



## Connecticut Department of Environmental Protection Permitting Air Emissions from Distributed Generators and Emergency Engines

Recently, the Department of Environmental Protection (DEP) made significant changes to its permitting options and requirements for distributed generators and emergency engines. The following three **regulatory changes** became effective on January 1, 2005:

- New Section 42 establishes a standardized exemption from the duty to obtain an individual permit pursuant to CT's minor New Source Review rule (Section 3a) for the owners and operators of distributed generators that are able to operate in compliance with Section 42. By limiting a generator's actual emissions to less than 15 tons per year, the requirements of Section 42 ensure that the generator's impacts are not significant enough to merit the detailed individual permit review process of Section 3a. Section 42 includes output-based standards for emissions of nitrogen oxides, particulate matter, carbon monoxide and carbon dioxide as well as fuel sulfur content requirements to control emissions of sulfur dioxide.
- Revisions to another portion of the CT's New Source Review rule, Section 3b, reduce the operating hours and fuel sulfur content requirements for emergency engines.
- Revisions to the definition of "emergency" in CT's NOx budget program include within the definition the operation of an emergency generator when the Independent System Operator for New England (ISO-NE) has declared a capacity deficiency of the New England electric system. Section 42 incorporates this same definition of "emergency."

In addition, DEP has issued **revocations of two general permits**:

- The *General Permit to Construct and/or Operate a New or Existing Phase I Distributed Generator*, effective July 1, 2005; and
- The *General Permit to Construct and/or Operate a New or Existing Emergency Engine*, effective February 15, 2005.

### **Permitting Options and Requirements on and after January 1, 2005**

The permitting options available and requirements that apply to the owners and operators of distributed generators and emergency engines under the current regulatory and permitting framework are highlighted below:

#### Permitting Options.

Owners and operators of *distributed generators* with potential emissions equal to or greater than 15 tons per year have two compliance options:

- Operation under Section 42; or
- Applying for and obtaining an individual permit under Section 3a.

Owners and operators of *emergency engines* with potential emissions equal to or greater than 15 tons per year have compliance options to either operate in accordance with the definitions contained within CT's NSR program or apply for an individual permit.

Fuel Requirements. The owners and operators of *distributed generators* operating under Section 42 and *emergency engines* operating under Section 3b must use fuel with a sulfur content that does not exceed that of federal motor vehicle diesel fuel. The current federal limits of 0.05% by weight (500 ppm) will generally be limited to 0.0015% by weight (15 ppm) in retail markets as of September 1, 2006.

Hours of Operation. The owner or operator of a *distributed generator* operating under Section 42 is limited to the hours of operation determined by a formula in Section 42(b). The owner or operator of an *emergency engine* operating under Section 3b will be limited to 300 hours in any twelve consecutive months.

Emissions Standards and Carbon Dioxide Limitations for Distributed Generators Operating Pursuant to Section 42.

- Generators Operating Prior to January 1, 2005

Oxides of nitrogen (lbs/MWh)	Particulate matter (lbs/MWh)	Carbon monoxide (lbs/MWh)	Carbon dioxide (lbs/MWh)
4.0	0.7	10	1900

- Generators First Operating On and After January 1, 2005

Date of first operation	Oxides of nitrogen (lbs/MWh)	Particulate matter (lbs/MWh)	Carbon monoxide (lbs/MWh)	Carbon dioxide (lbs/MWh)
On or after January 1, 2005	0.6	0.7	10	1900
On or after May 1, 2008	0.3	0.07	2	1900
On or after May 1, 2012	0.15	0.03	1	1650

Credit for Combined Heat and Power (CHP) Systems Operating Pursuant to Section 42.

The owner or operator of a distributed generator using a CHP system may receive credit on a per pollutant basis towards compliance with the standards of Section 42.

To be eligible for emissions credit, the CHP system must meet the following requirements:

- At least twenty percent (20%) of the fuel's total recovered energy shall be thermal and at least thirteen percent (13%) shall be electric, with a resulting power-to-heat ratio between 4.0 and 0.15, and
- The design system efficiency shall be at least fifty-five percent (55%).

The specific credit calculations are set out in Section 42(f)(2).

**For Additional Information**

Copies of the air quality regulations are available at <http://www.dep.state.ct.us/air2/regs/mainregs.htm>

For permit-related questions call the Engineering and Technical Services Division at 860-424-4152.