

**National Emission Standards for Hazardous Air Pollutants for
Reciprocating Internal Combustion Engines (RICE Rule) Training Module
40 CFR 63 Subpart ZZZZ
Script- Major Source New Non-Emergency Spark Ignition 4-Stroke Rich Burn
Engine less than or equal to 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.

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We have established that you own or operate a new, non-emergency spark ignition 4-stroke rich burn engine less than or equal to 500 horsepower, located at a major source. Now, let's discuss your requirements.

In order to demonstrate compliance with this rule, you must comply with the Spark Ignition New Source Performance Standards, or SI NSPS, listed in 40 CFR 60 Subpart JJJJ, at all times.

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You are subject to the SI NSPS if you own or operate a spark ignition engine which was constructed after June 12th, 2006 **and** manufactured on or after July 1st, 2008 for engines less than 500 horsepower or July 1st, 2007 for engines equal to 500 horsepower. For the purposes of this rule, the date that construction commences is the date the engine is ordered by the owner or operator. You are also subject to the SI NSPS if you own or operate a spark ignition engine that was modified or reconstructed after June 12th, 2006.

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If your engine is subject to the SI NSPS, you must meet the following requirements:

- For applicable emission limits, operating limits, testing requirements, and monitoring requirements, please refer to the table listed later in this module.
- You must meet all standards for the life of the engine.

Now let's discuss your fuel requirements. If your engine runs on gasoline, the gasoline must comply with the sulfur limit of 80 parts per million per gallon.

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If you have a certified engine:

- You must install, operate, and maintain the unit in accordance with the manufacturer's written instructions. No performance test is required.
- If you do not adhere to the manufacturer's instructions and your engine is greater than or equal to 100 horsepower, you must keep a maintenance plan and maintenance records, and operate the engine in accordance with good air pollution control practices. Failure to adhere to the manufacturer's instructions will

also result in the requirement to perform an initial performance test and retest if the engine is rebuilt or undergoes major repair or maintenance.

If your engine is not certified and is greater than 25 horsepower:

- You must keep a maintenance plan; and
- Conduct an initial performance test and retest if the engine is rebuilt or undergoes major repair or maintenance.

All engines subject to the SI NSPS are required to keep the following records:

- Documentation of certification (for example, the EPA Certificate of Conformity); and
- Records of engine maintenance.

You must submit an Initial Notification if you own or operate a non-certified engine that is **equal to** 500 horsepower. A Notification of Intent to Conduct Performance Testing is required 30 days prior to a test. Results of performance testing must be submitted within 60 days of the test.

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This photo shows a plate, mounted on an engine, which provides indication that the unit is certified.

[Slide 8:]

An EPA Certificate of Conformity also serves as documentation of engine certification. In case you are not familiar with an EPA Certificate of Conformity, here's what it looks like.

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Please study this table to determine your applicable emission standards, importing and installing requirements, compliance requirements, testing requirements, reporting requirements, and general requirements.

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Now, let's discuss testing methods. You must conduct all performance tests in accordance with the conditions listed in items (a) through (f):

- (a) Each test must be performed within 10% of 100% peak load, or within 10% of the highest achievable load. Tests must also be performed according to the specifications in 40 CFR 60.8 and under the conditions listed in Table 2 of the rule.
- (b) Tests must not be conducted during unit startup, shutdown, or malfunctions, as indicated in 40 CFR 60.8(c). If your engine is currently non-operational, you do not have to startup the unit just to conduct a performance test. However, you must conduct a performance test as soon as the engine is started up again.
- (c) You must complete three separate test runs for each performance test required, as specified in 40 CFR 60.8, section (f). Each run must be conducted within 10% of 100% peak load or within 10% of the highest achievable load, and each run must last at least one hour.

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- (d) Compliance with the nitrogen oxide mass per unit output emission limit must be determined by converting the concentration of nitrogen oxides in the engine exhaust using the equation here.
- (e) Compliance with the carbon monoxide mass per unit output emission limit must be determined by converting the concentration of carbon monoxide in the engine exhaust using the second equation.

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- (f) When calculating volatile organic compound, or VOC, emissions, formaldehyde emissions should not be incorporated. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using the equation here.

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If you opt to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then you have the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using the equations here. The corrected VOC concentration can then be placed on a propane basis using the third equation shown here.

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All notifications and reports should be sent to EPA Region 1 at the address shown here.

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You must comply with all requirements of the rule by the date specified here.

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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 the rule.

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Let's summarize your requirements under this rule.

- Emission limits, testing requirements, and monitoring requirements are specified in the table presented earlier in this module.

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- You must maintain records of engine certification, such as an EPA Certificate of Conformity; and
- Keep all records of engine maintenance.
- You must submit the results of performance testing within 60 days of the test.
- Your engine must be in compliance with all requirements of this rule by the date shown on screen.