



O'Ferrall

**CARL MOYER MEMORIAL AIR
QUALITY STANDARDS
ATTAINMENT PROGRAM**

19-36
Mendocino
O'Ferrall



ENTERED

**OFF-ROAD
COMPRESSION-IGNITION (CI)
APPLICATION**



CARL MOYER RURAL ASSISTANCE PROGRAM

Instruction Sheet

The California Air Pollution Control Officers Association (CAPCOA) is offering additional assistance through the Carl Moyer Grant Program to applicants located in rural air districts in California.

To apply, please fill out the application as completely as possible, as this will expedite our processing. Below is a checklist of items that **must** be included when submitting an application.

- ☐ Total Funding Amount Requested
- ☐ Application is Signed and Dated
- ☐ Itemized Vendor Quote (within the last 12 months)
- ☐ Executive Order for New Engine (if applicable)
<http://www.arb.ca.gov/html/eo.htm>

You will be notified of receipt of your application as to its completeness. If more information is needed, we will contact you directly.

All information necessary for completing this application is available in the 2011 Carl Moyer Program Guidelines, which can be viewed at:
www.arb.ca.gov/msprog/moyer/guidelines/current.htm

Completed applications may be submitted via mail, e-mail, or fax (information below).

Method	Deliver To
Mail	CAPCOA Moyer RAP 1107 Ninth Street, Suite 1005 Sacramento, CA 95814
E-mail	josh@capcoa.org
Fax	(916) 441-5708

For assistance or questions regarding the application, please contact Josh Lowe, Air Quality Specialist at (916) 441-5700 or e-mail him at josh@capcoa.org.

The deadline to submit an application is March 16th

OFF-ROAD COMPRESSION-IGNITION APPLICATION – ELIGIBILITY CRITERIA

Please print clearly or type all information on this application and on all attachments. Fill out one application for each engine or piece of equipment. All information necessary for completing the application is available in the 2011 Carl Moyer Program Guidelines. This document can be viewed at:
<http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>

Eligibility Criteria

To be eligible for funding, projects must meet the criteria described in the 2011 Carl Moyer Program Guidelines and all current Carl Moyer Program Advisories. These criteria include but are not limited to the following:

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 \$18,260 per weighed ton of NO_x, Reactive Organic Gases (ROG), and Particulate Matter (PM₁₀) reduced calculated in accordance with the cost-effectiveness methodology in Appendix C of the 2011 Guidelines. All state funds plus any other funds under a district's budget authority or fiduciary control contributed toward a project must be included in the cost-effectiveness calculation.

Projects must have a minimum project life of three years, except for engines subject to the Stationary Diesel In-Use Agricultural Engine Airborne Toxic Control Measure (ATCM), which must have a minimum project life of one year.

Maximum project life for off-road compression-ignition projects:

Repower only (no retrofit)	
Repower + retrofit	7 years
Retrofit	5 years
Farm equipment* (all projects)	5 years
	10 years*

* Air districts are required to offer a 10 year project life for farm equipment; however, applicants may request a project life less than 10 years.

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.

Funded projects must have at least 75 percent of their total activity for the project life in California.

Emission reduction technologies must be certified/verified by the Air Resources Board (ARB) for sale in California and must comply with durability and warranty requirements.

OFF-ROAD COMPRESSION-IGNITION APPLICATION – ELIGIBILITY CRITERIA

For the purposes of the Carl Moyer Program, a technology granted a conditional certification/verification by ARB is considered certified/verified.

The ARB has adopted in-use fleet rules affecting off-road CI equipment: the Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Regulation) and the Cargo Handling Equipment at Ports and Intermodal Rail Yards Regulation (CHE Regulation). Portable engines are regulated under the Portable Airborne Toxic Control Measure (ATCM). There are limited funding opportunities for equipment subject to these rules.

Table 7-1 Summary of Off-Road Compression-Ignition Funding Opportunities		
Equipment Type	Subject to ARB Fleet Rule	More Funding Opportunities ¹
Mobile agricultural equipment	No	Funding opportunities exist for engine repowers and retrofits.
Cargo handling equipment at ports/intermodal rail yards	Cargo Handling Equipment ²	Very limited opportunities.
Most other off-road 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 eligible for funding
Portable diesel Engines	Portable Engine 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 these 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-Fueled Fleets <http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm>

⁴ Regulation for Portable engine ATCM: <http://www.arb.ca.gov/diesel/peatcm/peatcm.htm>

OFF-ROAD COMPRESSION-IGNITION APPLICATION – ELIGIBILITY CRITERIA

Project Types: Taking the above table into consideration, the following categories are eligible projects:

1. Repower of Existing Equipment
2. Retrofit Purchase
3. New Equipment Purchase: Requires case-by-base approval by ARB
4. Equipment Replacement: Purchases of new or used CI equipment replacing an uncontrolled, fully functional CI piece of equipment may be eligible. For these projects, please refer to Section G titled "Replacement Projects"

A. APPLICANT INFORMATION

1. Company name/ Organization name/ Individual name:		
Roy O'Ferrall Roy O'Ferrall		
2. Business type: Beef Hay		
3. Contact name and title: Same		
4. Business mailing address and contact information:		
Street: PO BOX 1130		
City: COVelo	State: Ca	Zip code: 95428
Phone: (707) 489-2984	Fax: ()	
E-mail:		
5. Person with contract signing authority (if different from above):		
Same		
6. How many vehicles/engines/retrofits are being applied for?		
1		
7. Total funding amount requested in this application (MAY NOT EXCEED \$100,000):		
Max		

B. FUNDING DISCLOSURE

1. Have any engines or vehicles listed in this application applied for or have been awarded Carl Moyer Program funding or other grants (circle one)?
Yes <input checked="" type="radio"/> No
2. If "yes", complete the following for each engine:
a. Agency applied to:
b. Date/Number of Agency Solicitation:
c. Funding Amount Requested:
d. Equipment Identification:
d. Baseline Engine Serial Number:
e. Status of Application:

ARB-verified retrofits are required on all off-road engine repowers as described in the Carl Moyer Program Guidelines. ARB has provided limited flexibility for applicants to opt-out of the default retrofit requirement on these projects. Applicants must complete the following if retrofits are not included as part of this application:

DK By initialing this paragraph, the applicant acknowledges that due to existing or future regulations they may be required to install retrofits on Carl Moyer Program funded equipment at their own cost. Please mark the appropriate box below if you would like to receive information regarding these regulations.

- ☐ Yes
☒ No

I hereby certify that all information provided in this application and any attachments are true and correct.

Printed Name of Responsible Party: <u>Roy O'Ferrall</u>	Title: <u>Farmer</u> <u>owner - Rancher</u>
Signature of Responsible Party: <u>Roy O'Ferrall</u>	Date: <u>1-6-18</u>

Third Party Certification

I have completed the application, in whole or in part, on behalf of the applicant.

Printed Name of Third Party: <u>Duane Kempf</u>	Title: <u>Sales</u>
Signature of Third Party: <u>Duane Kempf</u>	Date: <u>12-28-17</u>
Amount Being Paid for Application Completion in Whole or Part: <u>none</u>	Source of funding to Third party: <u>none</u>

For each engine, please complete sections C, D, E, F, or G (as appropriate). Please include project cost documentation including vendor quotes and other substantiating data to support cost estimates provided in this application.

C. PROJECT ACTIVITY INFORMATION

1. Project name: <u>2550</u>												
2. Project address (if different than business address):												
Street Address: <u>344 Agency Rd</u>												
City: <u>Covelo</u>	State: <u>ca</u>	Zip Code: <u>95428</u>										
3. Estimated Annual Hours of Operation: <u>600</u>												
OR												
Estimated Annual Gallons of Fuel Consumption: _____												
4. List air district(s) in California in which the equipment operates and percent of operation in each:												
<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">Humboldt</div> <div style="text-align: center;">10% Trinity</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">medocino</div> <div style="text-align: center;">90%</div> </div>												
5. Project Life:												
Maximum	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">Maximum Project Life</th> </tr> </thead> <tbody> <tr> <td>Repower only (no retrofit)</td> <td style="text-align: right;">7 years</td> </tr> <tr> <td>Repower + retrofit</td> <td style="text-align: right;">5 years</td> </tr> <tr> <td>Retrofit</td> <td style="text-align: right;">5 years</td> </tr> <tr> <td>Farm equipment* (all projects)</td> <td style="text-align: right;">10 years</td> </tr> </tbody> </table>		Maximum Project Life		Repower only (no retrofit)	7 years	Repower + retrofit	5 years	Retrofit	5 years	Farm equipment* (all projects)	10 years
Maximum Project Life												
Repower only (no retrofit)	7 years											
Repower + retrofit	5 years											
Retrofit	5 years											
Farm equipment* (all projects)	10 years											
Other: _____ years												
6. Will the new engine have a functioning hour meter for the life of the project (circle one)?												
<input checked="checked" type="radio"/> Yes <input type="radio"/> No												

D. EXISTING (BASELINE) EQUIPMENT INFORMATION

Must be filled out for each piece of equipment requesting funding

1. Equipment Type/Specific Function: 2550 Tractor		
2. Equipment Make, Model, and Year: John Deere 2550 1986		
3. Equipment Serial Number: L02550F451487		
4. Equipment Identification Number (unique number designated by applicant)		
5. Number of Main Engines on this Equipment: 1		
6. Equipment Location:		
Street: 344 Agency Rd		
City: Covelo	State: CA	Zip: 95428
7. Engine Family: (for controlled engines only)		
8. Engine Tier (for controlled engines only)		
9. Engine Make, Model: John Deere 4239 DL		
10. Engine Model Year: 1986		
11. Engine Horsepower: 72		
12. Engine Serial Number: 544201 CD		
13. Engine Fuel Type: Diesel		
14. Engine Annual Hours of Operation: 608		

E. REPOWER PROJECTS (NEW ENGINE)

1. Number of Main Engines to be Repowered:
2. New Engine Family:
3. New Engine Make:
4. New Engine Model:
5. New Engine Model Year:
6. New Engine Serial Number: (if available)
7. New Engine Horsepower:

8. New Engine Tier:	
9a. Engine Cost:	9b. Engine Installation Cost (optional):

F. RETROFIT PROJECTS

1. ARB-verified Retrofit Device Manufacturer:	
2. Retrofit Device Make:	
3. Retrofit Device Model:	
4. Retrofit Device ARB Executive Order Number:	
5. Retrofit Device Serial Number (if available):	
6. ARB – Verified PM Reduction (%):	
7. ARB – Verified NOx Reduction (%):	
8a. Cost of Retrofit:	b. Cost of Retrofit Installation (optional):
9. Cost of Retrofit Maintenance for Project Life (optional):	
10. Has retrofit been verified for the engine? (circle one) Yes No	

G. REPLACEMENT PROJECTS

Replacement Equipment Description: 5085E Tractor	
1a. Engine Family: GJDXL04.5315	
b. Engine Make: John Deere	
c. Engine Model: 4045	
2. Engine Horsepower: 85	
3. Engine Tier FT4	
4. Engine Model Year: 2016	
5. Fuel Type: Diesel	
6. Baseline Equipment Cost: 65712	7. New Equipment Cost: 65712

H. FUNDING AMOUNT REQUEST

1. Total Amount Requested for this Piece of Equipment (not to exceed \$100,000):

65712

Submit your application, Executive Order, and vendor quote to:

CAPCOA Moyer RAP
1107 Ninth Street, Suite 1005
Sacramento, CA 95814



JOHN DEERE



Quote Id: 16588220

Prepared For:
Roy O'ferrall

Prepared By: **Duane Kempf**

Fernbridge Tractor and Equip
20 Depot Road
Fernbridge, CA 95540

Tel: 707-725-5174

Mobile Phone: 707-845-3608

Fax: 707-725-5797

Email: duane@fernbridgetractor.com

Date: 28 December 2017

Offer Expires: 30 August 2018

Confidential



Quote Summary

Prepared For:

Roy O'ferrall
344 Agency Rd
Covelo, CA 95428
Mobile: 707-489-2984

Prepared By:

Duane Kempf
Fernbridge Tractor and Equip
20 Depot Road
Fernbridge, CA 95540
Phone: 707-725-5174
Mobile: 707-845-3608
duane@fernbridgetractor.com

Quote Id: 16588220**Created On:** 28 December 2017**Last Modified On:** 10 January 2018**Expiration Date:** 30 August 2018**Equipment Summary**

2015 JOHN DEERE 5085E
TRACTOR - 1LV5085EJGG400970

Selling Price**Qty****Extended**

\$ 65,640.00 X 1 = \$ 65,640.00

Equipment Total**\$ 65,640.00****Quote Summary**

Equipment Total \$ 65,640.00

UCC/File \$ 65.00

Tire Tax \$ 7.00

SubTotal \$ 65,712.00

Est. Service Agreement Tax \$ 0.00

Total \$ 65,712.00

Down Payment (0.00)

Rental Applied (0.00)

Balance Due \$ 65,712.00

Salesperson : X _____**Accepted By : X** _____*Confidential*



JOHN DEERE

Selling Equipment



Quote Id: 16588220

Customer: ROY O'FERRALL

2015 JOHN DEERE 5085E TRACTOR - 1LV5085EJGG400970				
Hours:	302			
Stock Number:	5866			
Code	Description	Qty	Unit	Selling Price
5085E TRAC	5085E UTILITY TRACTOR	1	\$ 59,835.00	\$ 65,640.00
				Extended
				\$ 59,835.00
Standard Options - Per Unit				
696BLV	5085E UTILITY TRACTOR	1	\$ 0.00	\$ 0.00
696BLV0409	5E FT4 PR ENGLISH OM	1	\$ 0.00	\$ 0.00
696BLV1381	5E FT4 12/12 TRANSMISSION	1	\$ 0.00	\$ 0.00
696BLV2050	5E FT4 CAB STD	1	\$ 0.00	\$ 0.00
696BLV2120	AIR SUSPENSION SEAT	1	\$ 0.00	\$ 0.00
696BLV3025	EXHAUST CORNER POST CAB	1	\$ 0.00	\$ 0.00
696BLV3320	DUAL REAR SCV	1	\$ 0.00	\$ 0.00
696BLV3420	DUAL MID SCV	1	\$ 0.00	\$ 0.00
696BLV5911	18.4-30 8PR R1	1	\$ 0.00	\$ 0.00
696BLV6040	FRONT AXLE MFWD	1	\$ 0.00	\$ 0.00
696BLV6701	12.4-24 8PR R1	1	\$ 0.00	\$ 0.00
	Standard Options Total			\$ 0.00
	Value Added Services Total			\$ 0.00
Customer Discounts				
	Customer Discounts Total		\$ 5,805.00	\$ 5,805.00
Total Selling Price				\$ 65,640.00

Confidential

California Environmental Protection Agency Air Resources Board	JOHN DEERE POWER SYSTEMS	EXECUTIVE ORDER U-R-004-0523 New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2016	GJDXL04.5315	4.5	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Control Module, Exhaust Gas Recirculation, Selective Catalytic Reduction-Urea, Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Ammonia Oxidation Catalyst			Loaders, Tractor, Dozer, Pump, Compressor, Generator Set, Other Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

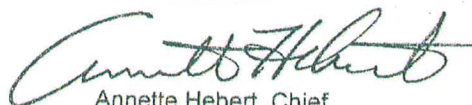
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.02	0.33	--	0.1	0.02	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 9 day of February 2016.



Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

1-13-2016

FO#: U-R-004-0513

Attachment: Page 1 of 1

Engine Model Summary Form

Manufacturer:	John Deere Power Systems
Engine Category:	Nonroad CI
EPA Engine Family:	GJDXL04.5315
Mfr Family Name:	350HCG
Process Code:	New Submission
1. Engine code	4045
4045HPRNT14	
3 kW@RPM	106@2400
(SAE Gross)	
4. Fuel Rate:	mm/stroke@peak kW
(for diesel only)	99.6@2400
5. Fuel Rate:	mm/stroke@peak kW
(for diesel only)	24.4@2400
6. Torque (Nm)	@RPM
(SEA Gross)	577@1600
7. Fuel Rate:	mm/stroke@peak
torque	123.1@1600
8. Fuel Rate:	(kW/m)@peak torque
	20.1@1600
9. Emission Control	Device Per
	SAE J1930
	EGR OC SCRC NH3CC DFI TC CAC ECM