



Air Program Fact Sheet

Wisconsin Air Toxics Rule (NR 445)

Compression Ignition Engines

Revised September 2012

In July 2004, the DNR updated its air toxics rule to better protect public health and the environment. This update included requirements to reduce diesel emissions from engines at stationary sources. Engines burning diesel fuel emit a complex mixture of air pollutants, including fine particulate matter, ozone-forming nitrogen oxides, and air toxics. These pollutants can cause serious public health problems, especially for children and the elderly, and worsen ground level ozone concentrations. Sources using stationary diesel engines include asphalt plants, crushing operations, and other industries with generators.

What sources are affected?

Sources that operate a compression ignition (CI) internal combustion engine burning fuel oil to provide power or to generate electricity at a stationary source are affected.

The provision **excludes** engines that are:

- Rated less than 100 horsepower.
- Used in a truck, bus or recreational vehicle.
- Used to power mobile equipment in the construction, agricultural and airport service industries (non-road engines).
- Used to provide an essential service (e.g., response to flood or fire) or to provide temporary power during times that a regulated engine is being repaired or replaced.

What are the requirements?

- **Fuel.** Fuel oil purchased after July 14, 2006 for use in a regulated engine must have a sulfur content equal to or less than what is allowed by federal law for on-road vehicles. Records showing the dates fuel was purchased, its sulfur content, and how much fuel is burned per month need to be kept on site.
- **Controls.** Control requirements must be met for engines that stay or are expected to stay in one place for 12 months and burn or are expected to burn 10,000 gallons of fuel oil during that time. The requirements are based on the size of the engine and year it was manufactured or last rebuilt. Maintenance records related to both engine and control equipment must also be kept on site.
- **Reporting.** An owner or operator of an engine subject to control equipment must submit an initial notification to the DNR within 10 days of startup. Additional notifications are necessary if the control equipment is replaced or required by permit.

Items to Include in Notification

1. Company name, contact name, phone number and address of the owner or operator of the engine
2. Location of the engine
3. Name of the engine manufacturer
4. Make, model, and serial number of the engine
5. Date the engine was manufactured or last rebuilt
6. Maximum rated horsepower of the engine
7. Date the control device was first put into operation
8. Name of the control device manufacturer
9. Product or model name of the control device
10. Manufacturer's performance warranty for the control device expressed as a

- particulate matter emission rate in grams per brake horsepower-hour
11. Test method used by the manufacturer to determine the particulate matter emission rate in the manufacturer's performance warranty for the control device
 12. Certifying agency for the control device

How does the regulation affect operation permits?

Fuel requirements, applicable emission standards, recordkeeping and reporting requirements are included in operation permits.

How does the regulation affect sources without operation permits?

The new regulation does not require the owner or operator of an engine manufactured or last rebuilt **before July 1, 2006**, to get an operation permit if they do not otherwise need one under Chapter NR 407 of the Wisconsin Administrative Code. Engines manufactured or rebuilt **on or after July 1, 2006** using *Best Available Control Technology* (BACT) need to apply for and receive a permit under Chapter NR 406 prior to operation. Requirements defining BACT will be established during the permit process and will eventually be placed in an operation permit for the source.

Compliance at a glance

Tables 1 and 2 below outline compliance requirements by the date the engine was manufactured or rebuilt, and apply to any engine that stays or is expected to stay in a single location for any consecutive 12-month period and combusts or is expected to combust more than 10,000 gallons of fuel over that period of time. For most engines, there are two compliance options.

Table 1: Requirements for Engines Manufactured or Rebuilt After July 2006

Date	July 1, 2006 to June 30, 2010		On or After July 1, 2010	
	Option A	Option B	Option A	Option B
Size: ≥ 100 Hp	Apply BACT	Emission limit of 0.03 g/bhp-hr ¹	Apply BACT	Emission limit of 0.01 g/bhp-hr
Certification Option		Third-party certification		Third-party certification
Notification (Keep a copy on site with the engine)	Submit construction permit application.	Submit information listed above within 10 days of startup.	Submit construction permit application.	Submit information listed above within 10 days of startup.
Permit Conditions	Compliance requirements initially established in construction permits.	Any operating permit compliance requirements will probably be rolled into the permit when it is renewed.	Compliance requirements initially established in construction permits.	Any operating permit compliance requirements will probably be rolled into the permit when it is renewed.
Recordkeeping	<ul style="list-style-type: none"> • Keep maintenance records on any particulate matter emissions control device. • Keep monthly cost of rebuilding any CI diesel engine. 			

¹ grams per brake horsepower-hour

Table 2: Requirements for Engines Manufactured or Rebuilt Prior to July 2006

Date	Before January 1, 1995		January 1, 1995 to June 30, 2006
	Option A	Option B	
Size: 100 to 750 Hp	85% control of particulate emissions	Emission limit of 0.10 g/bhp-hr ²	Emission limit of 0.10 g/bhp-hr
Size: > 750 Hp	85% control of particulate emissions	Emission limit of 0.03 g/bhp-hr	Emission limit of 0.03 g/bhp-hr
Certification Option	Direct test	Third-party certification	Third-party certification
Notification (Keep a copy on site with the engine)	Submit notification information listed above (only items 1-9) and results of emission test by June 30, 2007.	Submit notification information listed above and results of emission test by June 30, 2007.	Submit notification information listed above and results of emission test by June 30, 2007.
Permit Conditions	Any operating permit compliance requirements will probably be rolled into the permit when it is renewed.		
Recordkeeping	<ul style="list-style-type: none"> • Keep maintenance records on any particulate matter emissions control device. • Keep monthly cost of rebuilding any CI diesel engine. 		

For more information about the requirements for CI engines in the air toxics rule, refer to [NR 445.09](#) in the Wisconsin Administrative Code. To download this fact sheet, see: <http://dnr.wi.gov/files/PDF/pubs/am/AM372.pdf>

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² grams per brake horsepower-hour