UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAR 31 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Peter Belmonte
Director, Environmental Engineering
Tractebel Power, Inc.
1990 Post Oak Boulevard, Suite 1900
Houston, TX 77056

Re: Prevention of Significant Deterioration of Air Quality (PSD)
Trigen-Nassau Energy Corporation
Nassau Facility Expansion Project

Dear Mr. Belmonte:

On August 27, 2004, the U.S. Environmental Protection Agency (EPA), Region 2 Office, received a complete PSD application to construct a new 79.9 MW electric generating facility adjacent to the existing Trigen Central Utility Plant located in Uniondale, New York. The project consists of one General Electric (GE) LM6000 Sprint combustion turbine, a supplementally fired heat recovery steam generator and a wet cooling tower. The turbine will primarily combust natural gas with low sulfur distillate oil as a backup and will be equipped with a selective catalytic reduction (SCR) system to control nitrogen oxide emissions and an oxidation catalyst to control emissions of carbon monoxide and volatile organic compounds and good combustion controls and low sulfur fuels to limit PM-10 emissions.

On February 3, 2005, EPA issued a preliminary determination, subject to public review, to approve the PSD permit. No comments were submitted to EPA during the 30-day public review period, which commenced upon publication of EPA's preliminary determination in Newsday on February 24, 2005, and expired on March 26, 2005. There were two requests for a public hearing that were subsequently withdrawn. As such, no changes have been made from the draft PSD permit issued to Trigen on February 3, 2005, to the final permit that is being issued today.

The EPA concludes that this final permit meets all applicable requirements of the PSD regulations codified at 40 CFR §52.21, and the Clean Air Act (the Act). Accordingly, I hereby approve Trigen's PSD permit for the Nassau Facility Expansion Project. This letter and its enclosures represent EPA's final permit decision, and are effective immediately. A project description is provided in Enclosure I, and the permit conditions are delineated in Enclosure II.

This determination is final Agency action under the Clean Air Act. Under Section 307 (b)(2) of the Act, this final permit decision shall not be subject to later judicial review in civil or criminal proceedings for enforcement.

If you have any questions regarding this letter, please call Mr. Steven C. Riva, Chief, Permitting Section, Air Programs Branch, at (212) 637-4074.

Sincerely,

Walter E. Mugdan, Director
Division of Environmental Planning and Protection

Enclosures

ENCLOSURE I

TRIGEN-NASSAU ENERGY CORPORATION
NASSAU FACILITY EXPANSION PROJECT
Project Description

General Project Description:

Trigen proposes to construct a new electric generating unit adjacent to the existing Trigen Central Utility Plant (TCUP) in Uniondale, New York. The proposed unit will produce up to 79.9 MW of electricity and also serve as a backup steam generator for the thermal (steam, hot water and chilled water) distribution system currently supplied to Nassau County by the TCUP.

The project will consist of one General Electric (GE) LM6000 Sprint combustion turbine, a duct-fired heat recovery steam generator (HRSG), a steam generator and a 4-cell wet cooling tower. The turbine will be fired primarily with natural gas, with low sulfur fuel oil (maximum sulfur content of 0.05%) as a backup. The duct burner will have a maximum heat input of 265.2 mmBtu/hr and will burn natural gas and operate only when the turbine is at base load and firing natural gas.

The combustion turbine will utilize selective catalytic reduction to reduce NOx emissions, low sulfur distillate fuel oil (0.05% or less) for SO_2 and PM/PM_{10}, and an oxidation catalyst for CO and VOC. The cooling tower will include a drift eliminator designed to reduce drift to no more than 0.0005% of the circulating water. In addition, upon commencement of the proposed project, Trigen has committed to voluntarily reduce the sulfur content of the fuel oil used by the existing TCUP from 0.27% to 0.05% sulfur. This reduction will be included in the facility's state permit.

PSD-Affected Pollutants:

The Nassau Expansion Project is subject to PSD for the pollutants listed below, which are formed in the following ways:

Particulate Matter (PM/PM_{10}) - Particulate emissions from turbines primarily result from carryover of noncombustible trace constituents in the fuel. Particulate emissions from the cooling tower are the result of the presence of dissolved solids in the make up water

Sulfuric Acid Mist (H_2SO_4) - Sulfuric acid emissions are directly related to the sulfur content of the fuel.

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A summary of project-related emission increases are outlined below. Annual emissions of NO_x and VOC will be limited to below major New Source Review thresholds.

Pollutant	Potential Emissions (tons/year)	Significant Emission Threshold (tons/year)
NO_x	23	25*/40
VOC	23	25*/40
CO	65.31	100
SO_2	24.91	40
PM/PM_{10}	41.62	25/15
H_2SO_4	8.49	7
Pb	0.0025	0.6
NH_3	44.11	NA

* *Represents Non-attainment NSR threshold*

Control Technology:

The Project will employ Best Available Control Technology (BACT) to minimize the PSD-affected pollutants described above. The corresponding emission rates are listed in Enclosure II. Although not subject to BACT for NO_x, VOC, CO and SO_2, the turbine will utilize selective catalytic reduction (SCR) to control NO_x emissions and an oxidation catalyst to control emissions of CO and VOC. The use of low sulfur fuels will minimize emissions of SO_2.

Particulate Matter (PM/PM_{10}) - The turbine will employ good combustion control and utilize low sulfur fuels (natural gas and low sulfur distillate oil) to comply with BACT for PM/PM_{10} emissions. In addition, the cooling tower will be equipped with a high efficiency drift eliminator with a maximum drift rate of 0.0005%.

Sulfuric Acid Mist (H_2SO_4) - Because sulfuric acid mist emissions are related to the sulfur content of the fuel, the use of natural gas and low sulfur distillate oil is considered BACT for the combined cycle plant.

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TRIGEN-NASSAU ENERGY CORPORATION
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PSD Permit Conditions

The Trigen Nassau Facility Expansion Project as described in Enclosure I is subject to the following conditions.

I. Permit Expiration

This PSD Permit shall become invalid if construction:

1. has not commenced (as defined in 40 CFR Part 52.21(b)(9)) within 18 months of the effective date of this permit;
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

II. Notification of Commencement of Construction and Startup

The Regional Administrator (RA) shall be notified in writing of the anticipated date of initial startup (as defined in 40 CFR Part 60.2) of each facility of the source not more than sixty (60) days nor less than thirty (30) days prior to such date. The RA shall be notified in writing of the actual date of both commencement of construction and startup within fifteen (15) days after such date.

III. Plant Operations

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this PSD Permit, shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. The continuous emission monitoring systems required by this permit shall be on-line and in operation 95% of the time when the turbine is operating. Trigen shall demonstrate initial and continuous compliance with the operating, emission and other limits according to the performance testing and compliance assurance and all other requirements of this permit.

IV. Right to Entry

Pursuant to Section 114 of the Clean Air Act (Act), 42 U.S.C. §7414, the Administrator and/or his/her authorized representatives have the right to enter and inspect for all purposes authorized under Section 114 of the Act. The permittee acknowledges that the Regional Administrator and/or his/her authorized representatives, upon the presentation of credentials shall be permitted:

1. to enter at any time upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this PSD Permit;

2. at reasonable times to access and to copy any records required to be kept under the terms and conditions of this PSD Permit;

3. to inspect any equipment, operation, or method required in this PSD Permit; and

4. to sample emissions from the source relevant to this permit.

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V. Transfer of Ownership

In the event of any changes in control or ownership of facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this PSD Permit and its conditions by letter, a copy of which shall be forwarded to the Regional Administrator.

VI. Operating Requirements

Combustion Turbine

1. The General Electric LM6000 combustion turbine unit shall be limited to a maximum heat input rate of 475.4 million British Thermal Units per hour (mmBtu/hr) when firing natural gas and 456.6 mmBtu/hr when firing distillate oil, based on the higher heating value (HHV) of the fuel.

2. Except for startup and shutdown, the combustion turbine shall only be allowed to operate at or above 50% load.

3. The Heat Recovery Steam Generator (HRSG) may combust natural gas in the duct burner up to a maximum of 265.2 mmBtu/hr, HHV.

4. The HRSG duct burner shall not combust fuel when the combustion turbine is firing distillate oil.

5. For the purposes of this PSD permit, startup and shutdown shall be defined as:

   a. Startup for the combustion turbine is defined as the period beginning with the initial firing of fuel in the combustion turbine combustor and ending at the time when the load has increased to 50% load. The duration of the startup shall not exceed 30 minutes. The fuel used for startup shall be limited to natural gas only.

   b. Shutdown for the combustion turbine is defined as the period of time beginning with the load decreasing from 50% load and ending with the cessation of operation of the combustion turbine. The duration of the shutdown shall not exceed three (3) hours for any given combustion turbine shutdown.

   c. Trigen shall comply with all particulate mass emissions limits and the opacity limits during each startup and shutdown.

6. At all times, including periods of startup, shutdown, and malfunction, Trigen shall, to the extent practicable, maintain and operate the combustion turbine including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA and/or NYSDEC which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the plant.

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Cooling Tower

1. The cooling tower drift shall be limited to less than or equal to 0.0005% of the circulating flow.

2. The mist eliminators shall be inspected every year for wear and tear and replaced pursuant to good operational practices.

VII. Fuel Use Requirements

1. The GE LM6000 combustion turbine shall only burn natural gas or distillate fuel oil with a maximum sulfur content of 0.05%, by weight.

2. The maximum amount of distillate oil burned in the combustion turbine shall not exceed 337,884 mmBtu/year.

VIII. Emission Limitations

Combustion Turbine

1. Particulate Matter/Particulate Matter with an aerodynamic diameter of less than or equal to 10 micrometers (PM/PM-10)

    a. The gas fired mass emission rate of PM/PM-10 in the exhaust gas shall not exceed the following:

    (i) 4.66 lb/hr and 0.0141 lb/mmBtu between 75% load and 100% load and no supplemental firing of the HRSG;

    (ii) 3.95 lb/hr and 0.0171 lb/mmBtu between loads greater than or equal to 50% and less than 75% load and no supplemental firing of the HRSG; and

    (iii) 8.42 lb/hr and 0.0128 lb/mmBtu at 100% load and supplemental firing of the HRSG up to 265.2 mmBtu/hr, HHV.

    b. The oil fired mass emission rate of PM/PM-10 in the exhaust gas shall not exceed 13.75 lb/hr and 0.0302 lb/mmBtu between 50% load and 100% load and no supplemental firing of the HRSG.

2. Sulfuric Acid Mist (H_2SO_4)

    a. The gas fired mass emission rate of H_2SO_4 in the exhaust gas shall not exceed the following:

    (i) 0.87 lb/hr and 0.0018 lb/mmBtu between 50% load and 100% load and no supplemental firing of the HRSG; and

    (ii) 1.51 lb/hr and 0.0023 lb/mmBtu at 100% load and supplemental firing of the HRSG up to 265.2 mmBtu/hr, HHV.

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b. The oil fired mass emission rate of H_2SO_4 in the exhaust gas shall not exceed 6.71 lb/hr and 0.0147 lb/mmBtu between 50% load and 100% load and no supplemental firing of the HRSG.

3. Opacity: Opacity of emissions, as measured by an opacity monitor, shall not exceed 20% except for one period of not more than 6 minutes in any 60-minute interval when the opacity shall not exceed 27%.

Cooling Tower

1. The PM/PM-10 emissions from the condenser cooling tower shall not exceed 0.026 lb/hr.

2. Compliance with the cooling tower PM/PM-10 emission limits shall be determined by multiplying the maximum cooling water circulation rate with the cooling water's drift rate and total dissolved solids (TDS) concentration. The TDS shall be monitored once per day.

IX Pollution Control Equipment and Opacity Measurement

1. The GE LM6000 combustion turbine shall continuously operate in accordance with its design specified combustion parameters. This includes continuously operating all proposed control devices.

2. While firing natural gas, Trigen shall conduct monthly opacity observations at the turbine emission point in accordance with 40 CFR Part 60, Method 9. The opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present.

3. While firing distillate fuel oil, Trigen shall conduct daily opacity observations at the turbine emission point in accordance with 40 CFR Part 60, Method 9. The opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present.

X. Continuous Emission Monitoring (CEM) Requirements

1. Prior to the date of startup and thereafter, Trigen shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record fuel flow rate from the combustion turbine unit and all other continuous monitoring systems required by NYSDEC and 40 CFR Part 60. These systems shall meet all applicable EPA monitoring performance specifications.

2. Not less than 90 days prior to the date of startup of the combustion turbine, Trigen shall submit a written report to EPA of a Quality Assurance Project Plan for the certification of the combustion turbine's monitoring systems. Performance evaluation of the monitoring systems may not begin until the Quality Assurance Project Plan has been approved by EPA.

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3. Trigen shall conduct performance evaluations of the continuous monitoring systems during the initial performance testings required under this Permit or within 30 days thereafter in accordance with the applicable performance specifications in 40 CFR Part 60, Appendix B, and 40 CFR Part 52, Appendix E. Trigen shall notify the Regional Administrator (RA) 15 days in advance of the date upon which demonstration of the monitoring system(s) performance will commence.

4. Trigen shall submit a written report to EPA of the results of all monitor performance specification evaluations conducted on the monitoring system(s) within 60 days of the completion of the tests. The monitoring systems must meet all the requirements of the applicable performance specification test in order for the monitors to be certified.

XI. Performance Testing Requirements for the GE LM6000 Combustion Turbine

1. Within 60 days after achieving the maximum production rate of the combustion turbine, but no later than 180 days after initial startup as defined in 40 CFR Part 60.2, and at such other times as specified by the EPA, Trigen shall submit the results of the performance tests for PM, PM-10 and H_2SO_4. All performance tests shall be conducted at base load conditions with and without supplemental firing of the HRSG, 50% load conditions and/or other loads specified by EPA.

2. Three test runs shall be conducted for each load condition and compliance for each operating mode shall be based on the average emission rate of these runs.

3. At least 60 days prior to actual testing, Trigen shall submit to the EPA a Quality Assurance Project Plan detailing methods and procedures to be used during the performance stack testing. A Quality Assurance Project Plan that does not have EPA approval may be grounds to invalidate any test and require a re-test.

4. Trigen shall use the following test methods, or a test method which would be applicable at the time of the test and detailed in a test protocol approved by EPA:

   a. Performance tests to determine the stack gas velocity, sample area, volumetric flow rate, molecular composition, excess air of flue gases, and moisture content of flue gas shall be conducted using 40 CFR Part 60, Appendix A, Methods 1, 2, 3, and 4.

   b. Performance tests for the emissions of PM shall be conducted using 40 CFR Part 60, Appendix A, Method 5.

   c. Performance tests for the emissions of PM-10 shall be conducted using 40 CFR Part 51, Appendix M, Method 201 (exhaust gas recycle) or Method 201A (constant flow rate), and Method 202. PM-10 emissions shall be the sum of noncondensible emissions determined using Method 201 or 201 A and condensible emissions determined using Method 202.

   d. Performance tests for the emissions of H_2SO_4 shall be conducted using 40 CFR Part 60, Appendix A, Method 8.

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e. Performance tests for the visual determination of the opacity of emissions from the stack shall be conducted using 40 CFR Part 60, Appendix A, Method 9 and the procedures stated in 40 CFR Part 60.11.

5. Test results indicating that emissions are below the limits of detection shall be deemed to be in compliance.

6. Additional performance tests may be required at the discretion of the EPA or NYSDEC for any or all of the above pollutants.

7. For performance test purposes, sampling ports, platforms and access shall be provided by Trigen on each unit in accordance with 40 CFR Part 60.8(e).

8. Trigen shall submit a written report to EPA of the results of all emission testing within 60 days of the completion of the performance test, but in any event, no later than 180 days after startup.

9. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

XII. Fuel Sampling Requirements

1. Trigen shall not receive any distillate fuel oil with a sulfur content greater than 0.05% by weight. Prior to unloading the oil from the supplier, Trigen shall verify that the sulfur content of the oil being delivered is no greater than 0.05% by weight by evaluating the fuel oil analyses provided by the supplier or by independently analyzing and confirming the sulfur content of the fuel oil.

2. Compliance with the sulfur content standard shall be determined using the testing methods established in 40 CFR 60.335(d).

XIII. Record keeping Requirements

1. Logs shall be kept and updated daily to record the following:

   a. the amount of electrical output (MW) on an hourly basis from the combustion turbine unit;

   b. the daily Btus of No. 2 fuel oil fired in the combustion turbine totaled with the Btus of oil fired in the turbine for the last 364 consecutive days;

   c. all fuel sampling results; the distillate fuel oil supplier's and/or Trigen's analyses verifying that the sulfur content is no greater than 0.050%;

   d. any adjustments and maintenance performed on the combustion turbine unit;

   e. any adjustments and maintenance performed on monitoring systems;

   f. the cooling water's total dissolved solids (TDS) concentration; and

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g. all calculations and information related to emission determinations.

2. All monitoring records, fuel sampling test results, calibration test results and logs must be maintained for a period of five years after the date of record, and made available upon request. All rolling averages shall be computed on an hourly basis.

XIV. Reporting Requirements

1. Trigen shall submit a written report of all excess emissions to EPA for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each quarter and shall include the information specified below:

   a. The magnitude of excess emissions computed in accordance with 40 CFR Part 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions.

   b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions for the turbine unit. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted shall also be reported.

   c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

   d. When no excess emissions have occurred or the monitoring systems have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

   e. Results of quarterly monitor performance audits, as required in 40 CFR Part 60, Appendix F (including the Data Assessment Report) and all reporting requirements in 40 CFR 60.7 including the submission of excess emissions and CEMs downtime summary sheets

   f. For the purposes of this PSD Permit, excess emissions indicated by monitoring systems shall be considered violations of the applicable emission limits.

   g. Any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emission limit stated in this permit and any corrective actions and/or preventative measures taken on any unit must be reported by telephone within 24 hours to:

      Air Compliance Branch
      Division of Enforcement and Compliance Assistance
      U.S. Environmental Protection Agency
      Region 2
      290 Broadway - 21st Floor
      New York, New York 10007-1866
      (212)637-3000

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h. In addition, the U.S. EPA's Air Compliance Branch shall be notified in writing within fifteen (15) days of any such failure. This notification shall include a description of the malfunctioning equipment or abnormal operation; the date of the initial failure; the period of time over which emissions were increased due to the failure; the cause of the failure; the estimated resultant emissions in excess of those allowed under this permit; and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause.

2. All reports and Quality Assurance Project Plans required by this permit shall be submitted to:

Chief, Air Compliance Branch
Division of Enforcement and Compliance Assistance
U.S. Environmental Protection Agency
Region 2
290 Broadway - 21st Floor
New York, New York 10007-1866

3. Copies of all reports and Quality Assurance Project Plans shall also be submitted to:

Region 2 CEM Coordinator
U. S. Environmental Protection Agency
Air and Water Q/A Team
Monitoring & Assessment Branch
2890 Woodbridge Avenue - MS - 220
Edison, New Jersey 08837-3679

Regional Air Pollution Control Engineer
New York State Department of Environmental Conservation
Region 1
SUNY at Stony Brook Campus
Loop Road
Building 40, Room 121
Stony Brook NY 11790-2356

XV. Other Requirements

1. Trigen shall meet all other applicable federal, state and local requirements, including but not limited to those contained in the New York State Implementation Plan (SIP), the General Provisions of the New Source Performance Standards (NSPS) (40 CFR Part 60, Subpart A), the NSPS for Stationary Gas Turbines (40 CFR, Part 60, Subpart GG) the NSPS for Steam Generating Units (40 CFR, Part 60, Subpart Da) and the NSPS for Volatile Organic Liquid Storage Vessels (40 CFR, Part 60, Subpart Kb).