteria above.
 - Hybrid electric vehicle (HEV) new purchases will be considered on a case-by-case basis if the HEV is certified to the current NOx and PM standards.

J. Private Fleets

Private on-road heavy-duty diesel vehicle fleets are not currently regulated by a fleet regulation. The Board is tentatively scheduled to consider a proposed diesel particulate control measure for these fleets in 2006 which may affect the project criteria for these projects.

- Private fleet vehicles are eligible for funding if they meet the general program criteria above.

K. Public and Utility Fleets

Municipal and utility-owned on-road heavy-duty diesel-fueled vehicles are now regulated by CARB's Public and Utility Fleet regulation. The diesel particulate control measure for these fleets was adopted in December 2005 and will affect the project criteria for these projects. Note that due to low mileage, public fleet projects are generally only eligible for small grant amounts. The affect of the new fleet rules on these projects is still being evaluated by agency staff. As such, all public and utility fleet projects will be considered on a case-by-case basis.

L. School Buses

School buses are vehicles used for the express purpose of transporting students through grade 12 from home to school, school to home and to any school sponsored activities.

- School buses are eligible for Carl Moyer Program funding if they meet the general program criteria above; however, their relatively low annual miles traveled usually allows for minimum grant amounts.

M. Solid Waste Collection Vehicles

SWCVs are on-road heavy-duty vehicles with a GVWR of 14,000 pounds or more that are used for the purpose of collecting residential and commercial solid waste. SWCVs are subject to a statewide in-use diesel particulate matter airborne toxic control measure (ATCM). Projects that meet the following criteria provide emission reductions that are surplus to the regulatory requirements and may be funded:

- Projects are subject to the general program criteria listed above.
- Projects will be considered on a case-by-case basis. All SWCV projects must submit evidence of compliance with the SWCV rule or documentation to show that the funds will not be used to meet the rule's requirements. Documentation must include the name of the company, address, and fleet terminal(s) names and locations. Documentation must also include company records identifying the vehicles in their total fleet including: listing them by the terminals out of which they operate, model years of vehicles and engines in the fleet, vehicle identification number, serial numbers, engine families, series, status as active or backup vehicle. The companies must also identify out of which terminal the vehicles potentially receiving Carl Moyer Program funds operate. (See part two of Attachment 1 of the application for this request).
- New purchase, repower, and retrofit projects for group 2a (MY 1960-1987 with a total fleet of > 15 collection vehicles) are eligible for funding through December 31, 2006 if the following are met:
 - 100 percent of the vehicles in group 2a must be in compliance with the SWCV ATCM and in operation by December 31, 2006.
 - 25 percent of the vehicles in group 2a would be eligible for the incremental cost of the new purchase, repower or retrofit project up to the weighted cost-effectiveness limit.
 - The maximum project life for these projects is three years.
- New purchase, repower, and retrofit projects for group 2b (MY 1960-1987 with a total fleet of < 15 collection vehicles) are eligible for funding through December 31, 2007 if one of the following options are met:
 - If 100 percent of the vehicles in group 2b are in compliance with the SWCV ATCM and in operation by December 31, 2006, 50 percent of the vehicles in group 2b would be eligible for the incremental cost of the new purchase, repower or retrofit project up to the weighted cost-effectiveness limit. The project life for 25 percent of the vehicles is three years and the remaining 25 percent is four years.
 - If 100 percent of the vehicles in group 2b are in compliance with the SWCV ATCM and in operation by December 31, 2007, 25 percent of the vehicles in group 2b would be eligible for the incremental cost of the new purchase, repower or retrofit project up to the weighted cost-effectiveness limit. The project life for these vehicles is three years.

- g/bhp-hr NOx + NMHC.
From 2007 to 2009, new vehicle purchases must be certified to 0.2 g/bhp-hr NOx to be eligible for Carl Moyer Program funding.
- Transit agency fleets established before January 1, 2007 are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
 1. The whole fleet has met the 2.4 g/bhp-hr NOx fleet average, and
 2. PM reductions of 80 percent compared to January 1, 2005 PM levels or equal to 0.01 g/bhp-hr times the total number of transit fleet vehicles in the current fleet whichever is greater.
- Transit agency fleets established after January 1, 2007 are eligible for Carl Moyer Program funds for repower and retrofit projects through December 31, 2007 if documentation is provided that shows:
 1. The whole fleet has met the 2.4 g/bhp-hr NOx fleet average, and
 2. PM reductions of 50 percent compared to the fleet's baseline when established.
- Transit agency fleets established after January 1, 2007 are eligible for Carl Moyer Program funds for repower and retrofit projects beginning January 1, 2008 if documentation is provided that shows:
 1. The whole fleet has met the 2.4 g/bhp-hr NOx fleet average, and
 2. PM reductions of 80 percent compared to the fleet's baseline when established.

P. Urban Transit Buses

- An urban transit bus is a passenger-carrying vehicle powered by a heavy heavy-duty diesel engine with a load capacity of fifteen or more passengers and intended primarily for intra-city operation, short rides and frequent stops. Urban transit buses statewide are subject to an in-use and new purchase regulation that requires transit agencies that own, operate or lease urban buses to choose a diesel-fuel or alternative-fuel path and follow the requirements as described for each fuel path.
- Projects are subject to the general program criteria listed above.
 - Projects will be considered on a case-by-case basis. All urban bus projects must submit evidence of compliance with the Public Transit Agency Vehicle Rule or documentation to show that the funds will not be used to meet the rule's requirements. Documentation must include the transit agency's Transportation Implementation Plan and annual ARB updates. If data included in the Transportation Implementation Plan is not sufficient, district and/or ARB may require additional documentation.
 - For urban bus new vehicle projects, only the portion not funded by the Federal Transit Administration (FTA) is eligible for Carl Moyer Program funding. Proper documentation must be provided. The full incremental cost for an urban transit

- New purchase, repower, and retrofit projects for group 3 (MY 2003-2006) are eligible for funding through December 31, 2007 if one of the following options are met: – If 100 percent of the vehicles in group 3 are in compliance with the SWCV ATCM and in operation by December 31, 2006, 100 percent of the vehicles in group 3 would be eligible for the incremental cost of the new purchase, repower or retrofit project up to the weighted cost-effectiveness limit. The project life for 50 percent of the vehicles is three years and the remaining 50 percent is four years.
 - If 100 percent of the vehicles in group 3 are in compliance with the SWCV ATCM and in operation by December 31, 2007, 50 percent of the vehicles in group 3 would be eligible for the incremental cost of the new purchase, repower or retrofit project up to the weighted cost-effectiveness limit. The project life for these vehicles is three years.
- During 2007-2009, new vehicle purchases throughout the state must meet the new vehicle purchase requirements above and must be certified to 0.2 g/bhp-hr for NOx.
- Surplus NOx reductions from retrofit projects are eligible for funding as described in the retrofit criteria above.

N. Street Sweepers and Other Stop-and-Go Vehicles

Stop-and-go vehicles, such as street sweepers, operated in a public fleet are subject to CARB's Public and Utility Fleet Rule. See section K above for additional discussion. Street sweeper and other stop-and-go vehicle projects that are surplus to regulations are eligible for funding for new purchase, repower, and retrofit projects.

O. Transit Fleet Vehicles (Non-Urban Buses and Transit Vehicles)

- Transit fleets include commuter service buses and or transit fleet vehicles that are not urban buses. These fleets are subject to a statewide in-use fleet rule that impacts vehicles with a GVWR of 8,501 pounds or greater and are powered by a heavy-duty engine fueled by diesel or alternative fuel that are owned or operated by a transit agency.
- Projects are subject to the general program criteria listed above.
 - Projects will be considered on a case-by-case basis. All project applicants must submit evidence of compliance with the Transit Fleet Rule or documentation to show that the funds will not be used to meet the rule's requirements. Documentation must include the transit agency's Transportation Implementation Plan and annual ARB updates. If data included in the Transportation Implementation Plan is not sufficient, districts and/or ARB may require additional documentation.
 - Through 2006, new vehicle purchases by transit agencies are eligible for Carl Moyer Program funding if the engine is certified to the optional standard of 1.8

- bus that is not funded by FTA may be granted under the Carl Moyer Program. Operation and maintenance costs are not eligible for Carl Moyer Program funding.
- Through 2006, alternative fuel buses are eligible for Carl Moyer Program funds for new bus purchases if the engine is certified to at least the optional standard of 1.8 g/bhp-hr for NOx + NMHC.
- Through 2006, diesel fuel buses are eligible for Carl Moyer Program funds for new bus purchases if the engine is certified to 0.2 g/bhp-hr for NOx.
- Urban bus fleets established before January 1, 2005 that are on the diesel fuel-path are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
 1. The whole fleet has met the 4.8 g/bhp-hr NOx average, and
 2. PM reductions of 85 percent compared to January 1, 2002 PM levels or equal to 0.01 g/bhp-hr times the total number of current diesel-fueled active fleet buses whichever is greater.
- Urban bus fleets established before January 1, 2005 that are on the alternative fuel-path are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
 1. The whole fleet has met the 4.8 g/bhp-hr NOx average, and
 2. PM reductions of 60 percent compared to January 1, 2002 PM levels.
- Urban bus fleets established after January 1, 2005 are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
 1. The whole fleet has met the 4.0 g/bhp-hr NOx average, and
 2. May not have a diesel PM emission total exceeding 0.01 g/bhp-hr (exhaust emission value) times the total number of diesel-fueled buses in the active fleet.
- Hybrid electric bus (HEB) new purchases will be considered on a case-by-case basis, if the HEB is certified to the current NOx and PM standards.

V. Cost-Effectiveness Calculations

To receive Carl Moyer Program funding, each project must meet the maximum cost-effectiveness threshold of \$14,300 per weighted ton of covered pollutants reduced. Only funds provided by the Carl Moyer Program and local district matching funds are to be used in determining cost-effectiveness.

The emission factors in the tables of CARB CMP Guidelines, Part IV, Appendix B reflect preliminary data developed by ARB staff as part of a comprehensive effort to update the emissions models used for on-road motor vehicles and off-road mobile sources. These draft data were made available on ARB's website in early 2005, but are subject to change as staff completes its analyses and the associated model development. Appropriate emission factors as a function of vehicle type and model year are illustrated

in Appendix B. ARB staff will issue Carl Moyer Program Advisories to update the tables as necessary.

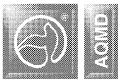
The converted emission standards used in the calculations are the standards described in the emission standard section of this chapter that have been adjusted using the fuel correction factors and NOx fraction factors in Appendix B. It is important to note that urban buses have different standards than other heavy-duty vehicles.

Examples

On-road project calculations are generally mileage based. However, some projects such as stop-and-go vehicles can use fuel-based calculations.

For new purchase projects, the baseline will be an engine certified to the current standard. The reduced technology will be an engine certified to the current optional standard or 30 percent less than the current standard. For repower projects, the baseline will be the model year of the existing engine that would have been rebuilt. The reduced technology will be the engine certified to at least 5.0 g/bhp-hr of NOx that will be installed instead of the rebuilt engine. The baseline for a retrofit project is the existing engine. The reduced technology is the verified level of emission reductions for the retrofit.

A detailed description of cost-effectiveness calculations can be found in Part IV, Appendices C and D of CARB's CMP Guidelines, which may be downloaded at <http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

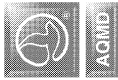


APPENDIX 2 – HEAVY-DUTY ON-ROAD FLEET MODERNIZATION

In 2005, a new source category, Heavy-Duty On-Road Fleet Modernization was added to the Carl Moyer Program. Fleet modernization provides incentives to replace old high-polluting heavy-duty vehicles with newer, lower emission replacement vehicles. The fleet modernization source category provides real emission benefits by retiring the high polluting vehicle earlier than would have been expected through normal attrition.

Carl Moyer Program funds for fleet modernization projects are used to offset part of the cost of the replacement vehicle. Project funds also pay for a diesel particulate emission reduction device to further reduce emissions and an electronic monitoring unit to verify miles traveled in California and the district. An additional vehicle replacement strategy included in fleet modernization is the tiered transaction. A tiered transaction project combines the purchase of a new vehicle certified to the optional NOx standard by one owner with the replacement of an old vehicle by a second owner.

AQMD will implement its Heavy-Duty On-Road Fleet Modernization program under a separate RFP. Please consult AQMD's Business Opportunities webpage to download the RFP when it is available. The link is <http://www.aqmd.gov/rfp/index.html>



APPENDIX 3 - REDUCING IDLING EMISSIONS FROM HEAVY-DUTY VEHICLES

This appendix addresses the project criteria for idling reduction technologies that may be installed on on-road heavy-duty vehicles. Projects that meet the criteria may be considered for Carl Moyer Program funding.

Below is additional information pertaining to the Heavy-Duty Vehicle Idling Reduction category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

Recent airborne toxic control measures (ATCM) have placed a number of restrictions on idling. These are described below in the excerpts from the CARB CMP guidelines. Only projects that have emission reductions that exceed these measures are eligible.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf

- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf

- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.

- Appendix A – Acronyms
- Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
- Appendix C – Cost-Effectiveness Calculation Methodology
- Appendix D – Example Calculations
- Appendix E – Description of Certification and Verification Executive Orders
- Appendix F – Retrofit Emission Control Strategies
- Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is 5,000 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can request funding up to the differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation. Some cost restrictions apply to specific technologies; these are discussed below.
- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.). Projects that utilize a fuel-based calculation must provide fuel receipts for the past twelve (12) months to justify the fuel consumption activity projected for the vehicle.
- All projects must be operational within twelve (12) months of contract execution.
- If the horsepower rating of the new engine exceeds that of the existing engine by 25 percent or more, the difference in the rating will be taken into account in the emission reduction calculation.
- Minimum project life is three (3) years. Longer project lives may be approved by CARB and AQMD on a case-by-case basis.
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Additional reporting and monitoring requirements are discussed below.
- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For heavy-duty idle reduction projects, this includes the main application as well as the information requested in Attachment 3 to the application.
- Part One of Attachment 1 of the AQMD Application Form requires that **all** repower and retrofit projects provide the vehicle identification numbers (VINs) for the project vehicles in both hard copy and electronic format. This information will be provided to ARB for an ARB Violation Compliance Check. Any outstanding violations for a project vehicle must be resolved in advance of contract execution.

- Pre- and Post-Inspection of all vehicles/engines approved for funding is required. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contraction execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.
- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact" evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or

Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Records must be retained and updated throughout the project life and made available for AQMD inspection. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. Annual records must contain, at a minimum:

- Total miles traveled
- Total miles traveled in the South Coast Air Basin
- Annual fuel consumed
- Annual maintenance and repair information

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness³. The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

- i = discount rate (4 percent)
- n = project life (at least 3 years)

Table 3.1 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

³ Unless the AQMD "buys down" the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

- c. Toxic Exposure: All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

- 3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) for idling reductions include

- The actual capital cost, up to \$5,500, of a diesel or diesel-electric auxiliary power unit (APU)² may be eligible for funding. Diesel APU must meet new off-road diesel engine emission standard not increase PM.
- The installation cost of an APU, including installation of an hour-meter, up to a maximum of \$1,700 per diesel APU and a maximum of \$3,400 per alternative fuel, electric motor, or fuel cell APU, may be funded.
- The full cost of a PM retrofit device may be funded provided that the cost-effectiveness for the overall project does not exceed 5,000.

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

² Note that the CARB Idling Emissions Measure refers to an auxiliary power system or APS

Table 3.1 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074


Project Life

As discussed above, a key parameter in the determination of a project's emission reduction benefit is its project life. The minimum project life is three (3) years although a shorter life may be acceptable on a case-by-case.

Executive Order Interpretation

CARB certifies engines destined for sale in California and provides the engine manufacturers with an Executive Order (EO) for each certified engine family. An example of an EO is shown in Figure 1.1. The EO includes general information about the certified engine such as engine family, displacement, horsepower rating(s), intended service class, and emission control systems. It also shows the applicable certification emission standards as well as the average emission levels measured during the actual certification test procedure. **For the purpose of the CMP, only the "Direct" emission standards are used in calculating emission benefits.**

Figure 3.1 – Sample Executive Order

 AIR RESOURCES BOARD		CUMMINS INC.		EXECUTIVE ORDER A-971-0214 New On-Road Heavy-Duty Engines	
Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code (HSC) Division 26 and Executive Order (EO) G-02-003; and					
Pursuant to the December 15, 1998 Settlement Agreement (SA) between ARB and the manufacturer, and any modifications thereto in the Settlement Agreement,					
IT IS ORDERED AND RESOLVED: That the engine and emission control systems produced by the manufacturer and sold in California to the public shall be in compliance with the manufacturer's GVMR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.					
The following are the exhaust emission standards (STD), or family emission limits (FEL) as applicable, and the applicable test procedure (TP) for the engine model(s) listed above:					
MODEL YEAR	ENGINE FAMILY	ENGINE SIZE (liter)	FUEL TYPE (including alternative fuels)	TEST PROCEDURE	STANDARD
2005	ISX	8.3	Diesel	Direct	UB
EMISSION CONTROL SYSTEMS CC-280 / 8412 (280 hp), CC-275 / 8009 (275 hp), CC-260 / 8006 (260 hp), CC-250 / 8003 (250 hp)					
The following are the exhaust emission standards (STD), or family emission limits (FEL) as applicable, and the applicable test procedure (TP) for the engine model(s) listed above:					
MODEL YEAR	ENGINE FAMILY	ENGINE SIZE (liter)	FUEL TYPE (including alternative fuels)	TEST PROCEDURE	STANDARD
2005	ISX	8.3	Diesel	Direct	UB

APPLICABLE	HC	CO	NOX	PM	FT	EURO	TP	EURO	TP	EURO	TP	EURO	TP	EURO	TP	EURO	TP
DIRECT STD	*	*	*	*	*	1.8	15.5	14.5	0.02	*	*	*	*	*	*	*	*
AVERAGE STD	*	*	*	*	*	1.8	15.5	14.5	0.02	*	*	*	*	*	*	*	*
FEL	*	*	*	*	*	1.7	14.4	2.0	1.3	0.01	0.005	*	*	*	*	*	*
CERT	*	*	*	*	*	1.7	14.4	2.0	1.3	0.01	0.005	*	*	*	*	*	*


BE IT FURTHER RESOLVED: That certification to the FEL(s) listed above, as applicable, is subject to the following conditions: (1) The SA is in effect; (2) The manufacturer is in compliance with all applicable California emission regulations, and all SA's applicable requirements and any modifications thereof; (3) This EO is void with respect to any engine within this family determined to have a defeat device as that term is defined in the test procedures set forth in the EO; (4) This EO expires at midnight on December 31, 2002; (5) Production of any engine within this family under this EO is acceptance of all conditions in this EO; and (6) ARB reserves the right to disapprove certification of this family, or any families using auxiliary emission control device (AECOD) strategies as this family is employing, based on all available information.

BE IT FURTHER RESOLVED: That the listed engine models have been certified to the FTP, regional NOx, or NMHC-NOx as applicable, and PM emission standard(s) listed above pursuant to 13 CCR Section 1956.1 or 1956.8.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labels), and 2005 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified subject to the following conditions: (1) The SA is in effect; (2) The manufacturer is in compliance with all applicable California emission regulations, and all SA's applicable requirements and any modifications thereof; (3) This EO is void with respect to any engine within this family determined to have a defeat device as that term is defined in the test procedures set forth in the EO; (4) This EO expires at midnight on December 31, 2002; (5) Production of any engine within this family under this EO is acceptance of all conditions in this EO; and (6) ARB reserves the right to disapprove certification of this family, or any families using auxiliary emission control device (AECOD) strategies as this family is employing, based on all available information.

The Bureau of Automotive Repair will be notified by copy of this Executive Order. Executed at El Monte, California on this 22nd day of October 2002.


 Allison, Chief
 Mobile Source Operations Division

Below are excerpts⁴ from CARB's CMP Guidelines (Chapter 3 – Reducing Idling Emissions from Heavy-Duty Vehicles)

I. Introduction

The Carl Moyer Program can provide incentives to reduce emissions from truck idling by encouraging the purchase and installation of alternative idling reduction technologies. These technologies not only reduce idling emissions from heavy-duty trucks, but can also result in fuel savings and reduced maintenance costs to truck operators.

II. Emissions

Idling emissions from individual trucks are significant, for example, a single HHD truck that idles an average of 1,500 hours per year emits approximately: 564 pounds/year of NOx, 114 pounds/year of ROG and 7.6 pounds/year of PM10 from idling.

III. Regulatory Requirements

Recent airborne toxic control measures (ATCM) have placed a number of restrictions on idling. Only projects that have emission reductions that exceed these measures are eligible.

A. School Bus Idling

An ATCM became effective on July 16, 2003, that restricts idling by school buses and other special classes of vehicles at schools. The regulation also limited the idling of these buses and vehicles to no more than five minutes when within 100 feet of a school. [ARB, 2003]

B. Heavy-Duty Vehicle Idling

On February 1, 2005, an ATCM became effective that extended idling limitations beyond school buses to include diesel APUs, and heavy-duty diesel trucks over 10,000 GVWR. The ATCM specifically limits idling of the main engine or the operation of diesel-fueled APU systems when health, safety or operational concerns are not an issue. This regulation limits the idling of HDVs to no more than five minutes if the truck is within 100 feet of a school or home. These requirements apply to both California and non-California trucks.

In addition to statewide restrictions on idling, some local government and municipalities have ordinances restricting idling time for some types of vehicles. Carl Moyer Program funding for projects must be surplus to the requirements of both the ATCM and local ordinances.

C. Idling Restrictions

In October 2005, the Air Resources Board extended idling restrictions to heavy

⁴ The information below is excerpted from CARB's 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

duty trucks equipped with sleeper berths. This measure prohibits heavy duty trucks with sleeper berths from idling more than five minutes unless certain conditions are met. Beginning in 2008, model year 2006 and older trucks may operate certified diesel APUs. Model year 2007 and newer trucks may only operate an APU for longer than 5 minutes if the exhaust of the APU is equipped with a Level 3 PM retrofit device or is routed through the main engine exhaust with a Level 3 PM retrofit device; however, the truck must not be within 100 feet of a restricted area such as a school or residential area. In addition, 2008 and subsequent model year heavy-duty trucks may idle longer than five minutes in a non-restricted area if the main engine meets a low NOx standard of 30 g/hr. The Board approval of the regulation means that beginning with the 2008 calendar year, the baseline for calculating the benefits of truck idle reduction projects will be the 15.1 g/hr NMHC + NOx and .087 of PM emission rate assumed in the idling regulation.

IV. Potential Projects

A. Auxiliary Power Units

APUs are usually installed on the truck chassis outside the truck cab to provide power for the truck's accessory loads and to keep the engine warm when the truck is parked. This allows the operator to refrain from idling the truck's main engine. The extent of labor involved in the installation of an APU on the truck depends on the configuration of the truck engine and chassis and the plumbing of its heating/cooling system. Heating and cooling of the cab compartment are accomplished through either dedicated equipment supplied with the APU or through the truck's existing heating and cooling system. APUs are commercially available and meet most of the power needs of truck operators. Some APUs are available with an electric option for a few hundred dollars more.

B. Truck Stop Electrification

Another strategy for reducing truck idling is the retrofit of trucks with components such as engine block heaters, fuel heaters, electric heaters and air conditioning for cab/sleeper areas. This strategy requires the installation of charging infrastructure at truck stops and rest areas. Specific information and project criteria pertaining to truck stop electrification is provided in Chapter 12: Zero-Emission Technologies.

C. Advanced Travel Center Electrification

An alternative to truck stop electrification that does not require truck modification has been introduced by IdleAire Technologies. Specific information and project criteria are provided in Chapter 12: Zero-Emission Technologies.

D. Direct-Fired Heaters and Thermal Storage

Direct-fired heaters for truck heating applications are devices that use the combustion heat of a small internal combustion engine to provide heat directly to the truck's cab/sleeper area through the use of a small heat exchanger. Because it is designed to provide heat directly from a combustion flame, the heating

efficiency of these units is higher than that obtained through the truck's engine due to reduced mechanical losses and fuel consumption. Two primary limitations of direct-fired heaters for this application are that they cannot provide cooling and are that they draw on the truck's battery power during operation. Direct-fired heater technologies continue to evolve, but they have not gained widespread commercial acceptance.

Thermal storage systems provide both heating and cooling for the cab/sleeper area. This technology uses the heat of transformation associated with material phase change to provide heating and cooling to the cab/sleeper area. However, the technology cannot provide cooling at night unless the truck's air conditioner was used in the daytime.

V. Proposed Project Criteria

The project criteria for eligible idling reduction strategies for heavy-duty vehicles provide districts and fleet operators with the minimum requirements for participation in the Carl Moyer Program. The criteria have been developed specifically for idling reduction technologies that will be installed on a heavy-duty truck to reduce the truck's idling emissions. The ARB may develop additional project criteria for idling reduction strategies if additional technologies enter the market.

Idling reduction technologies provide a cost-effective means to reduce idling emissions from heavy-duty diesel trucks. Carl Moyer Program funds can be used to pay for a portion of the capital cost of idling reduction equipment as well as the installation costs.

A. General Criteria

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding, settlement agreement, mitigation requirement, or other legally binding document.
- Projects must meet a cost-effectiveness of 5,000 per weighted ton of NOx + ROG + combustion PM10, reduced calculated in accordance with the cost-effectiveness methodology discussed in this section.
- No emission reductions generated with funding from the Carl Moyer Program shall be used as marketable emission reduction credits, or to satisfy any emission reduction obligation of any person or entity.
- No emission reductions from a project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging, banking and trading program
- Carl Moyer Program grants shall be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including but not limited to tax credits or deductions, grants, or other public financial

assistance.

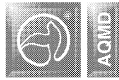
- Projects must have a minimum project life of three years. The ARB may approve shorter project life in writing for good cause on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.
 - The contract term must extend to the end of the project life.
 - The default project life does not consider upcoming regulatory requirements. Project life may be shorter due to regulatory requirements.
 - Air districts must consult with ARB staff to determine eligibility of all projects considered for funding on case-by-case basis. All projects considered on a case-by-case basis must receive ARB approval prior to receiving program funding.
 - Repower projects must provide at least a 15 percent NOx emission benefit compared to baseline idling NOx emissions.
 - 75 percent of the APU usage must be in California. The ARB may approve exceptions on a case by case basis.
 - Air districts are encouraged to co-fund projects that will produce emission reductions in more than one air district.
 - Potential projects that fall outside of these criteria may be considered on a case-by-case basis is evidence provided to the air district suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.
- B. APUs and Alternative Technologies**
- The engine used in an APU must meet current emission standards, be certified by the ARB for sale in California, and comply with all applicable durability and warranty requirements.
 - If an internal combustion engine APU is available with an electric option, the incremental cost of the plug-in option is eligible for Carl Moyer Program funding.
 - An hour-meter or other means to measure usage must be installed with an APU to track operation. The participant shall provide this information to ARB or the district upon request during the life of the project.
 - The default load factor for the engine used in an APU shall be the maximum power rating of the engine, unless another load factor is proposed by the participant and supported by proper documentation as determined by the ARB.
 - Emission benefits must be based on the vehicle's idling time that occurs in California. At least 75 percent of the idling time must be in California. ARB may approve exceptions on a case-by-case basis.
 - The actual capital cost, up to \$5,500, of an APU may be eligible for

funding.

- The installation cost of an APU, including installation of an hour-meter, up to a maximum of \$1,700 per diesel APU and a maximum of \$3,400 per alternative fuel, electric motor, or fuel cell APU, may be funded.
- APUs must either be fitted with a verified level retrofit device or the APU's exhaust must be routed through the truck's PM filter.
- The full cost of a PM retrofit device may be funded provided that the cost-effectiveness for the overall project does not exceed 5,000.

C. Scrap

- Scrap requirements are described in the 2005 Carl Moyer Program Guidelines, Part 1, Chapter 2: Administration of the Carl Moyer Program.



APPENDIX 4 - TRANSPORT REFRIGERATION UNITS

Below is additional information pertaining to the Transport Refrigeration Unit (TRU) section under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

In February 2004 the CARB Board approved an airborne toxic control measure (ATCM) TRU control measure that phases in new in-use standards over the next 12 years. Table 4-1 below lists the new standards and compliance options. In order to qualify for CMP funding, projects need to provide emissions reductions that exceed the ATCM requirements either because they are implemented earlier than required or because the selected compliance option is cleaner than required. Table 4-2 provides information on the time period for surplus emission reductions based on early compliance.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

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On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is

http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf. TRUs are covered in Chapter 4.
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf
- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.
 - Appendix A – Acronyms
 - Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations—Table B-11 lists TRU engine load factors
 - Appendix C – Cost-Effectiveness Calculation Methodology
 - Appendix D – Example Calculations
 - Appendix E – Description of Certification and Verification Executive Orders
 - Appendix F – Retrofit Emission Control Strategies
 - Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is \$5,000 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

**NOx reductions + 20(combustion PM10 reductions) + ROG reductions
(tons/year)**

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.
- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.).
- All projects must be operational within twelve (12) months of contract execution.
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Additional reporting and monitoring requirements are discussed below.
- Particulate filters and diesel oxidation catalysis are eligible for funding. These diesel emission control system (DECS) retrofit devices must be verified by CARB. Further, in order to include NOx emission reductions in the cost-effectiveness evaluation, the technology must be verified to reduce NOx emissions by at least 15 percent compared to the original engine certification level.
- The cost of the retrofit, and all filters needed during the project life, may be paid for with Carl Moyer Program funding provided it meets the weighted cost-effectiveness limit.
- If the horsepower rating of the new engine exceeds that of the existing engine by 25 percent or more, the difference in the rating will be taken into account in the emission reduction calculation.
- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete

application package. For TRU projects, this includes the main application as well as the information requested in Attachment 4 to the application.

- Part One of Attachment 1 of the AQMD Application Form requires that all repower and retrofit projects provide the vehicle identification numbers (VINs) for the project vehicles in both hard copy and electronic format. This information will be provided to ARB for an ARB Violation Compliance Check. Any outstanding violations for a project vehicle must be resolved in advance of contract execution.
- Applicants must provide the information necessary to determine the project life time frame during which the emissions are surplus. This includes model year and horsepower of the TRU or TRU Generator Set Engine.
- Pre- and Post-Inspection of all vehicles/engines approved for funding is required as well as verification of engine destruction. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contract execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.
- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact" evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.

2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. **Poverty Level:** All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. **PM Exposure:** All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c. **Toxic Exposure:** All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Project Life

The minimum project life is three years. Projects longer than five years must have a contract term of at least 5 years.

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. Annual records must contain, at a minimum, total California hours idled. Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as as stated in the program application.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness². The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where
 i = discount rate (4 percent)
 n = project life (at least 3 years)

² Unless the AQMD "buys down" the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

Table 4.1 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

Table 4.1 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

Executive Order Interpretation and Retrofit System Verification

CARB certifies engines destined for sale in California and provides the engine manufacturers with an Executive Order (EO) for each certified engine family. An example of an EO is shown in Figure 4.1. The EO includes general information about the certified engine such as engine family, displacement, horsepower rating(s), intended service class, and emission control systems. It also shows the applicable certification emission standards as well as the average emission levels measured during the actual certification test procedure. **For the purpose of the CMP, only the "Direct" emission standards are used in calculating emission benefits.**

The certification emission standards are shown in the row titled "(DIRECT) STD" under the respective "FTP" column headings for each pollutant. For instance, the Cummins 8.3 liter NG engine illustrated in Figure 4.1 was certified to a NOx+NMHC emission standard of 1.8 g/bhp-hr, a CO emission standard of 15.5 g/bhp-hr, and a PM emission standard of 0.03 g/bhp-hr.

Executive Orders are discussed in Section IV of the CMP guidelines Appendix E. Individual engine Executive Orders can be found on the ARB website at <http://www.arb.ca.gov/html/eo.htm>

Unless specifically exempted, all diesel emission control systems or DECS used for retrofit projects must be verified by ARB. Section IV of the CMP guidelines Appendix E discusses Retrofit System Verification. Section IV of the CMP guidelines Appendix F describes the various retrofit emission control strategies. Applicants should visit ARB's retrofit website at <http://www.arb.ca.gov/diesel/verdev/verdev.htm>.

Figure 4.1 – Sample Executive Order

		CUMMINS INC.		EXECUTIVE ORDER A-021-0340 New On-Road Heavy-Duty Engines	
Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code (HSC) Division 26, Part 5, Chapter 2, and 00171.1, the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order (EO) G-02-003, and					
Pursuant to the December 15, 1998 Settlement Agreement (SA) between ARB and the manufacturer, and any modifications thereto to the Settlement Agreement,					
IT IS ORDERED AND RESOLVED: That the engine and emission control systems produced by the manufacturer as certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.					
MODEL YEAR	ENGINE FAMILY	FUEL TYPE	STANDARDS PROCEDURE	INTENDED SERVICE CLASS	UP
2003	SCENESCOPE 8.3	Diesel	Diesel	(Not used. Use service class 100000 only)	
EMISSION CONTROL SYSTEMS					
TBI, CG, H025, TC, CAC, PCM					
CG-230 / 8012 (230 hp), CG-275 / 8001 (275 hp), CG-260 / 8008 (260 hp), CG-260 / 8003 (250 hp)					
The following are the exhaust emission standards (STD), or family emission limits (FEL) as applicable, and the test procedure used for this engine family under the "Direct" test procedure (FTP) (Title 13, California Code of Regulations (CCR) 13053.1) (13 CCR) in effect on 10/1/98:					
"Euro II Test Procedure" (EURO) in the Settlement Agreement, including EURO's "Not-to-Exceed" standards. "Diesel" CO certification compliance may have been demonstrated pursuant to Code of Federal Regulations. Title 40, Part 101, Subpart 101.101 (CFR) in lieu of testing. (For flexible- and dual-fueled engines, the CERT values for flexible- and dual-fueled engines shall be used for the purpose of the test procedure) and CERT values for default operation permitted in 13 CCR Section 1956.1 or 1956.8 are in parentheses. STD					
EURO'S NOT-TO-EXCEED STD. NMHC + NOx.					
HC	CO	NOx	PM	CO	PM
FTP	EURO	FTP	EURO	FTP	EURO
1.8	15.5	1.8	0.03	0.03	0.03
(1.8)	(15.5)	(1.8)	(0.03)	(0.03)	(0.03)
PM					
0.03					
(0.03)					
BE IT FURTHER RESOLVED: That certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of the actual certification test results. The manufacturer shall be responsible for ensuring that the engine and emission control systems used in production are identical to those used in certification. It will be used for determining compliance of any engine in this family and compliance with such ARB programs.					
BE IT FURTHER RESOLVED: That the listed engine models have been certified to the FTP optional NOx, or NMHC+NOx as applicable, and PM emission standard(s) listed above pursuant to 13 CCR Section 1956.1 or 1956.8.					
BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Section 1956 (emission control labels), and 2005 et seq. (emission control warranty).					
BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified subject to the following conditions: (1) The SA is in effect; (2) The manufacturer is in compliance with all applicable California emission regulations, and all SA's applicable requirements and any modifications thereof; (3) This EO is void with respect to any engine within this family determined to have a defect device as that term is defined in the test procedures of the California Code of Regulations, Title 13, Part 101, Subpart 101.101 (CFR) for the SA; (4) The manufacturer would begin to accrue upon manufacture of the first engine under this EO; (5) The EO is void at midnight on December 31, 2002; (6) ARB reserves the right to disapprove certification of this family, or any families using conditions in this EO; and (7) ARB reserves the right to disapprove certification of this family, or any families using available information.					
The Bureau of Automotive Repair will be notified by copy of this Executive Order. Executed at El Monte, California on this <u>23</u> day of October 2002.					

Below are excerpts³ from CARB’s CMP Guidelines (Chapter 4 – Transport Refrigeration Units) pertinent to the AQMD RFP.

I. Introduction

TRUs are employed in service carrying perishable goods throughout the world. TRUs use an internal combustion engine to run the compressor of the refrigeration system. TRUs and TRU generator sets operating in the United States are generally powered by diesel engines, typically between 9 and 36 horsepower. TRUs may be installed on trucks, trailers, shipping containers, and railcars to refrigerate perishable contents. TRU generator sets are also attached to ocean-going shipping containers when they are on land, to provide electric power to the shipping container’s refrigeration system between the port and cold storage warehouse or distribution center.

II. Emissions

The Air Resources Board (ARB or “Board”) estimates that emissions of diesel particulate emissions from TRUs and TRU generator sets were almost two tons per day or 2.6 percent of the total statewide diesel particulate matter emissions in 2000. Estimated NOx emissions in 2000 were about 20 tons per day. Based on emission projections, the diesel PM10 emissions from TRUs will decrease to about 1.6 tons per day in 2010 and decrease again to about 0.3 tons per day in 2020, because of the cumulative effects of new emission standards and ARB’s in-use TRU Airborne Toxic Control Measure (ATCM).

III. Regulatory Requirements

In February 2004, the Board approved an airborne toxic control measure (ATCM) for TRUs that set in-use performance standards for PM10 emissions beginning in 2008. Compliance is phased in over the next 12 years. The TRU ATCM In-Use Performance Standards and compliance dates must be considered when determining whether emission reductions are surplus. Table 4-1 gives the TRU and TRU Generator Set In-Use Performance Standards and Table 4-2 provides a graphical representation of the implementation schedule. The region in Table 4-2 labeled Potential Surplus Reductions shows a window of opportunity where projects can achieve emissions reductions prior to the compliance date of the TRU ATCM [ARB, 2003].

**Table 4-1
TRU and TRU Generator Set In-Use Performance Standards**

Horsepower Category	Engine Certification Value PM10 Emissions Standard (grams/horsepower-hour)	Options for Meeting Performance Standard
---------------------	--	--

³ The information below is excerpted from CARB’s 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

Low Emission Performance Standards		
less than 25	0.30 g/hp-hr	<ul style="list-style-type: none"> ▪ Use an engine that meets the Engine Certification Value ▪ Retrofit with at least Level 2 DECS* (>50% PM10 reduction) ▪ Use an Alternative Technology
25 or greater	0.22 g/hp-hr	<ul style="list-style-type: none"> ▪ Use an engine that meets the Engine Certification Value ▪ Retrofit with at least Level 2 DECS ▪ Use an Alternative Technology
Ultra-Low Emission Performance Standard		
less than 25	N/A	<ul style="list-style-type: none"> ▪ Retrofit with Level 3 DECS (>85% PM10 reduction) ▪ Use an Alternative Technology
25 or greater	0.02 g/hp-hr	<ul style="list-style-type: none"> ▪ Use an engine that meets the Engine Certification Value ▪ Retrofit with Level 3 DECS ▪ Use an Alternative Technology

* Diesel Emission Control System

Table 4-2
25 hp TRU and TRU Generator Set Engines In-Use Compliance Dates
(Compliance date is December 31 of applicable year)

MY	In-Use Compliance Year													
	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
'01 & Older	L	L	L	L	L	L	L	L	L	L	L	L	L	L
'02		L	L	L	L	L	L	L	L	L	L	L	L	L
'03			U	U	U	U	U	U	U	U	U	U	U	U
'04		Potential		U	U	U	U	U	U	U	U	U	U	U
'05		Surplus		U	U	U	U	U	U	U	U	U	U	U
'06		Emissions		U	U	U	U	U	U	U	U	U	U	U
'07														
'08														
'09														
'10														
'11														
'12														
'13														

< 25 Hp 2013 and subsequent MY must meet ULETRU 7 years after MY L =
 Low-Emission TRU, U = Ultra Low-Emission TRU

IV. Potential Projects

TRU owners can apply for Carl Moyer Program grant funds for projects that achieve surplus emission reductions by repowering with cleaner certified engines, installing verified retrofit diesel emission control strategies, or using alternative technologies to reduce or eliminate NOx, ROG, and PM10 emissions. Many of the technologies discussed below have not yet been verified. However, they are included in this discussion since they could provide real emission reductions and could potentially be verified during the time frame covered by the Guidelines.

A. New Purchase

Purchase of a new TRU is eligible for Carl Moyer Program funding if the new TRU is cleaner than what would have normally been purchased – a diesel engine. Thus the incremental cost of the new purchase of alternative technologies may be eligible for Carl Moyer Program grants.

B. Repower

Repowering TRUs with cleaner certified diesel engines is one type of potential project. However, there may be some compatibility issues with some engines due to spatial and electronic control differences (e.g., the new engine is too big to fit in the available space or the electronic controls are incompatible). Those compatibility issues must be resolved prior to submitting a grant application.

C. Retrofit with a Diesel Emission Control Strategy

Retrofit with a diesel emission control strategy is another potential project if the retrofit is not required by the TRU ATCM or any other regulation. Diesel retrofit systems must be verified by ARB in order to qualify for Carl Moyer Program funding. Potential retrofits include diesel oxidation catalysts, diesel particulate filters, flow through filters and fuel additives.

D. Alternative Technologies to Reduce or Eliminate NOx, ROG, and PM Emissions

Alternative technologies are defined under the TRU ATCM as electric standby, cryogenic temperature control systems, alternative fuels, alternative diesel fuels, fuel cells, and other systems that reduce or eliminate diesel engine operation. Brief descriptions of each of these potential project types follow.

1. Electric Standby

Electric standby equipped TRUs allow the TRU engine to be shut off when a compatible electric power supply is available at a facility so TRU diesel engine emissions are eliminated while the TRU is plugged in at the facility. Electric standby transportation refrigeration units allow the engine to be turned off when a compatible electric power supply is available to operate the transportation refrigeration unit (TRU). Diesel engine emissions are eliminated while the TRU is plugged in at the facility. TRU manufacturers currently offer an electric standby option on most models but very few trucks operating in the United States – less than one percent of trucks with TRUs – opt for these units. This technology does not reduce emissions when the vehicle is away from an electricity source.

Electrically-driven TRUs could, in the long term, be powered by fuel cells. This would allow the TRU to operate emission-free while enroute or when stopped at a facility, regardless of the availability of electricity. As previously mentioned, fuel cell technology for this application is not currently market-ready.

ARB is proposing to evaluate zero-emission TRU projects on a case-by-case basis.

2. Hybrid Electric TRU

Hybrid electric TRUs have been available in Europe for several years. The diesel engine drives a generator that, in turn, powers an electric semi-hermetic refrigeration compressor and electrically driven fans, all controlled by an advanced microprocessor. This hybrid electric TRU is easily adaptable to run on electric grid power when at a facility, so that diesel engine operation is

eliminated. The cost is higher than a traditional TRU, but costs less than it would to retrofit a traditional TRU with an electric standby system. One big advantage is that the hybrid design provides full refrigeration capacity for the initial chill-down. The hybrid design is also very likely to be adaptable for future use with fuel cell technology.

3. Cryogenic Temperature Control Systems

Cryogenic temperature control systems heat and cool using a cryogen, such as liquid carbon dioxide or liquid nitrogen that is routed through an evaporator coil that cools air blown over the coil. Since there is no diesel engine, diesel PM10 emissions are eliminated. Capital costs for these types of systems are ten percent higher than a diesel TRU, but the facility infrastructure costs for cryogenic "fuel" storage and dispensing add to the capital cost.

4. Alternative Fuels

Conventional diesel engines are internal combustion, compression-ignition engines. In contrast, engines that operate on an alternative fuel, such as compressed natural gas (CNG), liquefied natural gas (LNG), and liquid propane gas (LPG), are usually spark-ignited. Engines certified to operate on alternative fuels produce substantially lower PM10 and NOx emissions than diesel-fueled engines that are not equipped with exhaust after-treatment.

5. Alternative Diesel Fuels

Before any alternative diesel fuel can be used to comply with a diesel PM10 control measure or used in a Carl Moyer Program project, it must be verified through ARB's Verification Procedure, which includes a special section that deals specifically with alternative diesel fuels.

The Carl Moyer Program does not fund fuel-only projects however, districts may use matching funds to pay for the incremental cost of alternative diesel fuels if they are part of a Carl Moyer Program project. Recordkeeping and reporting must provide assurance that the emission reductions are real, quantifiable, surplus and enforceable.

6. Fuel Cells

Compared to a conventional diesel-powered TRU, fuel cell TRUs would offer zero or near-zero emissions of criteria pollutants and lower greenhouse gas emissions. At this time, there are no fuel cells appropriately sized for use on a TRU, but electrically-driven TRUs could be powered by fuel cells on or off the road (e.g., at a facility).

V. Proposed Project Criteria

Participating districts retain the authority to impose additional more stringent requirements in order to address local issues.

A. General Criteria

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of

agreement/understanding, settlement agreement, mitigation requirement, or other legally binding document.

- Projects must meet a cost-effectiveness of \$5,000 per weighted ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.
- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to satisfy any emission reduction obligation of any person or entity.
- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging, banking, and trading program.
- Carl Moyer Program grants shall be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including but not limited to tax credits or deductions, grants, or other public financial assistance.
- Projects must have a minimum project life of three years. ARB may approve shorter project life in writing for good cause on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.
- The contract term must extend to the end of the project life.
- The default project life does not consider upcoming regulatory requirements. Project life may be shorter due to regulatory requirements.
- Air districts must consult with ARB staff to determine eligibility of all projects considered for funding on case-by-case basis. All projects considered on a case-by-case basis must receive ARB approval prior to receiving program funding.
- Projects with more than a 5 year project life must have a contract term of at least 5 years.
- Emission benefits must be based on the TRU operations that occur in California. 75 percent of TRU operations must be in California. The ARB may approve exceptions in writing on a case-by-case basis.
- Air districts are encouraged to co-fund projects that will produce emission reductions in more than one air district. (Most TRU projects will provide multi-district emission reductions.)
- B. Repowers**
- For repower projects, Carl Moyer Program funds shall only be used to pay for the incremental costs of an eligible engine and the cost to install that engine in the TRU equipment.

- The replacement engine for repower projects used in the TRU must meet current emission standards and be certified by the ARB for sale in California. Compliance with all applicable durability and warranty requirements is required.
- Repower projects must provide at least 15 percent NOx emission benefit compared to baseline NOx emission level.
- The participant shall install an hour-meter or other means to measure usage on the TRU to track operating hours, and shall provide this information to ARB or the district upon request.
- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.
- Air districts must consult with ARB staff to determine eligibility of all projects considered for funding on a case-by-case basis. All projects considered on a case-by-case basis must receive ARB approval prior to receiving program funding.
- **C. Retrofits**
 - For retrofit projects, diesel emission control strategies used on TRUs must be verified by ARB for sale in California. Compliance with all applicable durability and warranty requirements is required.
 - Alternative Technologies such as electric standby and pure cryogenic systems are not required to be verified, but ARB must review and approve such systems in writing on a case-by-case basis. The district shall require recordkeeping and reporting to assure that estimated emission reductions are achieved.
 - **D. Scrap**
 - Scrap requirements are described in the 2005 Carl Moyer Program Guidelines, Part 1, Chapter 2: Administration of the Carl Moyer Program.

VI. Cost-Effectiveness

To receive Carl Moyer Program funding, each project must meet the maximum cost-effective threshold of \$5,000 per weighted ton of covered pollutants reduced. Only funds provided by the Carl Moyer Program and local district matching funds are to be used in determining cost-effectiveness.

In general, the emission reduction benefit represents the difference in the emission level of a baseline engine and reduced-emission engine, retrofit, or use of alternative technology. TRU engine annual emissions are calculated by multiplying the emission factor in grams per horsepower-hour for each pollutant by the rated hp, load factor, and activity (annual engine hours of operation).



APPENDIX 5 - COMPRESSION IGNITION OFF-ROAD EQUIPMENT

Below is additional information pertaining to the Compression Ignition Off-Road Equipment category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

Applicants are further cautioned that CARB recently adopted a Fleet Rule for cargo handling equipment (CHE). Depending on the status of a regulated entity's fleet rule compliance, CHE may no longer be eligible for Moyer Program funding. Projects for applicants subject to the ARB Fleet Rules will be evaluated on a case-by-case basis to determine if there are any surplus emissions that remain eligible for Moyer Program incentives. Special data submittal requirements apply and are indicated in Attachment 1 of the Application Forms.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements (primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf
- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.
 - Appendix A – Acronyms
 - Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
 - Appendix C – Cost-Effectiveness Calculation Methodology
 - Appendix D – Example Calculations
 - Appendix E – Description of Certification and Verification Executive Orders
 - Appendix F – Retrofit Emission Control Strategies
 - Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is 5,000 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can

request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.

- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.). Stop-and-go vehicle projects (i.e., refuse, street sweeper) that utilize a fuel-based calculation must provide fuel receipts for the past two years to justify the fuel consumption activity projected for the vehicle.
- All projects must be operational within twelve (12) months of contract execution.
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Pre- and Post-Inspection of all engines approved for funding is required as well as verification of engine destruction. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contract execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed. Additional reporting and monitoring requirements are discussed below.
- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For Compression-Ignition Off-Road Equipment projects, this includes the main application as well as the information requested in Attachment 5 to the application.
- Diesel emission control system (DECS) such as particulate filters and diesel oxidation catalysts are eligible for funding. These retrofit devices must be verified by CARB for use on the specified off-road application. Further, in order to include NOx emission reductions in the cost-effectiveness evaluation, the technology must be verified to reduce NOx emissions by at least 15 percent compared to the original engine certification level.
- The AQMD Moyer Program will fund the cost of purchase and installation of a CARB-verified diesel emission control device, not exceeding the Carl Moyer Program cost-effectiveness limit. For retrofit projects that only take credit for NOx reductions from a Level 3 DECS (because the PM10 reductions are already required by regulation), the baseline cost is 1/2 the proposed project cost. The maximum funding for such projects would be the retrofit cost minus the default cost.

- The cost of the retrofit, and all filters needed during the project life, may be paid for with Carl Moyer Program funding provided it meets the weighted cost-effectiveness limit.
- Engines certified to a lower Family Emission Limit (FEL) are only eligible for Moyer Program funding as part of repower projects. In these cases, the emission standard, not the certified FEL level, will be used in emission calculations. The FEL emission level is identified on the EO and is located under the emission standard.
- Part One of Attachment 1 of the AQMD Application Form requires that **all** repower and retrofit projects provide the vehicle identification numbers (VINs) for the project equipment in both hard copy and electronic format. This information will be provided to ARB for an ARB Violation Compliance Check. Any outstanding violations for project equipment must be resolved in advance of contract execution.
- CARB adopted a cargo handling equipment (CHE) regulation in December 2005. This regulation applies to diesel-fueled cargo handling equipment at California's ports and intermodal rail yards. Cargo handling equipment is used to transfer goods and includes equipment such as yard tractors (hostlers), rubber tire gantry cranes, top handlers, side handlers, forklifts, loaders, and mobile cranes. CARB staff is still working to specify Carl Moyer Program project criteria for this equipment. Consequently, CHE projects will be evaluated on a case-by-case basis, and additional fleet information is required. Part Two of Attachment 1 of the AQMD Application Form requires that **all** applicants subject to an ARB Fleet Rule (i.e., cargo handling equipment, transit, solid waste collection vehicle, public fleets, etc.) must provide the information requested therein. The application will not be considered until ARB evaluates this information and indicates to the district that the proposed project is indeed surplus to the regulation. The applicant is free to submit this information in advance of the application due date; AQMD will facilitate early ARB review of this information in order to determine program eligibility in advance of application preparation. A letter from CARB indicating the applicant is in compliance with applicable fleet rule(s), that also indicates the eligibility terms for the proposed project is acceptable, in lieu of the information required in Attachment 1, Part Two.
- CARB is developing a control measure to reduce diesel particulate matter emissions from in-use, off-road, diesel-fueled, mobile equipment greater than or equal to 25 horsepower. This includes, but is not limited to, construction equipment, mining equipment, airport ground support equipment, and industrial equipment such as forklifts. The proposal will not cover equipment used in agricultural operations, cargo handling at ports and intermodal rail facilities, or equipment already covered by an in-use rule or agreement. This item is scheduled to be heard by the Board in 2006. If approved, it may affect project criteria for off-road projects.

- See Section IV – Project Types, and Section V – Project Criteria for additional important information regarding CMP requirements.
- Please review CARB’s CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project’s “disproportionate impact” evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. **Poverty Level:** All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. **PM Exposure:** All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c. **Toxic Exposure:** All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Project Life

As discussed above, a key parameter in the determination of a project’s emission reduction benefit is its project life. The acceptable maximum life for calculating the project benefits of off-road equipment projects is summarized below in Table 5.1. Applicants must provide documentation to justify a longer project life.

Table 5.1 – Maximum Project Life for Compression Ignition Off-Road Equipment

Equipment Type	Maximum Life without Documentation
Off-road new purchase	10 years
Off-road repower	7 years
Off-road repower with retrofit	5 years
Retrofit	5 years

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. The AQMD shall conduct periodic reviews of each project's operating records to ensure that the engine is operated as stated in the program application. Annual records must contain, at a minimum:

- Total hours of operation
- Total hours of operation in the South Coast Air Basin
- Annual fuel consumed (if cost-effectiveness was determined on fuel basis)
- Annual maintenance and repair information

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness². The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

i = discount rate (4 percent)

n = project life (at least 3 years)

Table 5.2 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

Table 5.2 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

Below are excerpts³ from CARB's CMP Guidelines, Chapter 5 - Compression Ignition Off-Road Equipment, pertinent to the AQMD RFP.

This chapter presents the project criteria for off-road compression-ignition (CI) equipment projects under the Carl Moyer Program. It also contains a brief overview of the current regulations, incentive projects eligible for funding, project criteria, cost effectiveness calculations, and minimum application requirements for off-road CI equipment. Updates to the project criteria in this chapter since the 2003 Guidelines include: 1) lowering the minimum engine horsepower (hp) to 25 hp, and 2) prioritizing Tier 2 or Tier 3 repowers.

I. Introduction

Off-road CI equipment eligible for Carl Moyer Program funding includes equipment 25 hp (19 kilowatt) or greater such as construction and agricultural equipment. This also includes auxiliary engines found on off-road equipment, marine vessels, and on-road vehicles. Excluded from this discussion are engines that propel or are used on locomotives, marine vessel propulsion, and most forklifts (except for class 7 forklifts) which are discussed in other Appendices.

³ The information below is excerpted from CARB's 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

III. Regulatory Requirements

A. Off-Road Compression Engine Regulations

Off-Road compression ignition engine regulations include provisions that assist engine and equipment manufacturers in complying with emission standards through: 1) flexibility provisions for equipment manufacturers, 2) Averaging, Banking, and Trading (ABT) programs, and 3) the Tier 4 Early Introduction Incentive for engine manufacturers. Since the objective of the Carl Moyer Program is the deployment of cleaner-than-required low-emission engines to achieve maximum emission reduction benefits, it is important to understand the regulatory provisions that allow for the sale of engines not meeting the current applicable emission standards.

1. Emission Standards

Emissions from off-road equipment between 175 and 750 horsepower were uncontrolled prior to 1996. In January 1992, the Board adopted exhaust emission standards for off-road diesel-cycle engines 175 hp and greater, effective beginning with 1996 model year engines.

In August 1996, the U.S. EPA, ARB, and off-road diesel engine manufacturers signed a Statement of Principles which called for harmonization of ARB and U.S. EPA off-road diesel engine regulations, as appropriate, in exchange for an accelerated introduction of progressively more stringent standards. The U.S. EPA adopted emission standards in 1998 and again in 2004 that provided for new NOx + non-methane hydrocarbons (NMHC), PM, and carbon monoxide (CO) emission standards for engines within different power categories in a tiered approach, commonly referred to as "Tier" standards. These standards are defined in Title 13, California Code of Regulations (CCR), sections 2423(b)(1). ARB has since amended the California exhaust emission standards for off-road diesel engines to harmonize with the federal requirements. CARB Table 5-2 summarizes the existing and future emission standards for these engines.

Table 5-2
ARB and U.S. EPA Exhaust Emission Standards for
New Off-Road Diesel Engines ≥ 25 hp
(g/bhp-hr)

Maximum Rated Power (hp)	Tier	Model Year	NOx	HC	NOx+NMHC	CO	PM
25=<50	Tier 1	2000-2003	—	—	7.1	4.1	0.60
	Tier 2	2004-2007	—	—	5.6	4.1	0.45
	Tier 4 Interim	2008-2012	—	—	5.6	4.1	0.22
	Tier 4	2013 and later	—	—	3.5	4.1	0.02
50=<75	Tier 1	2000-2003 ^(a)	6.9	—	—	—	—
	Tier 2	2004-2007	—	—	5.6	3.7	0.30
	Tier 3 ^(b)	2008-2011	—	—	3.5	3.7	0.30
	Tier 4 Interim	2012-2014	2.5	0.14	—	—	—
75=<100	Tier 1	2000-2003 ^(a)	6.9	—	—	—	—
	Tier 2	2004-2007	—	—	5.6	3.7	0.30
	Tier 3	2008-2011	—	—	3.5	3.7	0.30
	Tier 4 Interim ^(c)	2012-2014	2.5	0.14	—	—	—
100=<175	Tier 1	2000-2002 ^(a)	6.9	—	—	—	—
	Tier 2	2003-2006	—	—	4.9	3.7	0.22
	Tier 3	2007-2011	—	—	3.0	2.6	0.22
	Tier 4 Interim ^(c)	2012-2014	2.5	0.14	—	—	—
175=<300	Tier 1	1996-2002	6.9	1.0	—	8.5	0.40
	Tier 2	2003-2005	—	—	4.9	2.6	0.15
	Tier 3 ^(b)	2006-2010	—	—	3.0	2.6	0.15
	Tier 4 Interim ^(c)	2011-2013	1.5	0.14	—	—	—
300=<600	Tier 1	1996-2000	6.9	1.0	—	2.2	0.15
	Tier 2	2001-2004	—	—	4.8	2.6	0.15
	Tier 3 ^(b)	2006-2010	—	—	3.0	2.6	0.15
	Tier 4 Interim ^(c)	2011-2013	1.5	0.14	—	—	—
600=<750	Tier 1	1996-2001	6.9	1.0	—	8.5	0.40
	Tier 2	2002-2004	—	—	4.8	2.6	0.15
	Tier 3 ^(b)	2006-2010	—	—	3.0	2.6	0.15
	Tier 4 Interim ^(c)	2011-2013	1.5	0.14	—	—	—
≥750	Tier 1	2000-2005	6.9	1.0	—	8.5	0.4
	Tier 2	2006-2010	—	—	4.8	2.6	0.15
	Tier 4 Interim	2011-2014	2.6	0.30	—	—	—
	Tier 4	2015 and later	2.6	0.14	—	—	—

^(a) ARB model years, U.S. EPA model years for Tier 1 start at 1998 for 50=<75 hp and 75=<100 hp, and 1997 for 100=<175 hp.
^(b) Engine families in this power category may meet the Tier 3 PM standard instead of the Tier 4 interim PM standard in exchange for introducing the final Tier 4 PM standard in 2012.
^(c) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available.
^(d) Caterpillar, Cummins, Detroit Diesel Corporation, and Volvo Truck Corporation have agreed to comply with these standards by 2005.

2. Flexibility Provisions for Equipment Manufacturers

Current regulations for off-road heavy-duty CI engines contain a flexibility provision that allows original equipment manufacturers (OEMs) to use engines not meeting current applicable emission standards in their existing product line for new equipment. Thus, engines that are certified under the flexibility provisions do not comply with current applicable emission standards, and are not eligible as replacement engines for the Carl Moyer Program. The flexibility provision took effect with the introduction of Tier 2 engines (Tier 1 for power categories less than 50 hp) and applies separately for each engine power category. Engine families certified under the flexibility provision must have previously been certified to a prior engine standard, for example Tier 1.

There are four main elements to the flexibility program: 1) a percent-of-production allowance, 2) a small-volume allowance, 3) continuance of the Tier 1 allowance to use up existing inventories of engines, and 4) availability of hardship relief. The adoption of the Tier 4 emission standards added several additional components to the program including technical hardship allowances, retroactive use of flexibilities, delayed implementation, an economic hardship allowance, retroactive use of flexibilities, delayed implementation, an economic hardship allowance, an early introduction incentive, and a labeling requirement. The percent-of-production allowance is the largest component of the program and allows each equipment manufacturer to use flexibility engines in their new product line over a seven-year period in cumulative quantities that sum up to 80 percent of a single year's national production at the end of the seven years.

Except for engines used in flexibility allowances prior to January 1, 2007, flexibility engines will be labeled according to the requirements of Title 13, CCR, sections 2423(d) and 2424(c). In addition, the Executive Order (EO) for engines certified under this program state that the engines were certified in compliance with Title 13, CCR, section 2423(d).

3. Averaging, Banking, and Trading

Off-road engine manufacturers are allowed the flexibility to participate in an ABT program in lieu of only producing engines that comply with the current emission standards. The emission benefits from an engine certified to a lower Family Emission Limit (FEL) may be used to offset the emissions from engines certified to a higher FEL levels within the engine manufacturer's ABT program. As a result, ABT emission credits are generated from the lower FEL level engine since it is certified lower than the required emission standards. These engines are only eligible for Carl Moyer Program funding as part of repower projects. In these cases, the emission factor based on the applicable emission standard, not the certified FEL level, will be used in emission calculations. The FEL emission level is identified on the EO and is located under the emission standard.

4. Tier 4 Early Introduction Incentives for Engine Manufacturers ("Engine Offsets")

Engine manufacturers may voluntarily certify engines to the Tier 4 standards prior to 2011 in exchange for making fewer Tier 4 engines after 2011. These early introduction Tier 4 engines are not eligible for Carl Moyer Program funding. These engines are first

offered to OEMs to use as part of the flexibility program (see Section III, A. 2 above). Should the OEM decline the engine, the engine manufacturer may use it as part of the "Tier 4 Early Introduction Incentive for Engine Manufacturers" created by Title 13, CCR, section 2423(b)(6).

Engines used as part of the "Tier 4 Early Introduction Incentive for Engine Manufacturers" must be in production by September 1 of the year prior to the first model year the standards would otherwise be applicable, where the model year means the manufacturer's annual production period which includes January 1 of a calendar year or, if the manufacturer has no annual production period, the calendar year. Engines sold during the transitional "phase-in" model years (years where the Tier 4 interim standards are in effect) are not considered "early" introduction engines.

These engines will meet all federal labeling requirements but will add the following statement: "This engine meets U.S. EPA emission standards under 40 CFR 1039.104(a)" and an additional statement of "meeting ARB requirements under 13 CCR section 2423(b)(6)". In addition, the EO for engines certified under this program will reference that the engines were certified in compliance with 13 CCR section 2423(b)(6).

B. Recent and Upcoming Regulations

The ARB approved a cargo handling equipment (CHE) regulation in December 2005. This regulation applies to diesel-fueled cargo handling equipment at California's ports and intermodal rail yards. Cargo handling equipment is used to transfer goods and includes equipment such as yard tractors (hostlers), rubber tire gantry cranes, top handlers, side handlers, forklifts, loaders, and mobile cranes. Specific Moyer Program project criteria are being identified for this equipment and will be available in early 2006.

The ARB is also developing a control measure to reduce diesel particulate matter emissions from in-use, off-road, diesel-fueled, mobile equipment greater than or equal to 25 horsepower. This includes, but is not limited to, construction equipment, mining equipment, airport ground support equipment, and industrial equipment such as forklifts. The proposal will not cover equipment used in agricultural operations, cargo handling at ports and intermodal rail facilities, or equipment already covered by an in-use rule or agreement. This item is scheduled to be heard by the Board in 2006. If approved, it may affect project criteria for off-road projects.

IV. Potential Projects

All eligible projects must use certified technology or technology that has been verified by the ARB for real and quantifiable emission reductions that go beyond any regulatory requirement.

Off-road projects fall into three distinct categories: 1) new purchase of an emission certified engine, 2) repower with an emission certified engine, and 3) retrofit with a verified diesel emission control strategy (DECS).

Auxiliary engines on mobile equipment are considered portable engines and are regulated by the ARB's Portable Equipment Air Toxics Control Measure (ATCM). Auxiliary engines that are an integral part of the vehicle's or vessel's main function, and are not covered under any district rule may be eligible for Carl Moyer funding. Because

the ATCM requires that all portable engines be certified engines by January 1, 2010, projects must begin by January 1, 2007 to meet the minimum three year project life requirement [ARB, 2004a].

Class 7 diesel forklifts are the only diesel forklifts eligible for Carl Moyer Program funding and are subject to all off-road project criteria. The district must obtain and verify documentation of the classification of the forklift prior to funding. Class 7 forklifts typically have a lift capacity of over 6,000 pounds, pneumatic tires, and internal combustion, compression ignition engines powered almost exclusively by diesel. Many of the characteristics of these forklifts, including pneumatic tires for rough terrain, make them exclusively for outdoor use.

A. New Purchase

For most engine categories, the current standard is Tier 2 or Tier 3 with an optional Blue Sky Standard that applies through Tier 3. However, at this time, no engines have been certified to the Blue Sky standard. New equipment having an engine that was certified to any FEL level is not eligible for new purchase in the Carl Moyer Program. This is because the emission level from an eligible FEL engine in the new equipment would be considered to be at the level of the required emission standard for that engine, through the averaging provision of the ABT program discussed previously. Therefore, the emissions from an FEL engine in the new equipment would not be surplus when compared to the emissions from a new engine meeting the required emission standards.

For some off-road equipment such as yard tractors, it may be possible to purchase new equipment with a new on-road engine certified to ARB's optional NOx emission credit standard instead of a new off-road engine. Where this is the case, emission benefits relative to the baseline engine are calculated based on on-road engine emission factors. If an applicant provides ARB with documentation showing that in past practice, the fleet has been powered by off-road engines, then the baseline emission may be calculated using the off-road engine emission factors.

B. Repower

Replacement of the in-use engine (i.e., repower) with an emission-certified engine instead of rebuilding the existing engine to its original uncontrolled specifications is the most common type of off-road project. Although this is commonly a diesel-to-diesel repower, significant NOx and PM benefits are achieved due to the high emission levels of the uncontrolled engine being replaced. Eligible engines are those that are certified to the current applicable emission standard or to an optional credit emission standard. For off-road equipment with similar modes of operation to on-road vehicles, other possible options include the replacement of an older uncontrolled diesel off-road engine with a new or rebuilt on-road engine certified to an emission standard equal to or lower than the Tier 2 off-road emission standard or a newer emission-certified alternative fuel engine.

Repower project must utilize a newer engine meeting current applicable emission standards (i.e., Tier 2 or Tier 3). If this is not a technical or practical option, as determined by the engine manufacturer, a newer emission-certified engine that meets

the Tier 1 standards may be used. Off-road CI engines have undergone major design changes to meet new and more stringent emission regulations. Off-road engine manufacturers have made significant hardware modifications in order to meet the Tier 2 emission standards for engines with horsepower rating of 100 hp and greater. The incorporation of air-to-air aftercoolers and other auxiliary systems have resulted in Tier 2 engines for some applications that are physically different than the earlier Tier 1 engines. As a result, some existing equipment cannot accept Tier 2 engines without extensive modifications. This may involve cutting the equipment frame to gain adequate space for the Tier 2 engine. In these situations, technical, cost, and safety considerations make a new Tier 2 engine repower infeasible. Thus, the use of a newer emission-certified engine meeting the earlier Tier 1 emission standard may be justified. Specific information on the eligibility of these projects is further described in the project criteria.

In addition, CARB requires that all repower projects funded by the Moyer Program install a retrofit device if one is available. ARB staff requires that the highest level ARB-verified retrofit device be installed for retrofit projects if the project meets the cost effectiveness limit of 5,000 per weighted ton. If a Level 3 device is not feasible or does not meet the cost-effectiveness limit, a Level 2 device must be installed; if no Level 3 or Level 2 devices are feasible, a Level 1 device must be installed. Due to limited current availability of retrofit devices for off-road engines it is likely that a retrofit will not be available in the near term. Repower projects are not disqualified from participation in the Moyer Program if retrofit devices are not feasible or if the cost of the available retrofit places the project over cost-effectiveness limit.

Funding is not available for projects where a spark-ignition engine (i.e., natural gas, gasoline, etc.) is replaced with a diesel engine.

C. Retrofit

Retrofit refers to modifications made to an engine and/or fuel system such that the specifications of the retrofitted engine are not the same as the original engine, please refer to Appendix F for more detailed information. The most straightforward retrofit projects are add-on after treatments. Other retrofits include upgrades of components that can be accomplished at the time of engine rebuild and result in a lower emission configuration. To qualify for Carl Moyer Program funding, the retrofit technology must be verified for sale in California and must comply with established durability and warranty requirements. Retrofits are verified for diesel PM reductions of: Level 1 25 percent, Level 2 -50 percent, and Level 3 -85 percent. Although retrofit technology options for off-road diesel engines are limited, it is possible that retrofit technologies that have been used to reduce NOx and PM emissions from on-road heavy-duty diesel engines may be used to control off-road engine emissions in some applications. More information on DECS, including a list of currently verified DECS, may be found at <http://www.arb.ca.gov/diesel/verdev/verdev.htm>.

V. Project Criteria

Participating districts retain the authority to impose more stringent additional requirements in order to address local concerns.

A. General

- Emission reductions obtained through Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.
- Projects must meet a cost-effectiveness of 5,000 per weighed ton of NOx + ROG + PM10 reduced, calculated in accordance with the cost-effectiveness methodology discussed in this chapter.
- No emission reductions generated by the Moyer Program shall be used as marketable emission reduction credits, or to satisfy any emission reduction obligation of any person or entity.
- No project funded by the Moyer Program shall be used for credit under any federal or state emission averaging, banking, and trading program.
- Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including, but not limited to, tax credits or deductions, grants, or other public financial assistance.
- Projects must have a minimum project life of three years. ARB may approve a shorter project life in writing for good cause on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.
- The contract term must extend to the end of the project life.
- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.
- The certification emission standard and Tier designation for the engine must be determined from the Executive Order issued for that engine, not by the engine model year. Executive orders for off-road engines may be found at <http://www.arb.ca.gov/msprog/offroad/cert/cert.php>
- Reduced-emission engines or retrofits must be certified/verified for sale in California and must comply with durability and warranty requirements. These may include new ARB certified engines, ARB certified after-market part engine/control devices, and verified diesel emission control strategies.
- Engines participating in the ABT program that are certified to FELs higher than the applicable emission standards, as designated on the Executive Order, are not eligible to participate in the Moyer Program, *unless this is a repower project and the emission standard (and not the FEL) is used for the emission reduction calculation.*
- Equipment manufactured under the "Flexibility Provisions for Equipment Manufacturers", as detailed in Title 13, CCR, section 2423(d), are ineligible for

Carl Moyer funding.

- Engines that are participating in the "Tier 4 Early Introduction Incentive for Engine Manufacturers" program, as detailed in Title 13, CCR, section 2423(b)(6), are ineligible for Carl Moyer funding.
- Auxiliary engines on mobile equipment are eligible for Carl Moyer funding through January 1, 2007 if they are an integral part of the vehicle's or vessel's main function and are not covered by any district rule.
- Class 7 diesel forklifts are the only diesel forklifts eligible for Carl Moyer funding and are subject to all off-road project criteria. The district must obtain and verify documentation of the classification of the forklift prior to funding.
- Funded projects must operate at least 75 percent of total equipment operation hours in the South Coast Air Basin.
- Maximum project life

Off-road new purchase	10 years
Off-road repower	7 years
Off-road repower and retrofit	5 years
Retrofit	5 years

Applicants must provide documentation to justify a longer project life.

B. New Purchase

- Engines must be certified to CARB optional NOx or NOx+NMHC emission credit standard for off-road diesel engines that is at least 30 percent lower than current applicable emission standards or for some equipment, such as yard tractors, an on-road engine certified to ARB's optional NOx emission credit standard
- Engines that are certified to FEL levels are not eligible for funding in new equipment purchase projects.

C. Repower

- For repower projects that replace uncontrolled engines in existing equipment, the replacement engine must be certified to either: 1) the current applicable emission standard except as noted below, 2) to a FEL NOx or NOx+NMHC level that is lower than the required emission standard, or 3) to an optional credit emission standard as applicable for the horsepower rating.
- For equipment repower projects that replace emission-certified engines in existing equipment, the replacement engine must be certified to a NOx emission standard that is at least 15 percent lower than the emission standard(s) applicable to the existing engine.
- Engines used in equipment repower projects may be new, emission-certified rebuilt, or emission-certified remanufactured units. Eligible new engine are those

- offered by the original equipment manufacturer (OEM) or by a non-OEM who demonstrates to the ARB that the repower is functionally equivalent with regard to emissions, durability, and safety as described in Appendix G. Eligible rebuilt or remanufactured engines are those offered by the OEM or by a non-OEM rebuilder who demonstrates to the ARB that the rebuilt engine and parts are functionally equivalent from an emissions and durability standpoint to the original engine and components being replaced as described in Appendix G. Rebuilt and remanufactured engines that are not re-certified to new emission standards shall use the emission standards associated with the original engine block.

 - ARB strongly recommends that districts give priority to Tier 2 or Tier 3 repowers. However, ARB recognizes that in some cases repower with the current applicable standard is not possible. In these cases a Tier 1 repower may be allowed if the conditions below are met and the project meets a project cost-effectiveness cap of \$6,000 per weighted ton of emission reductions for the repower portion of the project. Tier 1 repowers of specialty equipment not meeting the project cost-effectiveness cap may be allowed on a case-by-case basis.
 - If repower with an engine meeting the current applicable standard is technically infeasible, unsafe, or cost prohibitive, the replacement must meet the most current practicable previously applicable emission standard. The district shall determine eligibility of a Tier 1 engine repower project on a case-by-case basis by obtaining a Tier 2/Tier 3 repower exemption using one of the two following methods:
 1. The Carl Moyer Program application may include a written statement of reason(s) from the engine manufacturer verifying that a particular piece of equipment cannot accommodate an engine meeting current standards without major modifications, safety risks, or exorbitant cost. The letter must include information on the equipment being repowered, the engine being replaced, the reason why an engine meeting the currently applicable standard cannot be used (including details on required equipment modifications with pictures of the equipment, engineering drawings as necessary, and cost for the Tier 2/Tier 3 engine), and the proposed Tier 1 replacement engine. Districts must submit the written statement of reason(s) to ARB as an attachment to the annual report.
 2. The engine manufacturer may provide ARB with sufficient information on engine and/or equipment models for which Tier 2/Tier 3 repowers are available, and engine and/or equipment models for which Tier 2/Tier 3 repowers are not feasible. Engine manufacturers who are interested in pursuing this option should contact ARB. ARB staff will maintain a list of such engines and/or equipment models and make that list available to district staff.
 - If an ARB-verified diesel emission control strategy is available for the replacement engine, ARB requires installation of the retrofit verified to the highest level, as discussed in the retrofit section of these project criteria, which still meets

the cost-effectiveness limit of 5,000.

- For repowers of equipment with baseline engines manufactured under the flexibility provision, as detailed in Title 13, CCR, section 2423(d), baseline emission rates shall be determined by using the latest applicable Tier emission standard for that engine model year and horsepower rating. Alternative emission rates will be allowed with documentation of the actual emission rates from the manufacturer based on the engine serial number. Districts must submit all documentation to ARB as an attachment to the annual report.
- Replacement of an uncontrolled diesel off-road engine with a new or rebuilt on-road engine certified to an emission standard equal to or lower than the Tier 2 off-road emission standard or a newer emission-certified alternative-fuel engine is eligible for funding in off-road equipment with similar modes of operation to on-road vehicles. Other equipment may be eligible for funding on a case-by-case basis. These repowers must meet all other applicable project criteria.
- **D. Retrofit**
 - Only ARB-verified retrofits are eligible for funding. Emerging engine retrofits will become eligible for Program participation once ARB grants verification for sale in California. Non-verified technologies may be considered on a case by case basis if: 1) an application for verification of the retrofit or add-on equipment on the proposed engine category is pending or 2) for highly specialized equipment where it is unlikely that a retrofit would be verified.
 - Retrofit projects that control PM must use the highest level ARB-verified technology available for the equipment being retrofitted.
 - Retrofit projects that control NOx must reduce NOx emissions from uncontrolled engines to the current applicable emission standard. If this is not feasible, the project must reduce NOx to at least the applicable Tier 1 NOx emission level (6.9 g/bhp-hr or lower). For emission-certified engines, the retrofit technology must be able to reduce NOx emissions by at least 15 percent.
 - The cost of the retrofit, filters, and maintenance of the retrofit device needed during the project life may be paid for with incentive funding provided it meets the cost-effectiveness limit.
- **E. Scrap**
 - Scrap requirements are described in the 2005 Carl Moyer Program Guidelines, Part I, Chapter 2: Administration of the Carl Moyer Program.
- **VI. Cost-Effectiveness**
 - Emission reduction benefits represent the difference in the emission levels of the existing baseline technology relative to the newer, reduced-emission technology. Baseline and reduced engine emission factors are listed in Table B-12 in CARB's CMP Guidelines, Part IV, Appendix B. These factors reflect preliminary emission data based on model input values to the OFFROAD emission inventory model for engines greater than or equal to 25 hp.

A detailed description of how to calculate cost-effectiveness can be found in CARB Guidelines, Part IV, Appendix C. Off-road emission reduction calculations will use either the fuel or hour based formula as discussed Appendix C. The equipment activity level must be based on actual hours reading from an hour-meter or other similarly appropriate documentation provided by the applicant (i.e. fuel receipts). Future annual hours of equipment operation for determining emission reductions must be based only on readings from an installed and fully operational hour-meter. A properly functioning hour-meter is required to support equipment activity information included in the application for Moyer Program funding. In addition, specific cost-effectiveness criteria and sample calculations for off-road projects may be found in Section V of Appendix D.



APPENDIX 6 – LARGE SPARK-IGNITION (LSI) OFF-ROAD EQUIPMENT

Below is additional information pertaining to the Large Spark-Ignition Off-Road Equipment category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

Applicants are cautioned that CARB will consider regulations for large spark-ignition (LSI) equipment that include forklifts in the next year. CARB staff will provide specific criteria for the LSI Off-Road Category through a technical advisory approved by the Executive Officer, once the Board has approved the proposed regulations. In the meantime, the 2003 CMP Guidelines and case-by-case approval will be used to evaluate LSI Off-Road projects.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf
- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.

- Appendix A – Acronyms
- Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
- Appendix C – Cost-Effectiveness Calculation Methodology
- Appendix D – Example Calculations
- Appendix E – Description of Certification and Verification Executive Orders
- Appendix F – Retrofit Emission Control Strategies
- Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is \$14,300 per weighed ton of NOx, PM and ROG emissions reduced, except for electric forklifts which have a cost-effectiveness limit is \$7,000 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require

documentation of both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.

- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.). Stop-and-go vehicle projects (i.e., refuse, street sweeper) that utilize a fuel-based calculation must provide fuel receipts for the past two years to justify the fuel consumption activity projected for the vehicle.
- All projects must be operational within twelve (12) months of contract execution.
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Additional reporting and monitoring requirements are discussed below.
- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For Large Spark-Ignition Off-Road projects, this includes the main application as well as the information requested in Attachment 6 to the application.
- Pre- and Post-Inspection of all engines approved for funding is required as well as verification of engine destruction. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contract execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.
- See Section IV – Project Types, and Section V – Project Criteria for additional important information regarding CMP requirements.
- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.
- Leased forklifts are eligible for funding if the lease term is three years or more.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact" evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c. Toxic Exposure: All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas, if the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Project Life

A key parameter in the determination of a project's emission reduction benefit is its project life. The maximum project life for LSI off-road projects will be determined on a case-by-case basis in order to incorporate compliance with upcoming fleet regulations.

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. The AQMD shall conduct periodic reviews of each project's operating records to ensure that the engine is operated as stated in the program application. Annual records must contain, at a minimum:

- Total miles traveled
- Total miles traveled in the South Coast Air Basin
- Annual fuel consumed
- Annual maintenance and repair information

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CAFB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness². The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

- i = discount rate (4 percent)
- n = project life (at least 3 years)

Table 6.1 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

Table 6.1 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

² Unless the AQMD "buys down" the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

Below are excerpts³ from CARB's CMP Guidelines (Chapter 6 – Off-Road LSI) that are pertinent to the AQMD RFP.

Due to the upcoming regulations for large spark-ignition (LSI) equipment that include forklifts, this chapter has been added to replace the Forklift Chapter in the 2003 Guidelines. This revision of the Guidelines expands funding opportunities from only forklifts to all LSI equipment types.

CARB staff will provide specific criteria to districts through a technical advisory approved by the Executive Officer once the Board has approved the proposed regulations.

In the interim, districts may continue to use the 2003 Carl Moyer Program Guidelines to fund projects or request consideration of other projects on a case-by-case basis.

I. Introduction

LSI engines are typically derived from automobile engines and are most commonly fueled by gasoline or liquefied petroleum gas. A small number are fueled by compressed natural gas (CNG), and some have dual fuel capability. Off-road LSI equipment includes the following types of equipment: large turf care equipment, scrubber/sweepers, airport service vehicles, and a variety of other agricultural, construction, and general industrial equipment. The largest group of LSI equipment in California is forklifts, representing almost half of the LSI inventory.

The U.S. Environmental Protection Agency (U.S. EPA) has sole authority to regulate new farm and construction equipment less than 175 hp. However, CARB has authority to regulate off-road equipment equal to or greater than 175 hp, and all in-use off-road equipment and non-preempted off-road equipment less than 175 hp.

IV. Potential Projects

The ARB encourages replacement of LSI equipment with zero-emission equipment where feasible. Information about zero-emission strategies is provided in Chapter 12 of the CARB Guidelines, Part II. Below are brief descriptions of potential projects. Off-road projects fall into three categories: 1) new purchase of an emission certified engine, 2) repower with an emission certified engine, and 3) retrofit with ARB-verified technology.

A. New Purchase

New or expanding facilities purchasing LSI equipment with engines that are certified to 30 percent below the current standard may qualify for funding if the emission reductions are shown to go beyond any regulatory requirement and the any LSI regulating that are adopted by the Board. This could be accomplished by purchasing equipment that is

³ The information below is excerpted from CARB's 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

electric or certified to an optional low emission standard.

Since replacing an older electric forklift with a newer electric model would not reduce emissions, projects with "electric to electric" replacements are excluded. Purchase of new CNG LSI equipment may also be eligible if it is certified to meet optional low emission standards.

B. Repower

Repower refers to the replacement of an existing engine with a newer engine certified to lower emission standards. This is an alternative to rebuilding an existing engine to the original higher emitting specifications the existing engine. The replacement engine must include all the emission controls components that an engine certified to a standard would have as stated in the Executive Order. There may be some limits to repowering of LSI equipment because installing a newer engine design into existing equipment may not always be feasible. The baseline emissions for these projects would be the emission rate of the existing engine. The baseline cost would be the cost to rebuild. Repower projects may qualify for funding if the emission reductions are shown to exceed any regulatory requirement or LSI regulations adopted by the Board. Repowers of certified engines must provide at least a 15 percent NOx emission reduction from the baseline engine and repowers of uncontrolled engines must meet the current emission standard.

C. Retrofit

Retrofit refers to modifications or additions made to an engine and/or fuel system such that the specifications of the retrofitted engine are not the same as the original engine. Data has shown that existing LSI engines retrofitted with closed loop, catalyst-based emission systems could achieve emission reductions similar to those achieved from new engines designed with catalysts. Retrofits for LSI equipment will likely incorporate advanced automotive-inspired emission control technologies that dramatically reduce emissions while meeting operational requirements. (See Appendix F for more discussion on retrofits.) This technology has been in use for about 10 years on a variety of LSI equipment. A retrofit would usually be installed at the time of engine rebuild or a regularly scheduled maintenance. To qualify for Carl Moyer Program funding, the retrofit technology must be verified for sale in California. The ARB has an interim verification procedure which manufacturers use to verify their emission control systems for LSI equipment.

To be eligible to receive Carl Moyer Program funds, emission reductions must exceed any regulatory requirement or LSI regulations adopted by the Board.

Typically under the Carl Moyer Program, retrofit projects are allowed if they provide at least 15 percent reductions in emissions. However, under the proposed LSI regulations only retrofits that reduce emissions by 25 percent or more will be verified. Hence, only retrofits that reduce emissions on uncontrolled LSI engines by 25 percent would be eligible for Carl Moyer Program funding. Retrofit systems for installation on emission-certified engines must be verified to no more than 2.0 g/bhp-hr of NOx+HC.

The eligible cost would be the complete emission control system and installation costs.

It must be installed according to the criteria stated in the interim verification letter or Executive Order as applicable.

Since nearly half of the LSI equipment in California is forklifts, some information on forklift classes is presented below. The Industrial Truck Association (ITA) has defined seven classes of forklifts. These classes are defined by the type of engine, work environment (indoors, outdoors, narrow aisle, smooth or rough surfaces), operator positions (sit down or standing), and equipment characteristics (type of tire, maximum grade, etc.). Several classes are further divided by operating characteristics. Classifications are described in CARB's Table 6-3.

**Table 6-3
Forklift Classes**

Class	Lift Code	Engine Type	Type/Use
1	1	Electric	Counterbalanced rider, stand up
1	4		Three-wheel, sit down
1	5		Counterbalanced rider, sit down
1	6		Counterbalanced rider, sit down
2			Narrow aisle truck
3			Hand or hand/rider truck
4		Internal Combustion	Rider, sit down, generally suitable for indoor use on hard surfaces
5			Rider, sit down, typically used outdoors, on rough surfaces or steep inclines
6		Internal combustion and Electric	Ride on unit with the ability to tow at least 1,000 pounds; designed to tow cargo rather than lift it (e.g. an airport tug)
7		Internal combustion (primarily diesel)	Rough terrain forklift truck for outdoor use; almost exclusively powered by diesel engines

Class 1 forklifts (lift codes 5 and 6) can be used in many of the same work applications as the class 4 or 5 forklifts because they are similar in design and specification. Increasing the use of class 1 forklifts relative to class 4 and 5 forklifts would reduce NOx emissions of the fleets.

Class 6 trucks are ride-on vehicles designed to tow at least 1,000 pounds. Airport tugs are an example of a Class 6 truck. See Chapter 7 for a description of ground support equipment.

Class 7 consists of rough terrain forklifts for outdoor use. See Chapter 5 for project funding criteria for Class 7 forklifts which are usually powered by diesel engines.

V. Proposed Project Criteria

Since all Carl Moyer Program projects must be surplus to any regulations, specific project criteria that define project eligibility for the LSI source category must be based on LSI regulations that are adopted by the Board. After Board approval of the LSI regulation, staff will develop criteria for those projects that provide emission reductions beyond the approved regulatory requirements. Staff recommends that the Board grant the Executive Officer the authority to approve LSI project criteria in a technical advisory. In the interim, forklift projects would be allowed as approved under Chapter 12 (Zero-Emission Technologies) for electric forklift replacements and the 2003 Carl Moyer Program Guidelines. During this interim period additional LSI projects may be considered on a case-by-case basis.

On September 6, 2005, Governor Schwarzenegger signed Senate Bill 467 (Lowenthal) which requires the ARB to revise the Carl Moyer Program Guidelines to include projects in which an applicant turns in off-road equipment powered by an internal combustion engine and replaces that equipment with new zero-emission technologies. This legislation will take effect on January 1, 2006. ARB staff will evaluate how to incorporate the requirements of this legislation into the Carl Moyer Program in 2006.

Below are excerpts⁴ from CARB's CMP Guidelines (Chapter 12: Zero-Emission Technologies) that are pertinent to the AQMD RFP.

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C. Forklifts and Other Large Spark-Ignition Equipment

The Carl Moyer Program has two general emission control strategies for forklifts -- (1) purchase of new electric forklifts instead of new internal combustion engine (ICE) forklifts; and (2) retrofit or repower of internal combustion forklifts that do not lend themselves to electric substitution. Specific project criteria for funding large spark-ignition (LSI) engines are not yet formalized in these Carl Moyer Program Guidelines pending the Board's action on the staff's proposed regulations for LSI engines and equipment. However, staff proposes the following changes regarding electric forklift projects:

- The cost-effectiveness limit for electric forklifts is \$7,000 per weighted ton of reduced emissions.
- Leased forklifts are eligible for funding if the lease term is three years or more. Chapter Six provides additional background discussion on this project category and potential criteria that could be used to establish funding eligibility under the Carl Moyer Program for both strategies. Until the Board adopts the LSI

⁴ The information below is excerpted from CARB's 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

regulation, districts may continue to fund forklift projects using the 2003 Carl Meyer Program Guidelines. During this interim period, additional zero-emission LSI projects may be considered on a case-by-case basis.



Appendix 7 - AIRPORT GROUND SUPPORT EQUIPMENT

Below is additional information pertaining to the Airport Ground Support Equipment (GSE) category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.atb.ca.gov/msprog/moyer/guidelines/revisions05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.atb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf
- Part II provides the Project Criteria for each program category. The link to Part II is http://www.atb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at

http://www.atb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf

- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.atb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.

- Appendix A – Acronyms
- Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations—Table B-15 provides GSE default load factors and annual operating hours
- Appendix C – Cost-Effectiveness Calculation Methodology
- Appendix D – Example Calculations
- Appendix E – Description of Certification and Verification Executive Orders
- Appendix F – Retrofit Emission Control Strategies
- Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is \$5,000 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.

conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contraction execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.

- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact" evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or

- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.).

- All projects must be operational within twelve (12) months of contract execution.

- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.

- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Additional reporting and monitoring requirements are discussed below.

- In 2002 five airports in southern California (Los Angeles, Ontario, Orange County, Burbank, and Long Beach) signed a Memorandum of Understanding aimed at introducing cleaner GSEs, with an emphasis on electric GSEs, into the South Coast Air Basin. The Carl Moyer Program will fund the purchase of new electric GSE instead of new GSE powered by internal combustion engines if this equipment is surplus to the MOU; is not used to meet the requirements of any regulation, including the upcoming large-spark ignition regulation; is not funded through any other incentive program; and is not used to generate credits of any type. (see Appendix 12 for additional information on electric GSE.

- Particulate filters and diesel oxidation catalysts are eligible for funding. These diesel emission control system (DECS) retrofit devices must be verified by CARB. Further, in order to include NOx emission reductions in the cost-effectiveness evaluation, the technology must be verified to reduce NOx emissions by at least 15 percent compared to the original engine certification level.

- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For airport ground support equipment projects, this includes the main application as well as the information requested in Attachment 7 to the application.

- Average Banking and Trading (ABT) engines (i.e., all Family Emission Limit (FEL)-certified engines) are not eligible to participate in the Carl Moyer Program for new vehicle purchase projects since emission benefits from an engine certified to an FEL level are not surplus emissions.

- Pre- and Post-Inspection of all vehicles/engines approved for funding is required as well as verification of engine destruction. Pre-Inspection will be

- c. **Toxic Exposure:** All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Project Life

The minimum project life is three years. Projects longer than five years must have at least a 5 year contract life.

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. Annual records must contain, at a minimum:

- Total hours of operation in the South Coast Air Basin
- Annual fuel consumed
- Annual maintenance and repair information

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as stated in the program application.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness². The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

$$i = \text{discount rate (4 percent)}$$

$$n = \text{project life (at least 3 years)}$$

Table 7.1 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

² Unless the AQMD "buys down" the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

**Table 7.1 – Capital Recovery Factors (CRF) for Various Project Lives
At 4 Percent Discount Rate**

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

Executive Order Interpretation and Retrofit System Verification


CARB certifies engines destined for sale in California and provides the engine manufacturers with an Executive Order (EO) for each certified engine family. An example of an EO is shown in Figure 7.1. The EO includes general information about the certified engine such as engine family, displacement, horsepower rating(s), intended service class, and emission control systems. It also shows the applicable certification emission standards as well as the average emission levels measured during the actual certification test procedure. **For the purpose of the CMP, only the “Direct” emission standards are used in calculating emission benefits.**

The certification emission standards are shown in the row titled “(DIRECT) STD” under the respective “FTP” column headings for each pollutant. For instance, the Cummins 8.3 liter NG engine illustrated in Figure 4.1 was certified to a NOx+NMHC emission standard of 1.8 g/bhp-hr, a CO emission standard of 15.5 g/bhp-hr, and a PM emission standard of 0.03 g/bhp-hr.

Executive Orders are discussed in Section IV of the CMP guidelines Appendix E. Individual engine Executive Orders can be found on the ARB website at <http://www.arb.ca.gov/html/eo.htm>

Unless specifically exempted, all diesel emission control systems or DECS used in retrofits must be verified by ARB. Section IV of the CMP guidelines Appendix E discusses Retrofit System Verification, Section IV of the CMP guidelines Appendix F describes the various retrofit emission control strategies. Applicants should visit ARB’s retrofit website at <http://www.arb.ca.gov/diesel/verdev/verdev.htm>.

Figure 7.1 – Sample Executive Order



AIR RESOURCES BOARD

CUMMINS INC.

EXECUTIVE ORDER A-971-024
New On-Road Heavy-Duty Engines

Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code (HSC) Division 26 Part 5, Chapter 10000 and pursuant to the authority vested in the undersigned by HSC Sections 39516 and 39616 and Executive Order (EO) G-02-003; and

Pursuant to the December 15, 1998 Settlement Agreement (SA) between ARB and the manufacturer, and any modifications thereto to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the engine and emission control systems produced by the manufacturer and listed in the table below are hereby certified for sale in California as those for which certification is granted. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZE (liter)	TEST PROCEDURE	SALES/LEASES & TEST PROCEDURE	MARKETING CLASS (HAWKING SERVICE CLASS (HSC) (see: Uniform Bus, HHD-CO) Code)
2003	SC24M3AC3BK	8.3	FTP, URBAN, CHASE, HAWKING SERVICE CLASS (HSC) (see: Uniform Bus, HHD-CO) Code	Direct	UB
EMISSION CONTROL SYSTEMS					
TBI, OC, HOCS, TC, GAC, PCM					
<small> (1) Gross vehicle weight rating: NMHC+NOx+CO+HC+PM (2) NMHC+NOx+CO+HC+PM (3) NMHC+NOx+CO+HC+PM (4) NMHC+NOx+CO+HC+PM (5) NMHC+NOx+CO+HC+PM (6) NMHC+NOx+CO+HC+PM (7) NMHC+NOx+CO+HC+PM (8) NMHC+NOx+CO+HC+PM (9) NMHC+NOx+CO+HC+PM (10) NMHC+NOx+CO+HC+PM (11) NMHC+NOx+CO+HC+PM (12) NMHC+NOx+CO+HC+PM (13) NMHC+NOx+CO+HC+PM (14) NMHC+NOx+CO+HC+PM (15) NMHC+NOx+CO+HC+PM (16) NMHC+NOx+CO+HC+PM (17) NMHC+NOx+CO+HC+PM (18) NMHC+NOx+CO+HC+PM (19) NMHC+NOx+CO+HC+PM (20) NMHC+NOx+CO+HC+PM (21) NMHC+NOx+CO+HC+PM (22) NMHC+NOx+CO+HC+PM (23) NMHC+NOx+CO+HC+PM (24) NMHC+NOx+CO+HC+PM (25) NMHC+NOx+CO+HC+PM (26) NMHC+NOx+CO+HC+PM (27) NMHC+NOx+CO+HC+PM (28) NMHC+NOx+CO+HC+PM (29) NMHC+NOx+CO+HC+PM (30) NMHC+NOx+CO+HC+PM (31) NMHC+NOx+CO+HC+PM (32) NMHC+NOx+CO+HC+PM (33) NMHC+NOx+CO+HC+PM (34) NMHC+NOx+CO+HC+PM (35) NMHC+NOx+CO+HC+PM (36) NMHC+NOx+CO+HC+PM (37) NMHC+NOx+CO+HC+PM (38) NMHC+NOx+CO+HC+PM (39) NMHC+NOx+CO+HC+PM (40) NMHC+NOx+CO+HC+PM (41) NMHC+NOx+CO+HC+PM (42) NMHC+NOx+CO+HC+PM (43) 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Below are excerpts³ from CARB's CMP Guidelines (Chapter 7 – Ground Support Equipment) pertinent to the AQMD RFP.

I. Introduction

Airport GSE is typically powered by gasoline, diesel or propane. Airport GSE can also be powered by electric motors having zero exhaust emissions. Electric GSE is commercially available from a number of manufacturers, and interest in the use of electric equipment is increasing. Currently, there are no federal or California regulations that require the use of electric GSE. There are airports throughout the United States, however, with a very high percentage of electric GSE. For example, Denver International Airport was designed for all electric GSE. Also, Logan International Airport in Boston has made considerable progress in switching to electric GSE equipment.

Airport GSE are used from the moment an aircraft lands until it takes off. GSE perform a variety of functions such as towing, powering, and servicing aircrafts. There is great diversity in the type of equipment used, as well as in the variety of engines that power GSE. Table 7.1 below lists the commonly used types of GSE. Airport GSE can be owned by airlines, airports, cargo handlers, mail and parcel companies or management companies. Most airlines own or maintain the GSE they use, or have full service leasing from equipment management companies. Airports usually own the buildings and other stationary infrastructure on site and lease them to the airlines. The installation and cost of improvements, including electric equipment and vehicle infrastructure, are usually subject to the approval of the airport's property management. Costs can either be borne by the airport or passed on to the airlines. There is also a growing trend for airports to own the ground power units and charge the airlines for the time of usage.

Table 7-1
Types of Airport GSE

Baggage Tug
Belt Loader
Forklifts, lifts & cargo loaders
Ground Power Unit
Aircraft Tug (narrow & wide body)
Airstart Unit
Air Conditioner
Deicer
Cart & Lavatory Cart
Fuel Trucks
Utility Trucks (lavatory, maintenance, water & service)
Bobtail

II. Regulatory Requirements

The United States Environmental Protection Agency (U.S. EPA) and ARB have adopted emission standards that will be phased in for new GSE equipment powered by off-road internal combustion (IC) engines. Internal combustion engines used in GSE can be powered by either compression-ignition (CI or "diesel") engines or by spark-ignition (SI) engines using gasoline, compressed natural gas (CNG), or propane fuel. GSE is regulated under ARB and U.S. EPA's emission standards for off-road equipment.

ARB has the authority to regulate new off-road CI equipment equal to or greater than 175 hp and non-preempted off-road CI less than 175 horsepower. In January 1992, the Board adopted exhaust emission standards for off-road diesel engines 175 hp and greater, effective beginning with 1996 model year engines.

In August 1996, the U.S. EPA, ARB, and off-road diesel engine manufacturers signed a Statement of Principles, which established a progressive set of emission standards and called for harmonization of ARB and U.S. EPA off-road diesel engine regulations. The

U.S. EPA adopted emission standards in 1998 and again in 2004 that provided for new oxides of nitrogen (NOx) + non-methane hydrocarbons (NMHC), PM, and carbon monoxide (CO) emission standards for engines within different power categories to be effective in a tiered approach, commonly referred to as

³ The information below is excerpted from CARB's 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

Tier standards. ARB has since amended the California exhaust emission standards for off-road diesel engines (originally adopted in 1992) to include non-preempt engines below 175 horsepower and to harmonize with the federal requirements. Please refer to Chapter 5 of the Guidelines (Compression-Ignition Off-Road Equipment) for more discussion on these requirements.

In 1998, the ARB adopted regulations for off-road LSI engines sold in California. The regulations require new LSI engines 25 horsepower and greater to be certified to an emission standard of 3.0 g/bhp-hr of NOx+HC. This standard was phased in between 2001 and 2004. The U.S. EPA followed in 2002, adopting the same NOx+HC standard beginning in 2004. At the same time, the U.S. EPA also adopted a standard of 2.0 g/bhp-hr NOx+HC, beginning in 2007. ARB is currently developing a proposal that includes new emission standards and fleet requirements for LSI engines and equipment. This proposal is scheduled for Board consideration in late 2005 and would govern the development of project criteria for GSE. Please refer to Chapter 6 of the Guidelines (Off-Road Large Spark Ignition Equipment) for more discussion on the off-road LSI equipment category and emission requirements.

In 2002, the ARB and several airlines entered into a Memorandum of Understanding (MOU) aimed at introducing cleaner GSE, with an emphasis on electric GSE, into the South Coast Air Basin. Under the agreement, all major airlines operating at five airports in the South Coast Air Basin (LAX, Ontario, Orange County, Burbank, and Long Beach) would begin to incorporate lower-emission GSE into their fleets. GSE projects that are surplus to the emission reductions required under the MOU are eligible for funding under the Carl Moyer Program.

III. Potential Projects

A cost-effective strategy to reduce emissions involves the purchase of electric GSE, which has no exhaust emissions. Electric GSE is commercially available for a number of equipment types, including belt loaders, baggage tractors, aircraft tugs, lifts, and ground power units. Several airlines and airports have conducted electric GSE demonstration programs and fleet conversion programs. Further discussion of electric GSE experiences can be found in Chapter 12 of the Guidelines and a report by Arcadis, Geraghty & Miller [ARB, 1999].

Airport GSE emissions can also be decreased by retrofitting the equipment with a PM filter, diesel oxidation catalyst or a three-way catalyst. For instance, catalysts have been added to SI GSE to meet the current LSI emission standards. In addition, to reduce emissions GSE can be repowered with a new, cleaner IC engines.

The Carl Moyer Program will fund the purchase of electric GSE, as well as GSE repower and retrofit projects if this equipment is not subject to any existing or planned regulations, funded through another incentive program, or used to generate credits of any type. In addition, projects that are surplus to the emission reductions required under the South Coast MOU are eligible for funding. The most promising categories are those where electric equipment has been used

and demonstrated and are readily available from commercial vendors. This includes electric baggage tugs, belt loaders, and aircraft tugs. These equipment categories also represent a significant portion of the statewide GSE population and have some of the highest average annual hours of usage. Purchase of electric GSE instead of IC-engine GSE would yield significant emission benefits. Therefore, the Carl Moyer Program guidelines would continue to target these categories. Other promising projects include lifts and cargo loaders. Carts, lavatory carts and air-start units each represent a smaller fraction of the GSE equipment inventory. Fuel, utility, water, and service trucks are not covered under the current airport GSE guidelines, but may be considered under the on-road vehicle category (Appendix 1).

IV. Proposed Project Criteria

Since potential GSE projects could involve either CI or SI engines, eligibility criteria for GSE would be dependent on the base engine of the GSE and any regulatory requirements, including fleet requirements, applicable to the GSE category. For projects involving CI GSE, please refer to Chapter 5. Note that in addition to meeting the project criteria for off-road CI equipment, GSE projects applied for by the participating airlines in the GSE MOU must also be surplus to the MOU. For LSI GSE, specific project criteria will be developed based on the outcome of the proposed regulation for LSI engines and equipment currently scheduled for Board's consideration in late 2005. Staff recommends that the Board grant the Executive Officer authority to approve GSE project criteria in a Carl Moyer Program advisory. Staff proposes that until the Board adopts the upcoming LSI regulation, districts may continue to fund GSE projects using the 2003 Carl Moyer Program Guidelines. In addition, airport GSE used at non-commercial airports would be eligible for funding. During this interim period, additional GSE projects may be considered on a case-by-case basis.

Airport GSE projects funded by the Carl Moyer Program must meet a cost-effectiveness of \$5,000 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in the Guidelines.

On September 6, 2005, Governor Schwarzenegger signed Senate Bill 467 (Lowenthal) which requires the ARB to revise the Carl Moyer Program Guidelines to include projects in which an applicant turns in off-road equipment powered by an internal combustion engines and replaces that equipment with new zero-emission technologies. This legislation will take effect on January 1, 2006. ARB staff will evaluate how to incorporate the requirements of this legislation into the Carl Moyer Program in 2006.



- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf
- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.
 - Appendix A – Acronyms
 - Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
 - Appendix C – Cost-Effectiveness Calculation Methodology
 - Appendix D – Example Calculations
 - Appendix E – Description of Certification and Verification Executive Orders
 - Appendix F – Retrofit Emission Control Strategies
 - Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- Emission reductions obtained through Carl Moyer Program projects must not be required by or used to comply with any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legally binding document. Inclusion in a rail yard or port emission reduction plan, lease agreement, or other voluntarily adopted strategy does not exclude a locomotive project from funding eligibility, if such a project is not otherwise required.
- Locomotive operators utilizing an alternative emission control plan (AIECP) to comply with California's locomotive low-sulfur diesel fuel requirements shall not be eligible for Carl Moyer Program funds.
- Beginning January 1, 2007, all diesel locomotive projects must use ARB low-sulfur diesel fuel. Emission reductions and costs associated with use of ARB low-sulfur diesel shall not be included in project cost-effectiveness calculations.
- The project cost-effectiveness limit is \$14,300 per weighed ton of NOx, PM and ROG emissions reduced. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.

APPENDIX 8 - LOCOMOTIVES

Below is additional information pertaining to the On-Road Heavy-Duty Vehicle (HDV) category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

Applicants are further cautioned that CARB recently adopted Fleet Rules for refuse haulers, transit bus fleets and public fleets. Depending on the status of a regulated entity's fleet rule compliance, these vehicles may no longer be eligible for Moyer Program funding. Projects for applicants subject to the ARB Fleet Rules will be evaluated on a case-by-case basis to determine if there are any surplus emissions that remain eligible for Moyer Program incentives. Special data submittal requirements apply and are indicated in Attachment 1 of the Application Forms.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf

may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- The maximum project life for a locomotive project is 20 years.
- Because of uncertainty in locomotive load factors, locomotive project activity must be based upon fuel consumption.
- Class I locomotives subject to the South Coast MOU are eligible for Carl Moyer Program funding only if such locomotives are excluded from the fleet average emission rate calculations which demonstrate compliance with the MOU provisions. The baseline emission rates used to determine emission reductions and cost-effectiveness for these locomotive projects reflect the Tier 2 emission rates for line-haul and switch locomotives identified in Table B-16. Locomotives subject to the South Coast MOU which receive Carl Moyer Program funding are ineligible to receive fleet average emission credits.
- All locomotive new purchase or repower projects must include an electronic monitoring unit (EMU) to track activity and geographic location. Eligible EMUs include a geographic positioning system (GPS) unit, transponder device, automated vehicle locator (AVL), or other similar device. The EMU must be capable of providing complete digital information regarding total activity both within the air district and the State of California; this information shall be reported to air districts annually for the project life. The full purchase, installation and data summarization or transmittal costs associated with the EMU is eligible for Carl Moyer Program funding, and may be included when calculating project cost-effectiveness.
- All locomotive purchase and repower projects (except alternative technology switchers) must include purchase and installation of an AESS ILD to reduce unnecessary engine idling if the locomotive is not already equipped with such a device and AESS installation is technically feasible. If not already required by a rule, regulation, MOU, or other legal mandate, the purchase and installation cost of an AESS is eligible for Carl Moyer Program funding, subject to the following limitations:
 - The Carl Moyer Program may provide actual equipment costs up to a maximum of \$8,000 for a locomotive-specific AESS.
 - The Carl Moyer Program may provide the lower amount of actual installation costs of the AESS, up to a maximum of \$3,400.
 - AESS emission reductions are calculated by applying the ILD emission reduction factors in Table B-17 to the reduced engine emissions.
 - All ILDs must comply with applicable durability and warranty requirements.

- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.
- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., hour-meter records, business records, fuel receipts, etc.).
- All projects must be operational within twelve (12) months of contract execution.
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contract execution. Post-inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.
- Additional reporting and monitoring requirements are discussed below.
- The project baseline emission rate for all locomotives in the SCAB subject to the South Coast MOU shall be equivalent to the Tier 2 emission rates identified for line-haul and switch locomotives in Table B-16.
- Locomotive projects in the SCAB may not be included in the MOU fleet average emission rate compliance demonstration.
- Class I freight locomotive projects must have a minimum project life of ten years. All other locomotive projects have a minimum project life of three years. ARB may approve a shorter project life on a case by case basis. Projects with shorter lives

- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For Locomotive projects, this includes the main application as well as the information requested in Attachment 8 to the application.
- See Section IV – Project Types, and Section V – Project Criteria for additional important information, eligibility requirements and CMP limitations.
- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact" evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or

- c. Toxic Exposure: All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.

Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. Please refer to the Project Types section below for additional detail.

Project Life

Class I freight locomotive projects must have a minimum project life of ten years. All other locomotive projects have a minimum project life of three years. ARB may approve a shorter project life on a case by case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

The maximum project life for a locomotive project is 20 years.

¹ Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II), SCAQMD, March 2000.

Reporting and Monitoring

All participants in the CMP are required to keep appropriate records during the full contract period. Project life is the number of years used to determine the cost-effectiveness and is equivalent to the contract life. All equipment must operate in the AQMD for this full project life. The AQMD shall conduct periodic reviews of each project's operating records to ensure that the engine is operated as stated in the program application. Annual records must contain, at a minimum:

- Total miles traveled
- Total miles traveled in the South Coast Air Basin
- Annual fuel consumed
- Annual maintenance and repair information

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD may conduct periodic reviews of each vehicle/equipment project's operating records to ensure that the vehicle is operated as required by the project requirements.

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness². The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

- i* = discount rate (4 percent)
- n* = project life (at least 3 years)

Table 8.1 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

² Unless the AQMD "buys down" the cost of the project by adding additional funding, in which case the total grant funding amount should be used for the cost-effectiveness calculation.

Table 8.1 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

Below are excerpts³ from CARB's CMP Guidelines, Chapter 8 – Locomotives, pertinent to the AQMD RFP.

This chapter presents program criteria for locomotive projects, and provides an overview of the locomotive industry, locomotive emissions, current emission control requirements, and types of incentive projects eligible for funding. The chapter also sets requirements for installation of an idle-limiting device (ILD) on project locomotives, defines criteria for hybrid and multiple engine technology switcher projects.

I. Introduction

Locomotives move more than 40 percent of the freight in the United States, on a ton-miles basis [Association of American Railroads, 2004]. Most locomotives operating today are diesel-electric, using a diesel engine to drive a generator, which in turn drives the locomotive wheels. Locomotive engines have very long useful lives, with the capability of being rebuilt numerous times.

Locomotives provide line-haul, short-haul, switcher, and passenger service. Each of these locomotive types has discrete functions and characteristics:

- Line Haul - Line-haul locomotives typically transport goods between major urban centers, sometimes up to 3,000 miles apart. Line-haul locomotives operate at higher speeds than other locomotives and generally utilize engines with 3,000 or

³ The information below is excerpted from CARB's 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

greater horsepower. Because reliability is important for line-haul operators, these locomotives tend to be newer and well-maintained.

- **Short-Haul**-Short-haul locomotives perform a combination of line-haul and rail yard service. Typically, they use 2,000 to 3,800 horsepower engines, and move freight regionally or locally. For the purposes of the Carl Moyer Program, short-haul locomotives are treated the same as line-haul locomotives.
- **Switcher** -Switch locomotives separate and move railcars from track to track or transfer cars to and from regional carriers. Typically, they use 1,500 to 2,300 horsepower diesel engines, travel short distances at low speeds, make numerous stops, and idle frequently for long periods of time. Switcher locomotives are generally remanufactured from aging line-haul locomotives. Switchers are typically the oldest and most poorly maintained locomotives.
- **Passenger** -Passenger locomotives haul passengers rather than freight, and are typically used in high speed, line-haul type operations. The average passenger train is about 10 years old and has a 3,000 to 3,600 horsepower engine.

III. Regulatory Requirements

The U.S. Environmental Protection Agency (U.S. EPA), with its sole authority to set emission standards for new and remanufactured locomotives, has adopted phased-in locomotive emission standards [Federal Register, April 16, 1998]. Federal locomotive emission standards contain two primary provisions: 1) remanufacture emission limits applicable to railroads whenever they remanufacture or rebuild their locomotive engines, and 2) emission standards for new locomotives applicable to locomotive manufacturers.

A. Locomotive Remanufacture Emission Standards

Regulation of remanufactured locomotives is critical because locomotives are generally remanufactured five to ten times during their service lives. U.S. EPA's locomotive remanufacture emission standards therefore provide a mechanism to reduce emissions from the existing fleet. Federal locomotive remanufacture emission standards require locomotives originally manufactured in 1973 or later to meet the emission limits listed in Table 8-2 whenever they are rebuilt or remanufactured. Locomotives originally manufactured before 1973 are exempt from the federal locomotive remanufacture requirements.

**Table 8-2
Federal Exhaust Emission Standards for Locomotives
for New Engines and at Time of Remanufacture (g/bhp-hr)**

Duty-cycle	Gaseous and Particulate Emissions		
	HC	CO	NOx
	Tier 0 (1973 – 2001 model years)		
Line-haul/ Passenger	1.00	5.0	9.5
Switcher	2.10	8.0	14.0
	Tier 1 (2002 – 2004 model years)		
Line-haul/ Passenger	0.55	2.2	7.4
Switcher	1.20	2.5	11.0
	Tier 2 (2005 and later model years)		
Line-haul/ Passenger	0.30	1.5	5.5
Switcher	0.60	2.4	8.1

U.S. EPA locomotive remanufacture requirements also include an exemption for small railroads --line-haul railroads with fewer than 1,500 employees, and switch railroads with fewer than 500 employees. Surface Transportation Board (STB) freight railroad classifications, based on annual revenues, provide an equivalent mechanism for distinguishing between large and small railroads in California. STB freight and other railroad classifications, and the applicable U.S. EPA remanufacture requirements are as follows:

- **Class I Railroads** -Class I freight railroads are carriers with annual revenues greater than or equal to \$266.7 million. Locomotives owned and operated by Class I railroads in California must meet the U.S. EPA remanufacture emission limits in Table 8-2. The Union Pacific Railroad (UP) and the Burlington Northern & Santa Fe Railroad (BNSF) are the only Class I freight railroad companies operating in California.
- **Class II Railroads** -Class II railroads are carriers with annual revenues between \$21.3 and \$266.7 million. Class II railroads are exempt from federal locomotive remanufacture requirements. Currently, there are no Class II railroads headquartered in California. For the purposes of the Carl Moyer Program, a Class II railroad locomotive must meet the same project criteria as a Class III railroad locomotive.

- **Class III Railroads** -Class III railroads are carriers with annual revenues less than \$21.3 million. Class III railroads in California are largely exempt from federal locomotive engine remanufacture requirements. As a result, many older, unregulated locomotives continue to operate at Class III railroads.
- **Military and Industrial Railroads** – Over 100 military and industrial locomotives owned by non-railroad companies operate in California. These locomotives are generally much smaller in size and horsepower than locomotives used by larger rail yards, are confined to small yards or industrial plants, and are typically 40 to 60 years old. Military and industrial locomotives are largely exempt from federal locomotive remanufacture requirements. For the purposes of the Carl Moyer Program, military and industrial locomotives must meet the same project criteria as a Class III railroad locomotive.
- **Passenger Service Railroads** – Amtrak is California's only passenger locomotive operator not considered a small railroad by federal regulations. Amtrak is therefore the state's only passenger railroad subject to federal locomotive remanufacture requirements. Amtrak locomotives are currently required to meet all Tier 1 and Tier 2 emission limits, but are not subject to Tier 0 remanufacture requirements for their 1973 through 2001 model year locomotives until 2007.

The practical impact of the federal small railroad exemption from locomotive remanufacture requirements is that UP, BNSF, and Amtrak locomotives must meet federal remanufacture emission limits, while other railroads can remanufacture to uncontrolled emission levels.

B. Emission Standards for New Locomotives

The second component of federal locomotive standards took effect in 2000, applies to locomotive manufacturers, and requires all new locomotives to meet the tiered emission standards in Table 8-2. Because these standards apply to locomotive manufacturers, all railroads, regardless of size, must purchase locomotives meeting Tier 2 emission limits when purchasing a new locomotive. In practice, however, only Class I railroads purchase new locomotives, while Class III railroads typically purchase existing in-use locomotives.

C. Upcoming Regulations

In May 2004, U.S. EPA issued an Advanced Notice of Proposed Rulemaking, signaling its intent to pursue more stringent standards for new and existing locomotives [U.S. EPA, 2004]. The standards are likely to be modeled after 2007 and 2010 on-road and off-road diesel engine standards, and to be based on the application of catalytic after-treatment technology. The new locomotive standards could be phased in beginning as early as 2011.

D. South Coast Locomotive Memorandum of Understanding

The Air Resources Board (ARB or "Board") and U.S. EPA have signed an enforceable Memorandum of Understanding (MOU) with UP and BNSF railroads to implement a locomotive fleet average emissions program in the South Coast Air Basin (SCAB). The purpose of the South Coast MOU is to expedite the introduction of new, lower-emitting locomotive engines in the SCAB. The agreement commits UP and BNSF railroads to

achieve a 5.5 g/bhp-hr locomotive fleet average NOx emission rate in the SCAB by 2010. The railroads can also get credit towards their 2010 fleet average target by exceeding the fleet average emissions targets between 2005 and 2009.

In order to ensure Carl Moyer Program funding achieves surplus emission reductions, railroads subject to the South Coast MOU must meet the following minimum project criteria:

- Locomotive projects in the SCAB may not be included in the MOU fleet average emission rate compliance demonstration.
- The project baseline emission rate for all locomotives in the SCAB subject to the South Coast MOU shall be equivalent to the Tier 2 emission rates identified for line-haul and switch locomotives in Table B-16.
- Class I freight railroad locomotive projects in all air districts, with the exception of the South Coast, must have a minimum project life of ten years.

This last requirement helps ensure that a cleaner locomotive funded in another air district cannot be exchanged for a dirtier locomotive in the SCAB at the completion of the project life to demonstrate compliance with the South Coast MOU. Allowing such an exchange, even at the end of the project life, could result in higher overall emissions since the locomotive exchanged into the participating air district could be dirtier than the original project locomotive.

E. Statewide Locomotive Memorandum of Understanding

In June 2005, ARB signed a Statewide MOU with UP and BNSF railroads. The MOU requires UP and BNSF to install an ILD on over 99 percent of their intrastate locomotives between June 30, 2006 and June 30, 2008. The Statewide MOU also requires 80 percent of the diesel fuel dispensed to UP and BNSF locomotives in California to be low-sulfur diesel by the end of 2006. This agreement complements an ARB intrastate locomotive fuels regulation, adopted in November 2004, which requires all intrastate diesel locomotives to use California reformulated low-sulfur diesel fuel by January 1, 2007. The Statewide MOU also requires that railroads conduct health risk assessments at California's rail yards and consider additional long-term strategies to reduce idling PM emissions and health risks. Because the Statewide MOU requires virtually all UP and BNSF locomotives have ILDs, ILD projects for UP and BNSF locomotives are not eligible for Carl Moyer Program funding.

IV. Potential Projects

Projects eligible for Carl Moyer Program incentive funding include repower or retrofit of an existing locomotive engine, purchase of a new reduced-emission engine or locomotive, or installation of an ILD. Hybrid and multiple engine switch locomotive projects have also received Carl Moyer Program funding in recent years and are eligible for funding. Other technologies that offer real emission reductions may also be considered on a case-by-case basis. Funding for projects considered on a case-by-case basis shall be contingent on a clear demonstration that the project shall achieve surplus, real, quantifiable, and enforceable emission reductions.

A. Repower

A locomotive engine repower involves replacing an existing locomotive engine with a newer, lower-emitting engine. Locomotive repower projects must achieve at least a 15 percent NOx reduction beyond existing emissions levels. Repower projects for 1973 and later year Class III locomotives must achieve at least Tier 0-equivalent emission rates if a remanufacture kit certified by U.S. EPA to meet Tier 0 or lower emission levels is available. Baseline emissions for locomotive repower projects reflect federal emission requirements for engine remanufacture (e.g. Tier 0 through Tier 2 emission rates for Class I locomotives, and uncontrolled emissions for pre-1973 locomotives and Class III locomotives). Baseline costs for repower projects reflect the cost to remanufacture the project engine or \$50,000, whichever is greater. All locomotive repower projects must include installation of an automatic engine start-stop (AESS) idle reduction device if the project locomotive is not already equipped with such a device and installation is technically feasible.

B. Retrofits

Retrofits involve hardware modifications to the engine or exhaust system to reduce emissions. Potential retrofit projects involve the addition of an ARB-verified retrofit device, or installation of a U.S. EPA-certified remanufacture emission kit. For most Carl Moyer Program categories, a retrofit device must be ARB-verified in order to be considered for funding. To date, however, very few retrofit technologies have been verified to reduce emissions from a locomotive. Retrofit technologies generally develop first for on-road sources, and are refined for use on off-road engines. Because of the lack of retrofit devices verified for use on a locomotive engine, ARB will consider funding a locomotive retrofit device which is not yet ARB-verified for use on locomotives on a case-by-case basis. Applicants for funding on a case-by-case basis must meet the applicable project criteria identified in Section V of this chapter.

In recent years, engine manufacturers have also developed U.S. EPA-certified engine remanufacture kits for use on locomotives. To be eligible for Moyer Program funding, remanufacture kits must be U.S. EPA certified to achieve at least Tier 0 locomotive emission standards on the project locomotive engine. Remanufacture kit projects must also achieve at least 15 percent NOx reductions from the project locomotive if taking credit for NOx emission reductions. Kits which utilize fuel injection timing retard must be clearly demonstrated to not increase in-use PM or hydrocarbon emissions to be eligible for funding. Individual engine parts or other locomotive components are not eligible for funding except as part of a complete U.S. EPA-certified engine remanufacture kit.

C. Idle-Limiting Devices

Locomotive operators idle their engines to maintain battery charge, warmth of the engine coolant, fuel, oil, and water, and comfortable temperatures inside the operator cabs. Locomotives also idle to ensure the engine is readily available (avoiding unnecessary starting and shutting-down), and because of habitual practice. Installation of an ILD can significantly reduce emissions from locomotives, which typically spend 40 to 60 percent of their operating time in the idle duty cycle.

The ILD technologies on the market today vary in operational requirements and predictability of idling reductions. The automatic engine start-stop (AESS) provides an automatic, fully integrated mechanism to reduce idling and does not rely upon a locomotive operator or require additional engines or infrastructure. An AESS typically uses a central computer to monitor vital engine parameters, such as battery charge, water temperature, and brake pressure, and automatically shuts off the engine after a set time. This technology is generally applicable to more locomotive types and operating conditions than other ILD devices.

Other ILDs include diesel driven heating systems (DDHS), stationary power plug-in units, and locomotive auxiliary power units (APU). These ILD technologies can reduce locomotive idling time under certain conditions. For example, a DDHS is particularly effective in colder climates, while a stationary power plug-in unit is feasible only for site-specific locomotives where plug-in technology can be permanently located. Costs for these ILDs range from \$4,000 to \$12,000 for a shore power plug-in unit, \$8,000 to \$15,000 for an AESS, and \$25,000 to \$35,000 for an DHSS or APU.

Because an AESS unit can provide significant and predictable air quality benefits at a relatively low cost, all locomotive projects without a functioning ILD must include installation of an AESS, if feasible, to receive program funding. The Carl Moyer Program shall pay actual equipment costs up to a maximum of \$8,000 for the AESS and actual installation costs of the AESS up to \$3,400. The award cap reflects the fact that AESS installation significantly reduces locomotive operating costs and has a typical capital payback period of one to three years. Other ILD technologies may be considered for program funding on a case-by-case basis if an AESS device cannot be installed on the project locomotive.

D. Alternative Technology Switch Locomotives

In recent years, several diesel-electric hybrid switch locomotives have been funded through the Carl Moyer Program. Hybrid switch locomotives significantly reduce PM and NOx emissions, idling time, and fuel use compared to conventional switchers. These locomotives use the same basic concept as a gas-electric hybrid automobile -- a battery pack powers the locomotive, while a small diesel engine runs as needed to keep the batteries charged. Hybrid locomotives typically utilize an aging locomotive frame and replace the existing large diesel engine, generator, and analog controls with a small diesel generator, battery pack, and computerized control module. The batteries can provide up to 90 percent of the locomotive horsepower at full load, while the remaining power comes from a 300 to 800 horsepower diesel engine. In addition to driving the locomotive, the added weight of the battery pack provides additional traction to propel the locomotive.

Switch locomotive projects which involve replacing the main engine with multiple heavy-duty truck or off-road engines have also become more commonplace. Multi-engine locomotive projects also typically involve significantly refurbishing an existing locomotive frame with new batteries, electronics, and controls. The replacement engines typically have a much lower horsepower rating and lower emissions than the engine they replace. For the purposes of the Carl Moyer Program, hybrid and multiple engine switchers, as described above, are defined as alternative technology switchers.

Switch locomotive purchase practices are unique. Few new locomotives are manufactured and purchased by the railroads for use in switcher service. Instead, as line-haul locomotives get older and less reliable, they are remanufactured for switching service and moved to a rail yard. In many cases, Class III railroads will purchase older switchers when they are retired by Class I railroads. Because railroads do not typically purchase newly manufactured switcher locomotives, an alternative technology switcher is considered a new locomotive purchase for the purpose of the Carl Moyer Program.

Baseline project emissions and costs for alternative technology switchers also reflect differing Class I and Class III regulatory requirements and purchase practices. Since Class I railroads are required to meet federal locomotive remanufacture emission standards for 1973 and newer locomotives, a new Class I switcher would typically emit at Tier 0 emission rates. Class III railroads --which are not subject to federal requirements and typically purchase older, in-use locomotives --typically remanufacture to uncontrolled emission levels. Baseline emissions for hybrid and multiple engine switcher projects at Class I and Class III railroads therefore reflect Tier 0 and uncontrolled emission rates, respectively.

The Carl Moyer Program may fund up to 60 percent and 80 percent of the total cost of an alternative technology switcher for Class I and Class III railroads, respectively.

Project funding caps reflect the differential cost of a typical switcher purchased by Class I and Class III railroads, as described above. Funding caps have also been set in recognition that an alternative technology switcher achieves significant fuel cost savings over its lifetime relative to a traditional switch locomotive.

U.S. EPA requires new switchers with an aggregate engine power rating greater than or equal to 1,006 horsepower to be certified to meet federal locomotive emission standards. An alternative technology switcher with federal locomotive certification must be evaluated based upon its certified locomotive emission rate. If federal locomotive certification is not required or not yet complete, the switcher may be evaluated and considered for Carl Moyer Program funding based upon the project engine's on- or off-road engine certification. However, alternative technology switchers must meet all federal certification requirements before program funding can be distributed to the project participant. Federal locomotive certification must demonstrate the locomotive emits NOx at a rate at least 30 percent below the Tier 2 locomotive emission standard.

V. Proposed Project Criteria

These criteria provide the minimum requirements for all Carl Moyer Program locomotive projects. Participating districts retain the authority to impose additional requirements in order to address local concerns.

A. General

- Emission reductions obtained through Carl Moyer Program projects must not be required by or used to comply with any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legally binding document. Inclusion

- in a rail yard or port emission reduction plan, lease agreement, or other voluntarily adopted strategy does not exclude a locomotive project from funding eligibility, if such a project is not otherwise required.
- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.
- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.
- Locomotive operators utilizing an alternative emission control plan (AIECP) to comply with California's locomotive low-sulfur diesel fuel requirements shall not be eligible for Carl Moyer Program funds.
- Beginning January 1, 2007, all diesel locomotive projects must use ARB low-sulfur diesel fuel. Emission reductions and costs associated with use of ARB low-sulfur diesel shall not be included in project cost-effectiveness calculations.
- Projects must meet a cost-effectiveness of \$14,300 per weighted ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.
- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.
- The contract term for all locomotive projects must be equivalent to the project life. The project life is defined as the number of years used to evaluate project cost-effectiveness.
- Class I freight locomotive projects must have a minimum project life of ten years. All other locomotive projects have a minimum project life of three years. ARB may approve a shorter project life on a case by case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.
- The maximum project life for a locomotive project is 20 years.
- Because of uncertainty in locomotive load factors, locomotive project activity must be based upon fuel consumption.
- Seventy-five percent of estimated annual miles traveled and annual fuel consumption must occur in the South Coast Air Basin.
- The energy consumption rate for a locomotive engine is 20.8 bhp-hr per gallon. The energy consumption factor for an on-or off-road engine used in a locomotive application is 18.5 bhp-hr per gallon.
- Carl Moyer Program funds cannot be used to pay for labor or parts used during routine maintenance.

- Class I locomotives subject to the South Coast MOU are eligible for Carl Moyer Program funding only if such locomotives are excluded from the fleet average emission rate calculations which demonstrate compliance with the MOU provisions. The baseline emission rates used to determine emission reductions and cost-effectiveness for these locomotive projects reflect the Tier 2 emission rates for line-haul and switch locomotives identified in Table B-16. Locomotives subject to the South Coast MOU which receive Carl Moyer Program funding are ineligible to receive fleet average emission credits.
- Military and industrial locomotives and locomotives owned or operated by Class II railroads use the same Carl Moyer Program criteria as Class III railroad locomotives.
- Locomotive engine emissions, if based on emissions testing, must be determined following the most current and approved U.S. EPA emission testing procedures for locomotives.
- All locomotive new purchase or repower projects must include an electronic monitoring unit (EMU) to track activity and geographic location. Eligible EMUs include a geographic positioning system (GPS) unit, transponder device, automated vehicle locator (AVL), or other similar device. The EMU must be capable of providing complete digital information regarding total activity both within the air district and the State of California; this information shall be reported to air districts annually for the project life. The full purchase, installation and data summarization or transmittal costs associated with the EMU is eligible for Carl Moyer Program funding, and may be included when calculating project cost-effectiveness.
- For all liquefied natural gas-diesel or other dual fuel locomotive projects, an EMU must be used to electronically monitor activity and fuel consumption by fuel type.
- Potential projects which fall outside of these criteria may be considered on a case-by-case basis if evidence provided by the air district suggests potential surplus, real, quantifiable and enforceable emission reduction benefits.
- Air districts must consult with ARB staff to determine eligibility of all projects considered for funding on case-by-case basis. All projects considered on a case-by-case basis must receive ARB approval prior to receiving program funding.

B. New Purchase

- Purchase of a new locomotive must achieve federal Tier 2 locomotive emission standards for PM and hydrocarbon emissions, and a NOx emission rate at least 30 percent below Tier 2 locomotive emission standards.
- For the purposes of the Carl Moyer Program, an alternative technology switcher is defined as a hybrid (e.g., Green Goat) or multiple engine switcher in which an existing locomotive chassis is significantly refurbished with a new engine, brakes, electronic controls, and/or other equipment. An alternative technology switcher project is considered a new locomotive purchase and must meet all emission

criteria for a new locomotive purchase. Other switch locomotives may be considered for funding as an alternative technology switcher on a case-by-case basis.

- Baseline emissions for an alternative technology switcher project reflect Tier 0 emission rates for Class I locomotives and uncontrolled emission rates for Class III locomotives. The cost of an alternative technology switcher eligible for Carl Moyer Program funding shall not exceed 60 percent of the total cost of the new switcher for Class I railroad switchers, and 80 percent of the total cost of the new switcher for Class III railroad switchers.
- Baseline emissions and costs for a new locomotive purchase project which is not an alternative technology switcher reflect Tier 2 emission rates and the cost of a new Tier 2 locomotive, respectively.
- An alternative technology switcher with federal locomotive certification must be evaluated based upon its federally certified locomotive emission rate; alternatively, if federal locomotive certification is not required or not yet complete, the project may be evaluated and considered for funding based upon its on- or off-road engine certification. If not federally certified, locomotives may on a case-by-case basis utilize NOx emission rates associated an ARB determination of an Ultra-Low Emission Locomotive under the South Coast MOU. Locomotives must meet all federal certification requirements before funding can be distributed to the project participant.

C. Repower

- Locomotive repower projects must achieve at least a 15 percent NOx reduction beyond existing emission levels.
- Baseline emissions for a locomotive engine repower are based upon federal emission requirements for engine remanufacture (see Section III of this chapter) and the corresponding emission rates in Table B-16. Baseline costs for a locomotive engine repower equal the actual remanufacture cost or \$50,000, whichever is greater.
- 1973 and later model year Class III locomotives must achieve at least Tier 0 emission levels, if Tier 0 remanufacture kits are available.
- Alternative-fueled engines must be ARB- or U.S. EPA-certified to achieve a reduced emission level in a locomotive application. Alternative-fueled engines not certified to achieve a reduced emission limit in a locomotive application may be eligible for funding on a case-by-case basis.

D. Retrofit

- A retrofit device must be ARB-verified to reduce emissions from the project

engine in order to be eligible for funding. Non-verified technologies may be considered on a case-by-case basis if: 1) an application for verification of the retrofit or add-on equipment on the proposed engine category is pending, 2) the retrofit or add-on equipment has been verified or certified by ARB or U.S. EPA for use on a similar engine category, or 3) project emission benefit, durability, and applicability have been or shall be demonstrated through in-situ testing.

- Retrofits considered for funding on a case-by-case basis must be clearly demonstrated to achieve the expected emission reductions for the full project life, function properly under the project locomotive engine duty cycle, and to not harm the locomotive engine.
- Remanufacture emission kits must achieve at least a 15 percent NOx reduction and be U.S. EPA certified to achieve at least Tier 0 locomotive emission standards on the project locomotive engine. Emission kits must be demonstrated not to increase in-use emissions of NOx, ROG, or PM emissions. Individual engine parts or other locomotive components are not eligible for funding except as part of a complete U.S. EPA certified engine remanufacture kit.

E. Idle-Limiting Device

- All locomotive purchase and repower projects (except alternative technology switchers) must include purchase and installation of an AESS ILD to reduce unnecessary engine idling if the locomotive is not already equipped with such a device and AESS installation is technically feasible.
- If not already required by a rule, regulation, MOU, or other legal mandate, the purchase and installation cost of an AESS is eligible for Carl Moyer Program funding, subject to the following limitations:
 - The Carl Moyer Program may provide actual equipment costs up to a maximum of \$8,000 for a locomotive-specific AESS.
 - The Carl Moyer Program may provide the lower amount of actual installation costs of the AESS, up to a maximum of \$3,400.
 - AESS emission reductions are calculated by applying the ILD emission reduction factors in Table B-17 to the reduced engine emissions.
 - All ILDs must comply with applicable durability and warranty requirements.

F. Scrap

- A baseline engine in a repower project must be destroyed by scrapping or drilling a hole in the engine block rendering it inoperable unless prior approval for alternate disposition has been granted by ARB staff. At the discretion of the district, core charges are eligible for funding and, if included, must be part of the cost-effectiveness calculation.

I. Cost-Effectiveness

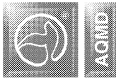
Emission reduction benefits represent the difference in the emission levels of the existing baseline technology relative to the newer, reduced-emission technology. Baseline and reduced engine emission factors are listed in Table B-16 in Appendix B.

As mentioned earlier, an AESS ILD is required for all locomotive projects if feasible (except for alternative technology switchers). An Idle-Limiting Device Emission Reduction Factor, identified in Table B-17, is used to account for the air quality benefits of reduced idling.

Hydrocarbon (HC) emissions or emission limits for diesel locomotive technologies must be converted to ROG emissions based upon the following formula:

$$HC = ROG * 0.98$$

A detailed description and examples of how to calculate cost-effectiveness can be found in Part IV, Appendix D of the 2005 CMP Guidelines. Locomotive emission reduction calculations will use either the fuel-or hour-based formula as discussed in Part IV, Appendix C.



APPENDIX 9 - MARINE VESSELS

Below is additional information pertaining to the Marine Vessel category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed by clicking the link on AQMD's home page at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/visions05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf
- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf

- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.

- Appendix A – Acronyms
- Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations—see Table B18 for Marine Emission Factors
- Appendix C – Cost-Effectiveness Calculation Methodology—see Appendix D – Example Calculations—see Section IX for examples of marine vessel cost-effectiveness calculations
- Appendix E – Description of Certification and Verification Executive Orders
- Appendix F – Retrofit Emission Control Strategies
- Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

This chapter presents program criteria for marine vessel projects, and provides an overview of types of marine vessels, current emission control requirements, and available emission reduction technologies. The chapter also expands eligibility for Carl Moyer Program marine vessel projects to marine vessels with wet exhaust systems, and utilizes a single set of emission factors for propulsion and auxiliary engines, consistent with federal emission standards.

- Under CARB's 2005 CMP Guidelines, marine vessels eligible for funding include harbor craft and oceangoing ships, but exclude recreational vessels such as personal watercraft. AQMD has further restricted eligibility. Only marine vessels that operate within the Port are eligible for Moyer funding. Marine vessels that generally operate outside of the ports such as, fishing, charter and dive boats are not eligible. Fixed route boats such as dinner cruise, harbor tours etc., may be considered on a case-by-case basis.
- Vessels with wet exhaust systems and now eligible for Carl Moyer Program marine; however in order to ensure emission reductions projects on vessels with wet exhaust systems are not overstated, a conservative 20 percent NOx and PM emission reduction factor must be applied to both the baseline and reduced emission engine to reflect the overall lower emissions of wet exhaust systems.
- Beginning January 1, 2007, all harbor craft with diesel engines must use ARB low-sulfur diesel fuel to be eligible for Carl Moyer Program funding. Fuel Correction factors are already included in Table B-18.

reduce emissions from existing harbor craft fleets. The rule is scheduled to be considered for adoption by the Board in mid-to late-2006. If the rule is adopted, ARB shall publish an advisory describing how the rule impacts Carl Moyer Program funding eligibility.

- Particulate filters and diesel oxidation catalysts are eligible for funding. Because of the lack of retrofit devices verified for use on a marine vessel engine, a marine vessel retrofit device which is not yet verified may be considered for funding on a case-by-case basis if all other eligibility criteria are met.
- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package. For marine vessel projects, this includes the main application as well as the information requested in Attachment 9 to the application.
- Both diesel to diesel retrofits and conversions to alternative fuel are allowed. Projects where gasoline-fueled engines are replaced with new diesel engines or diesel engines are replaced with gasoline engines are not eligible for the CMP.
- If the horsepower rating of the new engine exceeds that of the existing engine by 25 percent or more, the difference in the rating will be taken into account in the emission reduction calculation.
- Replacement engines for repowers must meet current standards (Part IV, Appendix B, Table B-18, CARB CMP Guidelines).
- Pre- and Post-Inspection of all vehicles/engines approved for funding is required as well as verification of engine destruction. Pre-Inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contraction execution. Post-Inspection and verification of the destruction of the engine being replaced will occur once all work on vehicles is completed.
- Please review CARB's CMP Guidelines, Part IV, Appendix E for a comprehensive description of certification Executive Orders for new engines and Verification Letters for retrofit devices.
- All projects must be operational within twelve (12) months of contract execution.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG +

- Although ARB's project cost-effectiveness limit is 5,000 per weighed ton of NOx, PM and ROG emissions reduced, the more stringent AQMD cost-effectiveness limit is **\$5,000 per weighed ton of NOx, PM and ROG emissions reduced**. A four (4) percent capital recovery factor is used for the cost-effectiveness calculation.

- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- NOx reductions must not result in increases in PM or HC emission relative to baseline levels.
- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require individual quotes for both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost between an optionally certified low-emission vehicle/engine/equipment and its new base standard emission equivalent; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.
- Applicants **must** also provide documentation that justifies the activity level projected for the vehicles (i.e., mileage logs, hour-meter records, business records, fuel receipts, etc.).
- The new engine/equipment/vehicle must not have been purchased prior to the effective date of the contract.

AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Additional reporting and monitoring requirements are discussed below.

- All projects will be outfitted with an electronic monitoring unit (EMU). The cost will be funded by the CMP program.
- ARB staff is also developing a rule that may require the Best Available Control Technology (BACT), such as after-treatment devices or accelerated turnover, to

20*PM) reduced on an equipment-by-equipment basis, as well as a project's "disproportionate impact" evaluation (discussed below). Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet minimum cost-effectiveness criteria may be funded.

In compliance with AB 1390, Firebaugh, the FY 2006 CMP requires that at least 50 percent of the funds be spent in areas that are disproportionately impacted by air pollution. CARB has issued broad goals and left the details of how to implement this requirement to each air agency. In the South Coast Air Quality Management District, the disproportionately impacted areas are defined by a weighted formula that includes poverty level, particulate matter (PM) exposure and toxic exposure. The process is described below:

1. All projects must qualify for the CMP by meeting the cost-effectiveness limits established in the RFP.
 2. All projects will be evaluated according to the following criteria to qualify for Disproportionate Impact funding:
 - a. Poverty Level: All projects in areas where at least 10 percent of the population falls below the Federal poverty level based on the year 2000 census data, will be eligible to be included in this category, and
 - b. PM Exposure: All projects in areas with the highest 15 percent of PM concentration will be eligible to be ranked in this category. The highest 15 percent of PM concentration is 46 micrograms per cubic meter and above, on an annual average, or
 - c. Toxic Exposure: All projects listed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES II) report¹ as having a cancer risk of 1,000 in a million and above will be eligible to be ranked in this category.
- Data for the poverty level and PM and toxic exposures were obtained from the U.S. Census, the 1998 AQMD monitoring data and Mates II study respectively.

3. Fifty percent of the \$30.1 million available for this RFP will be allocated among proposals located in disproportionately impacted areas. If the funding for disproportionately impacted areas is not exhausted with the outlined methodology, then staff will return to the Governing Board for direction. If funding requests exceed 50 percent of the total available funding, then all qualified projects will be ranked based on their disproportionate impact. Each

¹ Multiple Air Toxics Exposure Study in the South Coast Air-Basin (MATES II), SCAQMD, March 2000.

project will be assigned a score that is comprised of 40 percent for poverty level, and 30 percent each for PM and toxic exposures. Proposals with the highest scores will receive funding until 50 percent of the total funding is allocated.

All the proposals not awarded under the fifty percent disproportionate impact funding analysis will then be ranked according to cost-effectiveness, with the most cost-effective project funded first and then in descending order for each funding category until the remainder of the Moyer Funds are exhausted. Some projects that exceed the cost-effectiveness ceiling may receive partial funding, depending on their rankings.

Eligible Costs

Eligible project costs (i.e., costs for which Moyer funding is requested) are limited to the incremental cost of a project to implement the reduced emission technology. Operation and maintenance costs are not eligible for CMP funding. **A GPS system will be installed at no cost to the applicant.** The cost of the system will be added during the project evaluation period and does not need to be included in the application. However, please be advised that this added cost of the GPS system will be added to the total grant cost for the purpose of calculating a project's overall cost-effectiveness, even though the GPS unit will be purchased by the AQMD directly.

Payment Terms

Twenty percent of the funds will be withheld for marine vessel projects, to be remitted annually on a sliding scale. Upon receipt of the annual report, the twenty percent withheld will be decreased according to the following:

Year 1	15% withheld
Year 2	10% withheld
Year 3	7% withheld
Year 4	0% withheld

Reporting and Monitoring

During the project life, the AQMD has the authority to conduct periodic checks or solicit operating records from the applicant that has received Moyer funds for each retrofitted or repowered marine engine. Project life is the number of years used to determine the cost-effectiveness. All equipment must operate in the AQMD for this full project life. Records must contain, at minimum the following:

- marine vessel identification numbers
- retrofit hardware model and serial numbers

- nautical miles traveled in the AQMD and California coastal waters
- estimated fuel consumption in AQMD coastal waters
- estimated hours of operation in the California and AQMD coastal waters
- and maintenance and repair dates (or any servicing information).

Records must be retained and updated throughout the project life and made available for AQMD inspection. The AQMD shall conduct periodic reviews of each project's operating records to ensure that the engine is operated as stated in the program application.

Fuel Consumption Documentation

As noted earlier, applicants are required to submit with their application receipts for the most recent 12 months to document fuel consumption of the project vessel(s). These fuel receipts should include the date of purchase and the number of gallons purchased. The total of the fuel receipts must match the fuel consumption listed on the project application. The applicant should indicate how the fuel use should be divided between main and auxiliary engines. Ten percent of the annual fuel will be allocated to the auxiliary engines if no other information is provided.

Reporting and Monitoring

Project marine vessels must be equipped with a functioning tamper proof electronic monitoring unit (EMU) to track activity and geographic location. The EMU must be turned on and functional when the project engine is running for the life of the project, to record all vessel trips and activity. **An EMU system will be installed at no cost to the applicant.** Electronic information from the EMU regarding total and percent of activity (fuel use or hours of operation) within the air district coastal boundary and California Coastal Waters must be reported to air district annually for the project life. The grantee is responsible for assuring a working EMU is on the project vessel for the full project life.

Project Life

As discussed above, a key parameter in the determination of a project's emission reduction benefit is its project life. The acceptable maximum life for calculating the project benefits of on-road vehicle projects is summarized below in Table 9.1. Applicants must provide documentation to justify a longer project life.

Table – 9.1 Default Project Life for Marine Vessels

Category	Acceptable Life
Category 1 Engines	16 years
Category 2 Engines	23 years
Auxiliary Engines (Categories 1 or 2)	17 years

Cost-Effectiveness Evaluation Discussion

Cost-effectiveness calculations are based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is highlighted above. Activity levels may use hours of operation or fuel consumption but documentation in the form of fuel receipts or meter readings must be provided. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process. Only CMP funds are to be used in determining cost-effectiveness. The one-time incentive grant amount is to be amortized over the project life (which is also the contract term) at a discount rate of 4 percent. The amortization formula (given below) yields a capital recovery factor (CRF), which, when multiplied by the initial capital cost, gives the annual cost of a project over its project term.

$$CRF = [(1 + i)^n (i)] / [(1 + i)^n - 1]$$

where

i = discount rate (4 percent)

n = project life (at least 3 years)

Table 9.2 lists the CRF for different project lives using a discount rate of 4 percent. Cost-effectiveness is determined by dividing the annualized costs of a project by the annual weighted emission reductions offered by the project.

Table 9.2 – Capital Recovery Factors (CRF) for Various Project Lives At 4 Percent Discount Rate

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123
11	0.114
12	0.107
13	0.100
14	0.095
15	0.090
16	0.086
17	0.082
18	0.079
19	0.076
20	0.074

Executive Order Interpretation

CARB certifies engines destined for sale in California and provides the engine manufacturers with an Executive Order (EO) for each certified engine family. An example of an EO is shown in Figure 9.1. The EO includes general information about the certified engine such as engine family, displacement, horsepower rating(s), intended service class, and emission control systems. It also shows the applicable certification emission standards as well as the average emission levels measured during the actual certification test procedure. **For the purpose of the CMP, only the “Direct” emission standards are used in calculating emission benefits.** The certification emission standards are shown in the row titled “(DIRECT) STD” under the respective “FTP” column headings for each pollutant.

Below are excerpts² from CARB’s CMP Guidelines (Chapter 1 – On-Road Vehicles) pertinent to the AQMD RFP.

I. Introduction

This chapter presents program criteria for marine vessel projects, and provides an overview of types of marine vessels, current emission control requirements, and available emission reduction technologies. The chapter also expands eligibility for Carl Moyer Program marine vessel projects to marine vessels with wet exhaust systems, and utilizes a single set of emission factors for propulsion and auxiliary engines, consistent with federal emission standards.

A. Propulsion Engines³

Both propulsion and auxiliary marine vessel engines are eligible for Carl Moyer Program funding. For the purpose of the Carl Moyer Program, a propulsion engine is defined as an engine that powers the vessel through the water or directs the movement of the vessel.

B. Auxiliary Engines

Auxiliary engines are used to power on-board equipment such as electrical lights, refrigeration units, and radios. For the purposes of the Carl Moyer Program, an auxiliary engine is defined as a marine vessel engine that is not the propulsion engines whose fuel, cooling, or exhaust systems are an integral part of the vessel or require special mounting hardware. All other auxiliary engines are considered portable and may be eligible for funding under the Off-Road Compression Ignition project criteria (See Chapter 5).

II. Emissions

Marine vessels are a significant source of airborne particulate matter (PM) and oxides of nitrogen (NOx), particularly at and around the State’s major maritime ports. The Ports of Los Angeles and Long Beach are among the busiest in the world, and emissions from marine vessels serving the ports are recognized to impact air quality in surrounding communities and the South Coast Air Basin. As trade with the Pacific Rim countries continues to grow, marine vessel emissions are projected to increase significantly.

² The information below is excerpted from CARB’s 2005 CMP Guidelines. Not all sections of the guidelines were pasted here, but CARB numbering was retained to stay consistent with CARB Guidelines for easy cross-reference.

³ Because these are excerpts from the CARB CMP guidelines and sections have been omitted, the section numbering may be different from that in the CARB document.

Table 9-2
U.S. EPA Marine Propulsion and Auxiliary Engine Emission Standards (g/kW-hr)*

Displacement (liter/cyl)	Starting Date	NOx+THC**	PM
D < 0.9	2005	7.5	0.40
0.9 < D < 1.2	2004	7.2	0.30
1.2 < D < 2.5	2004	7.2	0.20
2.5 < D < 5.0	2007	7.2	0.20
5 < D < 15	2007	5.8	0.20
15 < D < 20 (P < 3300 KW)	2007	7.8	0.27
15 < D < 20 (P > 3300 KW)	2007	8.7	0.50
20 < D < 25	2007	9.8	0.50
25 < D < 30	2007	11.0	0.50

* grams per kilowatt-hour.
** NOx plus total hydrocarbon emissions.

ARB staff is also developing a rule that may require the Best Available Control Technology (BACT), such as after-treatment devices or accelerated turnover, to reduce emissions from existing harbor craft fleets. The rule is scheduled to be considered for adoption by the Board in mid-to late-2006. If the rule is adopted, ARB shall publish an advisory describing how the rule impacts Carl Moyer Program funding eligibility.

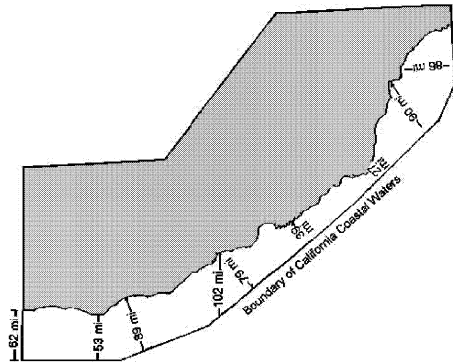
B. Ongoing Vessel Emission Standards

For information on ongoing vessel emission standards please consult, the ARB Moyer Program Guidelines Part II, Chapter 9. **IV. Potential Projects**
Marine vessel projects that could potentially qualify for incentive funding under the Carl Moyer Program for marine vessels include the purchase of a new reduced emission marine vessel, a marine vessel repower, or a marine vessel retrofit. Shore power projects to reduce marine vessel auxiliary engine emissions may also be eligible for Carl Moyer Program funding and are discussed in Chapter 12. Projects to replace gasoline-fueled engines with diesel engines are not eligible for funding.

A. New Purchase

New marine vessels with propulsion engines certified to U.S. EPA's Blue Sky Series emission limits are eligible for Carl Moyer Program funding. While no

Figure 9-1 California Coastal Water Boundaries



III. Regulatory Requirements

Most marine vessels in operation today have uncontrolled engines, since marine vessel emission standards have only recently begun being phased-in. Harbor craft began being subject to U.S. Environmental Protection Agency (U.S. EPA) emission standards beginning in 2004, while new ongoing vessels have recently become subject to federal and international emission standards.

A. Harbor Craft Emission Standards

Unlike other Carl Moyer Program categories, marine vessel propulsion and auxiliary engine emission standards are based upon cylinder displacement rather than horsepower. Basing standards on displacement rather than horsepower is intended to help ensure that each engine is not subject to multiple standards, since marine engines can be tuned for different power output.

U.S. EPA harbor craft emission standards, adopted in 1999, apply to new diesel-powered engines with a displacement of up to 30 liters per cylinder. The standards apply to both propulsion and auxiliary engines and take effect between 2004 and 2007, depending upon the engine size [Federal Register, 1999]. Table 9-2 provides more information regarding federal harbor craft engine standards.

marine vessel propulsion engines currently meet the Blue Sky Standards, engines meeting certification emission limits may become commercially available as engine technologies continue to advance.

B. Repower

To date, most Carl Moyer Program marine vessel projects have involved replacing or "repowering" an old harbor craft engine with a newer, cleaner engine. Most of these projects have involved replacing an older mechanical engine with a newer electronically controlled engine. For all Carl Moyer Program engine repowers, the replacement engine certified emission rate must provide at least a 15 percent NOx reduction relative to the baseline engine. If the replacement engine is significantly modified or re-configured in any way during the project life, emissions testing must be conducted to determine its new emission rates.

Engine repowers for marine vessels equipped with wet exhaust system are eligible for Carl Moyer Program funding. Since a wet exhaust system reduces air emissions from both the baseline and the newer, cleaner engine, repower projects on marine vessels with these systems may result in slightly fewer emission reductions compared to repowers of vessels with dry exhaust. An analysis of emissions data from California harbor craft indicates wet exhaust systems reduce PM and NOx emissions from propulsion and auxiliary engines by 1 to 19 percent. In order to ensure emission reductions projects on vessels with wet exhaust systems are not overstated, a conservative 20 percent NOx and PM emission reduction factor must be applied to both the baseline and reduced emission engine (See marine vessel example calculation 3 in Appendix D for more information). The Carl Moyer Program does not provide funding to repair or replace any component of the wet exhaust system itself.

C. Retrofits

Potential marine vessel retrofit projects involve the addition of an ARB-verified diesel particulate filter, diesel oxidation catalyst, or selective catalytic reduction technology. A retrofit device must typically be verified by ARB in order to be considered for funding. To date, however, very few retrofit technologies have been verified to reduce emissions from marine vessels. Because of the lack of retrofit devices verified for use on a marine vessel engine, a marine vessel retrofit device which is not yet verified may be considered for funding on a case-by-case basis. Applicants for funding on a case-by-case basis must meet the applicable project criteria described in Section V of this chapter.

In recent years, engine manufacturers have also developed engine remanufacture retrofit kits certified by the IMO to meet IMO NOx emission standards. To be eligible for Carl Moyer Program funding, a remanufacture retrofit kit must be certified by the ARB,

U.S. EPA, or the IMO to reduce emissions from the project vessel engine. NOx emissions must be reduced by at least 15 percent to take credit for NOx emission reductions. Remanufacture kits which employ fuel injection timing retard are only

eligible for funding if it is demonstrated that PM emissions from the project vessel shall not increase. If the retrofit kit certification does not specify a specific percent reduction or emission rate for NOx, PM, or ROG, emissions testing must be conducted annually for the life of the project to ensure the retrofit does not increase emissions from these individual pollutants. Individual engine parts or other vessel components are not eligible for funding unless as part of a complete certified engine remanufacture retrofit kit.

D. Marine Shore-Side Provided Power

The largest emission source at ports is marine vessels. One strategy for reducing marine vessel emissions is "cold ironing" where ships plug into shore-side power while docked, rather than continuously running their diesel engines to generate electricity. Cold-ironing requires the proper electrical supply connections from the shore — lines, transformers, switching gear, cables, etc. — and the necessary hook-ups on the ship.

Because cold ironing is a nascent technology, it is difficult to specifically identify the exact components that will be eligible for Carl Moyer Program funding. Because each cold ironing project will be unique, ARB staff is proposing that they be considered for grant funding on a case-by-case basis. The cost-effectiveness and grant amount will depend on a number of issues such as interface compatibility, operating voltage, energy needs and electricity availability at the dock. Applications will be evaluated based on factors including, but not limited to, frequency and duration of port visitations, energy usage at the dock, seasonal operating variances and regularity of travel routes.

E. On-Board Testing

Because of the high variability in marine engine emission rates, districts may utilize on-board testing to determine baseline marine vessel emission rates for the purposes of Carl Moyer Program cost-effectiveness calculations, if testing follows approved test procedures. Constant speed propulsion engines should be tested on the International Organization for Standardization's (ISO) 8178-E2 test cycle and constant speed auxiliary engines on the ISO 8178-D2 test cycle. Variable speed auxiliary engines and variable speed propulsion engines used with variable-pitch propellers (or electrically coupled propellers) should be tested on the ISO 8178-C1 duty cycle. All other engines, including those used with fixed-pitch propellers, should be tested on the ISO 8178-E3 Marine Propeller Law Heavy Duty operating cycle. When on-board testing is conducted in accordance with approved procedures, these results must be used when calculating emission reductions. The maximum acceptable values of baseline NOx, ROG, and PM emission factors derived from in-situ source testing are 20 g/bhp-hr, 2.0 g/bhp-hr, and 1.0 g/bhp-hr, respectively. If emission testing is not feasible, the applicant can use the default baseline emission factors presented in Appendix B.

V. Proposed Project Criteria

These criteria provide the minimum requirements for all Carl Moyer Program marine vessel projects. Participating districts retain the authority to impose additional requirements in order to address local concerns.

A. General

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with air quality regulators, settlement agreement, mitigation requirement, or other legal mandate. Inclusion in a port emission reduction plan, lease agreement, or other voluntarily adopted strategy does not exclude a marine vessel project from Carl Moyer Program funding eligibility, if such project is not otherwise required.
- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.
- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.
- Marine vessels and engines utilizing an alternative compliance plan to comply with a rule, requirement, or other mandate shall not be eligible for Carl Moyer Program funds.
- A marine vessel receiving any type of emission reduction credit or offset is ineligible for Carl Moyer Program funding.
- Beginning January 1, 2007, all harbor craft with diesel engines must use ARB low-sulfur diesel fuel to be eligible for Carl Moyer Program funding. Emission reductions and costs associated with use of ARB diesel shall not be included in project cost-effectiveness calculations.
- Only marine vessel engines with a United States Coast Guard Documentation Number are eligible for Carl Moyer Program funding. This information must be included in the project application. Information is available at the following website:
http://www.st.nmfs.gov/st1/commercial/landings/cg_vessel2.html
- Projects must meet a cost-effectiveness of 5,000 per weighted ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter. (See more stringent AQMD cost-effectiveness criteria above.)
- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- The contract term for all marine vessel projects must be equivalent to the project life. The project life is defined as the number of years used to evaluate project cost-effectiveness.
- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case by case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.
- The maximum project life for marine vessel projects (equivalent to the average engine life reported by U.S. EPA) is as follows:

	Maximum Project Life
Engine displacement <5.0 liter/cyl.	16 years
Engine displacement >5.0 liter/cyl.	23 years
Auxiliary engines	17 years

- Only marine vessel activity in California waters may be used to determine project emission reductions. For the purposes of the Carl Moyer Program, California water boundaries are based upon each air districts' emission inventory boundary. If a local district has not established an emission inventory boundary, the ARB and district staff will determine an appropriate boundary for use in project evaluation.
- Marine vessels which are not self-propelled (e.g. barges) are not eligible for Carl Moyer Program funding.
- Project marine vessels must be equipped with a functioning tamper proof electronic monitoring unit (EMU) to track activity and geographic location. The EMU must be turned on and functional when the project engine is running for the life of the project, to record all vessel trips and activity. If the EMU is battery powered, the battery life must be long enough to ensure the EMU is charged and functional each time the project vessel is operated. Electronic information from the EMU regarding total and percent of activity (fuel use or hours of operation) within the air district coastal boundary and California Coastal Waters must be reported to air district annually for the project life. The cost of a new unit may be included in the Carl Moyer Program grant and in the project cost-effectiveness calculations if not required by any rule, statute, MOU, or other mandate.
- Carl Moyer Program funds cannot be expended on costs for labor or parts used during routine maintenance.
- Funding is not available for projects where spark-ignition engines (i.e. natural gas or gasoline, etc.) are replaced with new diesel engines.
- Engines on marine vessels with wet exhaust systems are eligible for Carl Moyer Program funding if the project vessel meets all other applicable program requirements. The wet exhaust systems themselves are not

eligible for Carl Moyer Program funding. A wet exhaust factor of 0.80 must be applied to the baseline and reduced emission propulsion and auxiliary engine emission calculations for all projects on vessels with wet exhaust systems.

- Potential projects which fall outside of these criteria may be considered on a case-by-case basis if evidence provided by the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.
- Air districts must consult with ARB staff to determine eligibility of all projects considered for funding on a case-by-case basis. All projects considered for funding on a case-by-case basis must receive ARB approval prior to receiving program funding.

B. New Purchase

- A new marine vessel must meet the U.S. EPA Blue Sky Series Standards to be eligible for funding. All propulsion and auxiliary engines on new marine vessel purchase projects must also achieve at least a 30 percent NOx emission reduction from baseline levels.

C. Repower

- A replacement engine or retrofit must provide a 15 percent minimum NOx emission reduction relative to the baseline engine.

D. Retrofit

- A retrofit device must be ARB-verified to reduce emissions from the project engine in order to be eligible for funding. Non-verified technologies may be considered on a case-by-case basis if: 1) an application for verification of the retrofit or add-on equipment on the proposed engine category is pending, 2) the retrofit or add-on equipment has been verified or certified by ARB for use on a similar engine category, or 3) project emission benefit, durability, and applicability have been or shall be demonstrated through in-situ testing.
- Retrofits considered for funding on a case-by-case basis must be clearly demonstrated to achieve the expected emission reductions for the full project life, function properly under the project vessel engine duty cycle, and to not harm the vessel engine.
- To be eligible for Carl Moyer Program funding, a remanufacture emission kit must be certified by the ARB, U.S. EPA, or the IMO to reduce emissions from the project vessel engine. NOx emissions must be reduced by at least 15 percent to take credit for NOx emission reductions. Engine remanufacture kits must also not increase NOx, PM, or ROG emissions from the project vessel. If the engine certification does not specify a specific percent reduction or emission rate for NOx, PM, or ROG, emissions testing must be conducted annually for the life of the project to ensure the remanufacture does not increase emissions from

these individual pollutants. Individual engine parts or other vessel components are not eligible for funding unless as part of a complete certified engine remanufacture kit.

E. Scrap

- Scrap requirements are described in the 2005 Carl Moyer Program Guidelines, Part I, Chapter 2: Administration of the Carl Moyer Program

VI. Cost-Effectiveness Calculations

To receive Carl Moyer Program funding, each project must meet the maximum cost-effective threshold of 5,000 per weighted ton of covered pollutants reduced. Only funds provided by the Carl Moyer Program and local district matching funds are to be used in determining cost-effectiveness. Emission reduction benefits represent the difference in the emission levels of the existing baseline technology relative to the newer, reduced-emission technology. Baseline and reduced engine emission factors are listed in Table B-18 in Appendix B. Harbor craft emission factors represent off-road engine emission factors for uncontrolled engines, and harbor craft emission standards for controlled engines. Fuel correction factors have been applied to all emission factors.

A detailed description of how to calculate cost-effectiveness can be found in Appendix C. Marine vessel emission reduction calculations will use either the fuel- or hour-based formula as discussed in Appendix C. Examples of cost-effectiveness calculations can also be found in Appendix D.



APPENDIX 10 – AGRICULTURAL ASSISTANCE PROGRAM

Below is additional information pertaining to the Agricultural Assistance Program category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

The Agricultural Assistance Program (AAP) was created through provisions of Assembly Bill 923 (AB 923, Firebaugh) and went into effect on January 1, 2005. Unlike the Carl Moyer Program (CMP), the AAP does not require the emissions reductions to be surplus. AQMD's AAP is intended to help agricultural facilities comply with AQMD Rule 1110.2, which requires agricultural stationary engine emissions to be controlled.

"Agricultural engines" are those used in the production of crops or raising of fowl or animals.

In June of 2005, AQMD amended Rule 1110.2 – Emissions from Gaseous and Liquid -Fueled Engines to require stationary agricultural engines over 50 hp to meet the same emission, monitoring, source testing, and recordkeeping requirements as other stationary engines. Both diesel and spark-ignition¹ (SI) engines used for irrigation or other agricultural uses will have to be controlled or replaced. The emission limits do not apply to emergency electrical generators or orchard wind machines.

It is generally not practical to control emissions from existing diesel engines. Even the newest diesel engines do not meet the rule emission limits. Diesel engines should be replaced by controlled SI engines or electric motors. Existing SI engines can be retrofitted with emission controls to comply with the rule, or be replaced by electric motors.

Tier 1 and uncertified diesel engines and uncertified SI engines that are located at agricultural facilities required to have AQMD permits by Rule 219 (c) must comply with the rule by July 1, 2008. This applies to the larger facilities that are also subject to Title V permitting requirements. Most other stationary agricultural engines must comply by January 1, 2010. One exception is that a stationary agricultural engine that is rejected for electrification by the electric utility or does not qualify for AAP funding has until 2014 to be replaced by a Tier 4 diesel engine.

¹ Usually natural gas, propane or gasoline fired.

CARB MOYER PROGRAM RESOURCES

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html. Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements (primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf
- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf. Chapter 10 in Section II and all of Section III address Agricultural Equipment.
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf
- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This part includes the following Appendices.
 - Appendix A – Acronyms
 - Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
 - Appendix C – Cost-Effectiveness Calculation Methodology
 - Appendix D – Example Calculations
 - Appendix E – Description of Certification and Verification Executive Orders
 - Appendix F – Retrofit Emission Control Strategies
 - Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

HIGHLIGHTS FOR 2006

- The project cost-effectiveness limit is \$5,000 per weighed ton of NOx, PM and ROG emissions reduced. A capital recovery factor based on a four (4) percent discount rate is used for the cost-effectiveness calculation.
- AAP-eligible projects include the repower or retrofit of stationary agricultural engines required to comply with Rule 1110.2.
- Cost-effectiveness calculations will now be based on particulate matter (PM10), oxides of nitrogen (NOx), and reactive organic gases (ROG). The new formula established by CARB is provided below. AQMD staff will calculate the NOx, PM and ROG emissions reductions and apply the new formula during the evaluation process.

Annualized Cost (\$/year)

NOx reductions + 20(combustion PM10 reductions) + ROG reductions (tons/year)

- Applicants **must** provide vendor quotes with their application to document the incremental cost of implementing the proposed technology. This will require documentation of both the baseline and low-emission project costs. Applicants can request funding up to the full differential cost; however, less may actually be awarded, depending on the results of the cost-effectiveness evaluation.
- Applicants **must** also provide documentation that justifies the activity level projected for the equipment (i.e., hour-meter records, business records, fuel receipts, etc.).
- All projects must be operational within twelve (12) months of contract execution.
- A project must be in operation for at least three years from the time it is first put into operation; CARB may approve a shorter project life on a case-by-case-basis.
- The new engine/equipment must not have been purchased prior to the effective date of the contract.
- AQMD will conduct pre- and post-project inspections as described in the "Highlights for 2006" section of RFP#2006-15. Pre- and post-inspections of all engines approved for funding are required as well as verification of engine destruction. Pre-inspection will be conducted by the AQMD staff during the interim period between award of funding by the Governing Board and contract execution. Post-inspection and verification of the destruction of the engine being replaced will occur once all work is completed. Additional reporting and monitoring requirements are discussed below.

- AQMD reserves the right to disqualify any application that does not comply with all applicable requirements including submission of a complete application package.
- See Project Types and Project Criteria sections for additional important information regarding AAP requirements.

EVALUATION METHODOLOGY

AQMD staff will evaluate all submitted proposals and make recommendations to the Governing Board for final selection of project(s) to be funded. Proposals will be evaluated based on the cost-effectiveness of emissions (NOx + ROG + 20*PM) reduced on an equipment-by-equipment basis. Be aware of the possibility that due to program priorities and/or funding limitations, project applicants may be offered only partial funding, and not all proposals that meet cost-effectiveness criteria may be funded.

ELIGIBLE COSTS

Eligible project costs (i.e., costs for which AAP funding may be requested) are limited to the incremental cost of a project to implement the reduced emission technology. The incremental cost is the cost of the reduced emission technology minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

The cost of the baseline technology for a repower with an engine is the cost of rebuilding the existing engine. The cost of the baseline technology for a repower with an electric motor is 50 percent of the cost of rebuilding the existing engine. For retrofits, there is no baseline technology cost; hence the entire cost of the retrofit is eligible for funding. Operation and maintenance costs are not eligible for AAP funding.

REPORTING AND MONITORING

Owners of stationary agricultural engines participating in the AAP are required to keep appropriate records for the life of the project and for three years after the project life is completed. AQMD has the authority to conduct periodic checks or require operating records from the recipient of AAP funds. This is to ensure that the engine is being operated as stated in the project application. The recipient must maintain and update operating records throughout the project life and have them available to AQMD upon request. Annual records must contain, at a minimum, total actual hours of operations, or estimated amount of fuel used from actual fuel receipts, or kilowatt-hours of electricity used for electric motors. Actual hours of operations are acceptable for an engine equipped with a non-reset hour meter.

Monitoring may be required to comply with AQMD requirements and to ensure the program incentives are being applied toward the project as specified in the application.

To ease the tracking of the equipment over the life of the project, an AQMD registration certificate may be issued to the equipment owner.

Reporting requirements are explained in the Deliverables section of RFP #2006-15.

POTENTIAL PROJECTS

AAP-eligible projects include the repower or retrofit of stationary agricultural engines required to comply with Rule 1110.2.

All AAP projects must meet a weighted cost-effectiveness of total reductions criterion of \$5,000 per weighted ton of pollutants reduced. A project must be in operation for at least three years from the time it is first put into operation; CARB may approve a shorter project life on a case-by-case basis.

Repower

Repower with Electric Motors

Replacement of stationary engines in agricultural operations with electric motors provides significant emission benefits. Both diesel and SI engines may be repowered with electric motors. In addition to the cost for the purchase and installation of electric motor itself, selected costs for necessary peripheral equipment associated with the motor (e.g., control panel, motor leads, service pole with guy wire, connecting electric line) may be included in determining the grant amount awarded.

In June 2005, the Public Utilities Commission approved a reduced electricity rate and line extension allowance for Southern California Edison (SCE) to be used for conversion of stationary agricultural engines (excluding natural gas engines) to electric motors. Individuals enrolling in the SCE incentive program may still receive funds through the AAP for the additional costs of an electric motor replacement of an agricultural engine. Customers must enroll in this SCE incentive program before August 1, 2007.

Repower with SI Engines Meeting Rule 1110.2

AAP funds may be used to fund the purchase and installation costs to repower an existing stationary agricultural engine with a SI engine that complies with Rule 1110.2. After January 1, 2008, projects will not qualify unless the new SI engine is also certified by CARB to meet off-road emission standards.

Rule 1110.2 requires that the new SI engine meet more stringent emission limits that are equivalent to Best Available Control Technology (BACT).

Retrofit

A retrofit involves modifications to the engine and/or fuel system, or addition of exhaust emission control equipment such that the retrofitted engine emissions are reduced to comply with Rule 1110.2. CARB CMP and AAP guidelines require that any retrofit kit be verified by CARB. Currently, there are no retrofit kits verified by CARB that comply with

Rule 1110.2. If CARB verifies a retrofit kit that also will comply with Rule 1110.2, then it will be eligible for AAP funding.

PROJECT CRITERIA

The project criteria below are the minimum eligibility requirements for AAP funding for stationary agricultural engine projects. The criteria focus on emission reductions, cost-effectiveness of total reductions, and the ability for a project to be completed within the timeframe of the program.

General

- The AAP may be used to fund stationary agricultural engine projects for a minimum of three years from the adoption of an applicable rule or until the applicable Rule 1110.2 compliance date, whichever is later. Emission reductions are not required to be surplus.
- Projects must meet a maximum cost-effectiveness of \$5,000 per weighted ton of NOx + ROG + combustion PM10 reduced, calculated in accordance with the cost-effectiveness methodology discussed in this Appendix.
- No project funded by the AAP shall be used for credit under any AQMD, federal or state emission averaging banking and trading program.
- Projects must have a minimum project life of three years. CARB may approve shorter project life on a case-by-case basis. The default project life is ten years for electric motors and seven years for engines without documentation. A longer project life may be used with approval by CARB staff, however, sufficient documentation must be provided to CARB that supports the selected project life based on the actual remaining useful life.
- The contract term must extend to the end of the project life.
- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to AQMD suggests potential, real, quantifiable, and enforceable emission reduction benefits. AQMD must consult with CARB staff to determine eligibility of all projects considered for funding on a case-by-case basis. All projects considered on a case-by-case basis must receive CARB approval prior to receiving program funding.
- An engine must be rated at greater than 50 hp².
- Projects must operate only in AQMD³.

- Third party applications are not allowed. The equipment owner must sign and agree to the application. However, a third party (e.g. engine dealer or distributor) may complete an application or part of an application on an owner's behalf. In this case, the third party must also sign the application and list how much they are being paid,

² Engines rated greater than 25 hp and less than or equal to 50 hp may qualify for CMP funding. See Chapter 10.
³ See the map of the AQMD jurisdiction at <http://www.aqmd.gov/map/MapAQMD1.pdf>

if anything, to complete the application and what source of funds are being used to pay them. AQMD will provide technical assistance to applicants in completing the application.

Repower

- A repower of a stationary agricultural engine must be with one of the following:
 - A new electric motor.
 - A new SI engine that is subject to and complies with AQMD permitting requirements, as well as the emission, monitoring, source testing, record keeping and reporting requirements of Rule 1110.2. After January 1, 2008, projects will not qualify unless the new SI engine is also certified by CARB to meet off-road emission standards. Since there are no CARB-certified SI engines that comply with AQMD Rule 1110.2, and there is no guarantee there will be any by January 1, 2008, potential applicants are recommended to apply for funding well before January 1, 2008.
 - Any new SI engine must meet the more stringent emission limits of subparagraph (d)(1)(A) of Rule 1110.2, which are equivalent to Best Available Control Technology.
 - A repower of an emissions-controlled SI engine must provide a NOx emission reduction of at least 15% from the baseline engine NOx emissions.
 - Electric motor projects require documentation of payment to the local utility company for power installation and must have a functioning kilowatt-hour meter, or other method approved by AQMD to monitor usage.
 - The use of a non-certified SI engine requires approval by CARB staff.
 - SI engines shall be required to have closed-loop air-to-fuel ratio control systems, and three-way catalysts for emissions control.
 - SI engines shall be subject to source testing with testing procedures that are required by Rule 1110.2 and CARB-approved.
 - SI engines shall be subject to NOx, carbon monoxide and hydrocarbon emission readings using a portable analyzer following AQMD monitoring requirements.
 - The costs associated with source testing and monitoring requirements for SI engines are not eligible for funding.
- #### **Retrofit**
- A retrofit of a SI engine must be with a retrofit kit that complies with Rule 1110.2 and is CARB-verified to reduce NOx+NMHC emissions to the currently applicable standard for off-road large spark-ignited equipment. Currently there are no CARB-verified retrofits that will meet these requirements, but engines can instead be repowered with new electric motors or SI engines.
 - Reduced-emission retrofit kits must be CARB-verified following California test procedures and must comply with durability and warranty requirements.

Destruction of Repowered Engines

The existing (old) engine must be destroyed and rendered useless. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine repower. The destruction of the engine must be documented during the post-inspection by AQMD staff seeing the destroyed engine or the receipt from a qualified vehicle salvage yard (see 2005 Carl Moyer Program Guidelines, Part II, Chapter 2: Fleet Modernization, Salvage Requirements for definition). Engines without a visible and legible serial number may be repowered if AQMD staff stamp the engine block with the AAP project number and AQMD staff is present to personally verify engine removal from the project equipment and the subsequent engine destruction. ARB staff will consider alternatives to stamping the engine block on a district-by-district basis.

COST-EFFECTIVENESS OF TOTAL EMISSIONS REDUCTIONS

Projects funded through the AAP are not required to achieve surplus emission reductions. In order to ensure that the technologies and costs of projects funded by the AAP are generally comparable to those funded by the CMP, AAP projects must meet a "cost-effectiveness of total emissions reductions" criterion. The total emissions reductions are determined by subtracting the emissions of the new project from the emissions of the old engine. AQMD staff will calculate cost-effectiveness using the procedure described below. It is not necessary for AAP applicants to do this calculation.

Cost-Effectiveness

The cost-effectiveness of total emissions reductions is the annualized cost divided by the weighted total annual emission reductions:

$$\frac{\text{Annualized Cost (\$/year)}}{\text{Weighted Emission Reductions (tons/yr)}}$$

The weighted total emission reductions are estimated by taking the sum of the project's annual emission reductions of NOx, ROG, and combustion PM using the following formula:

$$\frac{\text{Weighted Total Emission Reductions} = \text{NOx reductions (tons/yr)} + \text{ROG reductions (tons/yr)} + 20 * [\text{combustion PM reductions (tons/yr)}]}$$

Combustion PM is given a greater weighting due to the higher cost of reducing PM emissions.

Annual Emissions Reductions

The annual emission reductions for each pollutant (NOx, ROG, and combustion PM) are determined by calculating the annual emissions for the baseline technology, and then subtracting from it the annual emissions of the reduced technology⁴. Annual emissions may be calculated based on hours of operation or fuel consumption.

⁴ "Reduced technology" means the engine that is retrofitted with control equipment or the new electric motor or SI engine in a repower project.

$\text{Annual Emissions Based on Hours of Operation} = \text{Emission Standard (g/bhp-hr)} \times \text{Engine Horsepower} \times \text{Load Factor} \times \text{Activity (hrs/yr)} \times \text{ton}/907,200 \text{ g}$

$\text{Annual Emissions Based on Diesel Fuel Consumption} = \text{Emission Standard (g/bhp-hr)} \times \text{Energy Consumption Factor (bhp-hr/gal)} \times \text{Activity (gal/yr)} \times \text{ton}/907,200 \text{ g}$

$\text{Annual Emissions Based on Natural Gas Consumption} = \text{Emission Standard (g/bhp-hr)} \times \text{Energy Consumption Factor (bhp-hr/therm}^5) \times \text{Activity (therms/yr)} \times \text{ton}/907,200 \text{ g}$

The emission standards and load factors for off-road diesel engines and large SI engines found in Part IV, Appendix B of CARB's 2005 Carl Moyer Program Guidelines may be used for the baseline engine calculations.

For projects where emissions are based on hours of operation and where the reduced technology horsepower is more than 25% different than the baseline technology horsepower, the load factor of the reduced technology must be adjusted by the following formula:

$$\text{Load Factor}_{\text{reduced}} = \text{Load Factor}_{\text{baseline}} \times \text{hp}_{\text{baseline}}/\text{hp}_{\text{reduced}}$$

The reduced technology load factor must never exceed 100 percent in cases where the replacement engine is significantly smaller than the existing engine.

For projects where emissions are based on fuel usage, the energy consumption factor (ECF) for a liquid-fueled engine may be calculated by: 1) dividing the horsepower rating of the engine by its fuel usage in gallons per hour (gal/hr) at the rated horsepower; or 2) dividing the energy density of the fuel (in BTU/gal) by the brake-specific fuel consumption of the engine (in BTUs/bhp-hr). The default ECF for a stationary agricultural diesel engine greater than 50 hp is 17.56 bhp-hr/gal.

The ECF for a natural gas engine, in bhp-hr/therm, may be calculated by: 1) dividing the horsepower rating of the engine by its fuel usage in therms per hour at rated horsepower; or 2) dividing the energy density of the fuel of 100,000 BTU/therm by the brake-specific fuel consumption of the engine (in BTUs/bhp-hr). The default ECF for a stationary agricultural natural gas engine greater than 50 hp is 11.00 bhp-hr/therm.

If the ECF for the reduced technology engine is different than the ECF for the baseline engine, the expected fuel usage of the reduced technology engine should be calculated by the following formula:

$$\text{Fuel Usage}_{\text{reduced}} = \text{Fuel Usage}_{\text{baseline}} \times \text{ECF}_{\text{baseline}}/\text{ECF}_{\text{reduced}}$$

Fuel usage should always be in gallons/year for liquid fueled engines and therms/year for natural gas engines.

⁵ A therm is 100,000 BTUs and is a unit of energy that gas utility bills are based on.

Annualized Cost

The annualized cost is calculated by multiplying the incremental cost funded by the AAP by the capital recovery factor (CRF).

$$\text{Annualized Cost (\$/yr)} = \text{CRF} \times \text{Incremental Cost}$$

The following table lists the CRF for various project lives using a discount rate of 4 percent.

**Table 2
Capital Recovery Factors (CRF) for Various Project Lives
at Four Percent Discount Rate**

Project Life	CRF
3	0.360
4	0.275
5	0.225
6	0.191
7	0.167
8	0.149
9	0.134
10	0.123

Because emissions reductions are not required to be surplus for AAP projects, the project life can extend beyond the time that AQMD Rule 1110.2 takes effect for an agricultural use engine.

Incremental Cost

The incremental cost of a project is calculated by subtracting the cost of the baseline technology from the cost of the reduced technology.

$$\text{Incremental Cost (\$)} = \text{Cost of Reduced Technology} - \text{Cost of Baseline Technology}$$

The cost of the baseline technology for a repower with an engine is the cost of rebuilding the existing engine. The cost of the baseline technology for a repower with an electric motor is 50 percent of the cost of rebuilding the existing engine. For retrofits, there is no baseline technology cost; hence the entire cost of the retrofit is eligible for funding.

Cost-Effectiveness Calculation Examples

Example 1 – Replacing a Diesel Pump Engine with a Electric Pump Motor
In order to comply with AQMD Rule 1110.2, an applicant wants to purchase a 100 hp (75 kW) electric pump motor to replace an uncontrolled 1991 stationary agricultural diesel pump engine. The cost to purchase and install the electric motor is \$46,700, not

including the cost of any electric utility line extensions to be paid for the applicant or the utility.

Baseline Technology Information:

- Engine (application): 1991 Caterpillar 3116, diesel (uncontrolled)
- Engine HP (application): 155 hp
- Load factor (default for agricultural pumps): 0.65
- Activity (application): 2,000 hours per year
- Cost to rebuild (quote provided with application): \$7,000
- Emission factors (Table B-12): 7.60 g/bhp-hr NOx; 0.82 g/bhp-hr ROG; 0.274 g/bhp-hr PM10

Reduced Technology Information:

- Engine (application): 2005 GE 5K445FT328, electric
- Engine HP (application): 100 hp (75 kW)
- Activity (application): 2,000 hours per year
- Installed cost of new equipment (quote provided with application): \$46,700
- Electric motor emission factors: 0.0 g/bhp-hr NOx, ROG and PM10

Emission Reduction Calculations:

Estimated Annual Emissions Based on Hours of Operation
 Annual NOx baseline technology emissions:
 $(7.60 \text{ g/hp-hr} * 155 \text{ hp} * 0.65 * 2,000 \text{ hrs}) / (907,200 \text{ g/ton}) = 1.69 \text{ tons/yr NOx}$
 Annual ROG baseline technology emissions:
 $(0.82 \text{ g/hp-hr} * 155 \text{ hp} * 0.65 * 2,000 \text{ hrs}) / (907,200 \text{ g/ton}) = 0.18 \text{ tons/yr ROG}$
 Annual PM10 baseline technology emissions:
 $(0.274 \text{ g/hp-hr} * 155 \text{ hp} * 0.65 * 2,000 \text{ hrs}) / (907,200 \text{ g/ton}) = 0.061 \text{ tons/yr PM10}$
 Annual reduced technology emissions:
 Zero emissions for all pollutants for an electric motor.

Annual Emission Reductions by Pollutant (tons/yr)

- Emission benefits NOx = 1.69 tons/yr-0.0 tons/yr = 1.69 tons/yr NOx
- Emission benefits ROG = 0.18 tons/yr-0.0 tons/yr = 0.18 tons/yr ROG
- Emission benefits PM10 = 0.061 tons/yr-0.0 tons/yr = 0.061 tons/yr PM10

Annual Weighted Emission Reductions =

$1.69 + 0.18 + 20(0.061) = 3.09 \text{ weighted tons/yr}$

Annualized Cost Calculations:

CRF for Project Life of 5 years (Table 2) = 0.225

Incremental Cost = \$46,700 – (\$7,000/2) = \$43,200 (Applicant may use one-half rebuild cost for electric motor repowers.)

Annualized Cost = \$43,200 * 0.225 = \$9,720/yr

Cost-Effectiveness:

Cost-Effectiveness of Weighted Emission Reductions (\$/weighted ton)
 $= (\$9,720/\text{yr}) / (3.09 \text{ weighted ton/yr})$
 $= \text{\$3,150 per weighted ton of emissions reduced}$

The cost-effectiveness for the example is less than \$5,000 per weighted ton of pollutants reduced, so this project qualifies for the maximum amount of grant funds requested.

Example 2 – Repowering a Diesel Engine with a Natural Gas Engine

An applicant wants to replace an uncontrolled stationary agricultural 220 hp diesel engine with a new 200 hp natural gas engine. The engine must comply with AQMD Rule 1110.2 by July 1, 2008. The cost to purchase and install the natural gas engine is \$29,000. The cost includes emission controls to meet BACT requirements.

Baseline Technology Information:

- Engine (application): 1979 Cummins NTC 220 diesel (uncontrolled)
- Engine HP (application): 220 hp
- Annual Fuel Consumption (application): 8,000 gallons per year
- Energy Consumption Factor (ECF) (default): 17.56 bhp-hr/gallon
- Cost to rebuild (quote provided with application): \$2,500
- Emission factors (Table B-12): 11.16 g/bhp-hr NOx; 1.14 g/bhp-hr ROG; 0.396 g/bhp-hr PM10

Reduced Technology Information:

- Engine (application): 2005 Cummins GTA 8.3 natural gas engine with Best Available Control Technology required by AQMD
- Engine HP (application): 200 hp
- Energy Consumption Factor (ECF) (default): 11.0 bhp-hr/therm
- Installed cost of new equipment (quote provided with application): \$29,000
- Emission factors: 0.15 g/bhp-hr NOx (BACT); 0.15 g/bhp-hr ROG (BACT); 0.06 g/bhp-hr PM10 (Table B-14)

Emission Reduction Calculations:

Expected Fuel Use of Reduced Technology Engine:

Expected Natural Gas Usage = $(8,000 \text{ gal/yr} * 17.56 \text{ bhp-hr/gal}) / 11.0 \text{ bhp-hr/therm}$
 $= 12,800 \text{ therms/year}$

Estimated Annual Emissions Based on Annual Fuel Use

Annual NOx baseline technology emissions
 $(11.16 \text{ g/bhp-hr} * 17.56 \text{ bhp-hr/gal} * 8,000 \text{ gal}) / (10,000 \text{ g/ton}) = 1.73 \text{ tons/yr NOx}$
 Annual NOx reduced technology emissions
 $(0.15 \text{ g/bhp-hr} * 11.0 \text{ bhp-hr/therm} * 12,800 \text{ therms/yr}) / (10,000 \text{ g/ton}) = 0.023 \text{ tons/yr NOx}$
 Annual ROG baseline technology emissions

$(1.14 \text{ g/bhp-hr} * 17.56 \text{ bhp-hr/gal} * 8,000 \text{ gal}) / (\text{ton}/907,200 \text{ g}) = 0.18 \text{ tons/yr ROG}$
 Annual ROG reduced technology emissions
 $(0.15 \text{ g/bhp-hr} * 11.0 \text{ bhp-hr/therm} * 12,800 \text{ therms/yr}) / (\text{ton}/907,200 \text{ g}) = 0.023 \text{ tons/yr ROG}$

Annual PM10 baseline technology emissions
 $(0.396 \text{ g/bhp-hr} * 17.56 \text{ bhp-hr/gal} * 8,000 \text{ gal}) / (\text{ton}/907,200 \text{ g}) = 0.061 \text{ tons/yr PM10}$
 Annual PM10 reduced technology emissions
 $(0.06 \text{ g/bhp-hr} * 11.0 \text{ bhp-hr/therm} * 12,800 \text{ therms/yr}) / (\text{ton}/907,200 \text{ g}) = 0.009 \text{ tons/yr PM10}$

Annual Emission Reductions by Pollutant (tons/yr)

- Emission benefits NOx = 1.73 tons/yr - 0.023 tons/yr = 1.71 tons/yr NOx
- Emission benefits ROG = 0.18 tons/yr - 0.023 tons/yr = 0.16 tons/yr ROG
- Emission benefits PM10 = 0.061 tons/yr - 0.009 tons/yr = 0.052 tons/yr PM10

Annual Weighted Emission Reductions = $1.71 + 0.16 + 20(0.052)$
 = 2.91 weighted tons/yr

Annualized Cost Calculations:

CRF for Project Life of 5 years (Table 2) = 0.225

Incremental Cost = \$29,000 - \$2,500 = \$26,500

Annualized Cost = $\$26,500 * 0.225 = \$5,960/\text{yr}$

Cost-Effectiveness:

Cost-Effectiveness of Weighted Emission Reductions (\$/weighted ton)
 = $(\$5,960/\text{yr}) / (2.91 \text{ weighted ton/yr})$
 = **\$2,050 per weighted ton of emissions reduced**

The cost-effectiveness for the example is less than \$5,000 per weighted ton of pollutants reduced, so this project qualifies for the maximum amount of grant funds requested.

Example 3 – Retrofitting a Natural Gas Engine with Emission Controls

An applicant operates an uncontrolled stationary agricultural engine that uses natural gas. The engine must comply with AQMD Rule 1110.2 by July 1, 2008. The cost to purchase and install the 3-way catalyst and air-to-fuel ratio controller needed to comply is \$13,200, not including source testing or monitoring costs.

Baseline Technology Information:

- Engine (application): 1990 Caterpillar 3306 natural gas engine
- Engine HP (application): 140 hp
- Annual Fuel Consumption (application): 13,000 therms per year
- Energy Consumption Factor (ECF) (default): 11.0 bhp-hr/therm

- Emission factors (Table B-14): 10.51 g/bhp-hr NOx; 1.25 g/bhp-hr ROG; 0.06 g/bhp-hr PM10

Reduced Technology Information:

- Engine (application): 1990 Caterpillar 3306 natural gas engine
- Engine HP (application): 140 hp
- Annual Fuel Consumption (application): 13,000 therms per year
- Energy Consumption Factor (ECF) (default): 11.0 bhp-hr/therm
- Installed cost of new control equipment (quote provided with application): \$13,200
- Emission factors:
 NOx – 0.016 lbs/therm (equivalent to Rule 1110.2 NOx limit of 45 ppmvd at 15% O2)
 ROG – 0.032 lbs/therm (equivalent to Rule 1110.2 NOx limit of 250 ppmvd at 15% O2)
 PM10 – The emission controls are assumed to not reduce PM10 emissions.

Emission Reduction Calculations:

Estimated Annual Emissions Based on Annual Fuel Use

Annual NOx baseline technology emissions
 $(10.51 \text{ g/bhp-hr} * 11.0 \text{ bhp-hr/therm} * 13,000 \text{ therms/yr}) / (\text{ton}/907,200 \text{ g}) = 1.66 \text{ tons/yr NOx}$

Annual NOx reduced technology emissions

$(0.016 \text{ lbs/therm} * 13,000 \text{ therms/yr}) / (\text{ton}/2,000 \text{ lbs}) = 0.10 \text{ tons/yr NOx}$

Annual ROG baseline technology emissions

$(1.25 \text{ g/bhp-hr} * 11.0 \text{ bhp-hr/therm} * 13,000 \text{ therms/yr}) / (\text{ton}/907,200 \text{ g}) = 0.20 \text{ tons/yr ROG}$

Annual ROG reduced technology emissions

$(0.032 \text{ lbs/therm} * 13,000 \text{ therms/yr}) / (\text{ton}/2,000 \text{ lbs}) = 0.21 \text{ tons/yr ROG}$.

Since the baseline emissions are approximately the same as the Rule 1110.2 emissions limit, no reduction in ROG will be calculated.

Annual PM10 emissions

No reduction in PM10 is assumed.

Annual Emission Reductions by Pollutant (tons/yr)

- Emission benefits NOx = 1.66 tons/yr - 0.10 tons/yr = 1.56 tons/yr NOx

Annual Weighted Emission Reductions

= $1.56 + 0.0 + 20(0.0) = 1.56 \text{ weighted tons/yr}$

Annualized Cost Calculations:

CRF for Project Life of 5 years (Table 2) = 0.225

Incremental Cost = \$13,200 - \$0 = \$13,200

Annualized Cost = $\$13,200 * 0.225 = \$2,970/\text{yr}$

Cost-Effectiveness:

Cost-Effectiveness of Weighted Surplus Emission Reductions (\$/weighted ton)

$$= (\$2,970/\text{yr}) / (1.56 \text{ weighted ton/yr})$$

= \$1,900 per weighted ton of emissions reduced

The cost-effectiveness for the example is less than \$5,000 per weighted ton of pollutants reduced, so this project qualifies for the maximum amount of grant funds requested.



APPENDIX 11– LIGHT-DUTY VEHICLES

In 2005, a new source category, Light-Duty Vehicles, was added to the Carl Moyer Program. Potential on-road, light-duty vehicle projects include voluntary accelerated vehicle retirement and remote sensing.

AQMD will implement its Light-Duty On-Road Vehicle Moyer funding program under a separate program. Please consult AQMD's Business Opportunities webpage to download the program notice when it is available. The link is <http://www.aqmd.gov/rfp/index.html>



APPENDIX 12 – ZERO-EMISSION TECHNOLOGIES

Below is additional information pertaining to the Zero-Emission Technologies category under AQMD's FY 2006 Carl Moyer Program (CMP). All information in RFP# P2006-15 and this Appendix apply. For additional detail regarding this program category, refer to CARB's 2005 CMP Guidelines. In the case of any conflict between CARB guidelines and AQMD criteria, the more stringent criteria will prevail.

It is the Applicant's responsibility to check with AQMD's CMP web page for program clarifications, changes and updates. This page may be accessed at http://www.aqmd.gov/tao/implementation/carl_moyer_program_2001.html.

CARB MOYER PROGRAM RESOURCES

Applicants are highly encouraged to review CARB guidelines for additional requirements of the CMP. CARB guidelines are incorporated into AQMD's Moyer Program by reference. 2005 CARB guidelines may be downloaded from:

<http://www.arb.ca.gov/msprog/moyer/guidelines/revision05.htm>

On this web page, there are links to the four parts of the CARB 2005 CMP guidelines. These parts are described below for easy reference.

- Part I provides the Executive Summary, Program Overview and Administrative Requirements (primarily applicable to air districts) for CARB's Carl Moyer Program. The link to Part I is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part1.pdf
- Part II provides the Project Criteria for each program category. The link to Part II is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part2.pdf
- Part III provides the Agricultural Assistance Program guidelines. Link to Part III at http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part3.pdf

- Part IV is the Appendices section of the guidelines. The link to Part IV is http://www.arb.ca.gov/msprog/moyer/guidelines/2005_Carl_Moyer_Guidelines_Part4.pdf. This section includes the following Appendices.

- Appendix A – Acronyms
- Appendix B – Tables for Emission Reduction and Cost-Effectiveness Calculations
- Appendix C – Cost-Effectiveness Calculation Methodology
- Appendix D – Example Calculations
- Appendix E – Description of Certification and Verification Executive Orders
- Appendix F – Retrofit Emission Control Strategies
- Appendix G – Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

In order to provide detailed information regarding zero-emission technologies, the complete test from CARB Guidelines Chapter 12 – Zero-Emission Technologies is pasted below.

Chapter Twelve

ZERO-EMISSION TECHNOLOGIES

This is a new chapter that highlights some of the available zero-emission technologies eligible for Carl Moyer Program funding. It provides more detail on zero-emission technologies and, for some project types, provides additional project criteria. It also describes emission reduction and cost-effectiveness calculation methodologies. This chapter is a supplement to other chapters in these Guidelines: it does not replace or supersede any other criteria.

I. Introduction

A. Benefits of Zero-Emission Projects

Zero-emission technology is a key element of California's long-term plan for attaining health-based air quality standards. Electric motors are the most commercially viable zero-emission technology available today. In general, replacing internal combustion engines with electric motors provides major reductions in oxides of nitrogen (NOx) and particulate matter (PM10). Zero-emission technologies also have a number of societal benefits that are not quantified in the Carl Moyer Program. These include reductions in toxic air contaminants, greenhouse gases, petroleum consumption and noise pollution. In addition, electricity production does not have as many "upstream" emission impacts as the production of combustible fuels. Refining, storage and delivery all have associated emissions from routine operations and accidents (e.g., fuel spills). Furthermore, unlike other technologies with emission control devices that may lose effectiveness over time, with zero-emission equipment there is no emission rate deterioration. Electric equipment will remain emission-free throughout its useful life.

Although the purchase price of electric equipment can be higher than comparable internal combustion engine equipment, owners and operators generally realize significant fuel and maintenance cost savings. The higher purchase price is sometimes recouped through these savings during the life of the equipment. Higher salvage values and longer lives can provide electric equipment with an economic advantage compared to internal combustion engine equipment. In addition, electric equipment operators sometimes derive indirect benefits from privileges like access to restricted areas, use of carpool lanes and even public relations benefits.

Yet, despite these attributes and the fact that electric technologies may be well-suited for a multitude of applications, there have been relatively few zero-emission projects funded by the Carl Moyer Program. Many prospective buyers still perceive electric equipment to be an unfamiliar, risky technology or are deterred by the higher initial investment. The Carl Moyer Program can address both of these issues, first by serving as a source of information regarding electric technologies and, second, by providing grants to help offset increased costs. Zero-emission projects should become increasingly competitive within the Carl Moyer Program. New regulations, tighter emission standards, increasing petroleum prices, and technology advances are helping to make zero-emission technologies more competitive. As regulatory requirements continue to decrease baseline emission levels, Carl Moyer Program applicants need to find cleaner technologies to qualify for funding.

The Air Resources Board (ARB) staff is proposing to require that districts encourage zero-emission projects. This encouragement can be demonstrated in a number of ways. Districts operating on a "first-come-first-served" basis may rotate zero-emission projects to the top of the list, regardless of when the applications were submitted. Districts that solicit projects and rank them by cost-effectiveness may choose to fund zero-emission projects first, regardless of their cost-effectiveness (as long as the project does not exceed \$5,000 per weighted ton). Alternatively, districts may earmark a percentage of their allocation for zero-emission projects or increase outreach efforts that target zero-emission projects. Any of these strategies are acceptable, as well as other means of encouragement. Districts' policies and procedures must describe how they plan to encourage zero-emission technologies.

B. Types of Zero-Emission Projects

To date, the Carl Moyer Program has funded approximately 231 electric forklifts, 55 hybrid-electric buses, 7 electric motor driven agricultural pumps, and 4 electric battery hybrid locomotives. In addition, 30 truck stop spaces are scheduled to be equipped with IdleAire systems to reduce truck idling under the Carl Moyer Program. In all of these projects, the NOx-only cost effectiveness is very favorable. These projects will be even more cost-effective when reactive organic gases (ROG) and combustion PM are taken into account with the proposed new weighted cost-effectiveness formula. Zero-emission projects have an inherent emissions advantage because there is no NOx versus PM trade-off (as with some diesel projects) and no additional cost for controlling PM or ROG.

In addition to agricultural pumps, buses, locomotives, and forklifts, there are several other applications where zero-emission technologies are capable of replacing

combustion engines. Marine ports, airport ground support equipment (GSE), and industrial equipment are all good candidates for zero-emission technology. In addition, electric motors can substitute for idling trucks and engines used for truck refrigeration units. All these applications are eligible for the Carl Moyer Program funding, and zero-emission technologies are the cleanest option.

In the following section, we discuss the availability and provisions for using zero and near-zero emission technologies. For new applications of zero-emission technologies not addressed elsewhere in the Guidelines, such as truck parking space electrification, we outline the parameters for Carl Moyer Program eligibility. Although many of these projects will be assessed on a case-by-case basis at this time, our intent is to provide a general framework for evaluation. As with all projects, emission reductions must be surplus, real, quantifiable, and enforceable and the project must meet the cost-effectiveness threshold of \$5,000 per weighted ton except for forklifts which must meet the cost-effectiveness threshold of \$7,000 per weighted ton. Projects with a cost effectiveness over \$5,000 per weighted ton will be evaluated on a case by case basis.

Most Carl Moyer Program projects can simply substitute an electric motor for an internal combustion engine. In those cases, the same criteria and methodologies apply as for a typical repower or new purchase, except as noted in the criteria section of this chapter. All relevant regulations and MOUs discussed or referred to in the respective chapters also apply to zero-emission projects. The only difference is that the new or replacement piece of equipment has no emissions.

II. Regulatory Requirements

Regulatory requirements that apply to the baseline equipment are included in the respective chapters pertaining to the category of equipment under consideration. Because there are no regulatory requirements for Carl Moyer Program categories that mandate zero-emission technologies, emission reductions resulting from using such technologies will always be surplus.

III. Potential Zero-Emission Projects

A. Electrically-Driven Agricultural Equipment

Agricultural equipment, such as pumps, provides an ideal application and the potential for wide-scale deployment of a zero-emission technology. Statewide, several thousand internal-combustion engines are used for pumping water for agricultural purposes. To date over 2,000 pumps have been replaced using Carl Moyer Program funds, all but a few of those replacements were with diesel engines. Farmers are reluctant to purchase electrically driven pumps for several reasons but the high cost of installing infrastructure and unpredictable electricity rates have been the primary deterrents to purchasing electric motor pumps. In addition, farmers usually have to pay substantial fixed charges for electricity even when the electric pump is not used. Because of these issues, most farmers opt for diesel pumps.

A new utility company incentive program coupled with Carl Moyer Program funding provides an opportunity to go electric. Pacific Gas and Electric (PG&E) and Southern California Edison (SCE) have developed a rate-based incentive program that helps make electric motor irrigation pumps cost-competitive with diesel pumps. These new

incentive rates, which have been approved by the Public Utility Commission, are structured with the intent to achieve cost parity between owning and operating electrically driven agricultural pumps and diesel pumps capable of equal output. The rates were developed with a diesel price assumption of \$1.15 per gallon. The rates are guaranteed to remain fixed (with the exception of a one and one half percent annual increase) until the year 2015. With current diesel prices more than double the assumed \$1.15 price, electrically driven pumps should prove a viable economic option to diesel-powered pumps. The PG&E and SCE incentive programs are first-come-first-served programs that are accepting applications through July 31, 2007. Applicants must obtain prior approval from the district before purchasing an electric motor under the PG&E and SCE incentive programs.

The PG&E and SCE incentive programs also provide funding to partially or fully offset the cost of extending power lines to the pump sites and eliminate the fixed demand charge, so customers do not have to pay a fee for the months that the pump is not operated. Carl Moyer Program funding coupled with the PG&E and SCE incentive programs can provide lower electricity rates, price stability, infrastructure subsidies and waived demand charges, making electric motor pumps a very attractive option.

In order to qualify for the PG&E or SCE incentive program, the applicant must replace an internal combustion engine (excluding those fired with natural gas) used for irrigation pumping which was installed and operational prior to September 1, 2004. In addition, the replaced engine must be destroyed or, if purchased with Carl Moyer Program funds, surrendered, destroyed, relocated or removed as instructed by the ARB and the local air district. ARB staff is proposing that all Tier 1 engines originally funded by the Carl Moyer Program that are replaced through the PG&E or SCE incentive program be destroyed as described in the Administration Chapter (Chapter Two, Part 1 of the Proposed Carl Moyer Program Guidelines). Staff further proposes that if a Tier 2 engine currently under Moyer contract is relocated to replace a dirtier engine within the air district, the dirtier engine must be destroyed. Districts should conduct pre-inspections to ensure the dirtier engine is operational, and post-inspections to ensure that the replacement Tier 2 engine is properly installed and functioning.

Districts may allow the sale of Tier 2 engines that are replaced through the PG&E or SCE incentive program if documentation is provided to establish the chain-of-custody of the engine, and the sale price. If the district allows the sale of Tier 2 engines, all proceeds from the sale must be divided between the applicant and the district based upon the ratio of original funding provided for the purchase of the Tier 2 Moyer engine. Funds returned to the district must be spent on Moyer eligible projects (funds may be used to offset the added cost of the pre-and post-inspections). If the Tier 2 engine cannot be relocated or sold within 60 days of the electric service being energized, it must be destroyed. If the engine is sold out of California, documentation that the engine will not be used in or re-sold into California must be provided to the district. Because the PG&E and SCE incentive programs are a limited time offer, the ARB staff is proposing to allow pump engines currently under Carl Moyer Program contract to be replaced with electric motors under the incentive programs, with the contract to be revised to reflect the use of an electric motor. The remaining project life of the initially funded engine project would be added to the project life for the new electric motor pump

project. The increased project life would be used in the cost-effectiveness calculation, and the contract duration will be increased accordingly.

For replacement agricultural pump engines not currently funded by the Carl Moyer Program, ARB staff proposes to allow applicants to use one-half of the normal rebuild cost for the baseline cost. Normally, Carl Moyer Program participants apply for grants at the time an engine needs to be rebuilt. In these cases, the grower would pay the base rebuild cost, while the Program would fund the incremental cost of a repowering with a newer, cleaner engine. Because the PG&E and SCE incentive programs are a limited time first-come, first-served offer, some growers may choose to replace their engines with an electric motor before the normal rebuild interval for their engine. Because it will be difficult to determine where each individual engine is in its rebuild cycle, ARB staff proposes to assume that all engines taking advantage of the PG&E and SCE incentive programs are halfway through their rebuild cycle – and that the applicant's base cost would be half the rebuild cost.

Carl Moyer Program applicants using the PG&E and SCE incentive programs will also have to make adjustments to the emission reduction calculations. Because to date virtually no electric agricultural pump projects have been funded through Carl Moyer Program grants, the PG&E and SCE incentive programs take credit for the emission reduction between a Tier 3 engine and an electric motor. As a condition of the PG&E and SCE incentive programs, these emission reductions must be donated to the Carl Moyer Program for clean air. The emission reduction benefit between the replaced engine and a Tier 3 engine, may be included in the cost-effectiveness calculation to determine the grant amount. An example of this calculation is provided in Appendix D.

Project Criteria for Electrically Driven Agricultural Equipment

- Purchases of new 2005 or later model year agricultural equipment can only be electric motors.
- Priority must be given to projects that replace stationary agricultural engines with electric motors.
- Agricultural equipment that use an electric motor may use a default 10 year project life for calculating cost-effectiveness.
- Costs for necessary peripheral equipment associated with the motor (e.g., control panel, motor leads, service pole with guy wire, and connecting electric line) may be included in the grant award amount.
- District match funds may be used for infrastructure purchase and installation.
- District match funds may be used to offset the higher cost of electricity relative to diesel fuel, if applicable. In this case, the fuel cost difference will be accounted for when calculating the cost-effectiveness of the project.
- All electric-driven equipment must have a functioning kilowatt-hour meter, or other method approved by the local air district, to monitor usage.

B. Marine Shore-Side Provided Power

In addition to being the largest source of air pollution in many districts, ports are often

situated in environmental justice areas. For these reasons, ports are a primary focus for emission reduction strategies throughout the state. Governor Schwarzenegger has directed state and regional air agencies to work together with the U.S. Environmental Protection Agency, industry and community stakeholders to address port-related sources of air pollution.

The largest emission source at ports is marine vessels. One strategy for reducing marine vessel emissions is "cold ironing" where ships plug into shore-side power while docked, rather than continuously running their diesel engines to generate electricity. Cold-ironing requires the proper electrical supply connections from the shore — lines, transformers, switching gear, cables, etc. — and the necessary hook-ups on the ship.

Cold ironing, long used for naval vessels, has recently been implemented in the non-military sector in Juneau, Alaska and at the Port of Los Angeles. Four specially-equipped cruise ships plug into shore-side power in Juneau during hoteling operations, while a container vessel plugs in at the electrified berth in Los Angeles. In addition, the Port of Long Beach has begun work to provide dockside electricity to accommodate two retrofitted oil tankers and work has begun in Seattle to convert a berth for cruise ships. Other ports in the U.S. and worldwide are also considering cold-ironing. Early results of ARB's shore-electrification feasibility study indicate that cold-ironing is a cost-effective measure to reduce pollutants from a variety of ships — namely, cruise ships, container ships, and refrigerated bulk ships — at several California ports.

Most marine projects in the Carl Moyer Program deal with harbor craft. Cold ironing projects go beyond harbor craft and include cruise ships, tankers, and freighters. Because cold ironing is a nascent technology, it is difficult to specifically identify the exact components that will be eligible for Carl Moyer Program funding. Because each cold ironing project will be unique, ARB staff is proposing that they be considered for grant funding on a case-by-case basis. The cost-effectiveness and grant amount will depend on a number of issues such as interface compatibility, operating voltage, energy needs and electricity availability at the dock. However, evidence must be submitted to the air district to prove that all emission reductions are surplus, real, quantifiable, and enforceable and the cost-effectiveness limit is not exceeded. Applications will be evaluated based on factors including, but not limited to, frequency and duration of port visitations, energy usage at the dock, seasonal operating variances and regularity of travel routes.

C. Forklifts and Other Large Spark-Ignition Equipment

The Carl Moyer Program has two general emission control strategies for forklifts -- (1) purchase of new electric forklifts instead of new internal combustion engine (ICE) forklifts; and (2) retrofit or repower of internal combustion forklifts that do not lend themselves to electric substitution. Specific project criteria for funding large spark-ignition (LSI) engines are not yet formalized in these proposed Carl Moyer Program Guidelines pending the Board's action in late 2005 on the staff's proposed regulations for LSI engines and equipment. However, staff proposes the following changes regarding electric forklift projects:

- The cost-effectiveness limit for electric forklifts is \$7,000 per weighted ton
- Leased forklifts are eligible for funding if the lease term is three years or more.

Chapter Six provides additional background discussion on this project category and potential criteria that could be used to establish funding eligibility under the Carl Moyer Program for both strategies. Staff is proposing that until the Board adopts the LSI regulation, districts may continue to fund forklift projects using the 2003 Carl Moyer Program Guidelines. During this interim period, additional zero-emission LSI projects may be considered on a case-by-case basis.

D. Airport Ground Support Equipment

Electric GSE have several attributes that make them appeal to users. Participants of demonstration and fleet conversion programs like the way that electric GSE handle and appreciate the fact that they are more "task specific". Battery weight often provides valuable ballast needed to lift heavy objects or push airplanes; usage is often conducive to charging cycles; there are no odors; and no liquid fuel required in the aircraft staging area. Most importantly, electric GSE can be cost-effective and generally have relatively short payback periods. Electric GSE are commercially available and commonly used for a number of equipment types including belt loaders, baggage tractors, aircraft tugs, lifts, ground power units, cargo loaders, lavatory carts and air-start units. However, the higher capital cost of electric equipment is often a deterrent to prospective buyers. Carl Moyer Program funds can be used to offset this initial capital investment.

As discussed in Chapter Seven, there are currently no regulations requiring the use of electric ground support equipment (GSE) at airports but there is a Memorandum of Understanding that involves five airports in southern California (Los Angeles, Ontario, Orange County, Burbank, and Long Beach). The Carl Moyer Program will fund the purchase of new electric GSE instead of new GSE powered by internal combustion engines if this equipment is surplus to the MOU; is not used to meet the requirements of any regulation, including the upcoming large-spark ignition regulation; is not funded through any other incentive program; and is not used to generate credits of any type.

E. Idling Reduction Technologies

Truck drivers idle their propulsion engines for a number of reasons but the main purpose is for interior climate control --heating and cooling the cab/sleeper compartment of the truck. A pilot survey on truck idling trends conducted in Northern California indicates that 67 percent of idling is to provide heating and 83 percent for air conditioning [Brodrick et al., 2001]. Therefore, devices capable of providing heating and air conditioning without operating the propulsion internal combustion engine may substantially reduce emissions associated with truck idling. ARB staff proposes such devices be eligible for funding in the Carl Moyer Program.

Idling emissions, as well as fuel consumption, can be reduced by installing an available zero-emission idling control technology such as an on-board non-internal combustion engine device; by using a site-specific off-vehicle technology such as IdleAire; or by combining on and off-vehicle technologies.

Available zero-emission on-vehicle technologies include generators or upgraded alternators coupled with inverter/chargers and electric heating ventilation and air

conditioning (HVAC) systems. On-board battery packs or fuel cells are also an option. Off-vehicle technologies include grid-supplied electricity at truck stops and advanced truck stop electrification (e.g., IdleAire). The use of these devices, in lieu of operating the heavy-duty engine at idle, will result in significant NOx reductions. Reductions in PM and ROG are also expected but to a lesser extent depending on the type of alternative idle reduction device/strategy used.

In October 2005, the Board will consider a proposal that would limit idling of heavy duty trucks equipped with sleeper berths. This proposal would prohibit heavy duty trucks with sleeper berths from idling more than five minutes unless certain conditions are met. If the Board approves the staff recommendations, the baseline for calculating the benefits of truck idle reduction projects would be a certified diesel APU. Zero-emission technologies would be eligible for funding using the lower emission baseline.

1. Idling Reduction Technology Options

Because the vast majority of truck idling occurs away from truck stops, the most effective idle reduction technologies are those that are available to meet operator needs at any location idling occurs. The costs of these technologies vary widely, although the initial capital investment can typically be recovered within one to three years from reduced fuel and maintenance savings. Still, truck owners and operators have not been receptive to these solutions because of their higher initial cost.

Another on-board idle reduction system utilizes electric heating, ventilation, and air conditioning (HVACs) instead of internal combustion engine-driven HVACs. These electric HVACs can be powered directly from the grid, a fuel cell, or from energy stored in battery packs. The battery packs can be charged from the grid, from the truck's alternator, or from a small on-board gen-set. Fuel cells are an emerging zero-emission technology that may also substitute for idling truck engines or auxiliary power units in the future.

APB staff proposes to continue to help defray the initial cost of equipping the truck with the necessary idle-reducing electric equipment. The Carl Moyer Program would pay up to \$5,500 toward electric equipment and up to \$3,400 for its installation. In order to be eligible for funding, 75 percent of the applicant's usage must take place within California.

2. Truck Stop Electrification

Installation of electric power infrastructure at truck stops, or truck stop electrification (TSE), is gaining support as an idling reduction strategy. Under this option, trucks would be provided with 110 volt alternating current (AC) electrical power at truck stops to run the electric air conditioning, heating and onboard appliances. The electric supply can also be used to charge on-board batteries for electricity use away from the truck stop. Truck stops would need to be equipped with electrical outlets throughout the parking spaces and trucks would need to be equipped, at a minimum, with inverter/chargers and electrical power connections. If fitted with batteries, the truck could use electricity away from the truck stop. The inverter/charger is used to charge the truck batteries and to convert the truck's 12 volt direct current (DC) batteries to 120 volt AC power for all onboard appliances. Currently, AC power inverters that are built into the truck are

offered as a factory option by Freightliner, Volvo and International. The cost for inverter/chargers is approximately \$1,400, a 600-700 Ah lead acid battery pack (good for about 8-15 hours of HVAC and appliance operation) costs approximately \$8,000.

As discussed above, the Carl Moyer Program would pay up to \$5,500 toward electric equipment on-board the truck and up to \$3,400 for its installation. TSE infrastructure installation at truck stops costs approximately \$2,000 per truck parking space. District matching funds may be used to offset this cost.

3. Advanced Truck Stop Electrification

An alternative to the TSE system that does not need truck modifications has been introduced by IdleAire Technologies. This system provides heating and air conditioning to the truck, as well as electrical power for on-board appliances. It also provides basic services such as telephone and internet access and cable or satellite television. The unit is connected to the truck through a console mounted to the truck window using a template insert. The console contains all the necessary connections and controls, including a card reader for the billing system. The infrastructure cost is approximately \$17,000 per parking space but may vary depending on the number of parking spaces installed.

Several advanced truck stop electrification projects have been installed with state and local funding. Staff is proposing to allow Carl Moyer Program funds to be used for installing advanced truck stop electrification systems (e.g., IdleAire systems). In these cases, a partial payment would be made upfront to help offset the initial capital investment. The remainder of the grant amount would be paid out in installments based on system utilization. The amount of the initial payment and subsequent installments will be determined on a case-by-case basis.

The truck idling reduction projects described are just a few of many zero-emission idle reduction strategies. Other technologies and projects may also be eligible for Carl Moyer Program funding on a case-by-case basis. As with all projects, emission reductions must be surplus, real, quantifiable, and enforceable and the project must meet the cost-effectiveness threshold of \$5,000 per weighted ton of emission reductions.

F. Transportation Refrigeration Units

Electric standby transportation refrigeration units allow the engine to be turned off when a compatible electric power supply is available to operate the transportation refrigeration unit (TRU). Diesel engine emissions are eliminated while the TRU is plugged in at the facility. TRU manufacturers currently offer an electric standby option on most models but very few trucks operating in the United States – less than one percent of trucks with TRUs – opt for these units. Electric standby TRU models are common in Europe where approximately 90 percent of all truck TRUs have some type of electricity plug-in capability. As currently designed, however, the electric motors are only sized to hold a temperature set point and may not have sufficient power to pre-cool large trailer enclosures. This technology does not reduce emissions when the vehicle is away from an electricity source.

Electrically-driven TRUs could, in the long term, be powered by fuel cells. This would

allow the TRU to operate emission-free while enroute or when stopped at a facility, regardless of the availability of electricity. As previously mentioned, fuel cell technology for this application is not currently market-ready.

ARB is proposing to evaluate zero-emission TRU projects on a case-by-case basis. Criteria for other TRU projects are discussed in Chapter Four of the proposed Carl Moyer Program Guidelines.

G. Other Zero-Emission Projects

This chapter addresses some of the most likely zero-emission technology projects. It is by no means a complete list of zero-emission technology projects. Other zero-emission technology projects either require no special consideration (e.g., an internal combustion engine is directly replaced with an electric motor) or are described in the appropriate chapters (e.g., electric TRUs and power plug-in units to reduce locomotive idling). Zero-emission technology projects not specifically addressed in this chapter or elsewhere in the proposed Guidelines may be considered for Carl Moyer Program funding on a case-by-case basis. As with all projects, emission reductions must be surplus, real, quantifiable, and enforceable and the project must meet the cost-effectiveness threshold of \$5,000 per weighted ton.

ARB staff will continue to work closely with interested stakeholders to monitor technological developments in effort to determine when it may be appropriate to develop or modify criteria for zero-emission projects. If necessary, ARB will issue advisories to inform prospective applicants and districts of any new policy developments regarding Carl Moyer Program projects using zero-emission technologies.

On September 6, 2005, Governor Schwarzenegger signed Senate Bill 467 (Lowenthal) which requires the ARB to revise the Carl Moyer Program Guidelines to include projects in which an applicant turns in off-road equipment powered by internal combustion engines and replaces that equipment with new zero-emission technologies. This legislation will take effect on January 1, 2006. ARB staff will evaluate how to incorporate the requirements of this legislation into the Carl Moyer Program in 2006.

Appendix J

Sample Program Announcement, including Board Letter



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

BOARD MEETING DATE: July 7, 2006

AGENDA NO. 8

PROPOSAL: Issue Program Announcement for Carl Moyer Fleet Modernization Program and Execute Contract to Conduct In-Use Emissions Testing

SYNOPSIS: Pre-1990 heavy-duty diesel trucks are high-polluting and contribute significantly to the South Coast Air Basin's NOx, PM10, and VOC emissions. Pre-1990 trucks can emit two and a half times as much NOx and five times as much particulates as trucks meeting the current on-road heavy-duty engine exhaust emissions standards. The Carl Moyer program includes a heavy-duty on-road truck fleet modernization element under which incentive funds are provided to truck operators to replace pre-1990 vehicles with newer vehicles. This action is to release a Program Announcement to solicit projects to replace pre-1990 diesel trucks with Model Year 2006 diesel or natural gas trucks at a cost not to exceed \$6 million contingent upon CARB approval of AQMD's Fleet Modernization Plan, and to execute a contract with West Virginia University for \$240,000 to conduct in-use emissions testing on heavy-duty trucks. The Board set-aside \$6 million from the Carl Moyer Program for Fleet Modernization. Sufficient funds are available from the Clean Fuels Fund to conduct the in-use emission testing.

COMMITTEE: Technology, June 23, 2006, Recommended for Approval

RECOMMENDED ACTIONS:

1. Approve the release of the attached Program Announcement #PA2007-01 to solicit projects under the Carl Moyer Fleet Modernization program to replace pre-1990 heavy-duty diesel-fueled trucks with Model Year 2006 diesel or natural gas trucks in an amount not to exceed \$6 million from the FY 2005-06 Carl Moyer Fund contingent upon CARB approval of AQMD's Fleet Modernization Plan.
2. Authorize the Chairman to execute a sole-source contract with West Virginia University to conduct in-use emissions testing of Model Years 2004 and 2005 Class 7 and 8 heavy-duty diesel and natural gas fueled trucks in an amount not to exceed \$240,000 from the Clean Fuels Fund.

Barry R. Wallerstein, D.Env.
Executive Officer

Background

In 2005, a heavy-duty on-road fleet modernization program category was added to the Carl Moyer Program. The Fleet Modernization Program provides financial incentives to replace older high-polluting diesel trucks with newer lower emissions diesel and natural gas trucks. At its February 2006 meeting, the Board set aside \$6 million for the Fleet Modernization Program.

From 1990 through 2000, the on-road heavy-duty engine exhaust certification standards for NOx decreased by approximately 20%. However, recent studies conducted by West Virginia University showed that from 1990 through 2000 in most cases the in-use NOx emissions remained at similar levels, and during the later part of the 1990's when the NOx emissions standard was tightened, the in-use emissions were higher compared to the NOx emissions of heavy-duty vehicles from the early 1990's. The results of the recent studies have implications in the development of the on-road mobile source NOx emissions inventory development for the 2007 AQMP Revision. CARB has already revised its emissions factor model (EMFAC) to reflect the results of the studies. However, the implications of the studies on the Fleet Modernization Program have not been fully evaluated at this time relative to the efficacy of replacing older diesel trucks with post-2003 heavy-duty diesel trucks.

Proposal

This action is to release the attached Program Announcement #PA2007-01 to solicit projects under the Carl Moyer Fleet Modernization program to replace pre-1990 heavy-duty diesel-fueled trucks with Model Year 2006 diesel or natural gas trucks in an amount not to exceed \$6 million contingent upon CARB approval of AQMD's Fleet Modernization Plan. A maximum of five trucks per company will be funded under this Program Announcement and per CARB cost-effectiveness will be based on 3 years.

Staff believes that until further in-use emissions testing of post-2003 heavy-duty diesel trucks are conducted, the replacement of older diesel trucks with Model Year 2006 trucks will provide the greatest assurance that emission reduction benefits will be realized in a cost-effective and timely manner. To further understand the in-use emissions levels of post-2003 heavy-duty trucks, staff proposes that the Board execute a sole-source contract with West Virginia University to conduct in-use emissions testing on 15 Model Years 2004 and 2005 Class 7 and 8 heavy-duty diesel trucks in an amount not to exceed \$240,000 from the Clean Fuels Fund.

Outreach

In accordance with AQMD's Procurement Policy and Procedure, a public notice advertising the Program Announcement and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County Press Enterprise newspapers to leverage the most cost-effective method of outreach to the entire South Coast Basin.

Additionally, potential bidders may be notified utilizing AQMD's own electronic listing of certified minority vendors. Notice of the Program Announcement will be mailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at AQMD's Web site (<http://www.aqmd.gov> where it can be viewed by making menu selections "Inside AQMD"/"Employment and Business Opportunities"/"Business Opportunities" or by going directly to <http://www.aqmd.gov/rfp/index.html>). Information is also available on AQMD's bidder's 24-hour telephone message line (909) 396-2724.

Sole Source Justification

Section VIII.B.2. of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. The request to conduct Class 7 and 8 heavy-duty diesel-fueled truck emissions testing and analysis is made under provision B.2.d.(8): Research and development efforts with educational institutions, or non-profit organizations.

There are two organizations located in the South Coast Air Basin that have the capability of conducting chassis dynamometer emissions testing: the Los Angeles County Metropolitan Transportation Authority (MTA) facility operated by CARB, and the West Virginia University mobile facility located in Riverside. Other facilities outside of the South Coast Air Basin capable of conducting such testing are located in northern California and various locations nationally. However, there will be additional costs associated with having vehicles transported to facilities outside of the Basin. Staff proposes to utilize West Virginia University to conduct the emissions tests because of their location in Riverside, CA. In addition, based on discussions with CARB regarding the availability of the MTA facility, staff believes that CARB will not be able to provide the time and resources required to conduct these tests. In addition, West Virginia University conducted the Coordinating Research Council (CRC) E55/59 in-use emissions tests reports on heavy-duty diesel-fueled vehicles that led to this proposed project. The recommended award to West Virginia University would provide additional data that would be directly comparable with the CRC study.

Benefits to AQMD

The successful completion of the fleet modernization project will significantly reduce NOx and PM10 emissions in a cost effective and expeditious manner. The West Virginia University emissions testing project will provide a better understanding and estimation of NOx and PM emissions from newer heavy-duty trucks for purposes of the AQMD's AQMP and the Fleet Modernization Program.

Resource Impacts

The total project cost of \$6 million for the fleet modernization program will be provided from the FY 2005-06 Carl Moyer Fund.

The project cost of \$240,000 for emissions testing will be provided from the Clean Fuels Fund. Sufficient funds are available from the Clean Fuels Fund, established as a special revenue fund resulting from the state-mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

Attachment

Program Announcement #PA2007-01 - Carl Moyer Fleet Modernization Program

South Coast Air Quality Management District Carl Moyer Fleet Modernization Program

Program Announcement & Application PA 2007-01

July 7, 2006

AQMD reserves the right to change any criteria such as the schedule, qualifications, and selection criteria outlined in this Program Announcement & Application.

The South Coast Air Quality Management District (AQMD) is pleased to announce a funding opportunity for heavy-duty on-road truck fleet modernization in the South Coast Air Basin under the Carl Moyer program. This program is designed to assist truck owners/operators to purchase Model Year 2006 diesel-fueled and Model Year 2004 and newer natural gas-fueled heavy-duty Class 7 and 8 trucks with gross vehicle weight rating (GVWR) of 26,000 pounds and greater to replace pre-1990 heavy-duty diesel-fueled trucks.

Applications will be accepted starting July 11, 2006 and projects will be funded on a first-come-first-served basis if all program requirements are met.

Highlights of Carl Moyer Fleet Modernization Program (\$6 million)

At its July 7, 2006 Board Meeting, AQMD Board approved allocation of \$6 million for the Carl Moyer Fleet Modernization program. These funds will assist truck owners/operators to replace pre-1990 heavy-duty diesel-fueled trucks with Model Year 2006 diesel-fueled and Model Year 2004 and newer natural gas-fueled heavy-duty trucks in the South Coast Air Basin. The trucks must have a GVWR of 26,000 pounds and greater. If a project(s) qualifies under this program, the older pre-1990 truck must be destroyed. This program is open to both single owner/operator and fleet owner/operator. A maximum of five trucks per company will be funded under this Program Announcement. This program will only fund up to 80% of the cost of the newer replacement truck. AQMD approved global positioning system (GPS) electronic monitoring unit (EMU) must be installed on all replacement trucks. AQMD will cover the cost of GPS-EMUs. AQMD will not cover the cost of fueling infrastructure. The trucks must operate in the South Coast Air Basin for at least 75% of the total annual operating time for a minimum of three years. Applicants must disclose their vocation and commit to operate at least 85% of the time in the same vocation for three years after delivery of the new truck.

Please see the Program Announcement for further details and the application forms. Four copies of the application must be received by AQMD.

Award recipients must sign contracts to purchase newer replacement trucks with truck vendors and the trucks must be physically operating by June 30, 2008.

Should you have any questions regarding this Program Announcement, please contact

- Dipankar Sarkar
Program Supervisor
Technology Advancement Office
South Coast Air Quality Management District
Phone: (909)396-2273
E-mail: dsarkar@aqmd.gov

The program announcement and application document can also be accessed via the Internet by visiting AQMD's website at www.aqmd.gov/rfp. Program Announcement number is: PA 2007-01.

The AQMD's main objective is to reduce harmful emissions from diesel-fueled heavy-duty trucks operating in the South Coast Air Basin. We look forward to receiving your application.

ATTACHMENTS:

1. Attachment 1: Vehicle Information Form
2. Attachment 2: Applicant Statement and Agreement Form
3. Attachment 3: Map of the South Coast Air Basin
4. Attachment 4: Internal Revenue Service Form W-9
5. Attachment 5: Replaced Vehicle Inspection Form
6. Attachment 6: Participating Dealers
7. Attachment 7: Certificate of Vendor Acceptance of Old Vehicle for Scrapage
8. Attachment 8: Certificate of Digital Odometer Installation on Replacement Vehicle
9. Attachment 9: Certificate of Replaced Vehicle Dismantle
10. Attachment 10: Definition of Terms
11. Attachment 11: Certificate of Diesel Emission Control System Installation Replacement Vehicle

Carl Moyer Fleet Modernization Program

**Carl Moyer Funds
(\$6,000,000)**

PA 2007-01

July 7, 2006

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At its July 7, 2006 Board Meeting, AQMD Board approved allocation of \$6 million for the Carl Moyer Fleet Modernization program. These funds will assist truck owners/operators to replace pre-1990 heavy-duty diesel-fueled trucks with Model Year 2006 diesel-fueled and Model Year 2004 and newer natural gas-fueled heavy-duty Class 7 and 8 trucks in the South Coast Air Basin. The trucks must have a GVWR of 26,000 pounds and greater. If a project(s) qualifies under this program, the older pre-1990 truck must be destroyed. This program is open to both single owner/operator and fleet owner/operator. A maximum of five trucks per company will be funded under this Program Announcement. This program will only fund up to 80% of the cost of the newer replacement truck. AQMD approved global positioning system (GPS) electronic monitoring unit (EMU) must be installed on all replacement trucks. AQMD will cover the cost of GPS-EMUs. AQMD will not cover the cost of fueling infrastructure. The trucks must operate in the South Coast Air Basin for at least 75% of the total annual operating time for three years. Applicants must disclose their vocation and commit to operate at least 85% of the time in the same vocation for three years after delivery of the new truck.

Emission Limits:

- Model year 2006 diesel-fueled heavy-duty trucks must meet CARB's engine certification standards of 2.5 g/bhp-hr for NOx and NMHC, and 0.1 g/bhp-hr for PM₁₀ or PM_{2.5};
- Model year 2004 and newer natural gas-fired heavy-duty trucks must meet emission limits of 1.8 g/bhp-hr for NOx and NMHC, and 0.03 g/bhp-hr for PM₁₀.

I.B. PROGRAM SCHEDULE

The implementation schedule is shown below. Qualifying projects will be funded on a first-come-first-served basis until all allocated funds are expended.

Carl Moyer Fleet Modernization Program

July 7, 2006	Issue the Program Announcement & Application PA 2007-01
July 11, 2006	Start receiving applications
June 30, 2008	All trucks must be in operation

I.C. APPLICATION SUBMITTAL

The applicant shall submit four copies (1 original and 3 copies) of the application, each marked "Program Application PA 2007-01." These four copies should be placed together in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the applicant. The application package must be addressed to:

3. Replaced Vehicle

AQMD will ensure that all requirements for the replaced (old) vehicle are met. The old vehicle will be verified to be in operational condition as determined through a California Highway Patrol's Biennial Inspection of Terminals (CHP BIT) or equivalent inspection. AQMD will conduct inspections and identify any needed repairs and the estimated cost of the repairs. AQMD will also verify the operating condition of the truck by a visual and operational inspection. In cases where pre-inspections cannot be performed by AQMD personnel, AQMD will propose one of the following methods to CARB for approval:

- a. Submitted by the motor carrier company of a completed CHP 90-Day Safety Inspection Form documenting their inspection and the estimated cost of any repairs.
- b. Submitted by a participating dealership or motor company of records from its own inspection of the old vehicle, including pictures verifying the vehicle condition. The dealer will be required to provide a completed CHP 90-Day Safety Inspection Form and documentation of any necessary repairs. The participant will pay the cost of the inspection.
- c. Other methods as proposed by AQMD and approved by CARB. AQMD will ensure that each applicant has owned and operated the old vehicle for the previous three years. If it is unclear whether a vehicle is owned or leased by a participant, AQMD will determine whether the vehicle is eligible. Participants will be required to submit documentation of annual miles traveled for the previous three years to determine cost-effectiveness. Examples of documentation include: logbooks; fuel records; and/or maintenance records. AQMD will also use income tax records if they can help corroborate fuel usage specifically for the old truck associated with the application. AQMD will ensure that the participant maintains replacement value insurance coverage for the project life. AQMD will work with CARB staff to ensure compliance with air quality laws and that all outstanding citations must be paid up.

4. Replacement Vehicle

AQMD will require that the horsepower rating for the replacement vehicle engine is not greater than 120 percent of the original manufacturer rated horsepower (baseline horsepower) for the old vehicle engine. If necessary, AQMD will audit the replacement vehicle's horsepower during the length of the agreement. AQMD will follow all CARB guidelines for establishing the horsepower rating of the old vehicle. Regarding the horsepower rating of the new vehicle's engine, AQMD anticipates that many engines will need to be derated to within 20% of the old truck's horsepower. In limited situations, AQMD may approve a greater than 20 percent increase in horsepower if the air quality implications are negligible.

Mr. Dean D. Hughbanks,
Procurement Manager
Re: "Program Application PA-2007-01"
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA, 91765

All the applications must be signed by the owner/operator of the truck(s).

I.D. PARTICIPATION GUIDELINES, REQUIREMENTS, & CONDITIONS

1. Overview

Both single owner/operator and fleet owner/operator of heavy-duty diesel-fueled trucks can apply under this program. The trucks must operate in the South Coast Air Basin (SCAB) for at least 75% of the total annual operating time, and the replacement trucks must operate in the SCAB for 3 years. The program is for replacement of pre-1990 heavy-duty diesel-fueled trucks with Model Year 2006 diesel-fueled or Model Year 2004 and newer natural gas-fueled heavy-duty Class 7 and 8 trucks. Only replacement trucks will be funded. Fleet expansion trucks are not eligible for funding. Fueling infrastructure and/or service costs will not be covered by this program.

2. Documents and Vocation

To receive funding for fleet modernization projects, applicants will be required to provide documentation that their old vehicle meets the following requirements:

- 1) model year 1990 or older;
- 2) California registration for the last three years, and
- 3) proof of ownership, vocation, operation, and documentation to verify actual mileage. The old vehicle will be turned over to an approved salvage yard for destruction, including destruction of the engine and cutting of the frame rails upon delivery of the new vehicle.

Applicants will be required to provide documentation that the new replacement vehicle and its engine are model year 2006 for diesel-fueled trucks and model year 2004 or newer for natural gas-fueled trucks. The replacement vehicle must be similar to the old vehicle including axle configuration and body type to prevent a change in vocation during the life of the project.

Applicants will be required to show proof of vocation for the previous three years. A wardens will be required to maintain that vocation for the life of the project, or petition the AQMD to consider a vocation change. AQMD will require that the maximum annual mileage of the replacement vehicle stays within 150 percent of the baseline project mileage, except in case-by-case situations that will be reviewed by AQMD.

All replacement trucks must have a manufacturer gross vehicular weight rating (GVWR) of greater than 26,000 pounds and be powered by a heavy-duty CARB certified on-road engine.

5. GPS-EMU Systems

AQMD has selected a vendor to provide GPS-EMU systems for all fleet modernization replacement trucks. Data will be submitted by this vendor periodically to ensure that truck(s) stay in the South Coast Air Basin for at least 75% of the time for five years. Trucks that exhibit problems (e.g., excessive out of Basin driving mileage) will result in AQMD taking corrective action. Options for corrective action will be established based on the specific circumstances of each situation.

6. Diesel Particulate Filter

If available, a CARB verified diesel particulate filter (DPF) must be installed in each tailpipe of the truck(s). AQMD will pay for the cost of the DPFs. Installation of DPFs does not apply to natural gas fueled trucks.

7. Truck Dealer Requirements

AQMD has developed a list of truck dealerships that will sell replacement vehicles to fleet modernization participants. This list is presented in Appendix VII and it will be updated as other qualified dealerships become available. These dealers will provide participants with needed assistance in the application process. AQMD will not issue reimbursement to dealers and/or participants until all "front-end" forms are submitted and approved by AQMD.

AQMD will allow participants to purchase their replacement vehicles from private parties, provided all required documentation is submitted. This includes warranty requirements and all other fleet modernization requirements.

In addition, AQMD will work with vehicle dealers to ensure that they perform a variety of other key functions for the program, as outlined in the CARB guidelines. This will include making sure that all essential items are complete and included in the participant's submission to the district, such as: a signed and complete application; documentation showing that the old vehicle is roadworthy (as defined previously); and invoices of all work performed on the replacement vehicle (e.g., all engine, transmission, body and other work performed on the replacement vehicle, and invoices showing that all required equipment was successfully installed).

AQMD will require submittal of clear and readable digital photographs of the old vehicle and the replacement vehicle. For ease of transmittal and storage, AQMD will require a digital format such as a ".jpeg" file type. Reimbursement will not be processed until all photographs are received and verified by AQMD. Before submitting photographs to AQMD, dealers will be required to verify that photographs are clear. All VIN and engine serial numbers must be legible. Often,

old vehicles have illegible VIN or engine numbers. In these situations AQMD will use the pre-inspection to visually inspect the old vehicle and, if necessary, corroborate on-site records. Salvage of the old vehicle involves responsibilities for both dealer and salvage yard. Old vehicle salvage is discussed in the next section.

AQMD will require dealers to provide documentation of replacement vehicle warranty and registration, and proof of replacement vehicle financing. The financing package will be used by AQMD to determine the reimbursement costs that may be accrued in case the participant defaults on the contracted performance requirements. Prior to releasing the replacement vehicle to the participant, all documentation for pre-inspection of the old vehicle and post-inspection of the replaced vehicle (see below) will be on file with AQMD.

8. Replaced Vehicle Salvage Requirements

AQMD approved salvage yards will be used to ensure that all old trucks are properly scrapped under the fleet modernization program. Such yards are currently used to scrap on-road vehicles under AQMD Rule 1610, Old-Vehicle Scrapping. A sample copy of a contract with a salvage yard is included in Appendix XIII. Approved vehicle salvage yards will be required to be licensed by the Department of Motor Vehicles (DMV) as an auto dismantler; have a current, valid California Environmental Protection Agency (Cal/EPA) Hazardous Materials Generators Permit; and be in compliance with all local, state and federal laws and regulations.

AQMD will require the dealers to provide certification that each old vehicle is being delivered to an AQMD approved salvage yard. The certification must state that the dealer will deliver the vehicle to the salvage yard within 30 days of receipt of the old truck. The contract must include the make, model, year, VIN, engine make, engine serial number, and the date the vehicle is expected to be delivered. It will be the dealer's responsibility to ensure that the salvage actually occurs, to obtain the completed Certificate of Vehicle Destruction, and to ensure that the Certificate of Vehicle Destruction has been filed with AQMD. AQMD will not cover the salvage costs.

AQMD's plan includes steps to ensure that the old vehicle chassis and engine are permanently removed from service. AQMD will require that the old vehicle be driven to an approved vehicle salvage yard for destruction, although in circumstances other than vehicle performance (e.g., insurance issues) require the vehicle to be towed, AQMD may consider that option on a case-by-case basis. AQMD will not pay for towing costs.

9. Early Termination of Contract

Participants will be obligated through a contractual process to acquire and operate the trucks as well as provide reports to the AQMD for the entire period of the contract life. If the participant terminates the contract prior to the end date,

participant will be required to reimburse AQMD for a prorated share of the funds as per the following schedule:

- Three-Year Contract
- 100% of the total funds if contract is terminated in the first year
- 80% of the total funds if contract is terminated between Years 1 and 2
- 60% of the total funds if contract is terminated between Years 2 and 3
- 0% of the total funds after Year 3

10. Minimum Baseline Mileage Requirement

Carl Moyer Program guidelines state that participants must "repay a prorated portion of the incentive funding for failure to fulfill the minimum performance requirements." This minimum performance is set at 80% of the baseline mileage. It further states that "the district will determine the method of notice and achieving fund recovery."

AQMD will use the following procedure to make participants repay on a prorated basis:

- The 80% mileage requirement will be based on an annual basis
- If the annual mileage is less than 80% of the baseline mileage, the prorated repay will be calculated according to the following formula:

$$\$(80\% - \text{Actual Annual \% Baseline Mileage}) \times 1.25\% \times (\text{Total Funds/Project Life in Years})$$

For example:

Actual 2006 CY annual mileage = 60% of baseline mileage

Total project funds provided = \$100,000

Project life = 3 years

$$2006 \text{ CY repay} = \$((80 - 60) \times 1.25\% \times (100,000/3)) \\ = \$8,333$$

FUNDING ALLOCATIONS

A. Amounts of Funding

2006 Diesel-Fueled Trucks

Qualified participants may receive up to 80% of the cost of the truck, sales tax, the cost of the GPS-EMU systems, and the cost of the diesel particulate filters.

2004 and Newer Natural Gas-Fueled Trucks

Qualified participants may receive up to 80% of the cost of the truck, sales tax, and the cost of the GPS-EMU systems for a total not to exceed \$150,000.

B. Authorizing Signature

The submitted application, and its 3 copies, shall have the owner/operator's signature. Applications without authorizing signatures will not be accepted.

C. Disbursement of Funds

1. Funds will be paid on a reimbursement basis at the time of vehicle delivery to the applicant. All trucks must be physically operated by June 30, 2008. Upon applicant's request, funds can be paid directly to the truck vendor.
2. Proof of vehicle delivery must accompany any request for reimbursement of approved funds. This proof of receipt must include full details of the delivered truck along with VIN number, DMV license plate number and the options included. The receipt of vehicle should be signed by the owner/operator before submission to AQMD.
3. All requests for reimbursement along with proof of crushing must be received by the AQMD.

I.E. IF YOU NEED HELP

This Program Announcement and Application can be obtained by accessing the SCAQMD web site at www.aqmd.gov/ftp. SCAQMD staff members are available to answer questions during the application acceptance period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- For General, Administrative, or Technical Assistance, please contact:

Dipankar Sarkar
Program Supervisor
Technology Advancement Office
Phone (909) 396-2273
Fax: (909) 396-3252
dsarkar@aqmd.gov

- For Questions on Invoices, please contact:

Leilani Montojo
Technology Advancement Office, Contracts
Fax: (909) 396-2231
lmontojo@aqmd.gov



CAMPAIGN CONTRIBUTIONS DISCLOSURE

California law prohibits a party, or an agent, from making campaign contributions to AQMD Governing Board Members of \$250 or more while their contract or permit is pending before the AQMD Board; and further prohibits a campaign contribution from being made for three (3) months following the date of the Governing Board's final decision on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, Board Members must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling \$250 or more in the 12-month period prior to the Board's consideration of the item. Gov't Code §84308(c). When abstaining, the Board Member must announce the source of the campaign contribution on the record. Id. The requirement to abstain is triggered by campaign contributions of \$250 or more in total contributions of the bidder or contractor, plus any of its parent, subsidiary, or affiliated companies. 2 C.C.R. §18438.5.

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

SECTION I

Contractor: _____

RFP #: _____

Contractor or parent, subsidiary, or affiliated company, or agent thereof, has made a campaign contribution(s) of at least \$250 in the aggregate to a current member of the South Coast Air Quality Management Governing Board in the 12 months preceding the date of execution of this disclosure.

Yes No **IF YES, complete Section II below and then sign and date the form. IF NO, sign and date below. Include this form with your submittal.**

SECTION II

Name of Contributor, if different from Contractor _____

Governing Board Member _____

Amount of Contribution _____

Date of Contribution _____

Campaign Contributions Disclosure, continued:

Name of Contributor, if different from Contractor _____

Governing Board Member	Amount of Contribution	Date of Contribution
Name of Contributor, if different from Contractor _____	_____	_____
Governing Board Member _____	Amount of Contribution _____	Date of Contribution _____
Name of Contributor, if different from Contractor _____	_____	_____
Governing Board Member _____	Amount of Contribution _____	Date of Contribution _____
Name of Contributor, if different from Contractor _____	_____	_____
Governing Board Member _____	Amount of Contribution _____	Date of Contribution _____

I declare the foregoing disclosures to be true and correct.

By: _____

Title: _____

Date: _____

DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity.

- (1) **Parent subsidiary.** A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) **Otherwise related business entity.** Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
 - (A) One business entity has a controlling ownership interest in the other business entity.
 - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
 - (i) The same person or substantially the same person owns and manages the two entities;
 - (ii) There are common or commingled funds or assets;
 - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
 - (iv) There is otherwise a regular and close working relationship between the entities; or
 - (v) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.

2 Cal. Code of Regs., §18703.1(d).

Attachment 1
 South Coast Air Quality Management District
 Fleet Modernization Program
 Vehicle Information Form
 Please Type or Print Neatly in INK only

South Coast Air Quality Management District
 Fleet Modernization Program
 Applicant Statement and Agreement

I certify to the best of my knowledge this application meets the minimum requirements as defined in the Guidelines for the Fleet Modernization Program and that all the information provided in this application is accurate.

I understand that priority may be given to applicants who operate predominantly in the Port areas and agree to accept the evaluation performed on my application as described in the Fleet Modernization Program Guidelines. I understand that there are conditions placed upon receiving this incentive and agree to refund the incentive if at any time it is found that I do not meet those conditions.

I understand that this program has limited funds and that the AQMD shall be under no obligation to honor requests received following depletion of program funding. I acknowledge that receipt of this incentive prohibits application for any form of emission reduction credits including: Emission Reduction Credit (ERC), Mobile Emission Reduction Credit (MERC) and/or Certificate of Advanced Placement (CAP), for all time, from the South Coast Air Quality Management District or any other Air Quality Management or Air Pollution Control District.

I agree to maintain the replacement vehicle in accordance with all State and local laws. I also agree not to alter, change or otherwise tamper with the hardware or software that controls the engines emissions performance. If the integrity of the emission control devices are altered or disabled, I understand that I am responsible to refund the incentive in full.

In the event that the replacement vehicle(s) do not complete the project life of this application I agree to reimburse the AQMD according to the following payment schedule:

- Five-Year Contract
 - 100% of the total funds if contract is terminated in the first year
 - 80% of the total funds if contract is terminated between Years 1 and 2
 - 60% of the total funds if contract is terminated between Years 2 and 3
 - 40% of the total funds if contract is terminated between Years 3 and 4
 - 20% of the total funds if contract is terminated between Years 4 and 5
 - 0% of the total funds if contract is terminated after Year 5

I agree to comply with all applicable Federal, State and local laws and/or regulations pertaining to the operation of trucks.

Persons applying on behalf of an entity must have legal authority to bind that entity.

Please Type or Print Clearly using INK only—Original Application Forms with an ORIGINAL SIGNATURE Must Be Submitted—Faxes Will Not Be Accepted

Authorized Signature _____ Date _____
 Applicant Name _____ Title _____
 07-2006_Dipumar_Fleet_Mod_Prog-App_Attachments 2 6/20/2006 8:49 AM

Section 1: Counties Vehicle Will Be Operated In (Check all that apply)

- Los Angeles Orange Riverside San Bernardino

Section 2: Replaced Vehicle Information

Make:	Model:	Model Year:	GVWR:	Wt. Class:
Vehicle Identification Number:	Fleet Identification Number:	License Plate Number:	Vocation(s) (required):	

To determine your Baseline Mileage, please provide the number of miles that you have driven the replaced vehicle in the South Coast Air Basin (SCAB) over the last two years: Miles in SCAB for last 12 months: _____ Miles in SCAB for 12 months previous to the last year: _____ Please provide the % of your total miles over the last 24 months that have been in the SCAB: ____% (must be at least 75%). Please attach documentation to support these mileages, as described in Section VI, B. 6.

Section 3: Primary Carrier Contact Information

Company Name:	Contact:	Phone:
---------------	----------	--------

Section 4: Replaced Vehicle's Engine Information

Make:	Model:	Year:	Serial Number:	HP:
Fuel Type:	<input type="checkbox"/> CNG <input type="checkbox"/> Diesel <input type="checkbox"/> LNG <input type="checkbox"/> LPG <input type="checkbox"/> Other:			

Section 5: Replacement Vehicle Information

Make:	Model:	Model Year:	GVWR:	Wt. Class:
Vehicle Identification Number:	License Plate Number:	Odometer Reading:	Single Exhaust:	<input type="checkbox"/>
			Dual Exhaust:	<input type="checkbox"/>

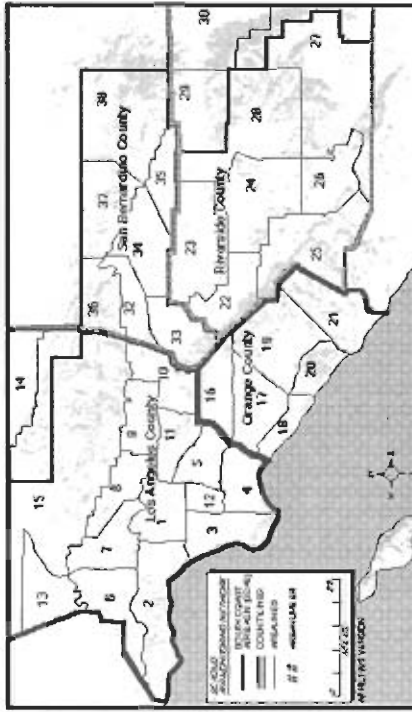
Section 6: Replacement Vehicle's Engine Information (or Reconditioned Engine / Repowered Engine Information)

Make:	Model:	Year:	Serial Number:	HP:	NOx Level:
Fuel Type:	<input type="checkbox"/> CNG <input type="checkbox"/> Diesel <input type="checkbox"/> LNG <input type="checkbox"/> LPG <input type="checkbox"/> Other:				g/bhp-hr

South Coast Air Quality Management District
 Fleet Modernization Program
 Map of the South Coast Air Basin

Applicants in the AQMD's Fleet Modernization Program must accept operational limits on where and how much they drive the replacement vehicle they receive as a result of participating in this program. Specifically, applicants must agree to drive 75% of their annual miles inside the South Coast Air Basin and within their designated vocation, not to exceed 1.3 times the base mileage. The map below shows the applicable boundaries.

A more detailed map is available upon request.



Major Truck Routes Into and Out of the South Coast Air Basin

The South Coast Air Basin (SCAB) is bordered by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

Please use the following table (if needed) to help determine the miles driven inside and outside the SCAB. Reporting these miles for 5 years is required under your contract.

	City	Other Description
I-5 N	Frazier Park	Tejon Pass
I-15 N	Cajon	El Cajon pass 7 miles north of the joining of the I-5/I-15
SCAB BOUNDARY TRAVELING NORTH Bordered by the Sierra Madre, San Gabriel and San Bernardino Mountains		
SCAB BOUNDARY TRAVELING SOUTH Bordered by San Diego County		
I-15 S	Rainbow	San Diego County line
I-5 S	San Clemente	San Diego County line
SCAB BOUNDARY TRAVELING EAST Bordered by the Sierra Madre, San Gabriel and San Bernardino Mountains		
I-10 E	Cabazon	5 miles prior to CA 111
CA-14	Acton	Soledad Pass Red Rover Mine Road Exit
SCAB BOUNDARY TRAVELING WEST Bordered by the Pacific Ocean and Ventura County Line		
CA-126	East of Valencia West of Piru	Ventura County line Approximately 5 miles west of I-5
CA-118	Chatsworth	Ventura County line Approximately 2 miles west of Topanga Canyon Road
CA-101	Westlake Village/Thousand Oaks	Ventura County line Between Lindero Canyon exit and S. Westlake Blvd. exit

Brakes and Tires	Comments and Cost to Repair
BRAKE LINING, DRUMS & ADJUSTMENT	
AIR HOSES & LINES CONDITION UNAPPLIED)	
RIM CONDITION, I.E. CRACKS, LUGS LOOSE	
INFLATION PER MFG RECOMMENDATIONS	
PARKING BRAKE	
SUSPENSION & CHASSIS	
CHECK STEERING FREE LASH, MOUNTS	
STEERING ARMS, DRAG LINKS, TIE ROD ENDS	
FIFTH WHEEL CONDITION, MOUNTS, ADJ.	
DRIVE SHAFTS, U-JOINTS, COMPENSATORS	
WHEEL SEAL LEAKS, BEARING HUB LEVELS	
SPRING, SHACKLES, U-BOLTS, TORQUE ARMS	
SAFETY EQUIPMENT	
WINDSHIELD WIPERS, WINDOW CRACKS	
LIGHTS, REFLECTORS, MUD FLAPS	
WARNING DEVICES: AIR, OIL, TEMPERATURE	
ENGINE	
CHECK CAB JACK SYSTEM	
RADIATOR & WATER HOSES - CONDITION	
BELTS, COMPRESSOR FAN, WATER PUMP	
AIR LINES, LEAKS - CONDITION	
EXHAUST SYSTEM, LEAKS	
ENGINE MOUNTS, OIL & FUEL LEAKS	
CLUTCH ADJUSTMENT & FREE PLAY	
OIL LEVEL, FILTER CONDITION	
SERVICE BATTERY BOX COVER	

**South Coast Air Quality Management District
Fleet Modernization Program
Participating Dealers**

Below is a list of dealers that have elected to participate in the AQMD's Fleet Modernization Program and the Gateway Cities Clean Air Pilot Program. For a more up to date list of participating dealers, please contact the project administrator or visit the project website at <http://www.gatewaycog.org/home.html>

Hugo Rene Del Cid
Arrow Truck Sales
10175 Cherry Avenue, Fontana
(800) 791-9635
rdelcid@arrowtruck.com

Carlos Sanchez
Arrow Truck Sales
3480 Shepherd Street, Whittier
(800) 827-7699
bbrancato@arrowtruck.com

Bill Davis
Boemer Truck Center
3620 E. Florence Avenue, Huntington Park
(323) 560-3882
bdavis@boemertrucks.com

Danny Padilla, Sal Hernandez and John Rodriguez
Enterprise Motors Inc.
2555 Pellissier Place, Whittier
(562) 692-7244
entwhittier@aol.com

Richard Uribe
Inland Kenworth
9730 Cherry Avenue, Fontana
(909) 823-9955
richarduribe@inlandk-wfn.com

Ricardo Rodriguez Long
Los Angeles Freightliner
18900 S. Sussana Road, Long Beach
(562) 415-2202

Mike Vozella
Los Angeles Freightliner
2429 S. Peck Road, Whittier
(562) 695-0511
mvozell@laftr.com

Michael McLean
RDO Truck Center
14267 Valley Blvd., Fontana
(909) 427-8090
mclean92504@yahoo.com

Zulma Trujillo
Rush Truck Center
8830 E. Slanson Avenue, Pico Rivera
(562) 949-5451
cinquegranlj@rush-enterprises.com

Alex Garcia
Selec Trucks of Los Angeles, LLC (Freightliner)
13750 Valley Blvd., Fontana
(800) 543-7621 x5009
agarcia@laftr.com

Dan Morreale
TCI Truck and Trailer Sales
4950 Triggs Street, Commerce
(323) 269-3033
morreale@tcileasing.com

South Coast Air Quality Management District
Fleet Modernization Program
Certificate of Vendor Acceptance of Old Vehicle for Scrappage

Owner: _____ Date: _____
Owner Address: _____
City, State, Zip: _____
Phone: _____

Old Vehicle Information

Make:	Odometer Reading:
Model:	Miles
VIN:	
Year:	

Old Engine Information

Make	Year
Model Number	Serial Number
Horsepower	HP

Date Vehicle was Accepted by a District-Approved Scrappage Yard: _____

Dealer/Distributor Statement: I certify under penalty of perjury that ownership of the vehicle described above was transferred to me. I understand that I have 30 days to transfer vehicle to an authorized salvage company for salvage, as provided in the AQMD's program guidelines and Master Agreement.

Company: _____
Address: _____
Authorized Name: _____
Authorized Signature: _____ Date: _____

**South Coast Air Quality Management District
Fleet Modernization Program
Certificate of Replaced Vehicle Dismantle**

Owner: _____ Date: _____

Owner Address: _____

City, State, Zip: _____

Phone: _____

Old Vehicle Information

Make:	Odometer Reading: _____ Miles
Model:	
VIN:	
Year:	

Old Engine Information

Make:	Year
Model Number	Serial Number
Horsepower	HP

Date Vehicle was Accepted: _____ Date Vehicle was Destroyed: _____

Please Initial:

_____ Photos have been taken according to the AQMD program guidelines

Salvage Yard Statement: I certify under penalty of perjury that within 60 days from the date I received the old vehicle, the engine block was cracked and the vehicle frame rails cut. Photos of the destroyed vehicle that are required under the Fleet Modernization Program Guidelines are attached to this Certificate of Vehicle Destruction - Old Vehicle. I further certify that I understand that this Certificate of Vehicle Destruction - Old Vehicle is incorporated into the AQMD Master Agreement.

Company: _____

Address: _____

Authorized Name: _____

Authorized Signature: _____ Date: _____

**South Coast Air Quality Management District
Fleet Modernization Program
Certificate of Digital Odometer Installation
Replacement Vehicle**

Owner: _____ Installation Date: _____

Owner Address: _____

City, State, Zip: _____

Phone: _____

Replacement Vehicle Information

Make:	Odometer Reading: _____ Miles
Model:	
VIN:	Cost: \$.....
Year:	

District Approved Digital Odometer

Company:	Make:
Model:	Serial Number
Device Location on Truck:	

Dealer/Distributor/Installer Statement: I certify under penalty of perjury that the digital odometer has been installed in accordance with all manufacturer guidelines and AQMD's Program guidelines. All anti-tampering devices available have been included in the installation. Also, all photographs required under the Fleet Modernization Program Guidelines are attached to this Certificate of Digital Odometer Installation - Replacement Vehicle. In addition, all parts are in working condition at the time of truck release. I further certify that I understand that this Certificate of Digital Odometer Installation - Replacement Truck is incorporated into the AQMD's Master Agreement.

Company: _____

Address: _____

Authorized Name: _____

Authorized Signature: _____ Date: _____

**South Coast Air Quality Management District
Fleet Modernization Program
Definition of Terms**

- AQMD** South Coast Air Quality Management District
- ARB** California Air Resources Board.
- Baseline Horsepower** The manufacturer rated horsepower for the replaced vehicle engine. In the absence of a manufacturer rated horsepower for the replaced vehicle engine, a dynamometer test may be performed at the applicant's expense to determine the base line horsepower rating.
- BIT** Biennial Inspection of Terminals
- CHP** California Highway Patrol
- Digital Odometer** An GPS-EMU device provided to the applicant by the AQMD that automatically records the total miles a replacement truck is driven in each of California's air quality non-attainment areas and has the capability of transmitting the data to AQMD. A digital odometer must be installed by the truck dealer in each replacement truck. If the odometer is not available at the time of purchase of the replacement truck, the applicant must return the truck to the dealer for installation of the digital odometer when it becomes available.
- GPS-EMU** Global Positioning System – Electronic Monitoring Unit
- Qualified Salvage Yard** A vehicle salvage yard that is AQMD approved to destroy replaced vehicles. To qualify, a salvage yard must have all of the appropriate licenses with the DMV and must be certified to handle hazardous materials.
- PM Control Device** Exhaust aftertreatment device used to clean up diesel soot or particulate matter. PM control devices must be verified for use in the replacement vehicle by the ARB.
- Port of Los Angeles Truck Driver** An individual who made at least 100 deliveries to or from the POLA in the 12 months preceding his/her program application.
- Reflash** Reprogramming the engine control module to achieve lower NOx emissions.
- Replaced Vehicle** 1986 or older vehicle turned in to the program to be scrapped and replaced. Vehicle and engine will be destroyed at qualified salvage yard.
- Replacement Vehicle** 1999 or newer vehicle that will be purchased with assistance from the AQMD.
- Vocation** The business and application for which the applicant uses his/her truck, - e.g., port container, recycled material or dirt hauling, etc.). Essentially, vocation must be the same for the replacement (newer) truck as it was for the replaced (old) truck, over the 5-year life of the project.

**South Coast Air Quality Management District
Fleet Modernization Program
Certificate of Particulate Matter Control Device Installation
Replacement Vehicle**

Owner: _____ Installation Date: _____
 Owner Address: _____
 City, State, Zip: _____
 Phone: _____

Replacement Vehicle Information

Make:	Odometer Reading:
Model:	Miles
VIN:	Horsepower:
Year:	Single Exhaust <input type="checkbox"/>
	Dual Exhaust <input type="checkbox"/>

Diesel Particulate Filter Information

Company	Model Number
Serial Number	Serial Number*

* If more than one filter is installed because the replacement vehicle has dual exhaust

Dealer/Distributor/Installer Statement: I certify under penalty of perjury that the diesel particulate filter installation made here incorporates a part by part match to make the above listed engine conform to oxidation catalyst installation and engine regulations. I further certify that this engine, as modified by the installation of the oxidation catalyst, conforms to required regulations pertaining to gaseous emissions and smoke certified by the California Air Resources Board. I further certify that I understand that this Certificate of Particulate Matter Control Device Installation – Replacement Vehicle is incorporated into the AQMD's Master Agreement.

Company: _____
 Address: _____
 Authorized Name: _____
 Authorized Signature: _____ Date: _____

Appendix K
Sample incomplete proposal letter



South Coast Air Quality Management District

21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

«Date»

«Name»

Attn: Mr. «Contact_Name»

«Address»

«City», «State» «Zip»

The following information was found to be missing from your application for «Category» submitted in response to SCAQMD RFP #2006-15, Carl Moyer Incentive Program. Please provide the requested information by no later than May 23, 2006, or your application will be deemed ineligible for review under this RFP.

Please contact the staff lead at the following telephone if you have any questions regarding this correspondence.

Staff Contact: «Project_Officer»

Telephone: «Phone_Number»

√ The application forms were found to be incomplete. Specifically, the following information is missing and must be submitted for further review:

- _____ Equipment vocation was not provided.
- _____ Project Life
- _____ Percent operation within AQMD Boundaries
- _____ Baseline engine and equipment information
- _____ New vehicle/engine information
- _____ √ Other, as listed here:

«Reasons_for_Ineligible__see_list_below». «Notes».

Cleaning the air we breathe...

_____ The Engine Certifications and Representation Forms were not attached.
Download these at: <http://www.aqmd.gov/rfp/CertsRepsApril2004.pdf>

_____ Complete contact information was not provided. Please review your application and supply missing information.

_____ The Application Statement was not signed. Please review and sign.

_____ This item only applies to third-party applicants: A Letter of Exclusive Authorization was not attached. This letter is required for any applicant that is submitting an application on behalf of a vehicle/equipment owner.

_____ Documentation to support the activity claimed in the application (i.e., fuel receipts, mileage logs and/or hour-meter readings covering the last two years must be provided.

_____ Vendor quotes, vehicle valuations, repair estimates, (including a break out of labor costs) must be provided.

Appendix L
Sample Board Letter, Award of Carl Moyer Program Contracts



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178



(909) 396-2000 • www.aqmd.gov

BOARD MEETING DATE: July 7, 2006

AGENDA NO. 38

PROPOSAL: Execute Contracts for Carl Moyer Memorial Air Quality Standards Attainment Program with Returned Funds from Incomplete Projects

SYNOPSIS: The AQMD has administered its Carl Moyer Program since FY 1998-99, awarding more than \$85 million in projects for purchase of low-emitting heavy-duty vehicles, engines, and equipment. Some of the awarded contracts have been returned by the recipients due to various reasons such as economic conditions and other business priorities. This action is to execute new contracts under the Carl Moyer Program with companies that were unable to receive funds in the last round of awards in February 2006, with turn-back funds in an amount not to exceed \$9.1 million.

COMMITTEE: Technology, June 23, 2006, Recommended for Approval

RECOMMENDED ACTIONS:

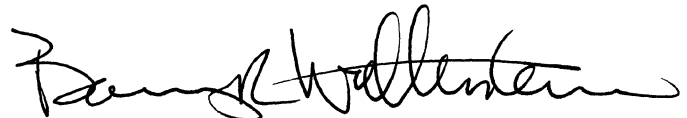
A. Authorize the Chairman to execute the following contracts with turn-back dollars from the Carl Moyer Program Fund:

1. A contract with Rentrac for the repower of five diesel dual engine scrapers in an amount not to exceed \$1,064,270 from the Carl Moyer Program Fund Prop. 40 Account.
2. A contract with Cash Grading for the repower of one dozer and 5 diesel dual engine scrapers in an amount not to exceed \$74,614 from the Carl Moyer Program Prop. 40 Account and \$862,545 from the Carl Moyer Program Fund.
3. A contract with Bruno Farms for the repower of one diesel agricultural tractor in an amount not to exceed \$55,821 from the Carl Moyer Program Fund SB1107 Account.
4. A contract with JKM Equipment for the repower of seven diesel dual engine scrapers in an amount not to exceed \$1,277,124 from the Carl Moyer Program Fund SB1107 Account and \$212,854 from the Carl Moyer Program Fund.
5. A contract with Yeager Skanska for the repower of one dual engine scraper in an amount not to exceed \$194,000 from the Carl Moyer Program Fund.

6. A contract with Parsec, Inc. for the purchase of ten new LNG yard tractors in an amount not to exceed \$489,780 from the Carl Moyer Program Fund.
7. A contract with KEC Engineering for the repower of four diesel cranes in an amount not to exceed \$137,592 from the Carl Moyer Program Fund.
8. A contract with Moss Equipment for the repower of 10 diesel dual engine scrapers in an amount not to exceed \$1,326,625 from the Carl Moyer Program Fund.
9. A contract with TNT Grading to repower seven diesel scrapers in an amount not to exceed \$608,438 from the Carl Moyer Program Fund.
10. A contract with American Contracting to repower two diesel dual engine scrapers in an amount not to exceed \$374,990 from the Carl Moyer Program Fund.
11. A contract with Dalton Trucking to repower two diesel pipe loader in an amount not to exceed \$52,590 from the Carl Moyer Program Fund.

B. Authorize the Chairman to modify the following contracts with turn-back dollars from the Carl Moyer Program Fund:

1. A contract with Pick Your Part to add the repower of three diesel scrap metal loaders in an amount not to exceed \$20,065 from the Carl Moyer Program Fund Prop. 40 Account, \$20,065 from the Carl Moyer Program Fund SB1107 Account, and \$24,967 from the Carl Moyer Program Fund to the existing contract that is for the repower of 16 diesel scrap metal loaders for \$496,988 from the Carl Moyer Program Fund Account AB923 originally approved on February 3, 2006.
2. A contract with Sukut Equipment to add the repower of five diesel dozers, and six diesel single engine scrapers in an amount not to exceed \$41,893 from the Carl Moyer Program Fund Prop. 40 Account, and \$740,522 from the Carl Moyer Program Fund to the existing contract that is for the repower of one dual engine and 16 single engine diesel scrapers for \$1,488,925 from the Carl Moyer Program Fund AB923 Account originally approved on February 3, 2006.
3. A contract with Jagur Tractor to add the repower of eight diesel dual engine scrapers in an amount not to exceed \$1,438,560 from the Carl Moyer Program Fund to the existing contract that is for the repower of nine diesel scrapers for \$794,903 from the Carl Moyer Program Fund AB923 Account originally approved on February 3, 2006.



Barry R. Wallerstein, D.Env.
Executive Officer

Background

The Carl Moyer Memorial Air Quality Standards Attainment Program (CMP) provides funding on an incentive basis for the incremental cost of purchasing cleaner than required engines and equipment. Eligible projects include cleaner on- and off-road, marine, locomotive, and agricultural engines, as well as forklifts, airport ground support equipment, and auxiliary power units. To date, the AQMD has awarded more than \$85 million in projects for purchase of low-emitting heavy-duty vehicles, engines, and equipment under its Carl Moyer Program. Some of the awarded contracts have been returned by the recipients due to various reasons such as economic conditions and other business priorities. Table 1 shows the total amount of returned funds currently available under the Carl Moyer Program, and Table 2 shows the detailed breakdown of the turn-back funds.

Table 1: Carl Moyer Program Available Dollars

Funding Source	Available Amount
SB 1107	\$1,353,077
Carl Moyer Turn-Back (Proposition 40 funds)	\$1,200,602
Carl Moyer Turn-Back (Non Proposition 40 funds)	\$6,461,127
Total	\$9,014,806

Table 2: Returned Program Dollars

AWARD RECIPIENT	AMOUNT DECLINED	ACCOUNT
FY 1999-00		
American Marine	\$60,862	CMP
Seaboard Marine	\$16,900	CMP
FY 2000-01		
City of Pasadena	\$14,000	CMP
London Bus & Taxi	\$194,040	CMP
Lowe's	\$269,403	CMP
Palm Springs Disposal	\$192,221	CMP
Sysco	\$90,636	CMP
Ware Disposal	\$176,865	CMP
FY 2001-02		
Blue Barrel Disposal	\$134,490	CMP
Altfillisch	\$44,131	CMP
G&B Rubbish	\$124,708	CMP
Nationwide Environmental	\$227,325	CMP
Sysco	\$315,900	CMP
Sukut Construction	\$150	CMP
USA Waste, LA Metro	\$72,600	CMP
USA Waste, Sun Valley	\$121,000	CMP
Waste Mgmt. Orange County-Dewey's	\$132,325	CMP
Waste Mgmt. San Gabriel/Pomona Valley	\$319,728	CMP
Waste Mgmt. San Gabriel/Pomona Valley	\$459,800	CMP
WXRT – Express Reefer Transport	\$2,000,000	CMP
FY 2002-03		
Athens Services	\$65,181	Prop 40
City of Cathedral City	\$7,908	Prop 40
City of Los Angeles	\$6,200	Prop 40
County Sanitation Districts of L.A.	\$99,650	Prop 40
Enterprise Rent-a-Car	\$45,317	CMP
Herigstad Equipment Rental	\$360,888	CMP
Interstate Sweeping Services	\$67,500	Prop 40
Jagur Tractor	\$171,310	CMP
Mellon Grading	\$140,450	CMP
Roadbuilders	\$78,673	CMP
Tidewater Marine	\$404,232	CMP
Two Harbor Enterprises	\$20,339	Prop 40
FY 2003-04		
Catalina Passenger Services	\$396,955	Prop 40
London Bus & Taxi	\$285,000	Prop 40
Omnitrans	\$64,000	Prop 40
Shaw Diversified Services, Inc.	\$63,805	Prop 40
Clean Street	\$97,632	Prop 40
Southern California Regional Rail	\$282,000	CMP
City of Whittier	\$26,432	Prop 40
FY 2004-05		
Unused Funds	\$388	SB1107
City of Los Angeles	\$960,749	SB1107
Altfillisch	\$391,940	SB1107
City of Banning	\$11,173	CMP
TOTAL DECLINED AWARDS	\$9,014,806	

Proposal

At its July 8, 2005 meeting, the Board approved the release of RFP #P2006-01 to solicit proposals for Year Seven of the Carl Moyer Program. By the closing date of September 30, 2005, a total of 72 proposals were submitted requesting approximately \$52 million in funding. On December 2, 2005, and February 3, 2006, the Board approved awards for a total of \$19,625,677. This action is to execute new contracts under the Carl Moyer Program with companies that were unable to receive funds in the last round of awards under RFP #P2006-01, with turn-back funds in an amount not to exceed \$9,017,315. This amount is comprised of \$1,353,010 from the Carl Moyer Program Fund Account SB1107, \$1,200,842 from the Carl Moyer Program Fund Account Proposition 40, and \$6,463,463 from the Carl Moyer Program Fund. Table 3 provides a detailed list of all the projects proposed for funding.

Total NOx and PM reductions from the recommended projects are approximately 463 tons/year and 16 tons/year, respectively. All the recommended award recipients have agreed to complete the recommended projects by June 30, 2007.

In case of availability of additional turn-back funds, staff recommends the Board to approve the selection of projects and execution of contracts from unfunded projects under RFP #P2006-01, which is provided as a back-up list in Attachment 1.

Funding Distribution

Table 4 summarizes staff's recommendation for awards in disproportionately impacted areas under the requirements of AB1390. The total amount of projects funded in disproportionately impacted areas is \$6,914,027. The total amount of projects funded solely based on cost-effectiveness is \$2,100,288. In summary, 76.7% of the projects are in disproportionately impacted areas. The requirements of AB 1390 are implemented according to the following criteria.

- 1) All projects must qualify for the Carl Moyer program by meeting the cost effectiveness limits established in the RFP.
- 2) All projects were evaluated according to the following criteria to qualify for funding under DI requirements:
 - a) Poverty Level: All projects in areas where at least 10% of the population falls below the Federal poverty level based on the year 2000 census data, are eligible to be included in this category, and
 - b) PM Exposure: All projects in areas with the highest 15% of PM concentration will be eligible to be ranked in this category. The highest 15% of PM concen-

tration level is 46 micrograms per cubic meter and above, on an annual average, or

- c) Air Toxics Exposure: All projects in areas with a cancer risk of 1,000 in a million and above (based on MATES II estimates) will be eligible to be ranked in this category.

Table 3: Recommended Awards by Fund Accounts

Carl Moyer Program Proposition 40 Account	Awards
Rentrac	\$1,064,270
Cash Grading	\$74,614
Pick Your Part	\$20,065
Sukut	\$41,893
Total Prop. 40 Account	\$1,200,842
Carl Moyer Program Funds	Awards
Cash Grading	\$862,545
JKM Equipment	\$212,854
Yeager Sanska	\$194,000
Parsec	\$489,780
KEC Engineering	\$137,592
Moss Equipment	\$1,326,625
TNT Grading	\$608,438
American Contracting	\$374,990
Dalton Trucking	\$52,590
Pick Your Part	\$24,967
Sukut	\$740,522
Jagur	\$1,438,560
Total Carl Moyer Program Funds	\$6,463,463
Carl Moyer Program SB1107 Account	Awards
Bruno Farms	\$55,821
JKM Equipment	\$1,277,124
Pick Your Part	\$20,065
Total SB1107 Account	\$1,353,010
Grand Total	\$9,017,315

Table 4: Award Recommendations and Proposed Funding Distribution

Projects Under AB1390	Awards
Cash Grading	\$ 937,159
Pick Your Part	\$ 65,097
Sukut	\$ 782,415
JKM	\$1,489,978
Yeager Sanska	\$ 194,000
Parsec	\$ 489,780
KEC Engineering	\$ 137,592
Moss Equipment	\$1,326,625
Jagur	\$1,438,560
Bruno Farms	\$ 52,821
Total AB1390	\$6,914,027
Projects Solely Based on Cost-Effectiveness	Awards
Dalton	\$ 52,590
American Contracting	\$ 374,990
Rentrac	\$1,064,270
TNT	\$ 608,438
Total Cost-Effectiveness Only	\$2,100,288

Outreach

In accordance with AQMD’s Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids was published in the following publications:

- | | | |
|--|-----------------------------------|---|
| 1. <i>Antelope Valley Press</i> | 11. <i>La Opinion</i> | 21. <i>Rafu Shimpo</i> |
| 2. <i>Black Voice News</i> | 12. <i>La Prensa Hispana</i> | 22. <i>San Bernardino Sun</i> |
| 3. <i>Chinese Daily News</i> | 13. <i>La Voz Publications</i> | 23. <i>State of California Contracts Register</i> |
| 4. <i>Desert Sun</i> | 14. <i>Los Angeles Daily News</i> | 24. <i>The Daily Breeze</i> |
| 5. <i>Eastern Group Publications</i> | 15. <i>Los Angeles Sentinel</i> | 25. <i>The Excelsior</i> |
| 6. <i>El Chicano</i> | 16. <i>Los Angeles Times</i> | 26. <i>The Signal</i> |
| 7. <i>El Informador</i> | 17. <i>Orange County Register</i> | 27. <i>Wave Community Newspapers</i> |
| 8. <i>Inland Empire Hispanic News</i> | 18. <i>Philippine News</i> | |
| 9. <i>Inland Valley Daily Bulletin</i> | 19. <i>Precinct Reporter</i> | |
| 10. <i>Korea Central Daily</i> | 20. <i>Press Enterprise</i> | |

Additionally, potential bidders may have been notified utilizing the Los Angeles County MTA Directory of Certified Firms, the Inland Area Opportunity Pages Ethnic/Women Business & Professional Directory; and AQMD’s own electronic listing of certified minority vendors. Notice of the RFP/RFQ was mailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at AQMD’s Web site (<http://www.aqmd.gov>).

Information was also available on AQMD's bidder's 24-hour telephone message line (909) 396-2724.

Benefits to AQMD

AQMD's Clean Fuels Program has been active in funding the development and demonstration of low emission, alternative fuel technologies within its Technology Advancement Office. The AQMD has also supported a number of activities directed to commercialization of low-emission alternative fuel technologies. The successful implementation of the Carl Moyer Program is a direct result of these technology advancement activities. The vehicles and equipment funded under this recommendation will operate many years and will provide long-term emissions reductions.

Resource Impacts

Funding for the recommended projects shall not exceed \$9,017,315 in turn-back funds under the Carl Moyer Program comprised of \$1,353,010 from the Carl Moyer Program Fund Account SB1107, \$1,200,842 from the Carl Moyer Program Fund Proposition 40 Account, and \$6,463,463 from the Carl Moyer Program Fund, which includes projected interest.

Attachment

Backup list of Qualified Projects from RFP #P2006-01

Attachment 1
Backup List of Qualified Projects from RFP #P2006-01

Company	Equipment	Requested Funding
Moss Equipment	Diesel repower of 7 single engine scrapers	\$ 551,011
American Contracting	Diesel repower of 8 dual engine scrapers	\$1,499,960
Larry Jacinto Construction	Diesel repower of 4 dozers, 3 single engine scrapers, and 1 loader	\$ 440,476
Road Builders	Diesel repower of 4 dozers	\$ 399,147
TNT	Diesel repower of 3 dual engine scrapers, 2 water pulls, 1 tractor	\$ 625,827
Total		\$3,516,421

Appendix M
Contract Request Approval Memorandum

**CONTRACT REQUEST APPROVAL MEMORANDUM
To Be Completed By Contract Originator (Technical)**

Complete Part 1 for either a New Contract or Modification

PART I - General Information	
Project Title:	Multi-Year Contract? <input checked="" type="checkbox"/> Yes OR <input type="checkbox"/> No
<input checked="" type="checkbox"/> Contractor (AQMD Funded): Shaw Diversified Services, Inc. <input type="checkbox"/> Funding Agency (Revenue):	
Address:	Contact Person: (name to be included in contract) Phone #:
<u>Contract Term</u>	Original Amount:
From:	To:
AQMD Contract Originator:	Telephone Extension:
Division, Work Program Code and Account # OR Special Fund # and Title:	
Full Funding Approved by Board: (indicate) <input checked="" type="checkbox"/> Yes OR <input type="checkbox"/> No Funding for Subsequent Years Approved by Board: (indicate) <input type="checkbox"/> Yes OR <input type="checkbox"/> No - (applies to "01" only)	
PART II - Payment Terms	
<input checked="" type="checkbox"/> Fixed Price <input type="checkbox"/> Time & Materials <input type="checkbox"/> Other (identify) _____ <input type="checkbox"/> Task Order (identify): <input type="checkbox"/> Fixed Price only, <input type="checkbox"/> T & M only OR <input type="checkbox"/> Both Fixed Price & T & M	
<u>Special Payment Terms</u>	
<input type="checkbox"/> Advanced Payment <input type="checkbox"/> Pre-Contract Cost Clause <input type="checkbox"/> Withhold Percentage (applies only to fixed price contracts): <input checked="" type="checkbox"/> None <input type="checkbox"/> 10% OR <input type="checkbox"/> Other (identify) _____	
PART III - Additional Required Information (If Applicable)	
<input checked="" type="checkbox"/> Contract Involves Pass Through Funding with Another Government Agency (identify fund source) _____ Funds Received by SCAQMD or Executed Contract/Grant to Provide Funding (indicate) <input checked="" type="checkbox"/> Yes OR <input type="checkbox"/> No <input type="checkbox"/> Key Personnel (list names): _____, <input type="checkbox"/> Co-Funding Clause Required <input type="checkbox"/> Incorporate Contractor's Technical Proposal <input type="checkbox"/> Option to Extend the Term of the Contract <input type="checkbox"/> Prevailing Wages (construction/installation projects)	

Part IV - Contract Modification (If Applicable)

Contract Number:

Indicate Reason(s) for Modification:

- Term Extension (Contract Will Terminate On:))
- No-Cost Extension (Contract Will Terminate On:))
- Increase the Total Amount of the Contract. Amount of the Increase: \$
- Decrease the Total Amount of the Contract. Amount of the Decrease: -\$
- Revised Statement of Work
- Revised Payment Schedule
- Revised Contract Terms and Conditions

Required Enclosure

- Memo to Authorized Signer to Justify Modification.
OR
- Copy of the Board Letter to Approve Modification.

Part V - Required Enclosures

- Memo to Authorized Signer to Recommend Award of the Contract
OR
- Copy of the Stamp-Approved Board Letter to awarding contract or approving the modification
- Copy of RFP/RFQ/PA and List of Bidders (if applicable)
- Copy of the Contractor's Proposal
- Sole Source Justification (only if not included in Board Letter)

Part VI - Attachments (If Applicable)

- Attachment 1 – Statement of Work (include 3 sets). This attachment must have the following heading:

**ATTACHMENT 1
STATEMENT OF WORK**

- Attachment 2 – Payment Schedule or Cost Schedule (include 3 sets). This attachment must have one of the following headings:

**ATTACHMENT 2
PAYMENT SCHEDULE(FFP)**

**ATTACHMENT 2
COST SCHEDULE (T&M)**

Part VII - Additional Comments and/or Special Conditions

Part VIII - Approval by Contract Originator (Technical)

Name:

Signature: _____

Date:

PLEASE FORWARD ORIGINAL FORM & ONE ADDITIONAL COPY TO CONTRACTS UNIT

Appendix N

AQMD Carl Moyer Program contract template for each project category



**South Coast
Air Quality Management District**

Contract No. *****
Carl Moyer Program Locomotives

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.

- D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.
4. TERM - The term of this Contract is from **the date of execution by both parties** to *******, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
- A. Project Completion – Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the locomotive engine is placed into service. This is the time period when a locomotive engine is ordered, delivered and installed.
- B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.
5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.
6. TERMINATION
- A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
- B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the vehicles or equipment become inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
- C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and

- cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.
- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
- E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any equipment and/or vehicles purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment and/or vehicles to the AQMD or purchases such equipment and/or vehicles from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject locomotive engines, as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. ALTERNATIVE FUEL USE – The purpose of this project is to reduce emissions from vehicles and equipment through the use of alternative fuels. To achieve this purpose, CONTRACTOR agrees to utilize *** [identify fuel to be used] and the vehicles and/or equipment as specified in Attachment 1 - Statement of Work, for the duration of this Contract and the life of the subject vehicles and/or equipment. For the entire term of this Contract, CONTRACTOR shall use alternative fuel at least 75% of the annual mileage or engine hours of operation within the geographical bounds of the AQMD. In the case of a dual fuel vehicle, CONTRACTOR agrees to demonstrate use of alternative fuel over 75% of the vehicle operating cycle, and 75% of the annual mileage or engine hours. Exceptions to these requirements are vehicle(s) out of service for an extended period because of accident or repair or unavailability of fuel. CONTRACTOR is required to provide data regarding vehicle mileage accumulation and fuel purchased as part of the quarterly and annual reports. (OPTIONAL)
9. INSURANCE
- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy,

- and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
 - D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
 - E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
 - F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
10. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
11. USE OF VEHICLE AND EQUIPMENT
- A. CONTRACTOR shall accrue at least 75% of each locomotive's annual mileage or engine hours of operation within the geographical bounds of the AQMD. Information included in the annual reports required under this Contract will be used to verify this usage.
 - B. CONTRACTOR is prohibited from removing the locomotives from service in California during the term of this Contract, unless the locomotives become inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.
12. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.

- B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
- C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission reductions may not be claimed by the locomotive engine manufacturer in any flexibility or “early introduction” incentive program.
- D. The new locomotive engine must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
- E. For re-powers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.
- F. The locomotive engines funded under this Contract must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.

13. ELECTRONIC MONITORING UNIT

- A. All locomotive repurchases or re-power projects must include an EMU to track activity and geographic locator. Eligible EMUs include geographic positioning system (GPS) unit, transponding device, automated vehicle locator (AVL) or other similar device. EMU must be capable of providing complete digital information regarding total activity both within the air district and the State of California; this information shall be reported to AQMD annually for the project life. CONTRACTOR is responsible for assuring the locomotive is equipped with a working EMU for the full project life. ****OPTIONAL IF REQUESTED ON CRAM**
- B. An EMU must be used to electronically monitor activity and fuel consumption by fuel type for all liquefied natural gas – diesel or other dual fuel locomotive projects. This information must be provided to the AQMD annually for the life of the project.

14. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR's application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.

15. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the locomotive engine(s) funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the locomotive engine is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other

approved measuring device or method to track vehicle usage and demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.

16. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS – If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all re-powers funded under this contract. (OPTIONAL)
17. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the engine(s) and/or records relating to the engine during the term of the contract.
18. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) listed in the Contract has/have been installed, that the engine is operational in the equipment or vehicle as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
19. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
20. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.
21. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
22. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.

23. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.
24. PROJECT USAGE – If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 – Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.
25. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.
26. PAYMENT
- A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the locomotive engines specified in Attachment 1 - SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine re-power(s) and successful completion of a post inspection by AQMD.
 - B. The withhold amount shall be in accordance with Attachment 2 – Payment Schedule.
 - C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for re-powers or paid invoices for new vehicles and completion of the post-inspection audit required under Clause **. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
 - D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL)
 - E. AQMD will fund up to *** Dollars (\$***) for the capital cost of an Auxiliary Power Unit (APU) and up to *** Dollars (\$***) for the actual installation cost per diesel APU and a maximum of *** Dollars

(\$**) for the actual installation cost per alternative fuel APU, electric motor APU, or fuel cell APU.
(OPTIONAL)

F. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).

27. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer funds shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.

28. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all time remain with AQMD. Such material is agreed to be AQMD's proprietary information.

A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.

B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.

29. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology Advancement

CONTRACTOR: ***

Attn: ***

30. EMPLOYEES OF CONTRACTOR

A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.

B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers,

employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

31. PUBLICATION

- A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
- B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

"This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."

- C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

32. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.

33. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.

34. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.

35. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

36. FORCE MAJEURE - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.
37. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
38. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
39. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
40. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
41. CITIZENSHIP AND ALIEN STATUS
- A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.
 - B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
42. APPROVAL OF SUBCONTRACTS

- A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD's Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
 - B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of AQMD's review is to insure that AQMD's contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.
43. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.
44. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
Last Updated: 28 July 2006



**South Coast
Air Quality Management District**

Contract No. ****
AB923 Agricultural Stationary Engine

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.

2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Agricultural Assistance Program funded Contract the parties desire to fund the incremental costs to comply with Rule 1110.2 for agricultural facilities within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is an agricultural source of air pollution as defined by Section 39011.5 of the California State Health and Safety Code and is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder.

3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.

4. TERM - The term of this Contract is from the date of execution by both parties to *** after Project completion as defined in paragraph 4A below, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above-specified end dates, the Contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the contract terms during the life of this Agricultural Assistance Program-funded project.
 - A. Project Completion – Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
 - B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Agricultural Assistance Program project obtains or is claimed to obtain emissions reductions while operating in AQMD. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Agricultural Assistance Program-funded engine or equipment according to the terms of this Contract.

5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by the AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR or otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this contract.

6. TERMINATION
 - A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
 - B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the funded equipment become inoperable through mechanical failure of components or systems directly related to the technology funded under this Contract and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
 - C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be

necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.

- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
 - E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees that the AQMD shall have lien rights on any funded equipment purchased in whole or in part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment to the AQMD or purchases such equipment from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject engines or equipment as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. EQUIPMENT USE – The purpose of this project is to reduce emissions from stationary agricultural engines subject to Rule 1110.2. To achieve this purpose, CONTRACTOR agrees to utilize funded equipment as specified in Attachment 1 - Statement of Work, for the duration of this Contract and for agricultural purposes only. Exceptions to these requirements are equipment out of service for an extended period because of accident or repair or unavailability of fuel.
9. INSURANCE
- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
 - B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
 - C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
 - D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.

- E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
 - F. During the term of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines and/or equipment funded under this Contract. CONTRACTOR must provide with the reports required by Clause 20 evidence of property insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract term. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
10. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
11. USE OF EQUIPMENT IN DISTRICT - CONTRACTOR is prohibited from removing the funded equipment from service in AQMD during the term of this Contract, unless the equipment becomes inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.
12. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. Low emissions technology must comply with Carl Moyer Program Guidelines, Part III – Agricultural Assistance Program.
 - B. Rights to the emission reductions must not be claimed by the CONTRACTOR or any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission reductions may not be claimed by the engine or equipment manufacturer in any flexibility or “early introduction” incentive program.
 - C. The new engine or equipment must not have been purchased (i.e., paid for) prior to the effective date of the Contract.
 - D. If the existing (old) engine is being re-powered, it must be destroyed and rendered useless by drilling a 3” hole in the engine block. There must be no cannibalization or reuse of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD staff seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.

- E. The funded engine or equipment must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.
13. INCORPORATION OF CARL MOYER/AGRICULTURAL ASSISTANCE PROGRAM APPLICATION - CONTRACTOR'S application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.
 14. MAINTENANCE OF ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine or equipment funded under this Contract in accordance with the manufacturer's specifications for the project life. CONTRACTOR acknowledges that no tampering with the engine or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device for projects that document hours of operations as a means of calculating emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours or usage not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours or usage acceptable to AQMD.
 15. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the funded equipment and/or records relating to the funded equipment during the term of this Contract.
 16. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the funded equipment listed in the Contract has been installed, that the funded equipment is operational as stated in the Contract, and, where applicable, the original (old) engine(s) has/have been destroyed and rendered useless by drilling a 3" hole in the engine block and there is no evidence of cannibalization or reuse of parts from the old engine(s).
 17. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project life.
 18. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer/Agricultural Assistance Program requirements incorporated herein.
 19. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
 20. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other

year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.

21. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.
22. PROJECT USAGE – If the equipment usage reported in the annual report is thirty (30) percent above or below the usage specified in the Contract, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the equipment usage does not average out to within 30 percent of the usage specified in the Contract over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.
23. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.
24. PAYMENT
 - A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine repower(s) and successful completion of a post inspection by AQMD.
 - B. An amount shall be withheld from payment in accordance with Attachment 2 – Payment Schedule.
 - C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the equipment supplier for re-powers and completion of the post-inspection audit required under Clause 16. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost, the total not to exceed the Contract amount. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer/AB 923 Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.

- D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL if requested on CRAM)
- E. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).

25. EMISSION REDUCTION CREDITS (ERCs) - No ERCs for Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer or Agricultural Assistance Program funds, shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.

26. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all time remain with AQMD. Such material is agreed to be AQMD'S proprietary information.

- A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.
- B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.

27. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer/AB 923 Contract Administrator, Technology Advancement

CONTRACTOR: ***

Attn: ***

28. EMPLOYEES OF CONTRACTOR

- A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
- B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers,

employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

29. PUBLICATION

- A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
- B. Information, data, documents, or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

"This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."

- C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

30. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.

31. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.

32. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.

33. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

34. FORCE MAJEURE - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.
35. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
36. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
37. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
38. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
39. CITIZENSHIP AND ALIEN STATUS
- A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.
 - B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
40. APPROVAL OF SUBCONTRACTS

- A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD's Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
 - B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.
41. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the AB 923 Agricultural Assistance Program.
42. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//AB923
Last Updated: 28 July 2006



**South Coast
Air Quality Management District**

Contract No. *****

Carl Moyer Program Agricultural Equipment

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.

4. TERM - The term of this Contract is from the date of execution by both parties to ***, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
 - A. Project Completion – Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
 - B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.

5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.

6. TERMINATION
 - A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
 - B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the vehicles or equipment become inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
 - C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be

necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.

- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
 - E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any equipment and/or vehicles purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment and/or vehicles to the AQMD or purchases such equipment and/or vehicles from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject engines, equipment and/or vehicles as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. ALTERNATIVE FUEL USE – The purpose of this project is to reduce emissions from vehicles and equipment through the use of alternative fuels. To achieve this purpose, CONTRACTOR agrees to utilize *** [identify fuel to be used] and the vehicles and/or equipment as specified in Attachment 1 - Statement of Work, for the duration of this Contract and the life of the subject vehicles and/or equipment. For the entire term of this Contract, CONTRACTOR shall use alternative fuel at least 75% of the annual mileage or engine hours of operation within the geographical bounds of the AQMD. In the case of a dual fuel vehicle, CONTRACTOR agrees to demonstrate use of alternative fuel over 75% of the vehicle operating cycle, and 75% of the annual mileage or engine hours. Exceptions to these requirements are vehicle(s) out of service for an extended period because of accident or repair or unavailability of fuel. CONTRACTOR is required to provide data regarding vehicle mileage accumulation and fuel purchased as part of the quarterly and annual reports. (OPTIONAL)
9. NON-CERTIFIED SPARK IGNITION (SI) ENGINES – Non-certified SI engines shall be subject to source testing with CARB-approved testing procedures following AQMD requirements and must be emission tested using a portable analyzer every 1,000 hours of operation and at least annually, or following AQMD monitoring requirements, whichever is most stringent. The emission tests shall measure NOx and hydrocarbon emissions. Costs for such testing shall be borne by CONTRACTOR. Non-certified SI engines must include currently available emission control components such as closed-loop fuel control systems and three-way catalysts.
10. INSURANCE

- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
 - B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
 - C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
 - D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
 - E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
 - F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
11. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
12. USE OF VEHICLE AND EQUIPMENT
- A. CONTRACTOR shall accrue at least 75% of each vehicle's annual mileage or engine hours of operation within the geographical bounds of the AQMD. Information included in the annual reports required under this Contract will be used to verify this usage.
 - B. CONTRACTOR is prohibited from removing the vehicles or equipment from service in California during the term of this Contract, unless the vehicles or equipment become inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.

13. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.
 - B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
 - C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission reductions may not be claimed by the engine or equipment manufacturer in any flexibility or “early introduction” incentive program.
 - D. The new engine/equipment/vehicle must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
 - E. For re-powers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.
 - F. The engines, vehicles and/or equipment funded under this Contract must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.
14. ELECTRONIC MONITORING UNIT - CONTRACTOR shall install an Electronic Monitoring Unit (EMU) for each new engine or engines that have been re-powered or retrofitted with funds under this Contract. CONTRACTOR shall complete all reporting required under this contract through the electronic data system. **OPTIONAL IF REQUESTED ON CRAM**
15. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR'S application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.
16. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine, vehicle or equipment funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the engine, vehicle, or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device or method to track vehicle usage and

demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.

17. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS – If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all re-powers funded under this contract. (OPTIONAL)
18. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the vehicles, engine(s) and/or equipment and associated records during the term of the contract.
19. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) listed in the Contract has/have been installed, that the engine is operational in the equipment or vehicle as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
20. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
21. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.
22. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
23. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.
24. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.

25. PROJECT USAGE – If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 – Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.
26. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.
27. PAYMENT
- A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the vehicles, engines and/or equipment specified in Attachment 1 - SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine re-power(s) and successful completion of a post inspection by AQMD.
 - B. The withhold amount shall be in accordance with Attachment 2 – Payment Schedule.
 - C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for re-powers or paid invoices for new vehicles and completion of the post-inspection audit required under Clause **. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
 - D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL)
 - E. AQMD will fund up to *** Dollars (\$***) for the capital cost of an Auxiliary Power Unit (APU) and up to *** Dollars (\$***) for the actual installation cost per diesel APU and a maximum of *** Dollars (\$***) for the actual installation cost per alternative fuel APU, electric motor APU, or fuel cell APU. (OPTIONAL)

- F. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).
28. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer funds shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.
29. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all time remain with AQMD. Such material is agreed to be AQMD's proprietary information.
- A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.
- B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.
30. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology Advancement

CONTRACTOR: ***

Attn: ***

31. EMPLOYEES OF CONTRACTOR
- A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
- B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

32. PUBLICATION

- A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
- B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.
 - i. "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."
- C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

33. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.

34. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.

35. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.

36. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.

37. FORCE MAJEURE - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or

indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.

38. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
39. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
40. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
41. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
42. CITIZENSHIP AND ALIEN STATUS
 - A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.
 - B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
43. APPROVAL OF SUBCONTRACTS
 - A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD'S Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.

- B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.
44. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.
45. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ***

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
Last Updated: 28 July 2006



South Coast Air Quality Management District

Contract No. ****

Carl Moyer Program Airport GSE

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.

4. TERM - The term of this Contract is from the date of execution by both parties to ***, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
 - A. Project Completion - Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
 - B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.
5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.
6. TERMINATION
 - A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
 - B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the vehicles or equipment become inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
 - C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.

- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
- E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any equipment and/or vehicles purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment and/or vehicles to the AQMD or purchases such equipment and/or vehicles from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject engines, equipment and/or vehicles as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. ALTERNATIVE FUEL USE – The purpose of this project is to reduce emissions from vehicles and equipment through the use of alternative fuels. To achieve this purpose, CONTRACTOR agrees to utilize *** [identify fuel to be used] and the vehicles and/or equipment as specified in Attachment 1 - Statement of Work, for the duration of this Contract and the life of the subject vehicles and/or equipment. For the entire term of this Contract, CONTRACTOR shall use alternative fuel at least 75% of the annual mileage or engine hours of operation within the geographical bounds of the AQMD. In the case of a dual fuel vehicle, CONTRACTOR agrees to demonstrate use of alternative fuel over 75% of the vehicle operating cycle, and 75% of the annual mileage or engine hours. Exceptions to these requirements are vehicle(s) out of service for an extended period because of accident or repair or unavailability of fuel. CONTRACTOR is required to provide data regarding vehicle mileage accumulation and fuel purchased as part of the quarterly and annual reports. (OPTIONAL)
9. INSURANCE
- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on

- any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
 - E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
 - F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
10. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
11. USE OF VEHICLE AND EQUIPMENT
- A. CONTRACTOR shall accrue at least 75% of each vehicle's annual mileage or engine hours of operation within the geographical bounds of the AQMD. Information included in the annual reports required under this Contract will be used to verify this usage.
 - B. CONTRACTOR is prohibited from removing the vehicles or equipment from service in California during the term of this Contract, unless the vehicles or equipment become inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.
12. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.
 - B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
 - C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission

reductions may not be claimed by the engine or equipment manufacturer in any flexibility or "early introduction" incentive program.

- D. The new engine/equipment/vehicle must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
- E. For re-powers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.
- F. The engines, vehicles and/or equipment funded under this Contract must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.

13. ELECTRONIC MONITORING UNIT - CONTRACTOR shall install an Electronic Monitoring Unit (EMU) for each new engine or engines that have been re-powered or retrofitted with funds under this Contract. CONTRACTOR shall complete all reporting required under this contract through the electronic data system. **OPTIONAL IF REQUESTED ON CRAM**

14. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR's application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.

15. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine, vehicle or equipment funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the engine, vehicle, or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device or method to track vehicle usage and demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.

16. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS – If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all re-powers funded under this contract. **(OPTIONAL)**

17. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the engine(s) and/or records relating to the engine during the term of the contract.

18. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) listed in the Contract has/have been installed, that the engine is operational in the equipment or vehicle as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
19. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
20. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.
21. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
22. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.
23. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.
24. PROJECT USAGE – If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 – Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.
25. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this

certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.

26. PAYMENT

- A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the vehicles, engines and/or equipment specified in Attachment 1 - SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine re-power(s) and successful completion of a post inspection by AQMD.
- B. The withhold amount shall be in accordance with Attachment 2 – Payment Schedule.
- C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for re-powers or paid invoices for new vehicles and completion of the post-inspection audit required under Clause **. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
- D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL)
- E. AQMD will fund up to *** Dollars (\$***) for the capital cost of an Auxiliary Power Unit (APU) and up to *** Dollars (\$***) for the actual installation cost per diesel APU and a maximum of *** Dollars (\$***) for the actual installation cost per alternative fuel APU, electric motor APU, or fuel cell APU. (OPTIONAL)
- F. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).

27. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer funds shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.

28. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all time remain with AQMD. Such material is agreed to be AQMD's proprietary information.

- A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.
 - B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.
29. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology Advancement

CONTRACTOR: ***

Attn: ***

30. EMPLOYEES OF CONTRACTOR

- A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
- B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

31. PUBLICATION

- A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
- B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.
 - i. "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved

or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."

- C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.
32. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.
33. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.
34. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.
35. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.
36. FORCE MAJEURE - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.
37. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
38. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
39. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.

40. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
41. CITIZENSHIP AND ALIEN STATUS
- A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.
 - B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
42. APPROVAL OF SUBCONTRACTS
- A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD'S Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
 - B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.
43. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.
44. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to

assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ***

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
Last Updated: 28 July 2006



**South Coast
Air Quality Management District**

Contract No. *****

Carl Moyer Program Heavy Duty On-Road Vehicles

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.

2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.

3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.

4. TERM - The term of this Contract is from the date of execution by both parties to ***, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
 - A. Project Completion – Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
 - B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.
5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.
6. TERMINATION
 - A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
 - B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the vehicles or equipment become inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
 - C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be

- necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.
- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
- E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any equipment and/or vehicles purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment and/or vehicles to the AQMD or purchases such equipment and/or vehicles from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject engines, equipment and/or vehicles as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. ALTERNATIVE FUEL USE – The purpose of this project is to reduce emissions from vehicles and equipment through the use of alternative fuels. To achieve this purpose, CONTRACTOR agrees to utilize *** [identify fuel to be used] and the vehicles and/or equipment as specified in Attachment 1 - Statement of Work, for the duration of this Contract and the life of the subject vehicles and/or equipment. For the entire term of this Contract, CONTRACTOR shall use alternative fuel at least 75% of the annual mileage or engine hours of operation within the geographical bounds of the AQMD. In the case of a dual fuel vehicle, CONTRACTOR agrees to demonstrate use of alternative fuel over 75% of the vehicle operating cycle, and 75% of the annual mileage or engine hours. Exceptions to these requirements are vehicle(s) out of service for an extended period because of accident or repair or unavailability of fuel. CONTRACTOR is required to provide data regarding vehicle mileage accumulation and fuel purchased as part of the quarterly and annual reports. (OPTIONAL)
9. FUNDING FOR ALTERNATIVE FUEL – The AQMD shall fund the cost difference between conventional fuel and the alternative fuel used under this Contract. The fuel purchase is an integral part of the engine purchase, re-power, or retrofit. (OPTIONAL)
10. INSURANCE
- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured

- on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
 - D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
 - E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
 - F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
11. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
12. USE OF VEHICLE AND EQUIPMENT
- A. CONTRACTOR shall accrue at least 75% of each vehicle's annual mileage or engine hours of operation within the geographical bounds of the AQMD. Information included in the annual reports required under this Contract will be used to verify this usage.
 - B. CONTRACTOR is prohibited from removing the vehicles or equipment from service in California during the term of this Contract, unless the vehicles or equipment become inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.
13. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.

- B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
 - C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission reductions may not be claimed by the engine or equipment manufacturer in any flexibility or “early introduction” incentive program.
 - D. The new engine/equipment/vehicle must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
 - E. For re-powers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.
 - F. The engines, vehicles and/or equipment funded under this Contract must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.
14. ELECTRONIC MONITORING UNIT - CONTRACTOR shall install an Electronic Monitoring Unit (EMU) for each new engine or engines that have been re-powered or retrofitted with funds under this Contract. CONTRACTOR shall complete all reporting required under this contract through the electronic data system. **OPTIONAL IF REQUESTED ON CRAM**
15. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR's application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.
16. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine, vehicle or equipment funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the engine, vehicle, or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device or method to track vehicle usage and demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.

17. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS – If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all re-powers funded under this contract. (OPTIONAL)
18. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the engine(s) and/or records relating to the engine during the term of the contract.
19. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) listed in the Contract has/have been installed, that the engine is operational in the equipment or vehicle as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
20. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
21. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.
22. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
23. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.
24. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.
25. PROJECT USAGE – If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 – Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited

to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.

26. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.
27. PAYMENT
- A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the vehicles, engines and/or equipment specified in Attachment 1 - SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine re-power(s) and successful completion of a post inspection by AQMD.
 - B. The withhold amount shall be in accordance with Attachment 2 – Payment Schedule.
 - C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for re-powers or paid invoices for new vehicles and completion of the post-inspection audit required under Clause **. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
 - D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL)
 - E. AQMD will fund up to *** Dollars (\$***) for the capital cost of an Auxiliary Power Unit (APU) and up to *** Dollars (\$***) for the actual installation cost per diesel APU and a maximum of *** Dollars (\$***) for the actual installation cost per alternative fuel APU, electric motor APU, or fuel cell APU. (OPTIONAL)
 - F. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).
28. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer

funds shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.

29. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all times remain with AQMD. Such material is agreed to be AQMD's proprietary information.
- A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.
 - B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.
30. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology Advancement

CONTRACTOR: ***

Attn: ***

31. EMPLOYEES OF CONTRACTOR
- A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
 - B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.
32. PUBLICATION
- A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
 - B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided

to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

- i. "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."
 - C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.
33. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.
34. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.
35. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.
36. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.
37. FORCE MAJEURE - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.
38. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent

jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.

39. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
40. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
41. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
42. CITIZENSHIP AND ALIEN STATUS
 - A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.
 - B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
43. APPROVAL OF SUBCONTRACTS
 - A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD'S Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
 - B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or

procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.

44. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.
45. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

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IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
Last Updated: 28 July 2006



**South Coast
Air Quality Management District**

Contract No. ****
Carl Moyer Program Marine Vessels

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to provide these services. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.

- E. CONTRACTOR shall dispose of all replaced baseline engines outside the State of California; and these engines shall not be used in California or in the coastal water boundaries as defined by Air Resources Board's "Report to the California Legislature on Air Pollutant Emissions from Marine Vessels, 1984."
4. TERM - The term of this Contract is from the date of execution by both parties to **, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
- A. Project Completion – Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
- B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.
5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.
6. TERMINATION
- A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
- B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the marine vessel engine(s)/equipment becomes inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
- C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice in the manner specified in this Contract. Once such notice has been

- given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.
- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
- E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any marine vessel engine(s)/equipment purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such marine vessel engine(s)/equipment to the AQMD or purchases such marine vessel engine(s)/equipment from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject engines, equipment and/or vehicles as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. INSURANCE
- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.

- E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**
 - F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
9. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
10. USE OF VESSEL
- A. CONTRACTOR shall accrue at least seventy-five percent (75%) of each vessel's annual engine hours of operation or fuel consumption within the geographical bounds of the AQMD waters. Information included in the annual reports required under this Contract will be used to verify this usage.
 - B. CONTRACTOR is prohibited from removing the vessels from service in California during the term of this Contract, unless the vessels become inoperable through mechanical failure of components or systems and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.
 - C. Vessels are to be used continuously in the California waters for the entire term of the Contract.
11. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.
 - B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
 - C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission reductions may not be claimed by the engine or equipment manufacturer in any flexibility or "early introduction" incentive program.

- D. The new engine/equipment/vehicle must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
 - E. For re-powers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.
 - F. The engines, vehicles and/or equipment funded under this Contract must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.
12. ELECTRONIC MONITORING UNIT - Marine vessels must be equipped with a functioning tamper-proof electronic monitoring unit (EMU) to track activity and geographic location. The EMU must be turned on and functional when the project engine is running, for the life of the project to record all vessel trips and activity. If the EMU is battery powered, the battery life must be long enough to ensure the EMU is charged and functional each time the project vessel is operated. Electronic information from the EMU regarding total percent of activity (fuel use or hours of operation) within the AQMD's coastal boundary and California Coastal Waters must be reported to the AQMD annually for the project life. CONTRACTOR is responsible for assuring a working EMU is on the project vessel for the full project life. **OPTIONAL IF REQUESTED ON CRAM**
13. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR's application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.
14. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine, vehicle or equipment funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the engine, vehicle, or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device or method to track vehicle usage and demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.
15. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS – If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all re-powers funded under this contract. **(OPTIONAL)**

16. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the engine(s) and/or records relating to the engine during the term of the contract.
17. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) listed in the Contract has/have been installed, that the engine is operational in the vessel(s) as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
18. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
19. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.
20. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
21. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.
22. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns.
23. PROJECT USAGE – If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 – Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.

24. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.
25. PAYMENT
- A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** Dollars (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the vessels, engines and/or equipment specified in Attachment 1 - SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine re-power(s) and successful completion of a post inspection by AQMD.
 - B. The withhold amount shall be in accordance with Attachment 2 – Payment Schedule.
 - C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for re-powers or paid invoices for new vehicles and completion of the post-inspection audit required under Clause **. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
 - D. Payment in the amount of *** Dollars (\$***) for *** engines shall be made directly to the engine dealer or distributor upon submission of an itemized invoice from the CONTRACTOR requesting that such direct payment be made. (OPTIONAL)
 - E. AQMD will fund up to *** Dollars (\$***) for the capital cost of an Auxiliary Power Unit (APU) and up to *** Dollars (\$***) for the actual installation cost per diesel APU and a maximum of *** Dollars (\$***) for the actual installation cost per alternative fuel APU, electric motor APU, or fuel cell APU. (OPTIONAL)
 - F. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).
26. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer funds shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.

- 27. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all time remain with AQMD. Such material is agreed to be AQMD's proprietary information.
 - A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.
 - B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.

- 28. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology Advancement

CONTRACTOR: ***

Attn: ***

- 29. EMPLOYEES OF CONTRACTOR
 - A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
 - B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

- 30. PUBLICATION
 - A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
 - B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

37. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
38. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
39. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
40. CITIZENSHIP AND ALIEN STATUS
- A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.
 - B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
41. APPROVAL OF SUBCONTRACTS
- A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD'S Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
 - B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.

42. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.

43. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
Last Updated: 28 July 2006



**South Coast
Air Quality Management District**

Contract No. *****
Carl Moyer Program Off-Road Equipment

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "AQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. AQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. AQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. Through this Carl Moyer Program funded Contract the parties desire to fund the incremental costs of certain cleaner than required equipment in order to generate cost-effective and surplus air emission reductions within the South Coast Air Basin. Accordingly, AQMD desires to contract with CONTRACTOR for the project described in Attachment 1 - Statement of Work, attached hereto and made a part hereof.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
 - E. CONTRACTOR agrees that, in accordance with the California Air Resources Board's (CARB) Carl Moyer Program Guidelines, both the AQMD and CARB may monitor and enforce the terms of this Contract. Accordingly, CONTRACTOR acknowledges that both the AQMD and CARB are beneficiaries of the work funded hereunder. CONTRACTOR has agreed to perform under this Contract to generate surplus emissions reductions.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to perform this project. CONTRACTOR further agrees to immediately notify AQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to AQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. AQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall ensure, through its contracts with any subcontractor(s) that employees and agents performing under this Contract shall abide by the requirements set forth in this Clause.

4. TERM - The term of this Contract is from the date of execution by both parties to ***, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. Notwithstanding the above end dates, the contract term shall encompass both the project completion and project implementation/life periods, whichever is longer, to ensure that the AQMD and CARB can fully enforce the Contract terms during the life of this Carl Moyer Program-funded project.
 - A. Project Completion - Project completion is the time frame starting with the date of contract execution by both parties to the date of project completion, i.e., the date the project becomes operational. This is the time period when an engine, vehicle or piece of equipment is ordered, delivered and installed.
 - B. Project Implementation/Life - The project implementation time frame equals the project life. Project life is the number of years that a Carl Moyer Program project obtains or is claimed to obtain surplus emissions reductions while operating in California. Surplus emission reductions are reductions that are early or extra. That is, the reductions occur prior to a rule compliance date or the reductions exceed the requirements of a rule or regulation. The project implementation or project life equals the period of time during which CONTRACTOR is required to operate and maintain their Carl Moyer Program-funded engine, vehicle or equipment according to the terms of this Contract.
5. TIME PERIOD FOR CONTRACT EXECUTION - This Contract must be signed by the CONTRACTOR and received by AQMD within sixty (60) days from the receipt of the Contract by the CONTRACTOR, otherwise this Contract shall be deemed null and void regardless of whether it was executed by CONTRACTOR. Time is of the essence in executing this Contract.
6. TERMINATION
 - A. If the CONTRACTOR fails to comply with any term or condition of this Contract, or fails to perform work in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 - Statement of Work, this failure shall constitute a material breach of this Contract. The AQMD shall either notify the CONTRACTOR that it must timely cure this breach or provide written notification of AQMD's intention to terminate this Contract and invoke the penalties under Clause 7, if applicable. The AQMD reserves all rights under law and equity to enforce this Contract or to recover damages.
 - B. Notwithstanding sub-Clause 6A, this Contract may be terminated without penalty prior to completion of the Contract term if the vehicles or equipment become inoperable through mechanical failure of components or systems and cannot be repaired or replaced and such failure is not caused by CONTRACTOR's negligence, misuse or malfeasance. CONTRACTOR shall submit written documentation supporting any basis for early termination under this sub-Clause for the approval of AQMD.
 - C. AQMD reserves the right to terminate this Contract, in whole or in part, with or without cause, upon thirty (30) days written notice. Once such notice has been given, CONTRACTOR shall, except as otherwise directed by AQMD, discontinue any work being performed under this Contract and cancel any of CONTRACTOR'S orders for materials, facilities, and supplies in connection with such work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to the AQMD. Thereafter, CONTRACTOR shall perform only such services as may be

- necessary to preserve and protect any work already in progress and to dispose of any property as requested by AQMD.
- D. CONTRACTOR shall be paid in accordance with this Contract for all work performed before the effective date of termination under sub-Clause 6C. Before expiration of the thirty (30) days written notice in the manner specified in this Contract, CONTRACTOR shall promptly deliver to AQMD all copies of documentation and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
- E. In the event proceedings in bankruptcy are commenced against CONTRACTOR, and CONTRACTOR is adjudged bankrupt or a receiver is appointed and qualifies, the AQMD may terminate this Contract and all further rights and obligations hereunder by giving five (5) days notice, in writing, in the manner specified in this Contract. CONTRACTOR agrees AQMD shall have lien rights on any equipment and/or vehicles purchased in whole or part by the CONTRACTOR for this program. The AQMD shall have lien rights until the CONTRACTOR either returns all such equipment and/or vehicles to the AQMD or purchases such equipment and/or vehicles from the AQMD.
7. STIPULATED PENALTIES - CONTRACTOR is obligated to acquire and operate subject engines, equipment and/or vehicles as well as provide reports to AQMD throughout the term of this Contract. Should CONTRACTOR desire to terminate this Contract in whole or in part prior to the end date for reasons other than those stated in sub-Clause 6B, CONTRACTOR shall reimburse AQMD for a prorated share of the funds provided under this Contract as determined by AQMD.
8. INSURANCE
- A. CONTRACTOR shall furnish evidence to AQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
- B. CONTRACTOR shall furnish evidence to AQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- C. CONTRACTOR shall furnish evidence to AQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. AQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to AQMD.
- D. If CONTRACTOR fails to maintain the required insurance coverage set forth above, AQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
- E. All insurance certificates should be mailed to: AQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4182. **The AQMD Contract Number must be included on the face of the certificate.**

- F. By execution of this Contract, CONTRACTOR agrees to maintain the above required insurance as well as property insurance with sufficient limits to cover the loss of the engines, vehicles and/or equipment funded under this Contract. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of Contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
 - G. CONTRACTOR agrees to flow the insurance requirements set forth above to all subcontractors.
9. INDEMNIFICATION - CONTRACTOR agrees to hold harmless and indemnify AQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, cost, lawsuits, demands, judgments, legal fees or any other expenses which AQMD, its officers, employees, agents, representatives, and successors-in-interest may incur or be required to pay by reason of any injury or property damage arising from the negligent or intentional conduct or omission of CONTRACTOR, its employees, its subcontractors, or its agents in the performance of this Contract.
10. USE OF VEHICLE AND EQUIPMENT
- A. CONTRACTOR shall accrue at least 75% of each vehicle's annual mileage or engine hours of operation within the geographical bounds of the AQMD. Information included in the annual reports required under this Contract will be used to verify this usage.
 - B. CONTRACTOR is prohibited from removing the vehicles or equipment from service in California during the term of this Contract, unless the vehicles or equipment become inoperable through mechanical failure of components or systems, and cannot be repaired or replaced, and such failure is not caused by CONTRACTOR'S negligence, misuse, or malfeasance.
11. COMPLIANCE WITH CARL MOYER PROGRAM GUIDELINES – CONTRACTOR warrants that the project upon which this contract is based complies with all the Carl Moyer Program guidelines as outlined below:
- A. The project is not required by any local, state and/or federal rule, regulation or MOU currently in effect.
 - B. The low emissions technology has been certified or verified by CARB and meets the current NOx, PM and/or ROG requirements. If the low emissions technology is not certified or verified it may be approved based on a CARB case-by-case evaluation. When approved by a CARB case-by-case evaluation, the method for emissions verification must be included as part of the Contract in Attachment 1 – Statement of Work.
 - C. Rights to the emission reductions must not be claimed by any participant as emission reduction credits or in an Averaging Banking and Trading Program. In addition, rights to the emission reductions may not be claimed by the engine or equipment manufacturer in any flexibility or "early introduction" incentive program.
 - D. The new engine/equipment/vehicle must not have been purchased (i.e., paid for) prior to the effective date of the Contract. Note: CONTRACTOR is advised that pursuant to AQMD policy, the engine, vehicle and/or equipment must not have been ordered prior to the date of the AQMD Governing Board approval of the contract.
 - E. For re-powers, the existing (old) engine must be destroyed and rendered useless. There must be no cannibalization of parts from the old engine. Engines must have a complete and fully visible and

legible engine serial number in order to be eligible for an engine re-power. The destruction of the engine must be documented by the AQMD seeing the destroyed engine or the receipt from the qualified vehicle salvage yard. Engines without a visible and legible serial number may be re-powered if AQMD staff stamp the engine block with the Carl Moyer Program project number and the AQMD staff is present to personally verify engine removal from the project vehicle or equipment and the subsequent engine destruction.

- F. The engines, vehicles and/or equipment funded under this Contract must remain in service for the project life and operate within the geographical boundaries of the AQMD for the minimum usage specified in this Contract.
12. INCORPORATION OF CARL MOYER PROGRAM APPLICATION - CONTRACTOR's application for the project funded under this Contract is hereby incorporated by reference and made a part of this Contract.
 13. MAINTENANCE OF VEHICLES, ENGINES AND EQUIPMENT - CONTRACTOR shall maintain the engine, vehicle or equipment funded under this Contract in accordance with the manufacturer's specifications for the life of the project. CONTRACTOR acknowledges that no tampering with the engine, vehicle, or equipment is permitted. CONTRACTOR shall be responsible for maintaining a working hour meter or other approved measuring device or method to track vehicle usage and demonstrate that the vehicle is operated according to the parameters used to calculate emissions reductions and cost effectiveness. If the hour meter/usage device fails, the CONTRACTOR remains responsible for validating any hours not recorded by the hour meter/usage device. The CONTRACTOR must either repair or replace the non-operating meter/device or provide other documentation of equipment operating hours acceptable to AQMD.
 14. USE OF CARB-VERIFIED RETROFIT DEVICE FOR REPOWERS – If available, CONTRACTOR is required to install the highest level CARB-verified retrofit device for all re-powers funded under this contract.
 15. ON-SITE INSPECTIONS - AQMD, CARB, or their designee(s) shall have the right to inspect the vehicles, engine(s) and/or equipment and associated records during the term of this contract.
 16. POST-INSPECTION – A post-inspection shall be conducted by the AQMD after receipt of a final invoice from the CONTRACTOR. Final payment will not be made until the AQMD verifies that the engine(s) and equipment listed in the Contract has/have been installed, that the engine is operational in the equipment or vehicle as stated in the contract, and, where applicable, the baseline engine(s) or vehicle(s) has/have been destroyed and rendered useless and there is no evidence of cannibalization of parts from the old engine(s).
 17. AUDIT RIGHTS - AQMD, CARB or a third party designee shall have the right to conduct a fiscal audit of the project during the life of the project.
 18. MONITORING AND ENFORCEMENT OF CONTRACTS TERMS - CONTRACTOR agrees that AQMD and CARB have the authority to enforce the terms of this Contract at any time during the project life to ensure that emission reductions under this agreement are obtained. AQMD and CARB will seek

whatever legal, equitable and other remedies are available under State Law for the CONTRACTOR's failure to comply with the terms of this Contract or with the Carl Moyer Program requirements incorporated herein.

19. RECORDS AND RECORDS RETENTION – CONTRACTOR shall maintain records related to this project and retain these records for at least three years after expiration of the term of the Contract.
20. REPORTING REQUIREMENTS - CONTRACTOR shall submit, at a minimum, annual reports commencing one year after project completion and annually thereafter for a period of five years. Attachment 1 shall include the dates the annual report is due. The CONTRACTOR shall also submit a copy of evidence of the appropriate insurance. If the AQMD monitoring phase of the contract term exceeds five years, the CONTRACTOR'S reporting responsibility may be reduced to once every other year after the initial five years of reporting upon written direction by the AQMD. If the project is a zero-emission technology, reporting may be reduced to biennially for the first six years, and no annual reports are required thereafter. Non-compliance with the reporting requirements of this Contract shall result in the implementation of on-site monitoring by the AQMD.
21. SUCCESSORS-IN-INTEREST – This Contract shall be binding on and inure to the benefit of each party's heirs, executors, administrators, successors, and assigns. CONTRACTOR shall provide AQMD with timely notification of any event resulting in a change in the ownership of the vehicles and/or equipment funded under this Contract.
22. PROJECT USAGE – If the project usage reported in the annual report is thirty (30) percent above or below the usage specified in Attachment 1 – Statement of Work, the AQMD shall flag the project. Any project that has been flagged for performance shall be evaluated over a multiyear basis. If the project's usage does not average out to within 30 percent of the usage specified in Attachment 1 over at least a three-year period, the AQMD shall take appropriate action to ensure the contracted emissions reductions are realized. Appropriate actions include, but are not limited to, recapturing funds from the project in proportion to the loss in emissions reductions or extending the project life.
23. CARL MOYER PROGRAM DISCLOSURE STATEMENT - CONTRACTOR hereby certifies that upon execution of this Contract for the herein described Carl Moyer Program project, CONTRACTOR shall not submit another application or execute another Contract for the same specific engine(s) with any other source of funds, including but not limited to, other districts or to the California Air Resources Board (CARB) for a multi-district solicitation. CONTRACTOR acknowledges that violation of this certification shall, at a minimum, result in CONTRACTOR being disqualified from receiving funding for that engine(s) from all sources and may result in CONTRACTOR being banned from submitting future applications to any and all Carl Moyer Program solicitations. In addition, as a violation of law, including but not limited to the Business and Professions Code, CARB and the districts may levy fines and/or seek criminal charges.
24. PAYMENT
 - A. AQMD shall reimburse CONTRACTOR an amount not to exceed *** (\$***) as provided in Attachment 2, Payment Schedule, to this Contract. CONTRACTOR shall be entitled to such reimbursement for purchase of the vehicles, engines and/or equipment specified in Attachment 1 -

- SOW. Payment shall be based upon invoices for the actual cost of the new engine(s), engine retrofit(s) or engine re-power(s) and successful completion of a post inspection by AQMD.
- B. The withhold amount shall be in accordance with Attachment 2 – Payment Schedule.
 - C. Reimbursement under this Contract shall occur within thirty (30) business days upon submission of an itemized invoice from the engine supplier for re-powers or paid invoices for new vehicles and completion of the post-inspection audit required under **Clause 16**. Invoices must itemize all charges for equipment, materials, supplies, subcontractors and other charges, as applicable. Reimbursement for equipment, materials, supplies, subcontractors and other charges will be made at actual cost. Supporting documentation and proof of payment must be provided for all individual charges (with the exception of direct labor charges provided by the CONTRACTOR). Each invoice must be prepared in duplicate, on company letterhead, and list AQMD's Contract number, period covered by invoice, and CONTRACTOR's Social Security Number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: Carl Moyer Contract Administrator, Technology Advancement, 21865 Copley Drive, Diamond Bar, CA 91765-4178.
 - D. Funding for this Contract is contingent upon receipt of funds from the California Air Resources Board (CARB).
25. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) - No MSERCs resulting from Carl Moyer Program funded projects may be generated and/or sold. All validated emission reductions shall be applied toward the State Implementation Plan (SIP) attainment demonstration. All emission reductions, created as a result, in whole or in part, from the expenditure of Carl Moyer funds shall not be converted into tradable credits, and shall be used for the sole purpose of meeting the attainment schedule contained in the applicable SIP.
26. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any intellectual property developed under this Contract shall at all time remain with AQMD. Such material is agreed to be AQMD's proprietary information.
- A. Rights of Technical Data - AQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use data for its own benefit.
 - B. Copyright - CONTRACTOR agrees to grant AQMD a royalty free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.
27. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

AQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: Carl Moyer Contract Administrator, Technology Advancement

CONTRACTOR:

Attn:

28. EMPLOYEES OF CONTRACTOR

- A. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
- B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of AQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by AQMD to its employees.

29. PUBLICATION

- A. AQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from AQMD in connection with performance under this Contract.
- B. Information, data, documents, photographs or reports developed by CONTRACTOR for AQMD, pursuant to this Contract, shall be part of AQMD'S public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to AQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.
 - i. "This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management AQMD (AQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of AQMD. AQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. AQMD has not approved or disapproved this report, nor has AQMD passed upon the accuracy or adequacy of the information contained herein."
- C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

30. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this Clause and shall include in each such subcontract language similar to this Clause.

31. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.
32. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or AQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.
33. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.
34. FORCE MAJEURE - Neither AQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of AQMD or CONTRACTOR.
35. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
36. HEADINGS - Headings on the Clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
37. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
38. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
39. CITIZENSHIP AND ALIEN STATUS
 - A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees

performing services under this Contract to insure continued compliance with all federal statutes and regulations.

- B. Notwithstanding Clause A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
- C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless AQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or AQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.

40. APPROVAL OF SUBCONTRACTS

- A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from AQMD'S Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
- B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
- C. The sole purpose of AQMD'S review is to insure that AQMD'S contract rights have not been diminished in the subcontractor agreement. AQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.

41. TAX IMPLICATIONS FROM RECEIPT OF CARL MOYER PROGRAM FUNDS – CONTRACTOR is advised to consult a tax attorney regarding potential tax implications from receipt of funds under the Carl Moyer Program.

42. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR and AQMD. By executing this Contract, CONTRACTOR understands and agrees to operate the engine, vehicle, or equipment according to the terms of the Contract and to cooperate with the AQMD and CARB implementation, monitoring, enforcement and other efforts to assure the emissions benefits are real, quantifiable, surplus and enforceable. There are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

[THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, District Counsel

By: _____

//Moyer
Last Updated: 28 August 2006

Appendix O
Sample contract award letter

«date»

«Company»
«address»
«city_state_zip»

Attention: «title» «firstname» «lastname», «position»

Subject: Clean Fuels Contract Award under the AQMD FY 2000-01 Carl Moyer Memorial Air Quality Standards Attainment Program

Dear «title» «lastname»:

We are pleased to inform you that «Company» has been selected to receive funding for its on-road project under the FY 2000-01 Carl Moyer Memorial Air Quality Standards Attainment program. Your proposal submitted in response to RFP#2001-26 was evaluated by AQMD staff, and a project award recommendation of «amount» «purpose» was forwarded to the AQMD Governing Board. On September 21, 2001, the AQMD Governing Board approved staff's recommendations.

I will be contacting you to complete the contract and award process. Please note that the funding award is contingent on the ability of the project proponent to implement the proposed project in full compliance with the requirements of the Carl Moyer Program. As part of ensuring full compliance, you may be asked to provide additional documentation. For your information we have attached a description of the contracting process for this program as well as standard contract terms under the Carl Moyer Program. Additionally, you will be asked to provide a comprehensive work statement describing the details necessary to complete the proposed project as well as the project timeline.

Please be advised that funding is contingent on a fully executed and completed contract. Funding will be paid only for projects commencing after the contracts are executed.

On behalf of the AQMD staff involved in the Carl Moyer Program, thank you for your support toward achieving the clean air goals for our region. If you have any questions about implementation of the Carl Moyer Program, please feel free to contact me at (909) 396-3055.

Sincerely,

Connie Day
Program Supervisor, Technology Implementation
Science & Technology Advancement

CSL:CD:psc
Attachments

Appendix P
Sample, fully-executed contract letter



South Coast Air Quality Management District

21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

July 6, 2000

City of Los Angeles, Department of Public Works
Bureau of Sanitation
Solid Resources Collection Division
419 South Spring Street, Suite 900, Mail Stop 521
Los Angeles CA 90013

Attn: Alex Helou
Program Manager

Re: AQMD Contract #00152

Enclosed is your fully executed original file of the above-mentioned contract for the purchase of 10 natural gas refuse trucks under the Carl Moyer Program.

Future correspondence for this contract, including invoices and progress reports, should be sent to the attention of Carl Moyer Contract Administrator-Technology Advancement. If you have any questions, please do not hesitate to contact myself or Larry Watkins at (909) 396-3246.

Lani Montojo
Carl Moyer Contracts Administrator
Technology Advancement
(909) 396-2231

LM:fp

Cleaning the air we breathe...

Appendix Q
Pre- and Post- Inspection and Audit Form



Carl Moyer Program Monitoring Report: Pre- and Post-Inspection for On-Road Repower Projects

Awardee Information:	Contract / Project Information:
Name:	Board Approval Date:
Street Address:	Contract #:
City/ZIP:	Contract Term:
Contact Name:	Total # of Vehicles for Repower:
Phone / Email:	Type of Repowers: M to E _____ E to E _____ Glider Kit _____

"PRE" INSPECTION VERIFICATION

"POST" INSPECTION VERIFICATION

AUDIT

Inspector Signature / Date		Inspector Signature / Date		Inspector Signature / Date																						
Name of Site Escort		Name of Site Escort		Name of Site Escort																						
Baseline Engine Information						Vehicle Information						Repowered Engine Information						Repowered								
#	Make / Model	Yr	Family	Serial #	HP	Fuel Type	Veh Type / GVWR	Make / Model	Yr	(? 89)	VIN	Odom	Engine Start Up to Verify Running?	Make / Model	Yr	Family	Serial #	HP	Fuel Type	Replaced if 94-98?	Destroyed (16-3)?	Engine? Document-ation?	1) Check Serial Numbers? 2) Witness Engine Operation Receipts or EMU? 3) Check Odometer, Hour Meter/Usage Device, Fuel in contract? 4) 30% below or above projected usage			
1																										
2																										
3																										
4																										
5																										
6																										

Reminders: M to E repowers case by case. Surplus reductions only. Buses may have special rules. Digital photos (VIN, engine serial #, etc) match contract details. Comply w/durability, warranty requirements. Repowered vehicles must be operational w/ starting visually observed. Refer to AFB procedures on engine salvage. If within C-E limit, should receive DECS. Replacement engine can be new, rebuilt or remanufactured. Inspectible if built after 9/30/02 but don't meet 2.42.5.gdhp-hr.

Audit Notes



Carl Moyer Program Monitoring Report: Pre- and Post-Inspection for Airport GSE Retrofit Projects

Awardee Information:	Contract / Project Information:	Site Information:
Name:	Board Approval Date:	Site Location:
Street Address:	Contract #:	Street Address:
City/ZIP:	Contract Term:	City/ZIP:
Contact Name:	Total # of GSE for Retrofit:	Contact Name:
Phone / Email:	Type of Device for Retrofit:	Phone / Email:

"PRE" INSPECTION VERIFICATION	"POST" INSPECTION VERIFICATION
Inspector Signature / Date:	Inspector Signature / Date:
Name of Site Escort:	Name of Site Escort:

#	Engine Information				GSE / Vehicle Information			Photos? Running Conditions? Comments or retrofit conflicts (e.g., MCOU)?	Installed Retrofit Device / Fuel			Notes				
	Make / Model	Yr	Family	Serial #	HP	Fuel Type? EPA Registered?	GSE Type		Make / Model	Yr	Unit ID or VIN		Odom / Hour Meter	Date Installed	Make / Model	CARB Verified? Highest level available? MOx also?
1																
2																
3																
4																
5																
6																

Reminders: Digital photos to be taken, including engine labels, etc.



Carl Moyer Program Monitoring Report: Pre- and Post-Inspection for Diesel Construction Repower

Awardee Information:	Contract / Project Information:	Site Information:
Name:	Board Approval Date:	Site Location:
Street Address:	Contract #:	Street Address:
City/ZIP:	Contract Term:	City/ZIP:
Contact Name:	Total # of Vehicles for Repower:	Contact Name:
Phone / Email:	Repower Type - Class 7 (only) _____	Phone / Email:

"PRE" INSPECTION VERIFICATION

Inspector Signature / Date	Inspector Signature / Date
Name of Site Escort	Name of Site Escort

"POST" INSPECTION VERIFICATION

Inspector Signature / Date	Inspector Signature / Date
Name of Site Escort	Name of Site Escort

#	Baseline Engine Information				Vehicle Information				Engine Start Up to Verify Running Condition?	Repowered Engine Information				Fuel? Meets ARB Repower Guidelines?	Destroy Old Engine? Document- ation? Photos?
	Make / Model	Yr	Family	Serial #	Rated HP @ RPM	Fuel Type	Veh Type	Make / Model		Yr	Family	Serial #	Rated HP @ RPM		
1															
2															
3															
4															
5															
6															

Notes:

Reminders: Digital photos (VIN, engine serial #, etc.) Motor contract details. Comply w/ durability, warranty requirements. Repowered vehicles must be equal or bet w/ start-up visually observed. Return to ARB procedures en engine salvage. If within C-E limit, ARB may require retrofit bet DECS. Replacement engine can be new, rebuilt or remanufactured.

Audit Notes:



**Carl Moyer Program Monitoring Report:
Post-Inspection for Newly Purchased Agriculture Equipment**

Awardee Information:	Contract / Project Information:
Name:	Board Approval Date:
Street Address:	Contract #:
City/ZIP:	Contract Term:
Contact Name:	Total # of Units for Purchase:
Phone / Email:	Technology / Fuel:
"POST" INSPECTION VERIFICATION	
Site Information:	Site Information
Site Location:	Site Location:
Street Address:	Street Address:
City/ZIP:	City/ZIP:
Contact Name:	Contact Name:
Phone / Email:	Phone / Email:

Inspector Signature / Date Name of Site Ecorat	Engine / Motor Information					Equipment Information			Comments or Conflicts?			
	Make / Model	Yr	Family	Serial #	HP / KW	Fuel	Equipment Type	Make / Model		Yr	ID #	Hours
1												
2												
3												
4												
5												
6												
7												
8												

Reminders: Digital photos to be taken, including engine labels, etc

Inspector Signature / Date

Name of Site Ecorat

1) Verify Serial Numbers? 2) Witness Engine Operator? 3) Check Odometer, Hour Meter/Usage Device, Fuel Receipts or EMUs? 4) 30% below or above usage stated if applicable?

Audit Comments

Appendix R
Invoice Payment Form

Appendix S
Contractor Checklist

Contractor Checklist

The following information is presented as a reference for contractors during the different phases of the contract. Contractors should reference the terms of the contract for specific requirements.

Contract Processing

The following items are necessary to complete processing of the contract.

- ✓ Two signed original copies of the contract.
- ✓ Certificates of Insurance (workers compensation and liability), naming AQMD as an additional insured, and including the AQMD contract number on the face of the certificate.
- ✓ All applicable certifications and representations (included in Request for Proposals)
- ✓ Contractor Identification Number
- ✓ EPA Certification Regarding Debarment, Suspension, and Other Responsibility Matters

Pre- and Post-Inspection of Vehicles or Equipment

Vehicles or equipment are inspected at the beginning of the project and after retrofit or re-engine. This may be accomplished on the contractor's site, or at the location where engine replacement/retrofit activity takes place. **CALL YOUR PROJECT OFFICER TO ARRANGE FOR THESE INSPECTIONS.**

Pre-Inspections include verification of the following:

- ✓ Serial number of the baseline engine
- ✓ Make, model, model year, horsepower of the baseline engine
- ✓ Operation of the engine in the function and use as described in the project proposal

Post-Inspections include verification of the following:

- ✓ The engine as described in the proposal was installed
- ✓ Recording of serial number, make, model year and horsepower of the new engine
- ✓ Verification of engine operation
- ✓ Verification of destruction of the baseline engine or vehicle (contractors should discuss the method of destruction with the project officer for any further requirements)

Invoice Processing

The following is required in order to process any invoice from a Carl Moyer Program contract. Contractors should thoroughly review the terms of the contract regarding exactly what reimbursement is allowed.

- ✓ Two signed copies of the invoice. The invoice must indicate the full cost of the engine and other allowable expenses, AND the portion of these expenses to be reimbursed through the Carl Moyer Program.
- ✓ Copy of the front and back of any checks issued to pay for the equipment and other allowable expenses.
- ✓ A copy of any progress reports that have not previously been submitted.
- ✓ Current insurance certificates.
- ✓ Completed post-inspection.

Appendix T
AQMD STA Policy for Contracting and Awarding Program Funds

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SCIENCE AND TECHNOLOGY ADVANCEMENT OFFICE
POLICY FOR CONTRACTING AND PROJECT FUNDING

SECTION I: PURPOSE

- A. It is the policy of the South Coast Air Quality Management District's Science and Technology Advancement Office (STA) to initiate, in partnership with industry, universities, other agencies and organizations, research and development of new clean air technologies required to fully implement South Coast Air Quality Management District's (AQMD) Air Quality Management Plan.
- B. The policies and procedures set forth in this document govern contracting and/or the awarding of project funds by STA. Contracting for professional services, materials, equipment, supplies, and fixed assets by STA required for day-to-day operations of the office, remain subject to the AQMD Procurement Policy and Procedure.
- C. The execution of this policy is the function of the Executive Officer, the Deputy Executive Officer for STA, and any other responsible officer as identified in this policy.

SECTION II: GOVERNING BODY AND APPLICABLE LAWS

- A. The AQMD is organized pursuant to Chapter 5.5, Part 3, Division 26 of the Health and Safety Code.
- B. The governing body of the AQMD is a Board of Directors composed in accordance with Health and Safety Code Section 40420 ("AQMD Board").
- C. Under Health & Safety Code § 40489, the AQMD may contract for professional assistance as may be necessary or convenient for the exercise of any duty imposed on the AQMD under law.

SECTION III: PARTICIPATION IN STA CONTRACTS AND PROJECT FUNDING PROCESS

- A. General.

It is the policy of the AQMD to ensure that all businesses, including minority business enterprises, women business enterprises, disabled veteran business enterprises and small businesses have a fair and equitable opportunity to compete for and participate in STA contracts and project funding.

B. Definitions.

1. "Minority-or-women business enterprise" (MBE/WBE) as used in this policy means a business enterprise that meets all of the following criteria:
 - a. a business that is at least 51 percent owned by one or more minority persons or women, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons or women;
 - b. a business whose management and daily business operations are controlled by one or more minority persons or women; and
 - c. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
2. "Minority person" for purposes of this policy, means a Black American, Hispanic American, Native-American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian (including a person whose origins are from India, Pakistan, and Bangladesh), Asian-Pacific-American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan).
3. "Disabled veteran" as used in this policy is a United States military, naval, or air service veteran with at least 10 percent service-connected disability who is a resident of California.
4. "Disabled veteran business enterprise" (DVBE) as used in this policy means a business enterprise that meets all of the following criteria:
 - a. is a sole proprietorship or partnership of which at least 51 percent is owned by one or more disabled veterans or, in the case of a publicly-owned business, at least 51 percent of its stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans;
 - b. the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business; and
 - c. is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.
5. "Local business" as used in this policy means a company that has an ongoing business within the South Coast AQMD at the time of bid or proposal submittal and performs 90% of the work related to the contract within the South Coast AQMD.

6. Small business as used in this policy means a business that meets the following criteria:
 - a.
 - 1) an independently owned and operated business;
 - 2) not dominant in its field of operation;
 - 3) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years; or
 - A manufacturer with 100 or fewer employees.
 - b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products; and
 - 2) Classified between Codes 2000 to 3999, inclusive, of the Standard Industrial Classification (SIC) Manual published by the United States Office of Management and Budget, 1987 edition.
7. "Joint ventures" as defined in this policy pertaining to certification means that one party to the joint venture is a DVBE or small business and owns at least 51 percent of the joint venture.
- C. STA will ensure that discrimination in the award and performance of contracts does not occur on the basis of race, color, sex, national origin, marital status, sexual preference, creed, ancestry, medical condition, or retaliation for having filed a discrimination complaint in the performance of AQMD contractual obligations.
- D. When projects are funded in whole or in part by EPA grant funds and if subcontracts are to be let, the Contractor must comply with the following, evidencing a good faith effort to solicit minority- and women-owned businesses. Contractor shall submit a certification signed by an authorized official affirming compliance with the steps below at the time of proposal submission. The AQMD reserves the right to request documentation demonstrating compliance with these steps prior to contract execution.
 1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
 2. Ensuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources, including advertising at least ten days in advance of the bid in a variety of media including media directed to minority- and women-owned business audiences;

3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
 4. Establishing delivery schedules, where requirements permit, which encourage participation by small and minority business and women's business enterprises; and
 5. Using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
- E. Many programs administered by STA require distribution of a minimum amount of the available funds in Disproportionate Impact areas. Where such a requirement exists, STA first evaluates project proposals to ensure that they qualify by meeting the basic program qualifications, such as cost effectiveness limits. Projects that do meet the minimum qualifications are then evaluated to determine if they meet the criteria for funding within a Disproportionate Impact area. Unless defined by state law for a specific program, a Disproportionate Impact area is defined as:
1. Poverty Level: Areas where at least 10% of the population falls below the federal poverty level based upon the most current census data;
 2. PM Exposure: Areas with the highest 15% of PM concentration; and
 3. Air Toxics Exposure: Areas with a cancer risk of 1,000 in a million and above (based on Mates II estimates).
- F. To the extent that any conflict exists between this policy and any requirements imposed by federal and state law relating to participation in a contract by a MBE, WBE, and/or DVBE as a condition of receipt of federal or state funds, the federal or state requirements shall prevail.

SECTION IV: RESPONSIBILITIES OF AQMD PERSONNEL

- A. The Deputy Executive Officer for STA and STA staff shall have primary responsibility for implementing all aspects of this policy as set forth below.
- B. The Manager of the Procurement Section shall be responsible for:
 1. Assisting STA to ensure proper implementation of this policy;
 2. Assisting STA in the review of Requests for Proposals (RFPs) and Program Announcements (PAs) to ensure compliance with all policies before public release of the RFP or PA;
 3. Assist STA in publication of PAs and RFPs; and
 4. Review STA program contracts and awards to ensure compliance with all policies and applicable laws.
- C. AQMD Controller is responsible for final review, approval and payment on all STA program award invoices.

- D. The District Counsel shall be responsible for:
1. Assisting STA in compliance with the legal requirements of all programs implemented by STA that require awarding of project funds;
 2. Providing legal opinions regarding the interpretation of RFPs, PAs and contract provisions;
 3. Review STA program contracts and awards and approve as to form; and
 4. Represent AQMD in all litigation over implementation of this policy.

SECTION V: SOLICITATION PROCEDURES FOR STA PROJECTS

A. Request for Proposals.

1. The responsible STA staff person shall, in writing, solicit project proposals through a "Request for Proposals" (RFP) that meets the requirements of this policy unless a written waiver has been made by the Executive Officer under Section VII.
2. An RFP shall provide sufficient written specification regarding the scope of the project for which proposals and bids are being requested. The RFP shall state: 1) any information regarding specific materials, equipment, supplies, or services sought; 2) the source of any funds available for the project; 3) any limitations, conditions, requirements or restrictions on use of funds; 4) any information regarding project dates or milestones; and 5) any other information deemed necessary by STA to ensure submittal of detailed project proposals by responsible bidders.
3. In all cases in which written specifications are prepared and submitted for public bid and a trade name is specified, the specifications shall contain the phrase "or equal" and a bidder shall be allowed to bid upon a specific trade name product or its equivalent in quality and performance.

B. Advertising of RFPs.

1. STA staff, in coordination with the Manger of Procurement, shall use all reasonable means, including use of AQMD databases, to identify prospective bidders for each proposed RFP.
2. For any RFP that will require the expenditure of funds by the AQMD in excess of \$10,000, the following procedures apply unless a written waiver has been made by the Executive Officer under Section VII or his or her designee that the estimated cost of the project does not justify the cost of advertising:
 - a. A "Notice Inviting Bids/Proposals" shall be published in a newspaper of general circulation at least once a week for two successive weeks. Two publications in a newspaper published once a week or more often, with at least five days intervening between the respective publication dates are sufficient. The period of notice commences on the first day of publication and terminates at the close of business on the fourteenth day.

- b. One or more "Notices Inviting Bids/Proposals" shall be published in one or more of the following, whichever would allow the notice to be distributed to the largest number of persons or firms qualified to do the work:
 - i. Newspapers of general circulation (mandatory)
 - ii. California State Contracts Register
 - iii. Journal of the Air & Waste Management Association
 - iv. ARB Computer Bulletin Board
 - v. Professional journals and trade publications including small, minority, women, and veteran business publications, and
 - vi. AQMD Website on the Internet.
 - c. The "Notice Inviting Bids/Proposals" shall contain a brief description of the project for which bids are sought, where a copy of the RFP or additional information may be obtained, and time and place of delivery of the Bid or Proposal.
3. Prospective bidders shall be sent the RFP which meets the requirements of this policy and the date by which bids are required. Responses to RFPs shall not be due for at least 30 days from the date and time the RFP is mailed. A shorter time may be authorized by the Executive Officer where a written determination has been made by the Executive Officer under Section VII.
 4. A listing of open RFPs will be made available to various legislative caucuses, community groups, trade organizations, chambers of commerce and other interested parties at the time the Notice Inviting Bids/Proposals is submitted for publication. Parties desiring copies of any of the RFPs will be advised that a complete copy can be obtained by downloading it from the AQMD website or requesting a hard copy from the designated AQMD contact.

C. 30-Day Minimum Solicitation.

1. Responses to RFPs shall not be due for at least 30 days from the date and time the RFP is mailed. A shorter time may be authorized by the Executive Officer where a written determination has been made by the Executive Officer under Section VII.

SECTION VI: PROPOSAL EVALUATION AND PROJECT AWARD

A. Proposal Evaluation.

1. The responsible STA staff person for the RFP shall prepare a summary of the proposal evaluations and a recommendation for the award to his or her responsible Manager and to the STA Deputy Executive Officer.

2. Subject to other provisions of this policy, project funds will be awarded to qualified bidder(s) whose proposals met the specifications set forth in the RFP and otherwise meet the prescribed project criteria, such as cost effectiveness.
3. The AQMD Board or Executive Officer may reject all or any bids and proposals which are deemed not to be made in accordance with prescribed requirements and/or specifications set forth in the RFP. The AQMD Board or Executive Officer may also waive technical defects of all or any bids or proposals if to do so best serves the interests of the AQMD.
4. In the event all bids or proposals are rejected, or if no responsive bids or proposals were received, the AQMD Board or Executive officer may take any of the following actions:
 - a. Solicit new bids or proposal. In the event that a "Notice Inviting Bids/Proposals" was required, the notice must be readvertised; or
 - b. Proceed to perform the project using only AQMD staff and resources; or
 - c. Choose not to proceed with the project.
5. The Executive Officer or AQMD Board reserves the right to not go forward with the funding of any proposed STA project at anytime by canceling the RFP or rejecting all bids outright.

B. Project Award.

1. Before awarding a project to the selected bidder, STA staff shall prepare the following:
 - a. A written assessment of the objectives of the project or study in which previous work, if any, on the same subject shall be reviewed, including an assessment of current and future AQMD needs for the project and an estimate of the project cost;
 - b. A statement of work to be performed in carrying out the project or study;
 - c. A statement of the qualifications of persons necessary to perform the work including a description of experience, education, and training, and related work in general and specific fields; and
 - d. An assessment of the resources needed to carry out the project or study including, facilities, laboratory, equipment, and computer hardware and software.
2. Based upon an evaluation of the documentation prepared pursuant to Paragraph B1 of this Section and any other information deemed necessary, the Executive Officer or his or her designee shall request that the AQMD Contracts Unit prepare the contract and forward all documents to the responsible STA staff person for final approvals by the Director, DEO, Manager of the Procurement Section, AQMD Counsel and the Executive Officer.
3. If authorized by the Deputy Executive Officer for STA, and agreed upon by the District Counsel and the Contracts Unit, a Grant Award letter or agreement may be used instead of a formal contract.

4. Contracts or Grant Awards for budgeted items over \$50,000 and for unbudgeted items over \$10,000 must be approved by the AQMD Board. Contracts or Grant Awards for budgeted items of \$50,000 or less and for unbudgeted items for \$10,000 or less shall be approved by the Executive Officer.
5. Once approved, the Executive Officer or his or her designee or the Chair of the AQMD Board, and the successful proposer's authorized official will execute the contract.

SECTION VII: WAIVERS OF POLICY AND PROCEDURES

A. Discretionary Waiver of RFP and Use of Project Announcement.

1. The preparation and advertising of a detailed RFP (Section V) may be waived by the Executive Officer or his or her designee if proper justification has been provided that:
 - a. Due to the nature of funding for the project, time for the award is deemed to be of the essence;
 - b. The source of funding for the project is from a federal or state agency that has adequately announced availability of funding;
 - c. The source of funding for the project is from a federal or state agency that previously set the conditions for any awards or contracts, including the authorization of a first come, first serve solicitation process; or
 - d. Public health or property may be endangered by delay.
2. Where the Executive Officer has waived provisions in Section IV, STA shall seek project proposals through use of a Program Announcement. Program Announcements should be advertised as widely as possible taking into account the basis for use of a waiver under this Section. Whenever possible, Program Announcements should be advertised in a manner consistent with Section V(B). However, other forms of outreach, such as workshops, notices on AQMD website, and direct solicitation, may be used by the Executive Officer as dictated under the circumstances giving rise to the waiver.
3. Proposals received as a result of a Program Announcement shall be evaluated in accordance with Section VI.
4. Waivers for projects involving budgeted items over \$50,000 and for unbudgeted items over \$10,000 must be approved by the AQMD Board.

B. Discretionary Waiver of 30-Day Minimum Solicitation Period.

1. As set forth in Section V, responses to RFPs shall not be due for at least 30 days from the date and time the RFP is mailed. A shorter time may be authorized by the Executive Officer where a written determination has been made by the Executive Officer that:

- a. Due to the nature of funding for the project, time for the award is deemed to be of the essence;
- b. The source of funding for the project is from a federal or state agency that has adequately announced availability of funding;
- c. The source of funding for the project is from a federal or state agency that previously set the conditions for any awards or contracts, including the authorization of a first come, first serve solicitation process; or
- d. Public health or property may be endangered by delay.

C. Sole-source Awards.

- 1. The preparation and advertising of a RFP or PA may be waived by the Executive Officer or his or her designee if proper justification has been provided that the project can only be performed by one source.
- 2. Written justification for a sole-source award must be provided documenting that:
 - a. The cost of labor for preparation of the described documents exceeds the possible savings that could be derived from such detailed documents; or
 - b. Public health or property may be endangered by delay; or
 - c. The desired services are available from only the sole-source based upon one or more of the following reasons:
 - (1) The unique experience and capabilities of the proposed contractor or contractor team;
 - (2) The project involves the use of proprietary technology;
 - (3) The contractor has ownership of key assets required for project performance; or
 - d. Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interests of the AQMD. Such circumstances may include but are not limited to:
 - (1) Projects involving cost sharing by multiple sponsors;
 - (2) Time extension of an existing contract;
 - (3) Projects involving a commitment to multiple project phases;
 - (4) Level-of-effort expert consultation services;
 - (5) Performance of AQMD work concurrent with local government official duties;

- (6) Projects requiring compatibility with existing specialized equipment;
- (7) Cooperative internship programs with accredited colleges and universities;
- (8) Research and development efforts with educational institutions or nonprofit organizations.

SECTION VIII: SPECIAL REQUIREMENTS FOR PUBLIC WORKS PROJECTS

- A. This Section shall apply to proposed STA projects involving the construction, alteration, demolition, or repair work to any stationary infrastructure or facility using federal, state, local or AQMD funds. These projects are otherwise known as “Public Works Projects” subject to the requirements in California Labor Code § 1720 *et seq.*
- B. A “Public Works Project” does not include funds expended by STA solely:
 - 1. for operation of existing infrastructure or a facility;
 - 2. to lease existing infrastructure or a facility; or
 - 3. for projects involving vehicles or portable equipment.
- C. Each contract or grant award for a Public Works Project shall contain the following provision:

“Contractor is responsible for compliance with all prevailing wage requirements under California Labor Code Section 1720 *et seq.*, the keeping of all records required pursuant to Labor Code Section 1776, the maximum hours requirements of Labor Code Sections 1810 through 1815, and all other applicable provisions of the Labor Code pertaining to Public Works Contracts. Contractor agrees to indemnify, defend and hold harmless SCAQMD against any and all claims, demands, damages, costs or liabilities based upon failure to comply with the requirements in this Paragraph.”

Appendix U
AQMD Records Retention Policy

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT

DRAFT

RECORDS RETENTION SCHEDULE

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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DISTRICTWIDE

SECTION/DIVISION: Districtwide

1	Correspondence	3 yrs.	D
2	Interoffice Memoranda	3 yrs.	D

EXECUTIVE OFFICE

SECTION/DIVISION: Executive Office

1	Chronological Files of Executive Officer	T + 7 yrs.	D
2	Personal and Professional Files of Executive Officer	T + 5 yrs.	D
3	Board Member Correspondence	T of Term + 5 yrs.	D
4	Board Member Travel Authorizations and Board Expense Claims	T of Term + 5 yrs. or 7 years after payment if later	D
5	Advisory Council Agendas, Minutes, Rosters, etc.	P	None

SECTION/DIVISION: Clerk of the Boards

1	Hearing Board Case Files	P	None
2	Tapes of Hearings	P	None
3	Check Registers	2 yrs.	D
4	Oaths of Office	Term + 6 yrs.	D
5	Agenda/Minutes Package	P	None
6	Publication Notices for Rules	Final compliance date + 1 yr.	D
7	Publication Notices for District Board Meetings	1 yr.	D

ASP	As Space Permits	DUP	Duplicate Record	SUP	When Superseded
CU	Current	L	Life of Contract or Project or object	T	Termination
D	Destroy Document	P	Permanent	UCC	Until Closed or Completed

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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EXECUTIVE OFFICE

SECTION/DIVISION: Media

1	News Releases	5 yrs.	D
2	News Clippings	5 yrs.	D
3	Biographic Sketches	CU	D

DISTRICT COUNSEL

SECTION/DIVISION: District Counsel

2	Legislation & Administrative Matters - Comments	4 yrs.	D
3	Opinions/Advice Files	P	None
4	Rule Interpretations/Opinions	P	None
5	Litigation – Pleadings & Orders	P	None
6	Conflict of Interest Forms	Original filings - 7 yrs./ Copies of those filed with the FPPC - 4 yrs.	D
7	Settlement Agreements & MOUs	P	None

DISTRICT PROSECUTOR

SECTION/DIVISION: Litigation and Investigations

1	Hearing Board Matters	UCC + 7 yrs.	D
2	Civil Enforcement Cases	UCC + 7 yrs.	D
3	Investigations – Mutual Settlement Agreements	UCC + 7 yrs.	D

ASP	As Space Permits	DUP	Duplicate Record	SUP	When Superseded
CU	Current	L	Life of Contract or Project or object	T	Termination
D	Destroy Document	P	Permanent	UCC	Until Closed or Completed

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
FINANCE			
SECTION/DIVISION: Accounting			
1	Bad Checks	3 yrs.	D
2	Bank Deposits/Receipts, Supporting Documents	3 yrs.	D
3	Bank Statement	3 yrs.	D
4	Bills (Payable)(includes supporting documents)	3 yrs.	D
5	Checks – Self Insurance	5 yrs.	D
6	Claims (Expense and Mileage)	7 yrs. after payment	D
7	Contract Payment and Records	7 yrs. after payment	
8	Credit Card Payment and Records	7 yrs. after payment	
9	Detailed Accounts Payable Check Register	3 yrs.	D
10	Deposits Permits Registers	3 yrs.	D
11	Expenditure Ledger (Old System)	P	None
12	Fiscal Year End Statements	P	None
13	Fixed Asset Invoices	5 yrs.	D
14	General Journal	3 yrs.	D
15	Income Tax Reports (1099) & Supporting	7 yrs.	D
16	Journal Report	3 yrs.	D
17	Miscellaneous Revenue Registers	3 yrs.	D
18	Monthly Statements	3 yrs.	D
19	SCAQMD Receipts	3 yrs.	D
20	Use/Sales Tax Returns & Records	7 yrs.	D
21	Voucher to be Posted Reports	3 yrs.	D

ASP	As Space Permits	DUP	Duplicate Record	SUP	When Superseded
CU	Current	L	Life of Contract or Project or object	T	Termination
D	Destroy Document	P	Permanent	UCC	Until Closed or Completed

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
FINANCE			
SECTION/DIVISION: Cash Management			
1	Account Analysis Statement	3 yrs.	D
2	Accounts Receivable Report -240 Report	3 yrs.	D
3	Automated/Manual Refund Check Register	3 yrs.	D
4	Bamtrac	6 mos.	D
5	Bank Statements	3 yrs.	D
6	Cancelled Applications/Fee Data Sheet	3 yrs.	D
7	Check Registers	3 yrs.	D
8	Fixed Asset List	1 yr.	D – After close of fiscal year
9	Hartford 457 Deferred Comp	1 ½ yrs.	D
10	PAATS – Overpayment Report	3 yrs.	D
11	Payroll Direct Deposit Records	P	None
12	Payroll Tax Deposits	1 ½ yrs.	D
13	Quarterly Underground Storage Tank Tax	7 yrs.	D
14	Request for Trust Warrant	3 yrs.	D
15	Receivable Paid Invoices	3 yrs.	D
16	Receipts – SCAQMD Receipts	3 yrs.	D
17	Transmittal of W2	7 yrs.	D
18	Warrants	12 yrs.	D

ASP	As Space Permits	DUP	Duplicate Record	SUP	When Superseded
CU	Current	L	Life of Contract or Project or object	T	Termination
D	Destroy Document	P	Permanent	UCC	Until Closed or Completed

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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FINANCE

SECTION/DIVISION: Customer Service

1	Fee Billing Problem Resolution Files	3 yrs.	D
2	Certified Mail Log	3 yrs.	D
3	Returned Mail (fee invoices and validations)	3 yrs.	D
4	Fee Billing Invoices	3 yrs.	D
5	Certified Mail Receipts – Fee Invoices	3 yrs.	D

SECTION/DIVISION: Financial Services

1	AB 2766 Mobile Source & SB 1928 Clean Fuels	Audit + 3 yrs.	D
2	AB 2588 "Hot Spots"	Audit + 3 yrs.	D (Or until CARB invoice is paid + 3 yrs.)
3	Budget – Draft	3 yrs.	D
4	Budget - Final	P	None
5	EPA Grants	Final Report + 3 yrs.	D
6	Subvention	Audit + 3 yrs.	D

ASP	As Space Permits	DUP	Duplicate Record	SUP	When Superseded
CU	Current	L	Life of Contract or Project or object	T	Termination
D	Destroy Document	P	Permanent	UCC	Until Closed or Completed

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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FINANCE

SECTION/DIVISION: Payroll

1	Tickler Files	5 yrs.	D
2	Payroll History YTD Totals Report	P	None
3	W2s	P	None
4	W2 Reports	P	None
5	Year End Clearing/Closing Reports	P	None
6	941 Quarterly Reports	P	None
7	LA County Payroll Records	P	None
8	Timecards	P	None
9	Payroll Registers	P	None
10	LACERA Reports	P	None
11	SBCERA Reports	P	None
12	Vacation Requests	6 yrs.	D

SECTION/DIVISION: Procurement

1	Contract Files	L + 5 yrs.	D
2	Fixed Asset Purchase Orders	L + 3 yrs.	D
3	Stockroom Requisitions	Current FY + 1 yr.	D
4	Purchase Orders and Requisitions	L + 3 yrs.	D
5	RFPs/RFQs/Proposals	Current FY + 2 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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ADMINISTRATIVE & HUMAN RESOURCES

SECTION/DIVISION: Affirmative Action

1	Workforce Reports	5 yrs.	D
2	Discrimination Complaint Files	T + 8 yrs.	D
3	Complaint Summary Log	P	None
4	Affirmative Action Plans	ASP	D

SECTION/DIVISION: Risk Management

1	Cal OSHA Reports & Citations	5 yrs.	D
2	Training Programs and Records	3 yrs.	D
3	Worker's Compensation Files	UCC + 5 yrs.	D
4	Accident Files	3 yrs.	D
5	Bonds and Insurance Policies	P	None
6	Training Completion Log	P	None
7	Employee Injury (First Aid) Files	3 yrs.	D
8	Tort Claim Liability Files	UCC + 5 yrs.	D

SECTION/DIVISION: Employee/Labor Relations, Benefits & Records

1	Individual Personnel Files	T + 5 yrs.	D
2	Negotiations	P	None
3	Grievances & Arbitrations	P	None
4	Disciplinary Support Files	T + 5 yrs.	D
5	Tuition Reimbursement	5 yrs.	D
6	Family/Medical Leave	5 yrs.	D
7	Health Insurance Documentation	3 yrs.	D
8	COBRA Documentation	6 yrs.	D
9	Section 125 Documentation	6 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

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ADMINISTRATIVE & HUMAN RESOURCES

SECTION/DIVISION: Employee/Labor Relations, Benefits & Records (Cont.)

10	Life Insurance Documentation	T + 1 yr.; or UCC	D
11	457 Deferred Compensation Documentation	P	None
12	Insurance Contracts	L + 3 yrs.	D
13	Employee Workforce Data	P	None
14	Disciplinary Action Log	P	None

SECTION/DIVISION: Recruitment, Selection, Classification & Compensation

1	Deleted Class Specifications	ASP	D
2	Wage and Salary Data	ASP	D
3	Recruitment Files	5 yrs.	D
4	Classification Studies	SUP	D

SECTION/DIVISION: Maintenance

1	Original Building Blueprints	L of Building	D
2	Building Equipment Information	L of Building	D
3	Building Maintenance Information	L of Building	D
4	Maintenance Working Records	5 yrs.	D
5	Construction Drawings & Information	L of Building	D

SECTION/DIVISION: Business Services

1	Drawings – Space Plans	SUP	D
2	Utility & Service Invoices	3 yrs.	D
3	Conference Room Records	3 yrs.	D
4	Leases	L + 1 yr.	D
5	Video Tapes – Perimeter Security Cameras	3 yrs.	D
6	Security Guards Daily Activity Reports (DAR)	3 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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ADMINISTRATIVE & HUMAN RESOURCES

SECTION/DIVISION: Print Services

1	Invoices	5 yrs.	D
2	Negatives/Original	L or SUP	D
3	Print Shop Job Log	5 yrs.	D
4	Print Shop Request Form	3 yrs.	D

SECTION/DIVISION: Mail Center

1	Accountable Mail Log Sheets	3 yrs.	D
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SECTION/DIVISION: Subscription Services

1	Subscription Order Form	3 yrs.	D
2	Invoices	3 yrs.	D
3	Subscription Services Request Forms	3 yrs.	D

SECTION/DIVISION: Automotive

1	Automotive Services Contractor Invoices	5 yrs.	D
2	Errand Request Form	3 yrs.	D
3	Vehicle Mileage Reports	L of Vehicle	D
4	Vehicle Maintenance Cost	L of Vehicle	D
5	Travel Trip Slips	3 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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INFORMATION MANAGEMENT

SECTION/DIVISION: Records Services

1	Annual Report of Records Statistics	3 yrs.	D
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SECTION/DIVISION: Administration

1	IM Projects	L + 5 yrs.	D
2	Vendors, Software Contractors - Correspondence	L + 3 yrs.	D
3	IM Policies and Procedures	SUP + 5 yrs.	D
4	IM Reports and Presentations	CU + 5 yrs.	D

SECTION/DIVISION: SCAQMD Library

1	Circulation Records & Statistics	T of borrower's privilege expires	D
2	Acquisition Records	6 yrs.	D

SECTION/DIVISION: Database Management

1	Database Unload (weekly/monthly)	1 yr.	D
2	Database Unload (yearly)	3 yrs.	D
3	Data Models	L + 6 mo.	D
4	Air Quality Monitoring Data	3 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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INFORMATION MANAGEMENT

SECTION/DIVISION: Computer Operations

1	System Backup (Daily)	1 mo.	D
2	System Backup (Monthly)	3 yrs.	D
3	System Backup (Yearly)	3 yrs.	D
4	System Backup (Fiscal Year End)	3 yrs.	D

SECTION/DIVISION: Data Center/Telecommunications

1	Contractor Files - Timesheets, Invoices, etc.	L + 5 yrs.	D
2	Hardware/Software Licenses & Agreements	L + 3 yrs.	D
3	Purchase Requisitions and Inventory Reports	10 yrs.	D
4	Credit Card Receipts	7 yrs.	D

SECTION/DIVISION: Information Technology

1	Task Order Documents	L + 3 yrs.	D
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SECTION/DIVISION: Public Records Unit

1	Notification Request Transmittal	1 yr.	D
2	Public Records Request Files	3 yrs.	D
3	Public Records Statistics - Daily	3 yrs.	D
4	Public Records Statistics – Monthly and Year-End	3 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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PLANNING, RULE DEVELOPMENT & AREA SOURCES

SECTION/DIVISION: Planning

1	Rules – Administrative Files	P	None
2	Annual Emission Reports (AERs)	8 yrs.	D
3	AQMP Emission Inventory, Modeling & other related data (non-Baseline years)	SUP + 2 yrs.	D – 2 yrs. after new AQMP is approved by EPA
4	AQMP Baseline Years – Emission Inventory, Modeling & other related data	P	None
5	AB 2588 Files	SUP + 8 yrs.	D
6	Mobile Source Committee	5 yrs.	D

SECTION/DIVISION: Meteorology

1	Meteorological Reports	1 yr.	D
2	Forecasts	P	None

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
SCIENCE & TECHNOLOGY ADVANCEMENT			
SECTION/DIVISION: Monitoring & Source Test Engineering			
1	QA/QC Records	3 yrs.	D
2	RECLAIM RATA Test Report Summaries	5 yrs.	D
3	Air Quality Data Charts	5 yrs.	D
4	Test Protocols and Plans	5 yrs.	D
5	In-House Source Test Reports	P	None
6	Facility-submitted Source Tests – including BBQ, and AB 2588 Reports	P	None
7	Contract Source Testing	P	None
8	Laboratory Approval Programs	L + 2 yrs.	D – 2 years after closure of facility
9	Continuous Emission Monitoring System (CEMS) Reports	P	None
10	Station Log Books	5 yrs.	D
11	Instrument Log Books	L + 5 yrs.	D
12	Equipment Location Forms	3 yrs.	D
13	Calibration Records	5 yrs.	D
14	Work Orders and Repair Orders	3 yrs.	D

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RECORDS RETENTION SCHEDULE**

Item No.	TITLE AND DESCRIPTION OF RECORDS	RETENTION PERIOD	DISPOSITION/NOTES
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SCIENCE & TECHNOLOGY ADVANCEMENT

SECTION/DIVISION: Microscopy Laboratory Services

1	Analytical Data	P	None
2	PM10 Filters and Envelopes	5 yrs.	D
3	PM 2.5 Filters	3 yrs.	D

SECTION/DIVISION: Microscopy Ambient Toxics

1	Sample Request Sheets	P	None
2	Laboratory Reports of Analysis	P	None
3	PAMS Analysis Data	P	None
4	Toxics Analysis Data	P	None

SECTION/DIVISION: Microscopy – Documentation of Analysis

1	Laboratory Notebooks	P	None
2	Laboratory Reports of Analysis	P	None
3	Photomicrographs	P	None
4	XRD Spectra and Data	P	None
5	FTIR Spectra and Data	P	None
6	Methods of Analysis	P	None
7	Standard Operating Procedures	P	None
8	Chain of Custodies for Glass Plates and Samples	P	None

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SCIENCE & TECHNOLOGY ADVANCEMENT

SECTION/DIVISION: Quality Control Testing

1	Proficiency Test	L of equipment + 3 yrs.	D
2	10% Quality Assurance Analysis Reports	L of equipment + 3 yrs.	D
3	Blind Sample Analysis Reports	L of equipment + 3 yrs.	D
4	Interlab Analysis Reports	L of equipment + 3 yrs.	D
5	Quality Control Charts and Data	L of equipment + 3 yrs.	D

SECTION/DIVISION: Quality Assurance Program

1	Quality Assurance Manual	SUP + 7 yrs.	D
2	Maintenance and Calibration Reports	L of equipment + 3 yrs.	D
3	Audit Records	L of equipment + 3 yrs.	D
4	Additional Records Required by NVLAP Accreditation Program	L of equipment + 3 yrs.	D

SECTION/DIVISION: Microscopy – Instrument Documentation

1	Manuals and Maintenance Records	L of equipment	D
	Requisitions and Purchase Orders	L + 3 yrs.	D

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ENGINEERING & COMPLIANCE

SECTION/DIVISION: Complaints

1	Complaints	P	None
2	Inspector Reports	P	None
3	Equipment Lists	P	None
4	Emergency Response	P	None

SECTION/DIVISION: Violations

1	NOV Books	1 yr.	D
2	Notices to Comply	P	None
3	EPA Annual Update	P	None
4	Rule 1150.1 (Landfills) Reports	P	None

SECTION/DIVISION: Reporting

1	CEMS (Continuous Emissions Monitoring Systems)	5 yrs.	D
2	Self-inspection Compliance Reports	5 yrs.	D
3	Source Test Results	5 yrs.	D
4	Rule 1403 Asbestos Notification	P	None
5	Rule 1149 Tank Notification	P	None
6	Rule 1166 Soil Notification	P	None
7	Rule 1420 Lead Monitoring	P	None
8	Soil Vapor Extraction	P	None

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ENGINEERING & COMPLIANCE

SECTION/DIVISION: RECLAIM & Title V

1	Original RECLAIM Audits	P	None
2	Lab Results	P	None
3	Compliance Plans	P	None
4	Rule 1173 Leak Reports	P	None
5	Trades	P	None
6	Copies and Supplement Information	5 yrs.	D

SECTION/DIVISION: Non-RECLAIM & Non-Title V

1	Inspector Dailies	3 yrs.	D
2	Lab Results	P	None
3	Quarterly Reports	P	None
4	Rule Compliance Plans	3 yrs.	D
5	Rule 461 Tests	3 yrs.	D
6	Rule 1173 Leak Reports	3 yrs.	D

SECTION/DIVISION: Engineering

1	Non-RECLAIM and Non-Title V Applications for PC/PO	P	None
2	Non-RECLAIM and Non-Title V Permits	P	None
3	ERC Applications for Title Change and Alteration	P	None
4	Title V Permits	P	None
5	RECLAIM Permits	P	None
6	Public Comments on Permits and Responses	P	None
7	ERC Banking Applications	P	None
8	RECLAIM Trading Credit (RTC) Transactions	P	None

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PUBLIC AFFAIRS

SECTION/DIVISION: Public Affairs

1	Advisory Group Records	5 yrs.	D
2	Miscellaneous Reports	5 yrs.	D
3	Speeches/Statements/Presentations	5 yrs.	D

SECTION/DIVISION: Small Business Assistance

1	Public Notices – Flyers & Advertisements	5 yrs.	D
2	Small Business Loan Program Records	L of loan + 5 yrs.	D
3	AQMD Grant Program Records	Audit +5 yrs.	D
4	Fee Review Committee	5 yrs.	D
5	Expired Permit Call-Back Program	3 yrs.	D

SECTION/DIVISION: Community Outreach

1	Requests for General Information	2 yrs.	D
2	Requests for Publications	2 yrs.	D
3	General Publication Reports	2 yrs.	D
3	Requests for Speaker	1 yr.	D
4	Mailing Lists	SUP	D
5	Special Brochures	5 yrs.	D
6	Conferences (Attendee Database, Bio, Outreach, etc.)	UCC + 5 yrs.	D

SECTION/DIVISION: Environmental Justice

1	Town Hall Meeting Records	P	None
2	Neighborhood EJ Councils	P	None

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PUBLIC AFFAIRS

SECTION/DIVISION: Communications Center

1	Reports and Complaints	1 yr.	D
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SECTION/DIVISION: Graphics

1	Photos and Negatives	P	None
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SECTION/DIVISION: Legislative

1	State and Federal Legislation – AQMD Related	3 yrs.	D
2	State and Federal Bills – Unrelated	3 yrs.	D
3	Legislative Committee Records	3 yrs.	D
4	Lobbyist Employer/Lobbyist Registration	6 yrs.	D

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SECTION 2

THE 2005 CARL MOYER PROGRAM GUIDELINES (APPROVED REVISION 2005 BY THE CALIFORNIA AIR RESOURCES BOARD)

**This Section may be found on the California Air Resources
Board website:**

www.arb.ca.gov/msprog/moyer/guidelines/current.htm