



# ***Facts About...***

## **Amendments to COMAR 26.11.09 Distributed Generation**

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### **Purpose of Amendment**

The primary purpose of these amendments is to establish NO<sub>x</sub> emission requirements for stationary internal combustion engines (ICEs). The amendments will achieve reduction of NO<sub>x</sub> emissions during the ozone season, particularly on high ozone days, while allowing some degree of flexibility necessary to maintain electric system reliability.

### **Background**

In the past, ICEs were installed in large buildings, health care facilities and numerous other facilities as emergency generators of electricity in case of failure of the general supplier of electricity. During the past several years, because of the increased cost of energy, many facilities have started to operate their generators during non-emergencies to reduce the peak load of electricity on high use days, such as days when the ambient temperature exceeds 90°F. This is referred to as "peak" or "load" shaving.

More recently, owners of the generators have been requested by power suppliers to either operate their equipment or maintain the equipment available for use to maintain electric system reliability or to prevent a possible brown out or black out, through both voluntary and mandatory programs.

Most stationary ICEs are fired with diesel fuel and are uncontrolled. The combustion of diesel fuel releases significantly more NO<sub>x</sub> emissions per unit of power compared to the combustion of natural gas or fuel oil or compared to the generation of electricity from well-controlled power plants.

### **Sources Affected**

The amendments will affect hundreds of ICEs located at State and federal facilities, hotels and other large buildings, and numerous other commercial and industrial facilities. These amendments will apply to emergency generators and both new and existing load shaving units.

### **Requirements**

The amendments will:

1. Prohibit emergency generators from testing between 12:01 a.m. to 2:00 p.m. on high ozone days;
2. Require existing load shaving units to control NO<sub>x</sub> emissions, install new engines that meet federal New Source Performance Standards, or limit operation to a total of ten hours during any ozone season;



3. Require new load shaving units to meet New Source Performance Standards or to install controls to meet applicable NOx emission standards;
4. Allow groups of small generators, such as poultry farms, to request alternative compliance methods; and
5. Provide an alternative compliance option for load shaving units that involves the purchase of NOx allowances to be retired.

### **Expected Emissions Reductions**

Conventional NOx controls are relatively expensive for small sources. Therefore, it is expected that not more than a few existing load shaving units will consider controls. If three existing load shaving units with a capacity of 1,000 horsepower or larger installed control systems, NOx emissions will be reduced by 1,000 pounds per day of operation.

If 10 generators limit operations to 10 hours, NOx emissions will be reduced by 1,500 pounds per day. If other owners and groups of small sources decide to purchase allowances to offset NOx emissions, an emission reduction of up to 2,000 pounds per day could be achieved.

### **Economic Impact on Affected Sources and the Department**

#### **A. Impact on Generator Owners.**

1. Affected sources that decide to install NOx controls will pay \$250,000.00 to \$300,000.00 for each NOx control system.
2. Smaller generators with a capacity of 1,000 horsepower or less that purchase allowances will pay up to \$1,000.00 for NOx allowances. Larger engines will pay \$1,500.00 to \$3,000.00 for NOx allowances.
3. Depending upon the selected compliance method, groups of small engines will pay up to \$20,000.00 per year as a group.

#### **B. Impact on the Department.**

The Department will track compliance with existing staff. There will be, however, a need to assign existing staff to these projects because there will be an increase in compliance determinations due to the number of individual sources potentially affected by these amendments.

### **Economic Impact on Small Businesses**

Some small businesses will be affected. The application of these amendments is very broad and will apply to apartment buildings, commercial facilities and small industries. These small businesses will not install expensive NOx controls. Many sources realize a reduced cost because of the lower energy costs due to load shaving.

### **Submission to EPA as Revision to Maryland's SIP (or 111(d) Plan, or Title V Program)**

These amendments will not be submitted to the EPA for approval as part of the approved SIP.



### **Equivalent Federal Standard that Applies to these Sources**

Owners of generators that purchase new ICEs will be subject to federal requirements under 40 CFR Part 60 New Source Performance Standards and 40 CFR Part 63 MACT. There are no equivalent standards for existing units. When EPA completes its standards for new engines in 2012, the standards will be about equivalent to Maryland's standards.

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