Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE Rule) Training Module 40 CFR 63 Subpart ZZZZ Script- Major Source Existing Non-Emergency Spark Ignition 4-Stroke Rich Burn Engine 100-500 Horsepower

NARRATOR:
[Slide 2:]
Welcome to the Connecticut Department of Energy & Environmental Protection's Online Training for the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines, also known as the RICE Rule!

This tool is designed to help owners and operators of reciprocating internal combustion engines, also known as RICE, determine their requirements under 40 CFR Section 63, subpart ZZZZ. By answering the successive questions, your specific requirements have been estimated. Please note that they may not be complete, and refer any questions to your local authority.

[Slide 3:]
We have established that your engine is an existing non-emergency four-stroke rich burn engine greater than or equal to 100 horsepower and less than or equal to 500 horsepower, located at a major source. Now, let's discuss your requirements.

To comply with this rule you must limit the concentration of formaldehyde in your engine's exhaust to less than or equal to 10.3 parts per million corrected to 15% oxygen. The test results shall be based on the average of three 1-hour runs using specified requirements and procedures.

You must comply with emission limits and operating limits at all times.

Additionally, you must operate and maintain all equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved.

[Slide 4:]
An initial performance test is required within 180 days of the compliance date. You may not be required to conduct an initial test on units for which a test has been previously conducted, but the test must meet the following:

- The test must have been conducted following the required methods.
- The test must have been performed within the last two years and been reviewed and accepted by EPA.
- The test must have been conducted at a load condition within plus or minus 10% of 100% load.
- There have been no process or equipment changes made since the test was performed, **or** you must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance.

[Slide 5:]
If your engine is currently non-operational you may conduct the test when the engine is started up again.

[Slide 6:]

You must limit the concentration of formaldehyde in the engine exhaust using the procedures and approved methods indicated here. If using a control device, the sampling site must be located at the outlet of the control device. All measurements to determine oxygen concentration and moisture content must be made at the same time and location as the measurements for formaldehyde concentration.

[Slide 7:]
All measurements must be based on the average of three 1-hour test runs on a dry basis corrected to 15% oxygen or an equivalent percent carbon dioxide. If the measurements are corrected to carbon dioxide, a correction factor may be used according to the formulas indicated here. These formulas may be found in 40 CFR 60 Appendix A.

[Slide 8:]
Engine testing must be performed at a specific load as determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. The following information shall be included in the Notification of Compliance Status: the engine model number, manufacturer, year of purchase, site brake horsepower, and ambient conditions encountered during the test. An explanation of all assumptions that were made to estimate or calculate percent load during the performance test and the model number and estimated accuracy of any measurement devices used to determine percent load shall also be included in the Notification of Compliance Status.

[Slide 9:]
Initial compliance is determined by demonstrating that the average concentration of formaldehyde in your engine's exhaust is less than 10.3 parts per million, corrected to 15% oxygen or an equivalent percent carbon dioxide.

[Slide 10:]
The Notification of Compliance Status must be sent before the close of business on the 60th day following the completion of the initial compliance demonstration.

[Slide 11:]
You must minimize engine idling time and limit startup time to a period needed for appropriate and safe loading of the engine. Engine startup may not exceed 30 minutes, after which time the non-startup emission limits apply.

[Slide 12:]
Let's talk about your recordkeeping and reporting requirements. You are required to keep records of each notification and report submitted and all supporting documentation, the occurrence and duration of each malfunction, any performance tests and evaluations, required maintenance performed on air pollution control and monitoring equipment, any actions taken during malfunctions to minimize emissions and corrective actions, and maintenance conducted on the engine to demonstrate that it was operated and maintained according to the maintenance plan.

Keep all records for five years from the date of creation.

[Slide 13:]
A Notification of Applicability was due February 16th, 2011. You are required to submit a notification 60 days prior to performing any compliance test, and 60 days after your compliance demonstration.

[Slide 14:]
Each year you are required to submit a Semi-Annual Compliance Report by January 31st, covering the period of July 1st through December 31st of the previous year, and by July 31st for the period covering January 1st through June 30th

of the current year. The first compliance report must cover the period beginning on October 19th, 2013 and ending on December 31st, 2013.

The report must contain a statement by a responsible official certifying the accuracy of the report. It must also indicate any malfunctions that occurred during the reporting period, including the number, duration, and a brief description for each type of malfunction which occurred and which caused or may have caused any limits to be exceeded. Also include actions taken during malfunction to minimize emissions and correct malfunctions. If no deviations occurred, or there were no periods during which the CMS was out-of-control, include a statement indicating so.

For each deviation that occurs where you are ***not*** using a CMS, the report must include the total operating time at which the deviation occurred, the number, duration, and cause of the deviations, and the corrective action taken.

[Slide 15:]
For each deviation that occurs where you ***are*** using a CMS, the Semi-Annual Report must include the date and time each malfunction or deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period. You must also include the date, time, and duration that each CMS was inoperative or out-of-control and a summary of the total duration of the deviation and the total duration as a percent of the total source operating time during that reporting period.

The report must include a breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes. Finally, the report shall include an identification of each parameter and pollutant that was monitored, a brief description of the engine and CMS, the date of the latest CMS certification or audit and a description of any changes in CMS, processes, or controls since the last reporting period.

[Slide 16:]
The Semi-Annual Compliance Report must include each instance in which you did not meet an emission limit, operating limit or requirements of any of the General Provisions. If your source has a Title V Operating Permit, report all deviations in the Title V Semi-Annual Monitoring Report.

If your engine is operated for limited use, only an Annual Report must be submitted.

[Slide 17:]
Notifications must be sent to EPA Region 1 the address provided.

[Slide 18:]
You must comply with the rule by October 19th, 2013.

[Slide 19:]
If you would like more information about the RICE rule, please visit the EPA RICE Compliance web page at the address provided. This site provides resources such as Q and A documents, fact sheets, sample notification forms, and recordings of webinars, all of which are designed to help you comply with this rule.

[Slide 20:]
Let's summarize the requirements for your major source existing non-emergency four-stroke rich burn engine greater than or equal to 100 horsepower and less than or equal to 500 horsepower under this rule. You must conduct an initial

emission performance test demonstrating that the concentration of formaldehyde in the engine exhaust is less than or equal to 10.3 parts per million at 15% oxygen.

[Slide 21:]
You must also continuously monitor engine operation, keep records of notifications, reports, malfunctions, corrective actions, tests, and maintenance for a period of five years.

Submit Notifications of: Applicability, Intent to Conduct Performance Testing, and Compliance Status. Also submit a Semi-Annual Compliance Report or an Annual Report if your engine classifies as limited use. Your compliance date is October 19th, 2013.