

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
CONNECTICUT

ON-FARM EQUIPMENT EFFICIENCY IMPROVEMENTS
(No.)
CODE 374

DEFINITION

Installing, replacing, or retrofitting agricultural equipment systems and/or related components or devices which results in an on-farm and/or off-site reduction in actual or potential emissions of greenhouse gases.

PURPOSE

Reduce net greenhouse gas emissions (on farm and/or off site) from agricultural systems or components by implementing the recommendations from on-site energy audits.

CONDITIONS WHERE PRACTICE APPLIES

This practice is to be used exclusively for implementing recommendations from on-farm energy audits. The practice applies to any agricultural equipment system, non-residential structure or their components that consume energy.

CRITERIA**General Criteria Applicable to All Purposes**

Laws and Regulations. All Federal, state, and local laws, rules, and regulations, including local inland wetland agency regulations, governing the construction and use of this practice as well as setbacks from wells, surface water and property boundaries shall be followed. Planned work shall comply with all federal, state, and local laws and permit conditions and requirements. The landowner shall obtain all necessary permits prior to construction or any land clearing activities.

Size the new, replacement, or retrofit system and related components or devices

appropriately to accomplish its intended task.

Where required, certify that the new, replacement, or retrofit system and related components or devices meets or exceeds currently applicable Federal, State, and local standards and guidelines.

When installing a new system that is not a replacement system, the new system shall result in lower net greenhouse gas emissions than the most commonly-installed conventional system.

When installing a replacement system and related components or devices, the replacement system shall result in lower net greenhouse gas emissions than the replaced system and related components or devices.

Retrofit can include actions or combinations of actions that reduce net greenhouse gas emissions. Examples of individual retrofit actions include:

Installing automatic programmable environmental control systems and components

Installing a device(s) that allows for reduced operation of an existing combustion system, such as a variable frequency drive or automated sensors and control

Installing a device(s) that allows for the reduced combustion of fuel to accomplish the same intended task

Accommodating the use of a renewable fuel

Other physical modifications or changes in the system that reduce net greenhouse gas emissions

CONSIDERATIONS

Installation of new or replacement combustion systems with non-combustion renewable energy sources, such as solar, wind, and water, are preferred means of reducing greenhouse gas emissions associated with agricultural combustion systems.

Non-combustion renewable energy sources do not release greenhouse gas emissions directly and do not increase greenhouse gas emissions from off-site electricity generation. The impacts of non-combustion renewable energy sources on other resources should also be considered to analyze their overall conservation benefit.

The installation of this practice does not guarantee that greenhouse gas/carbon "credits" will be achieved. Separate documentation of actual greenhouse gas emission reductions would be required for any creditable activity.

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 Connecticut NRCS 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 system and related components or devices, if applicable, and the new or replacement system and related components or devices. If the system is being retrofitted, identification and description of the type of modifications being made to the existing system.

Documentation to determine system usage and resulting actual or potential greenhouse

gas emission reductions from the new, replacement, or retrofit system and related components or devices.

To the extent practical, specifications shall conform to NRCS National Engineering Handbook Part 642.

AS-BUILT DRAWINGS

As-built drawings shall be prepared showing all pertinent elements and elevations as actually installed. As-built data and drawings will be provided to the owner/operator, regulatory state agency, local fire officials, and participating partners upon construction completion.

OPERATION AND MAINTENANCE

An Operation and Maintenance (O&M) plan shall be prepared for, reviewed and signed by the landowner or operator. The plan shall be consistent with the purposes of this practice, its intended life, safety requirements, and the criteria used for its design.

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

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

Types and amounts of fuel used (gallons of fuel or Btu equivalents) in the system(s), or electricity used (kilowatt hours) for higher efficiency or on farm electrical generation that has replaced an existing system.

Documentation of maintenance conducted on the new, replacement, or retrofitted system and related components or devices.