

Applicant Information

Organization/ Applicant Name	FirstName	LastName	JobTitle	Address	City	State	Email Address	ZipCode	OfficePhone	OfficePhone Ext

Project 1 Information

Project Name	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit

Fleet 1 Information:

Current Vehicle Information														New Vehicle/Technology Information																			
Vehicle Type	TargetFleet	Class/ Equipment	Serial and/or VIN # of engine and/or vehicle	Engine Make	Engine Model	Engine Family Name (If unregulated, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level (Nonroad)	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Miles per vehicle (Highway)	Annual Usage Rate (Hours per engine) (Nonroad)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Nonroad replacements/ Repowers/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost			

Copy and paste additional lines as necessary to capture project fleet information.

Project 2 Information

Project Name	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit

Fleet 2 Information:

Current Vehicle Information														New Vehicle/Technology Information																				
Vehicle Type	TargetFleet	Class/ Equipment	Serial and/or VIN # of engine and/or vehicle	Engine Make	Engine Model	Engine Family Name (If unregulated, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level (Nonroad)	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Miles per vehicle (Highway)	Annual Usage Rate (Hours per engine) (Nonroad)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Nonroad replacements/ Repowers/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost				

Copy and paste additional lines as necessary to capture project fleet information.

Project 3 Information

Project Name	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit

Fleet 3 Information:

Current Vehicle Information														New Vehicle/Technology Information																				
Vehicle Type	TargetFleet	Class/ Equipment	Serial and/or VIN # of engine and/or vehicle	Engine Make	Engine Model	Engine Family Name (If unregulated, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level (Nonroad)	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Miles per vehicle (Highway)	Annual Usage Rate (Hours per engine) (Nonroad)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Nonroad replacements/ Repowers/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost				

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Project 1 Information

ProjectName	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit
		Marine									

Fleet 1 Information for MARINE VESSELS ONLY

Current Vessel Information																		New Vessel/Technology Information																
Sector	Application	Boat Name or Other Identifier	Total Number of Engines per Vessel	Engine Type	Serial # of Engine	Engine Make	Engine Model	Engine Family Name (If unregulated engine, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Usage Rate (Hours per engine)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Replacements/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost			
Marine																																		
Marine																																		
Marine																																		
Marine																																		

Copy and paste additional lines as necessary to capture project fleet information.

Project 2 Information

ProjectName	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit
		Marine									

Fleet 2 Information for MARINE VESSELS ONLY

Current Vessel Information																		New Vessel/Technology Information																		
Sector	Application	Boat Name or Other Identifier	Total Number of Engines per Vessel	Engine Type	Serial # of Engine	Engine Make	Engine Model	Engine Family Name (If unregulated engine, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Usage Rate (Hours per engine)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Replacements/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost					
Marine																																				
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Copy and paste additional lines as necessary to capture project fleet information.

Please replicate the Project and Fleet Information Tables as necessary for additional Projects/Fleets.



The following instructions explain how to fill out the Fleet Description tab and the Marine Vessels tab. Each tab is divided into three sections: Recipient Information, Project Information, and Fleet Information. Below is an explanation of each field. For an example of how the Applicant Fleet Description spreadsheet should be filled out, please refer to the tab labeled 'Example'.

Applicant Information should only be filled out only once.

Project Information and Fleet Information should be filled out for each separate "project" within the proposal.

Separate projects are generally defined as separate subgrants to various entities, or separate, distinct target fleets within the grant or subgrants.

Fleet Information should be cumulative, and include all affected engines, vehicles, and retrofits proposed as part of the project.

Applicant Information

Organization/ Applicant Name- Enter the name of the organization applying for the grant from EPA (regardless of who actually uses the funds).

First Name- Enter the FIRST name of the contact person for the application.

Last Name- Enter the LAST name of the contact person for the application.

Job Title- Enter the Job Title of the contact person for the application.

Email Address- Enter the email address of the contact person for the application.

Address- Enter the address of the contact person for the application.

City- Enter the city of the contact person for the application.

State- Enter the two letter postal code of the contact person for the application.

Zip Code- Enter the zip code of the contact person for the application.

Office Phone- Enter the phone number of the contact person for the application.

OfficePhoneExt- Enter the extension of the contact person for the application (if applicable).

Project Information

Project Name- Enter the name of the project (try to include both the Organization Name and Fleet(s)).

Organization Performing Project- Enter the name of the organization performing the project (this could be the Prime Organization/Applicant or a Subgrantee).

Target Fleet- Select from the dropdown menu provided the target fleet to be addressed.

Number of Vehicles- Enter the number of vehicles to be addressed.

City- Enter the city in which the project will take place.

County- Enter the county in which the project will take place.

State- Enter the two letter postal code for the state in which the project will take place.

Funding Amount - Enter the total amount of Federal funds to be committed to the project

Additional Funding Source- If there are to be matching funds, enter the source.

Additional Funding Amount- Enter the amount of funds provided.

Public Benefit - If the vehicles are part of a public fleet or benefit the public (i.e. a private school bus company contracted by a public school; drayage vehicles that serve a port; private construction equipment contracted to a public works project, etc) enter "yes", otherwise enter "no".

Fleet Information

Vehicles can be combined on one line if all the information is the same. Please see the Example tab.

Vehicle Type- Enter the vehicle type, either "On Highway" "NonRoad".

Target Fleet- Select the target fleet from the dropdown menu.

Class/Equipment- Select from the dropdown menu the Vehicle Class or type of nonroad equipment.

Serial/VIN # Enter the Serial number or VIN number of the engine or vehicle

Engine Make- Enter the manufacturer of the existing Engine.

Engine Model- Enter the model of the existing Engine.

Engine Family Name- Enter the Engine Family name of the existing Engine. NOTE: unregulated engines will not have an Engine Family Name.

Engine Family Name information is optional for Idle Reduction, Aerodynamic Technology, Low Rolling Resistance Tires, and Fuels projects

- Engine Model Year-** Enter the model year of this engine set.
- Horsepower-** For NONROAD ONLY, Enter the average horsepower of the equipment.
- Displacement per cylinder** Enter the engine displacement per cylinder in liters.
- Current Tier Level-** For NONROAD REPLACEMENTS, REPOWERS AND UPGRADES ONLY, Select from the dropdown menu the Current Tier Level.
- Current Standard Level -** For NONROAD AND ON-HIGHWAY REPLACEMENTS, REPOWERS AND UPGRADES ONLY, enter the current emission standard levels of the engine for PM and NOx or NMHC+NOx.
- Current Fuel Type-** Select the type of fuel that is currently being used (prior to any clean diesel activity change).
- Amount of Fuel Used-** Enter the amount of fuel used in gallons/year.
- Annual Miles-** For ON-HIGHWAY ONLY, Enter the average number of vehicle miles traveled per year per vehicle.
- Annual Usage Rate Hours-** For NONROAD ONLY, Enter the average number of hours the equipment is used per year.
- Annual Idling Hours-** For ON-HIGHWAY ONLY, Enter the average number of hours the vehicle idles per year.
- Year of Retrofit Action-** Enter the year in which the retrofit will take place (i.e., if in 2010, you're replacing a 1995 bus with a 2007 bus, the retrofit year is 2010.)
- Technology Type-** Enter the type of technology to be used. Example: Diesel Particulate Filter, Replacement, Biodiesel 100
- Technology Make-** Enter the make of the technology. Example: Donaldson, Caterpillar.
- Verified Technology Model-** Enter the model of the technology as identified on the EPA/CARB verification lists (i.e. Johnson Matthey ACCRT, Carrier Transicold - Comfortpro, etc.) to confirm a verified technology was used.
This is applicable for exhaust retrofits, upgrades, idle reduction technologies, aerodynamics and low rolling resistant tires.
Verified Technology Model may not be known for the initial application, pending the bid process, and would be noted as TBD.
- New Engine Family Name-** For REPLACEMENTS AND REPOWERS ONLY, Enter the Engine Family Name of the new engine.
- New Engine Model Year-** For REPLACEMENTS AND REPOWERS ONLY, Enter the model year of the new vehicle/engine.
- New Horsepower-** For NONROAD ONLY, Enter the average horsepower of the equipment.
- New Displacement per cylinder** Enter the engine displacement per cylinder in liters.
- New Tier Level-** For NONROAD REPLACEMENTS, REPOWERS AND UPGRADES ONLY, Select from the dropdown menu the new Tier Level.
- New Standard Level-** For NONROAD AND ON-HIGHWAY REPLACEMENTS, REPOWERS AND UPGRADES ONLY, enter the new emission standard levels of the engine for PM and NOx or NMHC+NOx.
- New Fuel Type-** Select the new type of fuel that is being used.
- Annual Idling Hours reduced-** For IDLE REDUCTION STRATEGIES ONLY, Enter the average number of idling hours reduced for the engine.
- Technology Unit Cost-** Enter the dollar amount of the technology per unit.
- Technology Unit Installation-** Enter the cost of installing the technology per unit.

Marine Vessels

- Sector-** This field will always read marine.
- Application-** Select the target vessel.
- Boat Name-** Enter the boat name or other identifier of the vessel
- Number of Engines per Vessel-** Enter the total number of engines on the vessel including auxiliary and propulsion. The max number of engines allowed per vessel is 5.
- Engine Type-** Identify which engines are propulsion and which are auxiliary.
- VIN/Serial # -** For Repower and Vehicle Replacement Projects, Enter the VIN or engine Serial # for each scrapped/replaced vehicle or engine.
- Engine Make-** Enter the manufacturer of the existing Engine.
- Engine Model-** Enter the model of the existing Engine.
- Engine Family Name-** Enter the Engine Family Name for each engine. Unregulated engines will not have an Engine Family Name.
- Engine Model Year-** Enter the model year of the existing engine.
- Horsepower-** Enter the horsepower of the existing engine.
- Displacement per cylinder** Select from the dropdown menu the displacement per cylinder in liters.
- Current Tier Level-** For REPLACEMENTS, REPOWERS AND UPGRADES ONLY, Select from the dropdown menu the Current Tier Level.
- Current Standard Levels-** For REPLACEMENTS, REPOWERS AND UPGRADES ONLY, enter the current emission standard levels of the engine for PM and NOx



or NMHC+NOx.

- Current Fuel Type-** Select the type of fuel that is currently being used (prior to any clean diesel activity change).
- Amount of Fuel Used-** Enter the amount of fuel used in gallons/year for the engine.
- Annual Usage Rate Hours-** Enter the average number of hours the engine is used per year.
- Annual Idling Hours per Engine-** Enter the idling hours for the engine in a given year.
- Year of Retrofit Action** Enter the year in which the retrofit will take place (i.e. If in 2010, you're upgrading a Tier 0 engine to Tier 1, then the retrofit year is 2010)
- Technology Type-** Enter the type of technology to be used. Example: Diesel Oxidation Catalyst, Shore Power, Engine Repower, etc.
- Technology Make-** Enter the make of the technology. Example: Donaldson, Caterpillar.
- Verified Technology Model-** Enter the model of the technology if available (i.e. Johnson Matthey PCRT).
- New Engine Family Name-** For REPLACEMENTS AND REPOWERS ONLY, Enter the Engine Family name of the new engine.
- New Engine Model Year-** For REPLACEMENTS AND REPOWERS ONLY, Enter the model year of the new engine.
- Horsepower-** Enter the horsepower of the new engine.
- Displacement per cylinder** Select from the dropdown menu the displacement per cylinder in liters.
- New Engine Tier Level-** For REPLACEMENTS, REPOWERS AND UPGRADES ONLY, Select from the dropdown menu the new Tier Level.
- New Standard Levels-** For REPLACEMENTS, REPOWERS AND UPGRADES ONLY, enter the new emission standard levels of the engine for PM and NOx or NMHC+NOx.
- New Fuel Type-** Select the new type of fuel that is being used.
- Annual Idling Hours reduced-** For IDLE REDUCTION STRATEGIES ONLY, Enter the number of idling hours reduced as a result of this technology.
- Technology Unit Cost-** Enter the cost of the technology per unit.
- Technology Unit Installation-** Enter the cost of installing the technology per unit.

Applicant Information

Organization/ Applicant Name	FirstName	LastName	JobTitle	Address	City	State	Email Address	ZipCode	OfficePhone	OfficePhone Ext.
Missouri Department of Transportation	Jeannie	Wilson	General Services Fleet Manager	P.O. Box 270	Jefferson City	MO	Jeannie.Wilson@modot.mo.gov	65102	573-526-1199	

Project 1 Information

Project Name	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit
MO Dept of Transport Retrofits	Missouri Department of Transportation	City/County vehicle	2	St. Louis		MO	7	\$63,271	In-kind contribution from MODOT	\$2,000	yes

Fleet 1 Information:

Current Vehicle Information														New Vehicle/Technology Information																	
Vehicle Type	TargetFleet	Class/ Equipment	Serial and/or VIN # of engine and/or vehicle	Engine Make	Engine Model	Engine Family Name (If unregulated, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level (Nonroad)	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Miles per vehicle (Highway)	Annual Usage Rate (Hours per engine) (Nonroad)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Nonroad replacements/ Repowers/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost	
On Highway	City/County vehicle	Dumpers/Tenders	#7M001145	International	DT466	2NVXH0466ANA	2002	300	7.6		PM: 0.10, NOx: 4.0 g/bhp-hr	Diesel (ULSD), 15 ppm	8000			800	2009	Diesel Oxidation Catalyst	Donaldson	Series 6100 DOC											
On Highway	City/County vehicle	Dumpers/Tenders	#MVA26679	International	DT466	2NVXH0466ANA	2002	300	7.6		PM: 0.10, NOx: 4.0 g/bhp-hr	Diesel (ULSD), 15 ppm	8000			800	2009	Diesel Oxidation Catalyst	Johnson Matthey	CRT3											

Project 2 Information

Project Name	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit
MO Dept of Transport Retrofits	Missouri Department of Transportation	Construction	2	St. Louis		MO	7	\$111,478	In-kind contribution from MODOT	\$2,400	yes

Fleet 2 Information:

Current Vehicle Information														New Vehicle/Technology Information																
Vehicle Type	TargetFleet	Class/ Equipment	Serial and/or VIN # of engine and/or vehicle	Engine Make	Engine Model	Engine Family Name (If unregulated, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level (Nonroad)	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Miles per vehicle (Highway)	Annual Usage Rate (Hours per engine) (Nonroad)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Nonroad replacements/ Repowers/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost
NonRoad	Construction	Tractors/Loaders/Backhoes	#8GT1429IA10871	John Deere	DB33A	WDWXL03.3AMN	1998	62		Tier 1	PM: N/A, NOx: 9.2 g/kW-hr	Diesel (LSD), 500 ppm	14000		300		2009	Biodiesel (B20)												
NonRoad	Construction	Aerial Lifts	#BWK0309198722	New Holland			1995	80		Tier 0		Diesel (LSD), 500 ppm	2700		250		2009	Engine Repower	New Holland			2008	300		Tier 3	PM: 0.40, NMHC+NOx: 4.7 g/kW-hr	Diesel (LSD), 500 ppm			

Copy and paste additional lines as necessary to capture project fleet information.

Project 3 Information

Project Name	Organization Performing Project	TargetFleet	Number of Vehicles	City	County	State	Region	Funding Amount	Additional Funding Source	Additional Funding Amount	Public Benefit
Marine Ferry & Tug Repower Project	XYZ Towing & Transportation Company	Marine	2	New York		NY	2	\$1,500,000	XYZ Towing & Transportation Company	\$1,000,000	yes

Fleet 3 Information for MARINE VESSELS ONLY, continued on next page

Fleet 3 Information for MARINE VESSELS ONLY

Current Vessel Information														New Vessel/Technology Information										
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Sector	Application	Boat Name or Other Identifier	Total Number of Engines per Vessel	Engine Type	Serial # of Engine	Engine Make	Engine Model	Engine Family Name (If unregulated engine, then NA)	Engine Model Year	Horsepower	Displacement per Cylinder (Liters)	Current Tier Level	Current Standard Level for PM and NOx or NMHC+NOx	Fuel Type	Amount of Fuel Used (gal/year)	Annual Usage Rate (Hours per engine)	Annual Idling Hours (per engine)	Year of Retrofit Action	Technology Type	Technology Make	Verified Technology Model	New Engine Family Name (Replacements/ Repowers)	New Engine Model Year (Replacements/ Repowers/ Upgrades)	New Engine Horsepower (Replacements/ Repowers)	New Engine Displacement per Cylinder (Liters) (Replacements/ Repowers)	New Tier Level (Replacements/ Repowers/ Upgrades)	New Standard Level for PM and NOx or NMHC+NOx	New Fuel Type	Annual Idling Hours Reduced (per engine)	Technology Unit Cost	Technology Unit Installation Cost			
Marine	Tug Boat/ Tow Boat	Tug#1	4	propulsion	76HI-1234				1975	1950	5.0<= size <15.0	Tier 0		Diesel (LSD), 500 ppm	140000			2011	Engine Repower	EMD	8-710G7C-T2		2010			Tier 2								
				propulsion	76HI-5678				1975	1950	5.0<= size <15.0	Tier 0		Diesel (LSD), 500 ppm	140000				2011	Engine Repower	EMD	8-710G7C-T2		2010			Tier 2							
				auxiliary					1975	200	0.9 <= size < 1.2	Tier 0		Diesel (LSD), 500 ppm	30000				2011	Vehicle/Equipment Replacement	John Deere	CKM100DM3		2010			Tier 2							
				auxiliary					1975	200	0.9 <= size < 1.2	Tier 0		Diesel (LSD), 500 ppm	30000				2011	Vehicle/Equipment Replacement	John Deere	CKM100DM3		2010			Tier 2							
Marine	Tug Boat/ Tow Boat	Tug#2	2	propulsion	16VF012345				1995	1100	1.2 <= size <2.5	Tier 0		Diesel (LSD), 500 ppm	150000				2011	Engine Repower	MTU	10V2000M72		2010			Tier 2							
				propulsion	16VF012346				1995	1100	1.2 <= size <2.5	Tier 0		Diesel (LSD), 500 ppm	150000				2011	Engine Repower	MTU	10V2000M72		2010			Tier 2							

DO NOT MODIFY THIS PAGE AT ALL!						
Region	Model Year	States	Fleet Type			
1	1970	AK	School Bus			Vehicle Type
2	1971	AL	Ports and Airports			Vehicle Class or Type of Nonroad Equipment
3	1972	AZ	Construction			On Highway
4	1973	AR	Delivery Truck			NonRoad
5	1974	CA	Transit Bus			Class 5
6	1975	CO	Rail			Class 6
7	1976	CT	Refuse Hauler		public fleet	Class 7
8	1977	DE	Utility Vehicle		yes	Class 8A
9	1978	DC	Long Haul		no	Class 8B
10	1979	FL	Short Haul			School Bus
	1980	GA	Agriculture			Transit Bus
	1981	HI	Mining			-
	1982	ID	Marine		Fuel	2-Wheel Tractors
	1983	IL	Stationary		Diesel (ULSD), 15 ppm	ACRefrigeration
	1984	IN	City/County vehicle		Diesel (LSD), 500 ppm	Aerial Lifts
	1985	IA	Emergency vehicle		Diesel, 3,400 ppm	Agricultural Mowers
	1986	KS	Other		Biodiesel 100	Agricultural Tractors
	1987	KY			Biodiesel 20	Airport Support Equipment
	1988	LA			Biodiesel 5	Balers
	1989	MA			LPG	Bore/Drill Rigs
	1990	ME			LNG	Cement & Mortar Mixers
	1991	MD			CNG (lbs)	Combines
	1992	MH			CNG (ft3)	Concrete/Industrial Saws
	1993	MI			E85	Cranes
	1994	MN	Tiers		Emulsion	Crawler Tractors
	1995	MS	unregulated			Crushing/Proc. Equipment
	1996	MO	Tier 0			Dumpers/Tenders
	1997	MT	Tier 1			Excavators
	1998	NE	Tier 2			Ferries
	1999	NV	Tier 3			Forklifts
	2000	NH	Tier 4			Graders
	2001	NJ	Tier 0+			Hydro Power Units
	2002	NM	Tier 1+			Irrigation Sets
	2003	NY	Tier 2+			Light Commercial Air Compressors
	2004	NC				Light Commercial Gas Compressors
						Light Commercial Generator Sets
						Light Commercial Pressure Washer
						Light Commercial Pumps

Technology	Marine Application	Engine Type	Displacement per cylinder
Diesel Oxidation Catalyst	Container	auxilliary	size < 0.9
Diesel Oxidation Catalyst + B20	Ferry/Excursion	propulsion	0.9 <= size < 1.2
Diesel Oxidation Catalyst + B100	Tug Boat/ Tow Boat		1.2 <= size <2.5
Diesel Oxidation Catalyst + Closed Crankcase Ventilation +B20	Commercial Fishing		2.5<= size <3.5
Diesel Oxidation Catalyst + Closed Crankcase Ventilation + B100	Commercial Charter Fishing		2.5<= size <5.0
Diesel Oxidation Catalyst + Emulsion	Crew and Supply		5.0<= size <15.0
Diesel Particulate Filter	Pilot		15.0<= size <20.0
Diesel Oxidation Catalyst + Closed Crankcase Ventilation	Work Boat		20.0<= size <25.0
Diesel Particulate Filter + Closed Crankcase Ventilation	Other		25.0<= size <30.0
Diesel Oxidation Catalyst + Closed Crankcase Ventilation + ULSD (for Nonroad only)			
Diesel Oxidation Catalyst + ULSD (for Nonroad only)			
Partial Flow Filter			
Lean NO _x Catalyst/Diesel Particulate Filter			
Selective Catalytic Reduction			
Exhaust Gas Recirculation + Diesel Particulate Filter			
Ultra Low Sulfur Diesel (ULSD)			
Compressed Natural Gas			
Liquid Natural Gas			
Biodiesel (B20)			
Biodiesel (B100)			
Hybrid			
Hybrid Electric Replacement with Diesel Particulate Filter			
Compressed Natural Gas (CNG) Replacement			
Alternative Fuel Conversion			
Verified Engine Upgrade Kit			
Certified Remanufacture System			
Engine Repower			
Vehicle/Equipment Replacement			
Direct Fired Heater			
Auxiliary Power Unit			
Shutdown/Startup for Locomotives			
Low Rolling Resistance Tires			
Aerodynamic Improvements			
Truck Stop Electrification			

