

**NATURAL RESOURCES CONSERVATION SERVICE
INTERIM CONSERVATION PRACTICE STANDARD**

COMBUSTION SYSTEM AIR EMISSIONS MANAGEMENT

(No.)

CODE 723

DEFINITION

Installing, replacing, or retrofitting an agricultural combustion system and/or related components or devices.

PURPOSE

The purpose of this standard is to manage air emissions from agricultural combustion systems. Specifically, this standard is intended to address the particulate matter and ozone precursors air resource concerns by reducing emissions of oxides of nitrogen and/or fine particulate matter that arise from the use of any type of combustion system.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to any agricultural operation that operates an agricultural combustion system, including stationary, portable, mobile, and self-propelled equipment. The combustion system must be used primarily for agricultural and/or forestry activities.

CRITERIA

The new or replacement combustion system and related components or devices shall be sized appropriately to accomplish its intended task.

The new, replacement, or retrofit combustion system and related components or devices shall utilize a non-combustion power source or cleaner-burning technologies, techniques, and/or fuels, or allow for the reduced operation of an existing combustion system.

Retrofit can include actions or combinations of actions that are intended to reduce emissions of oxides of nitrogen and/or fine particulate matter. Examples of individual retrofit actions include:

- Adding an emissions control device,
- Altering air/fuel mixtures,
- Adding a device that allows for reduced operation of an existing combustion system, and/or
- Other physical modifications or changes in combustion techniques that reduce emissions formation and release.

Where required, the new, replacement, or retrofit combustion system and related components or devices shall be certified to meet currently-applicable Federal, State, and local standards and guidelines.

When installing a new diesel-powered engine, the newest-available EPA engine TIER technology shall be chosen.

The new, replacement, or retrofit combustion system and related components or devices shall be operated and maintained in accordance with the manufacturer's recommendations.

All replaced combustion systems shall be rendered inoperable or used to replace higher-emitting combustion systems.

Certification of inoperability can be accomplished by:

- Obtaining a receipt for the combustion system disposal from a scrap metal recycling operation and keeping this receipt available for inspection; or

- Punching a permanent hole through the engine block or combustion chamber of the combustion system (minimum size to be determined by Federal, State, or local guidelines) and maintaining a certification for inspection that this process has been completed; or

Certification of use as a replacement system can be accomplished by providing certification of inoperability of one or more higher-emitting combustion system(s).

CONSIDERATIONS

Installation of new, or replacement of existing, combustion systems with non-combustion renewable energy sources, such as solar, wind, and water, will provide the greatest air quality benefit.

To maximize the air quality benefits of this practice, replacement combustion systems should be similar in size and hours of operation to the existing combustion systems.

PLANS AND SPECIFICATIONS

Specifications for application of this practice shall be prepared for each site or planning unit according to the criteria. Specifications shall be recorded using State-developed specification sheets, job sheets, practice requirement sheets, narrative statements in conservation plans, or other acceptable documents.

As a minimum, the plans and specifications shall provide the following:

- Identification and description of the existing combustion system and related components or devices, if applicable, and the new or replacement combustion system and related components or devices. If the combustion system is being retrofitted, identification and description of the type of modifications being made to the existing system.
- Requirements on disposal of replaced combustion system and related components or devices, including assuring permanent disabling and rendering inoperable.

- Documentation requirements to determine combustion system usage and resulting air pollutant emissions.

OPERATION AND MAINTENANCE

An operation and maintenance plan shall be developed that is consistent with the purposes of this practice, its intended life, safety requirements, and the criteria used for its design.

NRCS recommends that records be retained and updated for a minimum of five years from the beginning of operation of a replacement or retrofitted combustion system. The recommended records to be retained include:

- Total actual hours operated
- Types and amounts of fuel used in the combustion system(s), or electricity used for electric motors
- Documentation of maintenance conducted on the replacement or retrofitted combustion system and related components or devices

REFERENCES

NRCS National Air Quality and Atmospheric Change Technology Development Team, West National Technology Support Center, Portland, Oregon

U.S. EPA National Clean Diesel Campaign for Agriculture (Clean Agriculture USA), <http://www.epa.gov/otaq/diesel/agriculture/index.htm>