

Off-Road Equipment



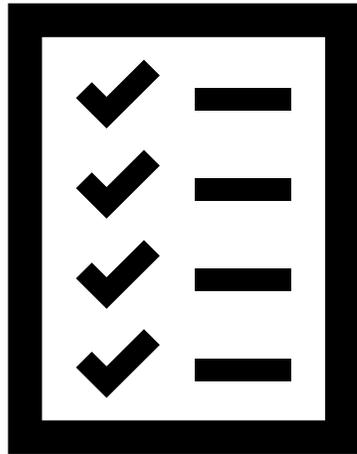
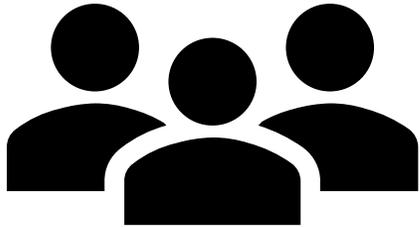
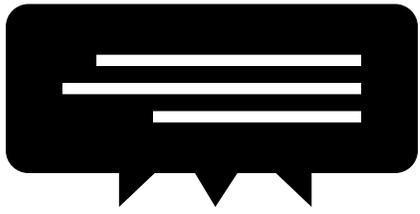
South Coast Air Quality Management

2020



Off-Road Equipment Topics

- ▶ Updates and Requirements
- ▶ Project Types
- ▶ Maximum Funding & Eligible Costs
- ▶ What Do I Need to Apply?
- ▶ Inspections
- ▶ Construction/LSI Fleet/Off-Road Agriculture
- ▶ Surplus Off-Road Opt-In NO_x (SOON)



News and Updates

Large and Medium Fleets

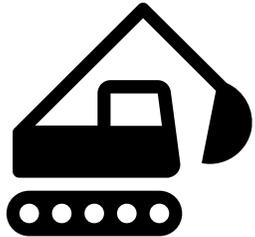
- Eligible for Moyer funding ONLY if they meet final compliance requirements of the Off-Road Regulation
- If not compliant with the final compliance requirements, may still be eligible for SOON Provision

Off-Road Regulation Updates & Carl Moyer

- As of 1/1/2018, Large and medium fleets may not add Tier 2 engines to their fleets.

For replacement engines >125% HP:
Funding amount based on the cost of new engine/
equipment with HP no greater than 125% of existing
engine HP

General Eligibility



- ▶ Diesel-powered (Compression-ignition engines)
- ▶ Greater than or equal to 25 HP
- ▶ Self-propelled
- ▶ Existing uncontrolled, Tier 1, Tier 2, and Tier 3 engines are eligible for replacement/repower

Off-Road Project Types



Off-Road
Construction
Equipment



Large-Spark
Ignition (LSI)
Equipment



Agricultural
Farm
Equipment



Surplus Off-
Road Opt-In
NOx (SOON)



Eligible Project Types

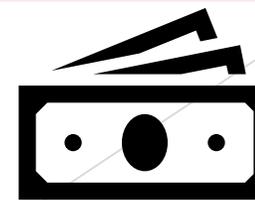
Project Type	Eligible Funding
Replacement	Replacing uncontrolled, Tier 1, 2, or 3 to Tier 4-Final*
Repower	Repowering uncontrolled, Tier 1 or 2 to Tier 3; or to Tier 4 Final, if available*
Retrofit	Retrofit of uncontrolled to Tier 3 engines

*As of 1/1/2018, Large and medium fleets may not add Tier 2 engines to their fleets. Therefore, replacement/repower with new Tier 2 engines are not eligible for Moyer funding.

What Does Carl Moyer Program Pay For?

Project Type	What Costs Are Covered	What Costs Are <u>NOT</u> Covered
Replacement	Up to 80% of the equipment cost*	<ul style="list-style-type: none"> • Operating costs, including fuel • Administrative costs, including reporting • Maintenance costs (except retrofit filter cleaning if included in original quotes) • Equipment warranty costs unless included in the new vehicle
Repower	Up to 85% of the repower costs (engine + related parts+ installation labor)*	
Retrofit	100% of the retrofit costs (after treatment system + installation labor + maintenance during project life)*	

*Applicant must show itemized costs in the form of a vendor quote



Application Requirements



Equipment Usage Records

*Past 24-months (such as maintenance records, usage logs, etc.)



Proof of Ownership

*Owned for prior 24-months (such as bill of sale, tax depreciation, etc.)



Vendor Quotes

*All quotes must be dated within 90 days prior to application submittal date



DOORS Printout

*Compliance Status Page (e.g., DOORS Fleet Compliance Snapshot)

Quote Sample

MACHINE SPECIFICATIONS

Description	Reference No
415P2L BHL ST(C3.4)TIER 4 HRC	462-6265
HYDRAULICS, MP, 3FCONSBNK	462-6274
PRODUCT LINK, SATELLITE, PLUS1E	447-0048
CANOPY	462-6275
SEAT BELT, 3" SUSPENSION	206-1748
TIRES, 12.5 80/16 9.24, GYTI	464-9639
COUNTERWEIGHT, 530 LBS	537-9695
HITCH 3 POINT	462-6281
BUCKET-MP, 1.3 CYD	337-7436
CUTTING EDGE, TWO PIECE	9R-5321
INSTRUCTIONS ANSI	462-7172
SERIALIZED TECHNICAL MEDIA KIT	421-8926
RADIO READY HEADLINER, CANOPY	596-2875
KIT, DUAL TILT CYLINDER	470-5247
FAN, STANDARD CAB/ CANOPY	454-6610
SECURITY SYSTEM, KEYPAD	387-6570
BATTERY, HEAVY DUTY	457-2797
COUNTERWEIGHT, 198 LBS	463-6939
BOX, BLADESCARFIER	461-8917
PACK, DOMESTIC TRUCK	09-6210
SHIPPING/STORAGE PROTECTION	461-6839
RUST PREVENTATIVE APPLICATOR	462-1033
WORKLIGHTS (4) HALOGEN LAMPS	491-6733
NAME PLATES	08-9903

Engine Manufacturer: Caterpillar Engine Model: C3.4B Engine Net HP: 68 Engine Family Name: JFPXL03.4CDC Engine Tier Level: Tier 4 Final Engine Displ.: 3.4 liters	
Machine Sale Price	\$ 99,000.00
Sales Tax, OC County (7.75%)	\$ 7,672.50
Grand Total	\$ 106,672.50

WARRANTY
Standard Warranty 12 Months/ Unlimited Hours Total Machine
Extended Warranty 36 Months/ 5000 Hours Extended Powertrain & Hyd

F.O.B./TERMS
Foothill Ranch- Quote based on Orange County Delivery

Accepted by _____ on _____
Signature

Engine Manufacturer: Caterpillar
Engine Model: C3.4B
Engine Net HP: 68
Engine Family Name: JFPXL03.4CDC
Engine Tier Level: Tier 4 Final
Engine Displ.: 3.4 liters

Machine Sale Price
Sales Tax, OC County (7.75%)
Grand Total

\$ 99,000.00
\$ 7,672.50
\$ 106,672.50

- Applicants **MUST** provide vendor quotes with their application to document cost of the replacement, repower and/or retrofit project
 - All quotes must be obtained within 90 days prior to application submittal
- Elements of a Complete Vendor Quote:
 - Equipment/Engine Cost
 - Sales Tax
 - Warranty Info
 - Engine Year, HP, & Tier
 - Corresponding Engine Family and CARB Executive Order



DOORS Fleet Compliance Snapshot

CA California Environmental Protection Agency
Air Resources Board

AA | A Calendars | A-Z Index

DOORS Home | Message Center | e-ROAR and Other Tools

Hi AQMD, Log Out

Owner Information | Vehicle & Engine | VDECS | **Compliance Snapshot**

Engine Repower | Low-Use | Vehicle Funding | Non Standard Engine | Non Diesel Engine | Long-Term Rental

DOORS ID: 00000 Company Name: SCAQMD Example Fleet Type: Off-Road Diesel

-- DOORS Disclaimer --

Fleet Compliance Snapshot

As of Today (April 10, 2019) Refresh Fleet Data

Your fleet, as currently reported, has met the off-road regulation performance requirements through the January 1, 2023 compliance date. Per regulation section 2449.1, you will need to take action prior to December 31, 2023 in order for your fleet to be in compliance on January 1, 2024.

*This determination is based on the make up of your CURRENT fleet in DOORS, which includes age and horsepower of engines, retrofits (if any), vehicles sold (credits, if any), exempt vehicles such as Low-Use (if any), subfleets (if any), and other credits (if any).

Current Fleet Statistics	
Fleet Size:	Small
Number of Vehicles:	
In Fleet Average:	15
Low-Use:	0
Exempt Not Low-Use:	0
Vehicles in Fleet:	15
Horsepower (in fleet average):	1,800
Total Fleet Horsepower:	1,800
First Compliance Date:	January 1, 2019
Next Required Compliance Date:	January 1, 2024

*** Total family horsepower is the sum of the horsepower of any parent company, subsidiary, or other fleet related to the current fleet. Click the "Show Fleet Family" option button on the reporting home page for more information.



Inspections



Pre-Inspection

Inspector verifies the old equipment/engine is operational

Verification of engine make, model, year, HP

If information does not match or unavailable, must provide engine documentation from manufacturer

To prepare for application process, we encourage you to check your engine tags beforehand!

Post-Inspection

Inspector verifies the new equipment/engine information

Verification of new engine make, model, year, HP, serial, Tier data, and family number

Destruction Inspection

Inspector verifies old equipment/engine has been permanently destroyed

Existing equipment/engine must be destroyed within 60 days of being replaced.

Destruction method must meet the 2017 Carl Moyer Program Guidelines, Chapter 5 (page 5-10 & 5-14 to 5-15)

South Coast AQMD will not pay invoices until pre, post, and destruction inspections have been completed and reports reviewed!

Off-Road Project Types

Agricultural Farm Equipment



What is an Agricultural Operation?

- Agricultural operations include, but are not limited to, activities such as the raising and harvesting of crops from soil, the raising of fowl or animals, logging, and forestry operations
- Equipment used in over half of its annual operating hours for agricultural operations are not subject to the In-Use Off-Road Diesel-Fueled Fleet Regulation.
- The maximum project life for all off-road farm equipment replacement projects is 10 years

Farm Equipment May Include:

- Tractors, harvesters, and other field equipment
- Forklifts for loading/unloading produce in field or at first processing site
- Backhoes and other equipment used to maintain farm property
- Trucks used in the field to move produce, fertilizer, etc.

For further details, please consult ARB FAQ document:
<https://www.arb.ca.gov/msprog/ordiesel/guidance/ag-operations.pdf>

Off-Road Project Types

Large-Spark Ignition (LSI) Fleet

Eligible funding must have at least 3 years of emission reductions that are surplus to the LSI Fleet Regulation

LSI Fleet Type	Eligibility for Moyer Funding
Large/Medium Forklift Fleets (4+ units)	Must meet final average emission level applicable on 1/1/2013
Non-Forklift Fleets (4+ units): <ul style="list-style-type: none"> Sweeper/Scrubbers Ground Support Equipment (GSE) Industrial Tow Tractors 	Must meet final average emission level applicable on 1/1/2013
Agricultural Crop Preparation Forklift Fleets (Model Year 1990+)	<ul style="list-style-type: none"> Must replace, repower or retrofit 100% of their fleet by 1/1/2012 <u>OR</u> Meet 3.0 g/bhp hr fleet average



Off-Road Project Types Construction



Fleet Size	First Compliance Date (per Off-Road Regulation)*	Minimum Emission Reduction Surplus (years)	Final Compliance Date (per Off-Road Regulation)	CMP Funding Availability / Operation Deadline for CMP Project
Small (0 - 2,500 HP)	1/1/2019	2	1/1/2028	12/31/2025
Medium (2,501 - 5,000 HP)	1/1/2017	3	1/1/2023	Ineligible
Large (>5,000 HP)	1/1/2014	3	1/1/2023	



Surplus Off-Road Opt-In For NOx (SOON)

SOON Overview

Purpose of the SOON Program

- To achieve **additional** reductions of **NO_x** emissions from in-use off-road diesel fleets in California
- Requires earlier (or surplus) NO_x reductions than would otherwise be achieved through the Off-Road Regulation (2449)

Cost Effectiveness is Based on NO_x Reduction Benefit ONLY

- \$30,000/ton for projects that bring engines to current standards
- \$100,000/ton for zero-emissions or alternatively meet the cleanest optional standard level certified

Regulation For In-Use Off-Road Diesel-Fueled Fleets

CCR, Title 13, Division 3, Chapter 9, Article 4.8			
Base Rule/SOON	Section	Description	Highlights
“Base Rule” Off-Road Regulation	2449	General Provisions	<ul style="list-style-type: none"> • Reduction of NOx <u>and</u> PM • Date driven declining “Target Rates” for fleets
	2449.1	Performance Requirements	
SOON	2449.2	<u>Surplus</u> Off-Road Opt-in for NOx	<ul style="list-style-type: none"> • Reduction of <u>NOx ONLY</u> • Accelerated Emission Reduction / Earlier Target Rates



Applicability

Must Apply for SOON Funding, If the Fleet:

- Operates within the air district;
- Consists of > 40% Tier 0 and Tier 1 Vehicles (as of 2008); and
- Has a statewide fleet size >20,000 hp
 - Excludes hp from engines in two-engine vehicles and hp from single engine cranes formerly subject to the Cargo Handling Equipment Regulation
- Other fleet sizes may apply on a voluntary basis



Applicability (Cont'd)

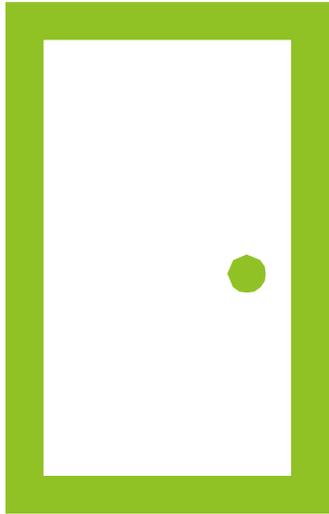


Exclusions and Limitations

- ▶ Flexible Engines - Engines certified to the standards in Title 13, CCR, Section 2423 (d)
 - ▶ Excludes replacement projects involving the purchase of new flexible engines
 - ▶ Repower projects involving flexible engines must be evaluated based on the immediately preceding, applicable, Tier 3 emission standard
 - ▶ Usually labeled by the engine manufacturer
- ▶ Forklifts that are eligible for SOON funding must be Class 7 (LSI)



SOON Compliance Plan



- ▶ Demonstrate compliance with CARB Off-Road Regulation throughout the contract period must be provided
 - ▶ SOON Compliance Plan Signature Page (www.aqmd.gov/soon)
 - ▶ SOON Compliance Calculator OR ARB Fleet Calculator
 - ▶ DOORS Compliance Snapshot (ARB)
 - ▶ DOORS Fleet Listing (ARB)

SOON Compliance Plan (Cont'd)

- ▶ **Fleet Average Index (FAI) > SOON Target Rate (STR)**
- ▶ At a minimum, forecast annual fleet NOx reduction actions, for the next upcoming SOON NOx target date (2023)
- ▶ Cannot take credit for SOON project emission reductions until the end of the project term
 - ▶ Cannot use this lower emission rate to calculate the fleet average index and target rate, and BACT Credit

Must meet cost-effectiveness limit and be operational no later than May 20, 2022

		Fleet Average Averages																	
		Baseline	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fleet Average																			
Fleet Average TARGET		NA	NA	NA	NA	NA	NA	NA	NA										
SOON Fleet Average																			
SOON Fleet Avg. TARGET		NA	NA	NA	NA	NA	NA	NA	NA										
Tier Summary																			
% of Fleet		Baseline <th>2007</th> <th>2008</th> <th>2009</th> <th>2010</th> <th>2011</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th>	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Tier 0																			
Tier 1																			
Tier 2																			
Tier 3																			
Tier 4i																			
Tier 4																			
Average Model Year																			
Average Age		NA																	
Engines Added		NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Engines Retired		NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Engines Replaced		NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOON Engines Replaced		NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engines Retrofitted-NOx		NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engines Retrofitted-PM		NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turnover by Number																			
State Rule Turnover		NA																	
SOON Turnover		NA	#DIV/0!																
Turnover by Horsepower																			
State Rule Turnover		NA																	
SOON Turnover		NA	#DIV/0!																



APPLICATION DEADLINE

TUESDAY JUNE 2, 2020 AT 1PM

APPLY ONLINE:

<https://carlmoyeronline.aqmd.gov/>

FOR PAPER APPLICATIONS:

www.aqmd.gov/moyer



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