

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE Rule) Training Module 40 CFR 63 Subpart ZZZZ Script- Introduction

NARRATOR:

[Slide 2:]

Welcome to the Connecticut Department of Energy & Environmental Protection's Training Modules for EPA's RICE Rule! These modules are designed to help owners and operators of reciprocating internal combustion engines, also known as RICE, better understand and comply with federal environmental regulations applicable to stationary RICE. All of the information in the modules is based on the most current version of EPA's RICE Rule, which is published in Title 40 of the Code of Federal Regulations, part 63, subpart ZZZZ. Throughout the modules, we will simply refer to the RICE Rule as "the rule." These training modules will explain the following: what the rule requires, compliance dates, and provide additional resources and contact information should you have any further questions. The training modules have been designed so that you will only need to review the requirements that pertain to your particular engine or engines.

[Slide 3:]

Before we discuss the RICE Rule, let's talk about stationary engines. There are about 1.5 million stationary engines in the United States. Seventy-eight percent of the units are compression ignition, whereas 22% are spark ignition. The majority of these engines, approximately 900,000, are used for emergency power. Engines in use range from 1 kilowatt to greater than 10 megawatts.

During use, stationary engines emit hazardous air pollutants, or HAP, such as: formaldehyde, acetaldehyde, acrolein, methanol, and PAH. The engines also emit more commonly found criteria air pollutants, such as: nitrogen oxides, carbon monoxide, volatile organic compounds, and particulate matter.

[Slide 4:]

You may be wondering, "What is the difference between a stationary engine and a mobile engine?" EPA specifies that a stationary engine is one that is **not** used in a motor vehicle and is **not** a nonroad engine. Nonroad engines include:

- Self-propelled engines (such as tractors and bulldozers)
- Engines propelled while performing their function (such as lawnmowers)
- And engines that are portable or transportable (meaning that they have wheels, skids, carrying handles, a dolly, a trailer, or a platform). Please note that a portable nonroad engine will be considered stationary once it remains in the same location for more than 12 months, or for a full annual operating period if it is a seasonal source.

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EPA regulates RICE emissions because pollutants emitted from stationary engines are known or suspected of causing cancer and other serious health effects, such as:

- Aggravation of respiratory and cardiovascular disease
- Changes in lung function and increased respiratory symptoms
- Premature deaths in people affected by heart or lung disease
- Neurological, cardiovascular, liver, kidney, immune system, and/or reproductive system effects

EPA also seeks to reduce emissions from RICE because nitrogen oxides and volatile organic compounds react in the presence of sunlight to form ozone, which is harmful to the environment.

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EPA has three regulations which address stationary engines:

1. 40 CFR 63 subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (referred to as the RICE Rule)
2. 40 CFR 60 subpart IIII, the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (referred to as the CI NSPS) and
3. 40 CFR 60 subpart JJJJ, the New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines (referred to as the SI NSPS)

[Slide 7:]

This slide shows the applicability of the RICE Rule, the CI NSPS, and the SI NSPS. Note that the RICE Rule applies to all stationary CI and SI engines, whether they are existing or new.

[Slide 8:]

Here you can see how the major categories and subcategories of engines are broken down in the rule. Your requirements under this rule will depend on what category your engine falls under. Because there are so many different possible categories that an engine can fall under, the rule is quite complex. The training module will assist you in understanding your requirements by guiding you to the appropriate requirements based on a series of questions that you answer about your engine.

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The rule regulates HAP emissions from RICE of all sizes, at both major and area sources. The **only** engines that are not subject to the RICE rule are existing, emergency engines located at residential, institutional, or commercial area sources that are used or obligated to be available less than or equal to 15 hours per year for emergency demand response, and are **not** used for local reliability.

[Slide 10:]

The most recent amendments to the rule were finalized on January 30th, 2013 and became effective on April 1st, 2013. At this time, minor amendments and clarifications were also made to the NSPS. These updates are reflected in the content of the training modules.

[Slide 11:]

In order to access the appropriate training module, you will need to know:

- Whether the unit is located at a major or area source of HAP
- Whether the unit is compression ignition or spark ignition
 - If spark ignition, whether the unit is 2-stroke, 4-stroke lean burn, 4-stroke rich burn, or landfill or digester gas-fired
- Whether the unit is emergency or non-emergency
- The date of engine construction or reconstruction
- Engine brake horsepower, and
- How many hours per year the unit operates.

To help you answer these questions, we have included some key definitions, which can be found on the following slides. For a complete listing of definitions, please see the full rule. If you are still unsure how to classify your engine

please consult the manufacturer to help you. Once you have reviewed the definitions, please proceed to the main training module link through the DEEP RICE webpage.

Please keep in mind that these modules have been designed to address the requirements for engines located in Connecticut. Engines located in other states may have additional requirements not described within these modules.