

Carl Moyer Memorial Air Quality Standards Attainment Program Year 14 Public Workshop

Feather River Air Quality Management District

December 12, 2011

Topics

- ▶ Carl Moyer Program General Requirements
- ▶ Year 14 Grant Program Information
- ▶ Portable & Stationary Agricultural Source Requirements
- ▶ Off-Road Repower/Retrofit Requirements
- ▶ Off-Road Equipment Replacement Program Requirements
- ▶ Review Updated Forms for Year 14



Carl Moyer Program General Requirements

Carl Moyer Program-General Requirements

- ▶ Carl Moyer Memorial Air Quality Standards Attainment Program provides incentive grants for cleaner-than-required engines and equipment
- ▶ The program reduces emissions of oxides of nitrogen (NO_x), particulate matter (PM), and reactive organic gas (ROG) which are necessary for California to meet its clean air commitments under the State Implementation Plan
- ▶ For Year 14 the District is using the ARB's 2011 Carl Moyer Guidelines
- ▶ The ARB's Carl Moyer Guidelines and the District's Policies and Procedures Manual are available at District office/website www.fraqmd.org



Carl Moyer Program-General Requirements

- ▶ Cannot pay for compliance with a regulation.
 - ▶ Ag projects subject to the Stat ATCM must be completed 1 year prior to a compliance deadline.
 - ▶ Small fleets subject to Off-Road In-Use Diesel Regulation must be completed 2 years prior to a compliance deadline.
 - ▶ All other projects must be completed 3 years prior to a compliance deadline.
- ▶ Not for normal attrition, must be operational
- ▶ Engine must be 25 horsepower or greater
- ▶ Must operate 75% within California
- ▶ Must meet cost-effectiveness cap of \$16,640/ton pollutants reduced
- ▶ Old engine/equipment must be destroyed



Year 14 Grant Program
Feather River Air Quality Management District

Year 14 Program-Funding

- ▶ Note: Year 14 refers to the fourteenth year of the Carl Moyer Program, not 2014.
- ▶ The District has applied for state funding approx. \$305,509
- ▶ The District match is approx. \$50,918
- ▶ Total Year 14 approx. \$356,427
- ▶ Targeting Tier 1 & 2 diesel irrigation pump engines and off-road equipment repowers, retrofits, and replacements.
- ▶ Eligible for funding: Installation for eligible hardware, transport costs for eligible hardware.
- ▶ Ineligible for funding: Taxes, warranty, maintenance.



Year 14 Program- Project Selection

- ▶ Projects will be awarded first come, first serve, up to a specific cost-effectiveness, beginning 1:00 pm on February 2, 2012.
- ▶ Only one application per person.
- ▶ The C/E cap is the maximum amount per ton of pollutants, currently at \$6,000/ton
- ▶ Factors involved in calculation:
 - ▶ Emissions of old engine
 - ▶ Emissions of new engine
 - ▶ Cost of new engine/equipment
 - ▶ Number of years under contract (project life)
 - ▶ Hours per year engine is operated
- ▶ The most C/E project achieves the largest emissions reduction for the least amount of funding
- ▶ Maximum funding is \$50,000.



Determining Cost-Effectiveness

- ▶ Cost-Effectiveness (\$/ton) =
$$\frac{\text{Annualized cost (\$/year)}}{\text{Annual Weighted Surplus Emission Reductions (tons/year)}}$$
- ▶ Annualized Cost (\$) = Capital recovery factor x incremental cost
- ▶ Annual Weighted Surplus Emission Reductions (tons/Yr) = NOx Reductions + ROG Reductions + (20 x PM reductions)
- ▶ Two for one projects: sum emission reductions from both baseline engines before deducting the emissions from new engines.
- ▶ Detailed instructions are in Appendix C of Carl Moyer Guidelines <http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>



Year 14 Program-Timeline & Procedures

- ▶ Applications released Dec 1, 2011
- ▶ Applications accepted starting 1:00 pm, Thursday, February 2, 2012
- ▶ Tentative award letters mailed in March, 2012
- ▶ Applicants accept award and schedule pre-inspection with District
- ▶ After receiving state funding, District and applicant sign contracts (April-June 2012)
- ▶ After contracts have been signed by all parties, order new engines/equipment
- ▶ Complete project and schedule post-inspection within 180 days of contract signing
- ▶ Once post-inspection/salvage inspections are complete payment will be issued to applicant
- ▶ First annual report mailed out year after project completion



Portable & Stationary Agricultural Sources Applications & Program Requirements

Portable and Stationary Ag Sources-General

- ▶ Required to apply: Application, proof of liability insurance, EO, & itemized quote.
- ▶ **Optional to apply: 24 months of historical usage and ownership**
- ▶ Dealers provide itemized quote and executive order/family name
 - ▶ Installation cost can be included in grant award
 - ▶ For electric conversions, grant cannot pay for line extensions
 - ▶ Sales tax will be paid by Participant
- ▶ Estimate usage based on historical average, hour meter, etc.
- ▶ Maximum award amounts:
 - ▶ Tier 3 or 4 repower 85%
 - ▶ Electric motor repower 85%
 - ▶ Retrofit 100%
- ▶ Maximum project life:
 - ▶ Diesel repowers 7 years
 - ▶ Electric motors 10 years
 - ▶ Portable farm equipment 10 years



Portable and Stationary Ag Sources-Requirements

- ▶ Stationary diesel engines must be registered with the District
- ▶ Diesel to diesel projects must be completed at least one year prior to the compliance deadline in the ATCM
- ▶ Diesel to electric projects must be completed by compliance deadline in the ATCM
- ▶ New engine/motor repower projects where hp of new engine/motor is an increase to 150 percent or larger from baseline requires case-by-case approval.
- ▶ If repowering with engine meeting the current emission standard is not possible, documentation must be provided from manufacturer/distributor/dealer.



Off-Road C-I Engine Emission Standards

Table 1. Off-Road Compression-Ignition (Diesel) Engine Standards (NMHC+NOx/CO/PM in g/bhp-hr, converted from g/kW-hr table)

Maximum Power	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
< 11 (b)	Tier 1 (b) (Interim/Final)					7.8 / 6.0 / 0.75			5.6 / 6.0 / 0.60			5.6 / 6.0 / 0.30 ^a									
11<bhp<25						7.1 / 5.9 / 0.60			5.6 / 4.9 / 0.60			5.6 / 4.9 / 0.30									
25<bhp<50						7.1 / 4.1 / 0.60			5.6 / 4.1 / 0.45			3.5 / 4.1 / 0.30				3.5 / 4.1 / 0.02					
50<bhp<75						- / 6.9 / - / - ^b			5.6 / 3.7 / 0.3			3.5 / 3.7 / 0.22 ^c				3.5 / 3.7 / 0.02 ^c					
75<bhp<100						- / 6.9 / - / - ^b			5.6 / 3.7 / 0.3			3.5 / 3.7 / 0.30				0.14 0.29					
100<bhp<175						- / 6.9 / - / - ^b			4.9 / 3.7 / 0.22			3.0 / 3.7 / 0.22			0.14 / 2.5 / 3.7 / 0.01 ^{bd}		3.7 0.01 ^b				
175<bhp<300	1.0 / 6.9 / 8.5 / 0.40b					4.9 / 2.6 / 0.15			3.0 / 2.6 / 0.15 ^c				0.14 0.30								
300<bhp<600	1.0 / 6.9 / 8.5 / 0.40 ^b					4.8 / 2.6 / 0.15			3.0 / 2.6 / 0.15 ^c				0.14 / 1.5 / 2.6 / 0.015 ^{bd}		2.6 0.01 ^b						
600<bhp<750	1.0 / 6.9 / 8.5 / 0.40b																				
Mobile Machines > 750bhp						1.0 / 6.9 / 8.5 / 0.40b			4.8 / 2.6 / 0.15				0.30 / 2.6 / 2.6 / 0.07 ^b		0.14 2.6 2.6 0.03 ^b						
750bhp<GEN ≤1207bhp						1.0 / 6.9 / 8.5 / 0.40b			4.8 / 2.6 / 0.15									0.14 0.50			
GEN>1207bhp													0.30 / 0.50 / 2.6 / 0.07 ^b		2.6 0.02 ^b						

- a) The PM standard for hand-start, air cooled, direct injection engines below 6 bhp may be delayed until 2010 and be set at 0.45 g/bhp-hr.
- b) Standards given are NMHC/NOx/CO/PM in g/bhp-hr.
- c) Engine families in this power category may alternately meet Tier 3 PM standards (0.3 g/bhp-hr) from 2008-2011 in exchange for introducing final PM standards in 2012.
- d) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available.
- e) Certain manufacturers have agreed to comply with these standards by 2005.



: Tier 1



: Tier 2



: Tier 3



: Tier 4 Interim / Final

Note: This chart was converted into bhp units based on the chart at <http://www.arb.ca.gov/msprog/offroad/offroad.htm> 2/7/06

Portable and Stationary Ag Sources-Eligibility Chart

Tier	HP	Location	Compliance Date	Project Type Eligible	Must be installed by
Stationary Tier 0, 1, 2	25-49	All	None	Diesel Engine or Electric Motor	N/A
Stationary Tier 0	50-99	Remotely Located North FRAQMD	6/30/2013	Tier 3 or 4 Diesel Electric Motor	6/30/2012 6/30/2013
Stationary Tier 0	50-750	Intermittent or Low-use engines	2020	Tier 3 or 4 Diesel Electric Motor	2019 2020
Stationary Tier 1 or 2	50-174	All	12/31/2015	Tier 3 or 4 Diesel Electric Motor	12/31/2014 12/31/2015
Stationary Tier 1 or 2	175-750	All	12/31/2014	Tier 3 or 4 Diesel Electric Motor	12/31/2013 12/31/2014
Portable	25-750	All	Varies	Tier 3 or 4 Repowers	Varies

Based on compliance deadlines in the Airborne Toxic Control Measure for Stationary Compression Ignition Engines, title 17, California Code of Regulations section 93115



Off-Road Repower and Retrofit Project Requirements

Off Road Repower/Retrofit Projects-General

- ▶ Required to apply: Application, liability insurance , EO & itemized quote.
- ▶ **Optional: 24 months of historical usage.**
- ▶ Maximum award amounts:
 - ▶ Tier 1 Repower = 75 %
 - ▶ Tier 2 Repower = 80 %
 - ▶ Tier 3 or 4 Repower = 85 %
 - ▶ Retrofit = 100 %
- ▶ Maximum project life:
 - ▶ Repower only = 7 years
 - ▶ Repower + retrofit = 5 years
 - ▶ Retrofit = 5 years
 - ▶ Agricultural Equipment = 10 years



Off Road Repower/Retrofit Projects-Retrofits

- ▶ Retrofits are required unless one of the following:
 - ▶ Documentation is provided that they are not safe or feasible
 - ▶ The retrofit makes the project not C/E
 - ▶ The applicant signs the waiver on the application
- ▶ If equipment is subject to a state regulation, must submit proof of compliance.



Off Road Repower/Retrofit Projects-Eligibility

Equipment Type	Subject to ARB Fleet Rule?	Moyer Funding Opportunities ¹
Mobile agricultural equipment	No	Engine repowers and retrofits.
Cargo handling equipment at ports/ intermodal rail yards	Cargo Handling Equipment Regulation ²	Limited opportunities.
All other equipment (e.g. construction, mining, rental, airport ground support and other industries)	Off-Road Regulation ³	Small fleets: Opportunities exist through Dec. 31, 2025, after which fleet must show 100% compliance with the regulation. Medium fleets: Opportunities exist through Dec. 31, 2019, after which fleet must show 100% compliance with the regulation. Large fleets: Opportunities exist through Dec. 31, 2016, after which fleet must show 100% compliance with the regulation. After Dec. 31, 2012, only filter-based projects are eligible for funding.
Portable diesel engines	Portable Diesel ATCM ⁴	Limited opportunities exist ahead of the fleet average requirements.

1. Limited opportunities means a fleet's compliance status with the ARB regulation must be determined. Contact air district Moyer Program staff or consult fleet rule Carl Moyer Implementation Charts at: <http://www.arb.ca.gov/msprog/moyer/guidelines/supplemental-docs.htm> in addition to the Guidelines.
2. Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards: <http://www.arb.ca.gov/ports/cargo/cargo.htm>
3. Regulation for In-Use Off-Road Diesel Vehicles <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>
4. Regulation for Portable engine ATCM: <http://www.arb.ca.gov/diesel/peatcm/peatcm.htm>



“ORERP”

Off-Road Equipment Replacement Program

ORERP-Overview

- ▶ One or more pieces of off road equipment can be replaced by one piece of new equipment
- ▶ Old equipment must be Tier 0
- ▶ Two or more pieces of equipment can be replaced, but the engine horsepower of the new equipment must be no greater than 125% of the smallest engine in the old equipment
- ▶ Grant will pay up to 80% of the cost of the new equipment. A repower quote or statement that repower is not available is no longer required.
- ▶ Grant will not pay for maintenance or repair costs, extended warranty, sales tax.



ORERP-Required to Apply

- ▶ Application
- ▶ Proof of Insurance
- ▶ Proof of existing ownership in California for past 2 years
- ▶ Proof of existing operation and 24 months historical usage
- ▶ Replacement engine Executive Order (from dealer or <http://www.arb.ca.gov/msprog/offroad/cert/cert.php>)
- ▶ Replacement equipment price quote and spec sheet
- ▶ Replacement engine and drive train warranty documents
 - ▶ Program now requires a one year or 1600 hour power and drive train warranty.
- ▶ If engine hp not known, can calculate based on:
Engine HP = PTO x 120 percent



ORERP- Proof of Existing Ownership/Residency in CA

- ▶ Provide documentation for previous 24 months
- ▶ Submit Bill of Sale for old equipment and:
 - ▶ Tax depreciation logs
 - ▶ Property tax records
 - ▶ Equipment insurance records
 - ▶ Bank appraisals for equipment
 - ▶ Maintenance/service records
 - ▶ General ledgers
 - ▶ Fuel records specific to old equipment
- ▶ If no Bill of Sale, must submit 2 items from above list.



ORERP-Proof of Existing Equipment Usage and Operation

- ▶ Provide documentation for previous 24 months (2010 & 2011)
- ▶ Submit hour meter reading log (collected at least once per year) or fuel records specific to equipment **AND**
 - ▶ One of the following:
 - ▶ Revenue and usage records with operational, standby, and down hours for equipment
 - ▶ Employee time sheets linked to equipment usage
 - ▶ Preventive maintenance records tied to specific usage hours for equipment
 - ▶ Repair work orders specific to equipment
 - ▶ If no hour meter reading log or fuel records, submit two of the above items.



ORERP-Replacement Equipment Price Quote & Spec Sheet

- ▶ Must purchase equipment through District approved/trained dealer (www.fraqmd.org/moyer)
- ▶ New or used replacement equipment must have an engine meeting current Model Year CA emission std, or letter from manufacturer/distributor/dealer
- ▶ Replacement equipment must serve same function as old equipment (Ag tractor for Ag tractor)
- ▶ Only minimum attachments normally sold with the original equipment, as determined by the District, are eligible for reimbursement
- ▶ If retrofit is included as control technology on the EO (interim/final Tier 4) then note on invoice/check box on application



ORERP-Required warranty/financing

- ▶ New equipment must have 1 year /1600 hour warranty
- ▶ Used equipment must meet same warranty requirements
- ▶ Warranty must cover parts and labor
- ▶ Additional cost for warranty is not eligible for funding
- ▶ Participant may obtain financing for their portion of the purchase only
- ▶ Equipment cannot be used as collateral for the loan
- ▶ Documentation of financing must be provided to District upon delivery of replacement equipment



ORERP-Required Inspections

- ▶ Pre-inspection: will be scheduled immediately upon acceptance of grant. District staff and the participant will schedule a time/place to inspect old equipment and record information. The old equipment must be operational. Dealers are welcome to attend, but not required.
- ▶ Post-inspection: the dealer will contact the District once new equipment is available. The District will inspect new equipment at the dealership prior to the equipment being delivered to participant.



ORERP-Destruction of Old Equipment

- ▶ Participant must complete Salvage Certification Form and submit it to the District within 30 days after taking possession of new equipment.
- ▶ On the Salvage Certification Form, Participant indicates method of destruction. Should be same as indicated on application.
- ▶ If surrendering equipment to approved salvage yard, the Participant will complete the Salvage Certification Form and hand over to salvage yard along with equipment. The salvage yard will submit the Form to the District.
- ▶ Payment will be made after verification that old equipment has been destroyed, either by receipt of completed Salvage Certification Form and photographs from approved salvage yard or successful salvage inspection completed by District.



Review Updated Applications

- ▶ Portable and Stationary Ag
- ▶ Off-road Repower and Retrofit
- ▶ Off-road Equipment Replacement



For More Information-

For more information on Carl Moyer Program, please contact Sondra Spaethe at (530) 634-7659 ext 210, or sspaethe@faqmd.org.

For information on Stationary Diesel In-Use ATCM, please contact Tim Mitro at (530) 634-7659 ext 208, or tmitro@faqmd.org.

