



# Connecticut Department of Energy and Environmental Protection



# National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE Rule)



**40 CFR 63 Subpart ZZZZ**

**Major Source New Non-Emergency Spark Ignition 2-Stroke Lean  
Burn Engine  $\leq 500$  Horsepower**



Connecticut Department of Energy and Environmental Protection

# Compliance Requirements

You must comply with the Spark Ignition (SI) New Source Performance Standards (NSPS), as applicable, upon startup (40 CFR 60 Subpart JJJ).



Photo credit: EPA



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# Spark Ignition New Source Performance Standards (SI NSPS)

## You are subject to the SI NSPS (40 CFR 60 Subpart JJJJ) if your SI engine was:

–Constructed (**ordered\***) after June 12, 2006 **AND** manufactured on/after: January 1, 2008 (if 500 HP) or July 1, 2008 (if <500 HP)

OR

–Modified/reconstructed after June 12, 2006



\*NOTE: For the purposes of this rule, the date that construction commences is the date the engine is ordered by the owner or operator.



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# Spark Ignition New Source Performance Standards (SI NSPS)

If you are subject to the SI NSPS, you must meet these requirements:

•Emission and Operating Limits, Testing Requirements, Monitoring Requirements:

- See Table
- Must meet these standards for the life of the engine

•Fuel Requirements:

- Gasoline engines must use gas that meets the sulfur limit: cap of 80 ppm/gal



Photo credit: EPA



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# Spark Ignition New Source Performance Standards (SI NSPS)

## If you are subject to the SI NSPS, you must meet these requirements:

### •Compliance Requirements:

#### •If you have a *certified* engine:

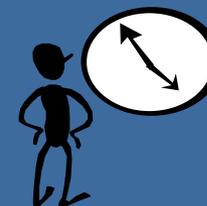
- Install, operate, and maintain engine according to manufacturer's instructions
- If you do not operate/maintain according to manufacturer's instructions for engines  $\geq 100$  HP:
  - Keep maintenance plan and maintenance records, operate consistent with good air pollution control practices
  - Initial performance test and retest if engine is rebuilt or undergoes major repair or maintenance

#### •If you have a *non-certified* engine $>25$ HP:

- Maintenance plan
- Initial test and retest if engine is rebuilt or undergoes major repair or maintenance

### •Recordkeeping/Reporting:

- Documentation of certification (EPA Certificate of Conformity)
- Records of engine maintenance
- Initial notification for non-certified engines with HP=500
- Notification of Intent to Conduct Performance Testing 30 days prior to test
- Results of performance testing within 60 days of test



# Engine Certification



Photo credit: EPA



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NE SI 2SLB Engine Category	Date Constructed/ Reconstructed / Manufactured	Size/Engine Type/Fuel	Emission Standards	Importing/ Installing Requirements <sup>6</sup>	Compliance Requirements				Notification, Reports, and Records Requirements	General Provisions (40 CFR part 60)
					Engines being operated and maintained in a certified manner <sup>2</sup>		Engines being operated and maintained in a <u>non-</u> <u>certified</u> manner <sup>3</sup>			
					General Compliance	Performance Testing	General Compliance	Performance Testing		
<500 HP	Commenced construction after 6/12/2006 and manufactured on or after 7/1/2008	≤25 HP	60.4231(a) 60.4233(a)	60.4236(a),(d)	60.4243(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D.	None	60.4243(a)(2)(i) If using AFRC: 60.4243(g)	None	60.4245(a)	60.4246 Table 3
		25<HP<500 Gasoline	60.4231(b) 60.4233(b)				60.4243(a)(2)(i) If using AFRC: 60.4243(g) <b>≤100 HP:</b> 60.4243(a)(2)(i) <b>100≤HP:</b> 60.4243(a)(2)(ii)	<b>All Engines:</b> 60.4244 <b>&lt;100 HP:</b> None required <b>100&lt;HP:</b> 60.4243(a)(2)(ii) <sup>5</sup>		
		25<HP<100 (except gasoline)	60.4233(d) <sup>4</sup>	60.4236(a)	If using AFRC: 60.4243(g) <b>Certified</b> 60.4243(b)(1) <b>Non-Certified:</b> 60.4243(b)(2)	<b>Certified:</b> No Requirements <b>Non-Certified:</b> 60.4243(b)(2)(i) <sup>5</sup> , 60.4244	60.4243(a)(2)(i) If using AFRC: 60.4243(g)	<b>All Engines:</b> 60.4244 <b>Certified:</b> ≥100 HP: 60.4243(a)(2)(ii) <b>Non-Certified:</b> 60.4243(b)(2)(i) <sup>5</sup>	60.4245(a),(d)	
		100≤HP<500 (except gasoline)	60.4233(e) <sup>5</sup> Table 1				60.4243(a)(2)(ii) If using AFRC: 60.4243(g)	<b>All Engines:</b> 60.4244 <b>Certified:</b> 60.4243(a)(2)(ii) <b>Non-Certified:</b> 60.4243(b)(2)(i) <sup>5</sup>		
500 HP	Commenced construction after 6/12/2006 and manufactured on or after 1/1/2008	500 HP	60.4233(e)	60.4236(b)	60.4243(a)(1) If using AFRC: 60.4243(g) 40 CFR part 1068, subparts A-D.	None	60.4243(a)(2)(iii) If using AFRC: 60.4243(g)	60.4243(a)(2)(iii) <sup>5</sup> 60.4244	<b>All Engines:</b> 60.4245(a),(d) <b>Non-certified:</b> 60.4245(c)	
Modified / Reconstructed	Modified or reconstructed after 6/12/2006	≤25 HP	60.4233(f)(1)	None			If using AFRC: 60.4243(g) 60.4243(i)		60.4245(a)	
		>25 HP Gasoline	60.4233(f)(2)						60.4245(a),(d)	
		>25 HP natural gas and lean burn LPG	60.4233(f)(4)							

<sup>1</sup>Facilities with engines that are acting as temporary replacement units and that are located at a stationary source for <1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this rule with regard to such engines.

<sup>2</sup>If you operate and maintain the certified engine and control device according to the manufacturer's emission-related instructions, you are operating in a certified manner.

<sup>3</sup>If you do not operate and maintain the certified engine and control device according to manufacturer's emission-related instructions, your engine will be considered a non-certified engine.

<sup>4</sup>ICE with a maximum engine power >19 KW (25 HP) and <75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this rule applicable to engines with a maximum engine power ≥100 HP and <500 HP, may optionally choose to meet those standards.

<sup>5</sup>If you purchase a non-certified engine or you do not operate and maintain your certified engine and control device according to the manufacturer's emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the engine is rebuilt or undergoes major repair or maintenance. A rebuilt ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

<sup>6</sup>The requirements of this section do not apply to ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

# Where do I send notifications and reports?



## EPA REGION 1:

US Environmental Protection Agency

5 Post Office Square, Suite 100, Mail code: OES04-2

Boston, MA 02109-3912

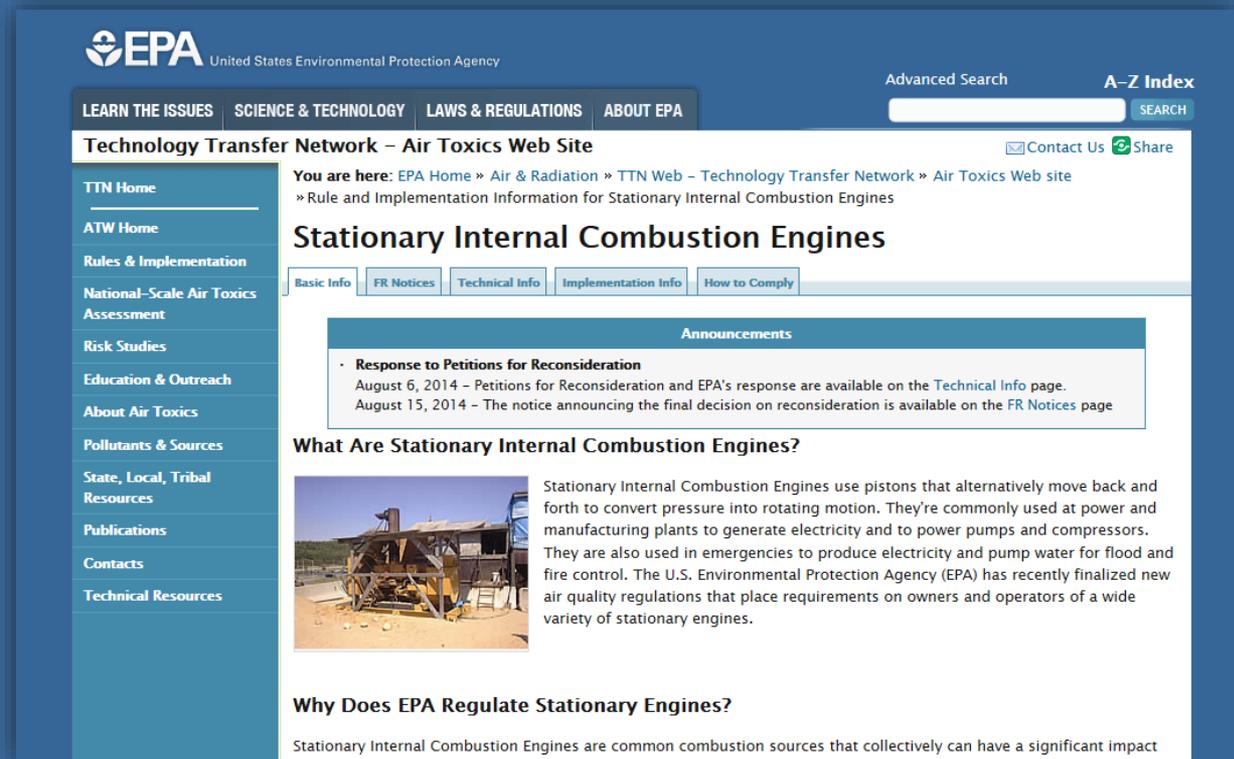
Attention: Air Clerk



# Visit the EPA RICE Compliance Page

[www.epa.gov/ttn/atw/icengines](http://www.epa.gov/ttn/atw/icengines)

- ▶ Fact sheets
- ▶ Regulations
- ▶ Example notifications
- ▶ Announcements
- ▶ Q & A documents
- ▶ Testing advice
- ▶ Recorded webinars
- ▶ ...and more!



The screenshot shows the EPA website's Technology Transfer Network (TTN) page for Air Toxics Web Site. The page is titled "Stationary Internal Combustion Engines" and includes a navigation menu with options like "Basic Info", "FR Notices", "Technical Info", "Implementation Info", and "How to Comply". A section titled "Announcements" features a "Response to Petitions for Reconsideration" dated August 6, 2014, and August 15, 2014. Below this, there is a section titled "What Are Stationary Internal Combustion Engines?" with a photograph of a large industrial engine and a text description. The text explains that these engines use pistons to convert pressure into rotating motion and are commonly used in power and manufacturing plants. It also mentions that the EPA has recently finalized new air quality regulations for these engines. A final section titled "Why Does EPA Regulate Stationary Engines?" states that these engines are common combustion sources that can have a significant impact.



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# Take Aways

## Engine Type:

- An new or reconstructed non-emergency spark ignition 2-stroke lean burn engine at a major source with a site rating of less than or equal to 500 horsepower

## Compliance Date:

- Upon startup

## Compliance Requirements:

- Comply with all SI NSPS requirements, if applicable

