



Air Pollution Control Board

Greg Cox	District 1
Dianne Jacob	District 2
Pam Slater	District 3
Ron Roberts	District 4
Bill Horn	District 5

Air Pollution Control District

R. J. Sommerville	Director
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COMPLIANCE ADVISORY

NOTICE OF AMENDMENTS TO RULE 69.3 STATIONARY GAS TURBINE ENGINES - REASONABLY AVAILABLE CONTROL TECHNOLOGY

On December 16, 1998, Rule 69.3 was amended to update existing and delete outdated provisions and definitions, and clarify requirements for continuous emission monitoring and compliance determinations. In addition, the title of the rule was revised to indicate it represents federal Reasonably Available Control Technology requirements.

The amended rule has been submitted to Environmental Protection Agency (EPA) as a State Implementation Plan (SIP) revision. Once approved by EPA, amended Rule 69.3 will be a federal applicable requirement for gas turbines located at major sources (50 tons per year or more) of NOx emissions under the Federal Operating Permit Program (Title V).

For state and local purposes, stationary gas turbines in San Diego County (including those at non-major sources) are regulated by new Rule 69.3.1, also adopted on December 16, 1998. A Compliance Advisory for Rule 69.3.1 is enclosed.

The amended rule will accomplish the following:

Applicability The rule is now applicable to any stationary gas turbine (both new and existing) with a power rating of 0.3 megawatt (MW) or greater unless specifically exempted.

Exemptions Any stationary gas turbine engine with a power rating less than 1 MW which was installed and operated in San Diego County on or before September 27, 1994, is exempt from all the rule requirements.

Certain terms used in the exemption section are also clarified.

Definitions The definitions for Liquid Fuel, Military Tactical Support Equipment, Portable Gas Turbine Engine Shutdown, and Startup are updated.

A definition for Reasonably Available Control Technology (RACT) is added.

The definitions for Existing Unit and New Unit are deleted.

NOx emission limits	No change.
Continuous monitoring and recordkeeping requirements	<p>Reporting requirements, performance specifications and quality assurance procedures are added.</p> <p>The minimum time required to maintain records onsite is reduced from three calendar years to two calendar years.</p>
Test methods	<p>District Source Test Method 100, approved by EPA, is specified for determining compliance with the NOx emission limits.</p> <p>The provision for averaging NOx emissions concentration over any 30 consecutive minute period is deleted. The averaging time for determining compliance is inherent in District Test Method 100.</p> <p>Requirements for calibration or span check measurements of emission testing equipment are included in District Test Method 100.</p>
Source test requirements and compliance determination	<p>The rule clarifies that annual source testing of turbines subject to the NOx emission limits must be conducted <u>prior</u> to the Permit to Operate renewal date.</p> <p>The following guidelines are provided:</p> <p>The NOx emission concentration based on source test results is calculated as an average of three subtests.</p> <p>The averaging period to calculate NOx emission concentration based on continuous emissions monitoring system (CEMS) data is each clock hour.</p>
Compliance schedule	The previous compliance schedule is deleted as the dates have already passed.

A copy of Rule 69.3 is available by contacting the District at (619) 694-3307 or visiting the District's web site at www.sdapcd.co.san-diego.ca.us. For more information, please call the District's Compliance Division at (619) 694-3340.



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COMPLIANCE ADVISORY

NOTICE OF ADOPTION OF NEW RULE 69.3.1 STATIONARY GAS TURBINE ENGINES - BEST AVAILABLE RETROFIT CONTROL TECHNOLOGY

On December 16, 1998, the Air Pollution Control Board adopted new Rule 69.3.1 which reduces oxides of nitrogen (NOx) emissions from stationary gas turbine engines. San Diego County does not meet state and national ambient air quality standards for ozone. NOx emissions are ozone precursors. Rule 69.3.1 implements state Best Available Retrofit Control Technology (BARCT) requirements to further reduce NOx emissions from combustion sources.

New Rule 69.3.1 will accomplish the following:

Applicability

The rule applies to any existing stationary gas turbine engine (installed on or before December 16, 1998) with a power rating of 1.0 megawatt (MW) or greater and any new stationary gas turbine engine (installed after December 16, 1998) with a power rating of 0.3 MW or greater.

Exemptions

The following units are exempt from Rule 69.3.1:

- Any gas turbine engine when operated exclusively for the research, development or testing of gas turbine engines or their components.
- Any portable gas turbine engine. Any person claiming this exemption must maintain records indicating the dates the gas turbine engine was located at each stationary source.
- Any gas turbine with a power rating less than or equal to 0.4 MW used in conjunction with military tactical support equipment at military sites, provided that their operations do not exceed 1,000 hours per calendar year.

Any person claiming this exemption must maintain records indicating the hours that such gas turbine engine operated.

The following turbine engines are exempt from the NOx emission standards of Rule 69.3.1 but are subject to certain administrative requirements:

- Any emergency unit provided that operation for non-emergency purposes to ensure operability in the event of an emergency situation does not exceed 80 hours per calendar year.

**Exemptions
(continued)**

- Any unit during startup, shutdown or a fuel change for a period not to exceed 120 continuous minutes.

Definitions

Definitions for terms used in Rule 69.3.1 are provided in the rule.

**NOx emission
limits**

The attached table lists the rule's NOx emission concentration limits. The limits depend on a turbine's size and mode of operation. The NOx emission limits are in parts per million by volume calculated as nitrogen dioxide at 15% oxygen on a dry basis.

**Continuous
monitoring**

The rule requires the installation and operation of meters and continuous monitors to measure and record various operational parameters of the turbine and any NOx emission reduction system.

**Recordkeeping
requirements**

The rule requires an operating log to record actual times and duration of all startups, shutdowns and fuel usage, and the type and quantity of each fuel used.

For emergency units, the rule requires an operating log to record hours of operation for non-emergency purposes and the duration of each emergency.

For peaking units, the rule requires an operating log to record the hours of operation during high energy demand, and the total cumulative hours of operation during the calendar year.

Records must be maintained on the premises for a minimum of two calendar years and made available to the District upon request.

**Test schedule
and methods**

The rule specifies test methods for determining compliance with the rule. NOx emissions must be tested using District or Air Resource Board (ARB) Test Method 100, as approved by Environmental Protection Agency (EPA).

**Source test
requirements**

Any unit subject to the NOx emission control requirements must be source tested annually, prior to the permit renewal date, unless otherwise specified by the District.

In addition, the rule specifies certain source test requirements and the averaging basis for compliance determinations.

- Compliance schedule**
- By **June 16, 1999**, an owner/operator of any existing turbine not requiring modification, replacement or installation of additional air pollution control equipment must submit an application to modify conditions on the existing Permit to Operate as necessary to comply with the applicable requirements of the rule.
- By **December 16, 1999**, an owner/operator must submit an application for an Authority to Construct/Permit to Operate for any installation, modification or replacement of air pollution control equipment, or gas turbine unit, necessary to meet the emission standards of this rule.
- By **December 16, 2000**, an owner/operator of an existing unit must demonstrate compliance with the NOx emission standards and all other applicable provisions of this rule.
- New turbines or replacement units must comply upon initial installation and startup.

A copy of Rule 69.3.1 is available by contacting the District at (619) 694-3307 or visiting the District's web site at www.sdapcd.co.san-diego.ca.us. For more information, please call the District's Compliance Division at (619) 694-3340.

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Rule 69.3.1
NO_x EMISSION CONCENTRATION LIMITS FOR
STATIONARY GAS TURBINE ENGINES

<u>General Use Units</u> <u>Power Rating (Megawatts)</u>	<u>NO_x Emissions Concentrations (ppmv)</u>	
	<u>Gaseous Fuel</u>	<u>Liquid Fuel</u>
≥0.3 and <2.9 (new units)	42	65
≥1.0 and <2.9 (existing units)	42	65
≥2.9 and <10.0	25 x E/25	65
≥10.0 without post-combustion control	15 x E/25	42 x E/25
≥10.0 with post-combustion control	9 x E/25	25 x E/25
<u>Peaking and Low-Use Units</u>		
Peaking units ≥4 MW and operating less than 877 hours per calendar year	42	65
Units <4 MW and operating less than 877 hours per calendar year	42	65

E is a unit's thermal efficiency calculated according to the formula specified in subsection (c)(23) of the rule.