



**Introduction** Installing, replacing, or retrofitting agricultural combustion systems and/or related components or devices for air quality and energy efficiency improvement.

**Benefits of Combustion System Improvement**

Delaware’s air quality is classified in the non-attainment category for ozone precursors. Older diesel and gasoline engines used on farms to pump irrigation water contribute a significant amount of these pollutants, as shown in various studies from the Environmental Protection Agency (EPA).

The EPA has recently set increasingly stringent emission standards for off-road engines, including irrigation pump engines; standards that go into effect for different size and type engines over a period of years. These new emission standards will reduce harmful air pollution and help states meet the National Ambient Air Quality Standards, as required by the Clean Air Act.

The replacement of older engines, which emit high levels of NOx and PM from the exhaust, with new certified diesel engines will substantially reduce the emissions of NOx and PM into the air.

NRCS will provide program payments through the Environmental Quality Incentives Program (EQIP) to qualified agricultural producers for the purchase of new diesel engines. Engines must replace existing stationary irrigation pumps.

Size the new or replacement combustion system and related components or devices appropriately to accomplish its intended task.

Certify that the new, replacement, or retrofit combustion system and related components or devices meets or exceeds applicable federal, state, and local standards and guidelines.

All replaced combustion systems shall be rendered inoperable and replace higher-emitting or lower-efficiency combustion systems. Certification of use as a replacement system shall be accomplished by providing certification of inoperability. Certification of inoperability shall be accomplished by:

1. Creating a permanent hole in the engine block or combustion chamber of the combustion system; or
2. Obtaining a receipt for the combustion system disposal from a scrap metal recycling operation and return receipt to NRCS before payment.

**Program Specifics** The engine to be replaced must be a currently functioning, stationary (non-self propelled) engine used for pumping irrigation water.

Replacement engines must meet current EPA Tier standards for new diesel motors.

Replacement engines or motors must be within 25 percent of the existing engine’s horsepower rating.

Fueling and/or electric infrastructure is not eligible for payment.

Replacement engines or motors may only be used for its intended purpose on land under an EQIP contract.

Periodic reviews will be conducted to confirm that the engine or motor is being used for its intended purpose.

**Record Keeping** Records will be retained and updated for a minimum of five years from the beginning of operation of a new, replacement, or retrofitted combustion system. Records shall be kept in accordance with associated practices and federal, state, and local laws.

Participating producer must maintain records to allow the certifying individual to document plan implementation. As applicable, the recommended records to be retained include:

1. Total actual hours operated;

2. Types and amounts of fuel used in the combustion system(s) or electricity used for electric motors that have replaced an existing combustion system;
3. Documentation of maintenance conducted on the new, replacement, or retrofitted combustion system and related components or devices;
4. Receipt documenting the purchase of a new diesel motor;
5. Certification that the purchased product meets the appropriate Tier standard. All replacement engines up to 750HP must be Tier 4 to meet EPA requirements.
6. Receipt indicating the complete engine destruction must be complete and returned to the NRCS before payment can be dispersed.

**NATURAL RESOURCES CONSERVATION SERVICE Delaware  
COMBUSTION SYSTEM IMPROVEMENT  
OPERATING RECORD**

**Follow the operation and maintenance plan to keep your combustion system improvements functioning as intended:**

Follow all operation and maintenance instructions provided by the manufacturer of the new engine(s) installed.

Maintain records to document new engine usage for at least 5 years of operation.

Dates	Engine 1		Engine 2		Engine 3	
	Hours Operated	Fuel/kW Used	Hours Operated	Fuel/kW Used	Hours Operated	Fuel/kW Used

Retain records of maintenance conducted on the engine(s).

Additional Details:

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Participant's Signature \_\_\_\_\_ Date: \_\_\_\_\_



## Combustion System Improvement (372) Engine Replacement Implementation Record

Name \_\_\_\_\_ County \_\_\_\_\_

Planned By \_\_\_\_\_ Date \_\_\_\_\_

Location \_\_\_\_\_

Plan Checked \_\_\_\_\_ Date \_\_\_\_\_

Purpose: Improve air quality by reducing emissions \_\_\_\_\_ Improve energy efficiency \_\_\_\_\_

Plan Approved \_\_\_\_\_ Date \_\_\_\_\_

**Existing Engine Information and Decommissioning**

Existing Engine	Purpose / Location on Farm	Fuel Type	Make/Model	Model Year	Serial No.	Rated BHP	Annual Hours Used	Decommissioning	
								Method	Date
1									
2									
3									

*After being replaced, the existing engine must be rendered inoperable by one of the following methods:*

1. Disposing for scrap metal. A dated receipt is required, identifying the engine and certifying that no parts or components were or will be parted-out, used or sold as parts, or used to rebuild an engine intended for destruction.
2. Creating a permanent hole at least six inches in diameter to include a portion of the oil pan rail (sealing surface) or by cutting the engine block into multiple pieces. The disabled engine (or written, signed and dated certification that the engine has been disabled as required) must be kept on-farm for inspection.

3. Other \_\_\_\_\_

**Replacement Engine Information**

New Engine	Purpose / Location on Farm	Fuel Type	Make/Model	Model Year	Serial No.	Rated BHP	Minimum BHP	Date Installed
1								
2								
3								

**USDA Program Participant Certification:**

To the best of my knowledge these records accurately reflect the actual combustion system improvement(s) implemented.

**NRCS Acceptance:**

Completed practice meets NRCS standards and specification

\_\_\_\_\_  
USDA Program Participant Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
NRCS Representative Signature

\_\_\_\_\_  
Date

