

**Division of Air Resources
Permit Review Report**

Permit ID: 2-6308-00096/00009

Renewal Number: 2

Modification Number: 2 07/27/2020

Facility Identification Data

Name: CALPINE JFK ENERGY CENTER

Address: KENNEDY INTERNATIONAL AIRPORT BLDG 49|ENTER THROUGH SIGN TO
TERMINAL 7 PARKING
JAMAICA, NY 11430

Owner/Firm

Name: KIAC PARTNERS

Address: C/O CALPINE OPERATING SVCES CO INC
717 TEXAS AVE STE 1000
HOUSTON, TX 77002, USA

Owner Classification: Corporation/Partnership

Permit Contacts

Division of Environmental Permits:

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JAMAICA, NY 11430
Phone:7189950547

**Permit Description
Introduction**

The Title V operating air permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes, that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions". The purpose for this permit review report is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This report will also include background narrative and explanations of regulatory decisions made by the reviewer. It should be emphasized that this permit review report, while based on information contained in the permit, is a separate document and is not itself an enforceable term and condition of the permit.

Summary Description of Proposed Project

This is a minor permit modification (meets the requirements of 6 NYCRR 201-6.2(d)) to upgrade the

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software for two General Electric LM6000 (Emission Sources GT001 & GT002) aeroderivative combustion turbines to enhance utilization of the existing units' capability for better performance. Specifically, the proposed Peak Performance ("Throttle Push") controls software upgrade allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to a 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MMBtu/hr incremental fuel increase. The emissions will increase slightly for the "throttle push – controls software upgrade" due to the higher firing temperature (increase in heat input MMBtu/hr) resulting in an increase in MW output. The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

The upgrade will be available for utilization during natural gas fired operation when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature > 1595 F). Because the units have inlet air chilling, the increase in fuel firing rate is a flat increase across the range of ambient conditions, on an absolute basis (i.e., the same output MW and fuel MMBtu/hr increase for all operating conditions). The Throttle Push (TP) operating mode will not change the following:

1. The relative emission concentrations (ppm) or emission factors (lb/MMBtu) of pollutants.
2. The firing rate (MMBtu/hr) increase will increase the mass emission rates (lb/hr) from the baseline condition, but emissions will stay within the currently permitted short-term emission rate limits for nitrogen oxides (NOx), carbon monoxide (CO) and ammonia slip (NH3).
3. No changes are proposed to the short-term or annual emission limitations for the combustion turbines or the facility-wide annual emission caps in the permit.
4. It is expected that any emissions increase will comply with current permit limits (ppm, lb/hr, lb/MMBtu) including tons/year limits.
5. It is expected that an analysis of past actual to projected future actual emissions (NOx, VOC) for the upgrades will be at or below the Part 231 threshold of 2.5 tons/year.

The Net Emission Increase (NEI) has to be < Significant Emission Increase (SNEIT) of 25 tpy NOx for this project.

NEI = NOx emissions from Project Emission Potential (PEP) =

NEI = 2.5 tpy = 2.5 tpy < 25 tpy

Attainment Status

CALPINE JFK ENERGY CENTER is located in the town of QUEENS in the county of QUEENS. The attainment status for this location is provided below. (Areas classified as attainment are those that meet all ambient air quality standards for a designated criteria air pollutant.)

Criteria Pollutant	Attainment Status
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Particulate Matter (PM)	ATTAINMENT
Particulate Matter < 10µ in diameter (PM10)	ATTAINMENT
Sulfur Dioxide (SO2)	ATTAINMENT

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Ozone*	SEVERE NON-ATTAINMENT
Oxides of Nitrogen (NOx)**	ATTAINMENT
Carbon Monoxide (CO)	ATTAINMENT

 * Ozone is regulated in terms of the emissions of volatile organic compounds (VOC) and/or oxides of nitrogen (NOx) which are ozone precursors.

** NOx has a separate ambient air quality standard in addition to being an ozone precursor.

Facility Description:

KIAC Co-generation Plant - JFK Airport is a Title V an existing co-generation facility, operating several emission sources, which consists of two (2) identical General electric combustion turbines equipped with supplementary fired duct burners and heat recovery steam generators (HRSGs). The renewal permit covers the upgrades of the two combustion turbines from LM 6000 PA to LM 6000 PC Sprint units. This facility is not a PSD source.

Kennedy International Airport Co-generation Partners (KIAC Partners) is located in the middle of the central terminal area of the J.F. Kennedy International Airport, Building No. 49, in Jamaica, New York. The KIAC co-generation plant supplies electricity to the JFK International Airport and to the Consolidated Edison (Con Ed) Power Distribution Grid, and also supplies steam to the airport's central heating and refrigeration plant. The co-generation plant consists of two (2) General Electric LM6000 gas combustion turbines, which are permitted to fire both natural gas and light distillate fuel oil. The duct burners are limited to only natural gas firing. Each gas combustion turbine is equipped with a supplementary fired duct burner and Heat Recovery Steam Generator (HRSG). The gross heat capacity of the co-generation plant is 469 mmBTU/HR for each gas turbine and 718 mmBTU/HR each of the combined gas turbine and duct burner operation, which is based on the higher heating value (HHV) of natural gas. The cogeneration units are individually vented through two exhaust stacks, which vent emissions from each gas turbine and associated duct burner unit. The combustion turbines fire natural gas as the primary fuel with light distillate oil (jet fuel with a maximum sulfur content of 0.091%) as the backup fuel. Light distillate oil firing is limited to 4.8 million gal/yr per combustion turbine. The duct burners are limited to natural gas firing. Each of the General Electric LM6000 PC Sprint gas combustion turbines is designed with water injection as the first level of NOx control and Selective Catalytic Reduction (SCR) as the secondary NOx control system, for both residual combustion turbine NOx and duct burner NOx reduction. The SCR catalyst as the dual function of CO oxidation to CO2 and NOx reduction to N2 and H2O. The KIAC Cogeneration facility operates and maintains Continuous Emission Monitors (CEM) and continuous data recorder NOx, CO Oxygen and Ammonia to monitor the emissions from each combustion turbine/duct burner. The standard industrial classification code (SIC) is 4931 - Electric and Other Services Combined (electric less than 95 percent of total).

The permit application splits the single emissions unit 1-OGTDB into two identical emissions units (U-00001 and U-00002) exhausting to individual emission points (EP: 00001 and EP: 00002). Each emission unit consists of a combustion turbine, duct burner and selective catalytic reduction (SCR) emission source.

KIAC Partners co-generation plant consists of the following two emission units:

Emission Unit U-00001 consists of one General Electric LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT001) equipped with a supplemental firing COEN duct burner (Emission Source DB001). The combustion turbine was constructed on 5/1/1994 and began operating on 3/1/1995. At the time of construction, the turbine was equipped with Coen Lo NOx Lo CO controls and ammonia injectors

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(Emission Control SCR01) as the emission control. The combustion turbine is capable of firing either natural gas or light distillate oil (jet fuel with a maximum sulfur content of 0.091%). The combustion turbine fires natural gas (Processes GT1 & GT5) as a primary fuel and light distillate oil or jet fuel with a maximum sulfur content of 0.091% (Processes GT3 & GT7) as a secondary backup fuel. Processes GT1 & GT3 are with supplemental firing of duct burner and Processes GT5 & GT7 are with no supplemental firing of duct burner. The duct burner (Emission Source DB001) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0001 that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR01) as an emission control. Coen Lo NOx Lo CO controls and ammonia injectors (emission control 00SCR) as the emission control. Light distillate oil (jet fuel with a maximum sulfur content of 0.091%) firing is limited to 4.8 million gal/yr per combustion turbine.

Emission Unit U-00002 consists of one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT002) equipped with a supplemental firing COEN duct burner (Emission Source DB002). The combustion turbine was constructed on 5/1/1994 and began operating on 3/1/1995. At the time of construction, the turbine was equipped with Coen Lo NOx Lo CO controls and ammonia injectors (Emission Control SCR02) as the emission control. The combustion turbine fires natural gas (Processes GT2 & GT6) as a primary fuel and light distillate oil or jet fuel with a maximum sulfur content of 0.091% (Processes GT4 & GT8) as a secondary backup fuel. Processes GT2 & GT4 are with supplemental firing of duct burner and Processes GT6 & GT8 are with no supplemental firing of duct burner. The duct burner (Emission Source DB002) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0002 that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR02) as an emission control. Light distillate oil (jet fuel with a maximum sulfur content of 0.091%) firing is limited to 4.8 million gal/yr per combustion turbine.

Emission Unit B-OILRS consists of Emission Unit B-OILRS consists of six (6) emergency boilers. These boilers are owned by the Port Authority of New York/New Jersey (PANY/NJ), but operated by Calpine. In the past, these boilers have operated under Certificates to Operate that were issued to the PANY/NJ on November 22, 1995.

On 1/26/2018, Calpine incorporated the six emergency boilers in their Title V permit. These six boilers are used for the production of hot water for the airport terminals; the boilers are operated only in the event of natural gas curtailment or operational issues with the combustion turbines (Emission Sources GT001 and GT002). The following table provides a summary of pertinent information regarding these six boilers:

Emission Source	Emission Point	Heat Input Capacity	Fuels Fired	Start-Up Date
HWG01	00015	40 MM Btu/hr	NG, AGK or #2 FO	1-1-1987
HWG02	00016	40 MM Btu/hr	NG AGK or #2 FO	1-1-1956
HWG03	00017	40 MM Btu/hr	NG AGK or #2 FO	1-1-1956
HWG04	00018	75 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG05	00019	60 MM Btu/hr	NG AGK or #2 FO	1-1-1961
HWG06	00020	60 MM Btu/hr	NG AGK or #2 FO	1-1-1961

The six boilers operate on natural gas (Processes BG1 & BG2), and Aviation-Grade Kerosene or jet fuel -

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AGK or #2 Fuel Oil - #2 FO (Processes BD1 & BD2). These boilers were previously included in permits for another facility. Upon the issuance of this Title V modification, the six emergency boilers will become part of the KIAC facility (which qualifies as a major source of NOx emissions), and will become subject to 6 NYCRR Part 227-2 which specifies the Reasonably Available Control Technology Requirements (RACT) for major facilities of Nitrogen Oxides (NOx). Under Part 227-2, these boilers qualify as "mid-size" boilers that fire distillate oil/natural gas.

All six boilers are mid-size boilers (between 25 and 100 MM Btu/hr). Emission Sources HWG01, HWG02, HWG05 and HWG06 are equipped with an oxygen trim system "that maintains an optimum air-to-fuel ratio".

Boilers HWG02 & HWG03 are not equipped with an oxygen trim system as an emission control, but Boilers HWG01, HWG04, HWG05 & HWG06 are equipped with an oxygen trim system as an emission control.

For those sources for which the owner or operator demonstrates that the applicable presumptive RACT emission limit of 0.08 pounds per million Btus for mid-size boilers operating on distillate oil (jet fuel)/natural gas in 6 NYCRR 227-2.4 (c)(1)(ii) is not economically or technically feasible, the owner or operator can request the Department to set a higher source specific emission limit. Economic or technical feasibility must include, but is not limited, the evaluation of fuel switching, selective catalytic reduction or system averaging as compliance options. This alternative RACT emission limit must be approved by the Department and by the Administrator as a revision to the State Implementation Plan.

On May 15, 2017, the facility has submitted a NOx RACT variance analysis based on Air-Guide 20 "Economic and Technical Analysis for Reasonably Available Control Technology Networks" (i.e. when emitting NOx above 0.08 pounds per million Btus, but below 0.30 pounds per million Btus) to be approved for a Title V permit to operate the six mid-size emergency boilers (Emission Sources HWG01, HWG02, HWG03, HWG04, HWG05 & HWG06). The facility is requesting a variance on the six mid-size emergency boilers based on the lack of economic feasibility of \$7,064 per ton of NOx reduced for LNB-FGR, and \$7,345 per ton of NOx reduced for LNB only, which is much higher than the threshold of \$5,000 per ton for NOx RACT. The variance is based on the stack testing results conducted in the report dated February 22, 2017.

Technologies that could meet the new NOx limits such as the use of low NOx burners (LNB) and Flue Gas Recirculation (FGR) would require significant capital investment and would not be cost-effective and would be counter-effective and counter-productive in the long term. The analysis concluded that no NOx control technologies were economically feasible for these six emergency boilers at the facility. This report was submitted to comply with a variance request to the NOx emission limits stated above pursuant to Part 621, Uniform Procedures act.

The facility demonstrates that the applicable presumptive RACT emission limit of 0.08 pounds per million Btus in 6 NYCRR 227-2.4(c)(1)(ii) is not economically or technically feasible, the owner or operator can request the Department to set a higher source specific emission limit. Economic or technical feasibility must include, but is not limited, the evaluation of fuel switching, selective catalytic reduction or system averaging as compliance options. This alternative RACT emission limit must be approved by the Department and by the Administrator as a revision to the State Implementation Plan.

Once per permit term, the facility shall conduct NOx emission testing to verify that the actual NOx emissions from each boiler are less than 0.25 pounds of NOx per million Btus, while firing distillate oil, and less than 0.15 pounds of NOx per million Btus, while firing natural gas. Emission testing shall be conducted on four boilers that are selected to be representative of all boilers based upon equipment

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manufacturer, make and model number. To satisfy the emission test requirements of 6 NYCRR 227-2.6 (c), the owner or operator of an emission source required to conduct an emission test under subdivision (a) of this section.

The facility has submitted a NO_x RACT Variance application with this modification due to the lack of economic feasibility of \$7,064 per ton of NO_x reduced, which is much higher than the threshold of \$5,000 per ton for NO_x RACT.

Based on the NO_x RACT evaluation dated May 15, 2017 and economic analysis, the facility is being granted a NO_x RACT Variance of 0.15 pounds of NO_x per million Btus for the six mid-size boilers, (Emission Sources HWG01, HWG02, HWG03, HWG04, HWG05 & HWG06) when operating on natural gas (Processes BG1 & BG2), and a NO_x RACT Variance of 0.25 pounds of NO_x per million Btus for the six mid-size boilers, (Emission Sources HWG01, HWG02, HWG03, HWG04, HWG05 & HWG06) when operating on distillate oil (Processes BD1 & BD2).

With the issuance of this permit modification, the facility has been granted a NO_x RACT variance of 0.15 lbs/MM Btu NO_x emission rate for each of the six mid-size emergency boilers when operating on natural gas (Processes BG1 & BG2), and 0.25 lbs/MM Btu NO_x emission rate when operating on aviation-grade kerosene - AGK and jet fuel or #2 light distillate fuel oil - #2 fuel oil (Processes BD1 & BD2) as per 6 NYCRR 227-2.5 (c), instead of the 0.08 lbs/MM Btu NO_x RACT required for 6 NYCRR 227-2.4 (c)(1)(ii) for mid-size boilers operating on distillate oil/gas.

The total NO_x emissions for six emergency boilers are capped at 24 tons per year of NO_x, on a rolling 12-month basis. Monthly records shall be kept at the facility. Records will be available for inspection by the DEC staff, and the facility will maintain records on-site for a minimum of five years. The permit application included a NO_x RACT variance analysis based on Air Guide 20 to be approved for a Title V permit to operate these six emergency boilers at the stack tested rates (i.e. when emitting NO_x above 0.08 lbs/MMBtu but below 3.0 lbs/MM Btu). The facility has been granted a variance on each of the six mid-size emergency boilers of 0.15 lbs/MM Btu NO_x emission rate when operating on natural gas (Processes BG1 & BG2), and 0.25 lbs/MM Btu NO_x emission rate when operating on aviation-grade kerosene - AGK and jet fuel or #2 light distillate fuel oil - #2 fuel oil (Processes BD1 & BD2). Compliance with this NO_x emission limit for each boiler will be demonstrated and determined by a stack emission testing once during the term of the permit. Emissions will be calculated based on the most recent stack test result. KIAC will conduct emission stack testing once during the permit term to demonstrate compliance.

KIAC primarily uses natural gas for the operation of the two combustion turbines and their associated duct burners, and very infrequently uses distillate fuel oil for the two combustion turbines. But KIAC's contract with NYISO requires that Calpine maintains the ability to have dual fuel capability in the event of natural gas shortages or emergencies.

The two combustion turbines at KIAC use the low sulfur distillate fuel oil that is considered to be jet fuel (with a maximum sulfur content is 0.091%) for its operation and is supplied by the Kennedy Airport and is the same fuel that is utilized by the airport for fueling airplanes and does not meet the 0.0015 percent sulfur limitation according to 6 NYCRR 225-1.2.

The fuel oil is supplied to the KIAC Energy Center via an underground pipeline owned by the Port Authority of NY/NJ. The facility has reviewed the sulfur in fuel data for the liquid jet fuel received from the airport and used by the airplanes and also by KIAC in their two combustion turbines; the current average sulfur content of the jet fuel is 0.074%, and the maximum sulfur content is 0.091%. As the fuel used at KIAC is supplied via pipeline, the facility is required to maintain the collection/analysis of the fuel oil sample each time the fuel is delivered.

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In addition to renewing the Title V for the current Title V permit for an existing cogeneration facility, and due to change of regulations by EPA, the following Cross-State Air Pollution Rule (CSAPR) conditions for NOx and SO2 Trading Programs, the following conditions have been added to the permit:

1. Condition # 109 for 40 CFR 97.406 for Transport Rule NOx Annual Trading Program, which provides for monitoring of annual oxides of nitrogen (NOx) emission allowances, and includes emission monitoring, record keeping, reporting and certification requirements for NOx.
2. Condition # 110 for 40 CFR 97.506 for Transport Rule NOx Ozone Season Trading Program, which provides for monitoring of oxides of nitrogen (NOx) emission allowances for the ozone season Trading Program, and includes emission monitoring, record keeping, reporting and certification requirements for NOx.
3. Condition # 111 for 40 CFR 97.606 for Transport Rule SO2 Group 1 Trading Program, which allows for monitoring of sulfur dioxide (SO2) emission allowances in the Group 1 Trading Program, and includes emission monitoring, record keeping, reporting and certification requirements for SO2.
4. Due to change of regulations by NYSDEC and EPA, the Clean Air Interstate Rule (CAIR) conditions for 6 NYCRR 243, 244 and 245 have been removed from the permit, they have been replaced by the 3 above conditions for Cross-State Air Pollution Rule. But Part 242 is RGGI (Regional Greenhouse Gas Initiative), which remains in effect, and therefore the condition for 6 NYCRR 242-8.5 remains in the permit. This Part establishes the New York State component of the CO2 Budget Trading Program, which is designed to stabilize and then reduce anthropogenic emissions of CO2, a greenhouse gas, from CO2 budget sources in an economically efficient manner. In addition, there is no state-wide allocation. The CAIR conditions required facilities to obtain/poses at least as many allocations of carbon dioxide (CO2), sulfur dioxide (SO2) and oxides of nitrogen as they emit to the atmosphere during a specified period of time. An allocation is a unit of pollution which is limited by a budget established by the regulations.

The Title V Permit contains a complete listing of the applicable Federal, State and compliance monitoring requirements for the facility, its emission units and emission points. The facility (co-generation plant) is subject to the provisions of Title V for sulfur dioxide, 6NYCRR 225-1.2, fuel composition and use - sulfur limitations, which restricts the sulfur content of fuel oil (jet fuel) utilized throughout the facility to 0.091% by weight or less and to the record keeping of fuel analysis, 6NYCRR 225-1.6. The facility has to comply with 6NYCRR 227.2(b)(1), the particulates standard of 0.1 lb/MM Btu for turbines exceeding 250 MM Btu/hr heat capacity, 6NYCRR 227-1.3(a) and 6NYCRR 227-1.4, the 20% opacity using CEM. The facility is also subject to 6NYCRR 227-1.4(a), CEM of carbon dioxide or % of oxygen, 6NYCRR 227-1.4(b), record keeping of fuel heating value. The facility is subject to 6NYCRR 227-2.6(a)(1), oxides of nitrogen emissions using CEMS and 6NYCRR 227-2.6(b), record keeping of oxides of nitrogen using CEMS. The facility is subject to 6NYCRR 231-1, lowest achievable emission rate and 40CFR 52-A-21(j), best available control technology. The facility is subject to the general provisions, notifications, record keeping, performance tests, compliance and monitoring requirements of 40CFR 6-A. The facility is also subject to 40CFR 60-Db, compliance and performance test methods and procedures for sulfur dioxide and particulate matter in addition to the emission monitoring, reporting and record keeping requirements for sulfur dioxide, particulate matter and nitrogen oxides. In addition, the facility is subject to 40CFR 60-GG.334, the monitoring of operations for turbines, fuel sulfur and nitrogen content monitoring requirements and bulk storage fuel monitoring requirements and 40CFR 60-GG.335, optional test methods and procedures for oxides of nitrogen and sulfur dioxide. The facility is subject to the Clean Air interstate Rule (CAIR) under regulations 6 NYCRR Part 242, which is RGGI (Regional Greenhouse Gas Initiative), and establishes the New York State component of the CO2 Budget Trading Program. Finally, the facility is subject to the Cross-State Air Pollution Rule (CSAPR) regulations for NOx and SO2 Trading Programs,

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40 CFR 97.406 for Transport Rule NO_x Annual Trading Program, 40 CFR 97.506 for Transport Rule NO_x Ozone Season Trading Program, and 40 CFR 97.606 for Transport Rule SO₂ Group 1 Trading Program.

The continuous emissions monitoring system (CEMS) installed are to be used to monitor emissions from the combustion turbine/HRSG and duct burners units. The mass emission rate (lbs/hr) of NO_x and CO from the combustion turbine/duct burner stacks must be continuously calculated using the methodology contained in the CEM monitoring plan. The facility shall monitor continuously and determine daily:

1. The average hourly rate of each fuel burned.
2. The average hourly electrical output.
3. The minimum and maximum hourly generation rate.

The requirement to monitor the gross heating value and ash content of fuel burned at least once per week is waived. The facility uses CEMS on each of its stacks and determines heat content of fuel burned on a continuous basis. At the request of the NYSDEC, the facility shall submit a written report of excess emissions for each calendar quarter and the nature and cause of the excessive emissions if known. The facility shall retain records and summaries for at least five years, and upon the request of the NYSDEC shall furnish such records and summaries.

The facility operates other sources which are considered exempt from permitting in accordance with 6NYCRR 201-3.2 (c), including one (1) emergency power generator (<500 hours/year), four (4) non-contact water cooling towers and water treatment systems for process cooling water, one (1) storage tank with capacity < 10,000 gallons and two (2) horizontal petroleum storage tanks.

Permit Structure and Description of Operations

The Title V permit for CALPINE JFK ENERGY CENTER

is structured in terms of the following hierarchy: facility, emission unit, emission point, emission source and process. A facility is defined as all emission sources located at one or more adjacent or contiguous properties owned or operated by the same person or persons under common control. The facility is subdivided into one or more emission units (EU). Emission units are defined as any part or activity of a stationary facility that emits or has the potential to emit any federal or state regulated air pollutant. An emission unit is represented as a grouping of processes (defined as any activity involving one or more emission sources (ES) that emits or has the potential to emit any federal or state regulated air pollutant). An emission source is defined as any apparatus, contrivance or machine capable of causing emissions of any air contaminant to the outdoor atmosphere, including any appurtenant exhaust system or air cleaning device. [NOTE: Indirect sources of air contamination as defined in 6 NYCRR Part 203 (i.e. parking lots) are excluded from this definition]. The applicant is required to identify the principal piece of equipment (i.e., emission source) that directly results in or controls the emission of federal or state regulated air pollutants from an activity (i.e., process). Emission sources are categorized by the following types:

- combustion - devices which burn fuel to generate heat, steam or power
- incinerator - devices which burn waste material for disposal
- control - emission control devices
- process - any device or contrivance which may emit air contaminants that is not included in the above categories.

CALPINE JFK ENERGY CENTER is defined by the following emission unit(s):

Emission unit U00002 - Emission Unit U-00002 consists of one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT002) equipped with a supplemental firing COEN duct burner (Emission Source DB002). The combustion turbine fires natural gas (Processes GT2 & GT6) as a primary fuel and light distillate oil (Processes GT4 & GT8) as a secondary backup fuel. Processes GT2 & GT4 are

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with supplemental firing of duct burner and Processes GT6 & GT8 are with no supplemental firing of duct burner. The duct burner (Emission Source DB002) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0002, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR02) as an emission control.

The software for these two General Electric LM6000 combustion turbines (Emission Sources GT001 & GT002) is being upgraded to enhance utilization of the existing units' capability for better performance in order to increase the MW output. The proposed Peak Performance ("Throttle Push") upgrade is a controls software upgrade that allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MM Btu/hr incremental fuel increase.

The upgrade will be available for utilization during natural gas fired operation (Processes GT2 & GT6) when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature >1595 F). The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

Emission unit U00002 is associated with the following emission points (EP):
E0002

Process: GT2 is located at Building COGENB - Process GT2 is the firing of natural gas in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT002) with supplemental firing of the duct burner (Emission Source DB002) in Emission Unit U-00002. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The duct burner (Emission Source DB002) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0002, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR02) as an emission control.

The software for these two General Electric LM6000 combustion turbines (Emission Sources GT001 & GT002) is being upgraded to enhance utilization of the existing units' capability for better performance in order to increase the MW output. The proposed Peak Performance ("Throttle Push") upgrade is a controls software upgrade that allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MM Btu/hr incremental fuel increase.

The upgrade will be available for utilization during natural gas fired operation (Processes GT2 & GT6) when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature >1595 F). The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

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Process: GT4 is located at Building COGENB - Process GT4 is the firing of light distillate oil in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT002) with supplemental firing of the duct burner (Emission Source DB002) in Emission Unit U-00002. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The duct burner (Emission Source DB002) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0002, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR02) as an emission control.

Light distillate oil firing is limited to 4.8 million gallons per year per combustion turbine (Emission Source GT002).

Process: GT6 is located at Building COGENB - Process GT6 is the firing of natural gas in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT002) with no supplemental firing of the duct burner (Emission Source DB002) in Emission Unit U-00002. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The combustion turbine unit vents through a stack, identified as Emission Point E0002, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR02) as an emission control.

The software for these two General Electric LM6000 combustion turbines (Emission Sources GT001 & GT002) is being upgraded to enhance utilization of the existing units' capability for better performance in order to increase the MW output. The proposed Peak Performance ("Throttle Push") upgrade is a controls software upgrade that allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MM Btu/hr incremental fuel increase.

The upgrade will be available for utilization during natural gas fired operation (Processes GT2 & GT6) when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature >1595 F). The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

Process: GT8 is located at Building COGENB - Process GT8 is the firing of light distillate oil in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT002) with no supplemental firing of the duct burner (Emission Source DB002) in Emission Unit U-00002. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The combustion turbine unit vents through a stack, identified as Emission Point E0002, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR02) as an emission control.

Light distillate oil firing is limited to 4.8 million gallons per year per combustion turbine (Emission Source GT002).

Emission unit U00001 - Emission Unit U-00001 consists of one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT001) equipped with a supplemental firing COEN duct burner

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(Emission Source DB001). The combustion turbine fires natural gas (Processes GT1 & GT5) as a primary fuel and light distillate oil (Processes GT3 & GT7) as a secondary backup fuel. Processes GT1 & GT3 are with supplemental firing of duct burner and Processes GT5 & GT7 are with no supplemental firing of duct burner. The duct burner (Emission Source DB001) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0001, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR01) as an emission control.

The software for these two General Electric LM6000 combustion turbines (Emission Sources GT001 & GT002) is being upgraded to enhance utilization of the existing units' capability for better performance in order to increase the MW output. The proposed Peak Performance ("Throttle Push") upgrade is a controls software upgrade that allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MM Btu/hr incremental fuel increase.

The upgrade will be available for utilization during natural gas fired operation (Processes GT1 & GT5) when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature >1595 F). The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

Regulatory Applicability Analysis:

The TP upgrade allows for increased fuel firing rate at a higher temperature and greater turbine generator output. The current Title V operating permit does not limit these parameters; the heat input capacity of 469 MM Btu/hr stated in the permit for the combustion turbines is understood to be a nominal rating, and as such may remain unchanged. With the upgrades there will be the potential for a nominal 2.5 MW increase above the full load nominal MW output on each CTG. The current permit does not identify the nominal output of the CTGs, so no change to the permit is needed. The upgrades do not change the emissions performance of the units on a concentration basis, and the increased (MMBtu/hr) firing rate will result in increased mass (lb/hr) emission rates at the conditions where it is applied, but not exceed permit limits. The upgrades are only applied for full load operation of the combustion turbines (Emission Sources GT001 & GT002) at ambient temperatures greater than 46 degrees F.

Emission unit U00001 is associated with the following emission points (EP):
E0001

Process: GT1 is located at Building COGENB - Process GT1 is the firing of natural gas in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT001) with supplemental firing of the duct burner (Emission Source DB001) in Emission Unit U-00001. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The duct burner (Emission Source DB001) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0001, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR01) as an emission control.

The software for these two General Electric LM6000 combustion turbines (Emission Sources GT001 & GT002) is being upgraded to enhance utilization of the existing units' capability for better performance in order to increase the MW output. The proposed Peak Performance ("Throttle Push") upgrade is a controls

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software upgrade that allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MM Btu/hr incremental fuel increase.

The upgrade will be available for utilization during natural gas fired operation (Processes GT1 & GT5) when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature >1595 F). The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

Process: GT3 is located at Building COGENB - Process GT3 is the firing of light distillate oil in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT001) with supplemental firing of the duct burner (Emission Source DB001) in Emission Unit U-00001. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The duct burner (Emission Source DB001) is limited to natural gas firing. The combustion turbine/duct burner unit vents through a stack, identified as Emission Point E0001, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR01) as an emission control.

Light distillate oil firing is limited to 4.8 million gallons per year per combustion turbine (Emission Source GT001).

Process: GT5 is located at Building COGENB - Process GT5 is the firing of natural gas in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT001) with no supplemental firing of the duct burner (Emission Source DB001) in Emission Unit U-00001. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The combustion turbine unit vents through a stack, identified as Emission Point E0001, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR01) as an emission control.

The software for these two General Electric LM6000 combustion turbines (Emission Sources GT001 & GT002) is being upgraded to enhance utilization of the existing units' capability for better performance in order to increase the MW output. The proposed Peak Performance ("Throttle Push") upgrade is a controls software upgrade that allows for increased firing temperature in the combustion turbine. This upgrade is expected to yield up to 2.5 MW increase in combustion turbine generator (CTG) output with a 23.3 MM Btu/hr incremental fuel increase.

The upgrade will be available for utilization during natural gas fired operation (Processes GT1 & GT5) when the ambient temperature is greater than 46 degrees F while maintaining compliance with current permit limits at its KIAC Cogen Facility at JFK Airport in Queens. The feature increases the maximum combustion turbine output on high-demand days, so it will only be utilized when the unit is operating at 100% full load (a temperature >1595 F). The upgrade will be implemented on each unit, as soon as this minor permit modification is issued and after making the additional generating capacity available to meet peak demand.

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Process: GT7 is located at Building COGENB - Process GT7 is the firing of light distillate oil in one GE LM 6000 PC SPRINT combustion turbine/HRSG unit (Emission Source GT001) with no supplemental firing of the duct burner (Emission Source DB001) in Emission Unit U-00001. The combustion turbine firing natural gas as the primary fuel and light distillate oil as the secondary fuel. The combustion turbine unit vents through a stack, identified as Emission Point E0001, that is located in the COGENB area. This emission unit is equipped with a selective catalytic reduction - SCR (Emission Control SCR01) as an emission control.

Light distillate oil firing is limited to 4.8 million gallons per year per combustion turbine (Emission Source GT001).

Emission unit BOILRS - Emission Unit B-OILRS consists of six (6) emergency boilers. These boilers are owned by the Port Authority of New York/New Jersey (PANY/NJ), but operated by Calpine. In the past, these boilers have operated under Certificates to Operate that were issued to the PANY/NJ on November 22, 1995.

These boilers are used for the production of hot water for the airport terminals; the boilers are operated only in the event of natural gas curtailment or operational issues with the combustion turbines (Emission Sources GT001 and GT002).

The following table provides a summary of pertinent information regarding these boilers:

Emission Source	Emission Point	Heat Input Capacity	Fuels Fired	Start-Up Date
HWG01	00015	50 MM Btu/hr	NG, AGK or #2 FO	1-1-1956
HWG02	00016	50 MM Btu/hr	NG, AGK or #2 FO	1-1-1956
HWG03	00017	50 MM Btu/hr	NG, AGK or #2 FO	1-1-1987
HWG04	00018	90 MM Btu/hr	NG, AGK or #2 FO	1-1-1987
HWG05	00019	75 MM Btu/hr	NG, AGK or #2 FO	1-1-1961
HWG06	00020	75 MM Btu/hr	NG, AGK or #2 FO	1-1-1961

AGK is Aviation-Grade Kerosene, and #2 FO is #2 Fuel Oil

The six boilers operate on natural gas (Processes BG1 & BG2), Aviation-Grade Kerosene or jet fuel - AGK and #2 Fuel Oil - #2 FO (Processes BD1 & BD2).

Emission unit BOILRS is associated with the following emission points (EP):
00015, 00016, 00017, 00018, 00019, 00020

Process: BD1 is located at Building COGENB - Process BD1 is when the six boilers are firing light distillate (jet fuel or # 2 fuel oil, where the boilers qualify as "Gas-Only" units and

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are exempt from the requirements of 40 CFR 63 Subpart JJJJJ. (Use of distillate fuel oil is limited to periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel does not exceed a combined total of 48 hours during any calendar year).

The six emergency boilers are used for the production of hot water for the airport terminals; the boilers are operated only in the event of natural gas curtailment or operational issues with the combustion turbines (Emission Sources GT001 and GT002). The following table provides a summary of pertinent information regarding these six boilers:

Emission Source	Emission Point	Heat Input Capacity	Fuels Fired	Start-Up Date
HWG01	00015	50 MM Btu/hr	NG, AGK or #2 FO	1-1-1956
HWG02	00016	50 MM Btu/hr	NG AGK or #2 FO	1-1-1956
HWG03	00017	50 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG04	00018	90 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG05	00019	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961
HWG06	00020	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961

The six boilers operate on natural gas (Processes BG1 & BG2), and Aviation-Grade Kerosene or jet fuel - AGK or #2 Fuel Oil - #2 FO (Processes BD1 & BD2).

Process: BD2 is located at Building COGENB - Process BD1 is when the six boilers are firing light distillate (jet fuel or # 2 fuel oil), where the boilers are subject to the requirements of 40 CFR 63 Subpart JJJJJ. (Use of distillate fuel oil is limited to periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel does not exceed a combined total of 48 hours during any calendar year).

The six emergency boilers are used for the production of hot water for the airport terminals; the boilers are operated only in the event of natural gas curtailment or operational issues with the combustion turbines (Emission Sources GT001 and GT002). The following table provides a summary of pertinent information regarding these six boilers:

Emission Source	Emission Point	Heat Input Capacity	Fuels Fired	Start-Up Date
HWG01	00015	50 MM Btu/hr	NG, AGK or #2 FO	1-1-1956
HWG02	00016	50 MM Btu/hr	NG AGK or #2 FO	1-1-1956
HWG03	00017	50 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG04	00018	90 MM Btu/hr	NG AGK or #2 FO	1-1-1987

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HWG05	00019	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961
HWG06	00020	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961

The six boilers operate on natural gas (Processes BG1 & BG2), and Aviation-Grade Kerosene or jet fuel - AGK or #2 Fuel Oil - #2 FO (Processes BD1 & BD2).

Process: BG1 is located at Building COGENB - Process BG1 is when the six boilers are firing natural gas, where the boilers qualify as "Gas-Only" units and are exempt from the requirements of 40 CFR 63 Subpart JJJJJ. (Use of distillate fuel oil is limited to periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel does not exceed a combined total of 48 hours during any calendar year).

The six emergency boilers are used for the production of hot water for the airport terminals; the boilers are operated only in the event of natural gas curtailment or operational issues with the combustion turbines (Emission Sources GT001 and GT002). The following table provides a summary of pertinent information regarding these six boilers:

Emission Source	Emission Point	Heat Input Capacity	Fuels Fired	Start-Up Date
HWG01	00015	50 MM Btu/hr	NG, AGK or #2 FO	1-1-1956
HWG02	00016	50 MM Btu/hr	NG AGK or #2 FO	1-1-1956
HWG03	00017	50 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG04	00018	90 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG05	00019	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961
HWG06	00020	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961

The six boilers operate on natural gas (Processes BG1 & BG2), and Aviation-Grade Kerosene or jet fuel - AGK or #2 Fuel Oil - #2 FO (Processes BD1 & BD2).

Process: BG2 is located at Building COGENB - Process BG2 is when the six boilers are firing natural gas, where the boilers are subject to the requirements of 40 CFR 63 Subpart JJJJJ. (Use of distillate fuel oil is limited to periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel does not exceed a combined total of 48 hours during any calendar year).

The six emergency boilers are used for the production of hot water for the airport terminals; the boilers are operated only in the event of natural gas curtailment or operational issues with the combustion turbines (Emission Sources GT001 and GT002). The following table provides a summary of pertinent information regarding these six boilers:

Emission Source	Emission Point	Heat Input Capacity	Fuels Fired	Start-Up Date
HWG02	00016	50 MM Btu/hr	NG AGK or #2 FO	1-1-1956

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HWG03	00017	50 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG04	00018	90 MM Btu/hr	NG AGK or #2 FO	1-1-1987
HWG05	00019	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961
HWG06	00020	75 MM Btu/hr	NG AGK or #2 FO	1-1-1961

The six boilers operate on natural gas (Processes BG1 & BG2), and Aviation-Grade Kerosene or jet fuel - AGK or #2 Fuel Oil - #2 FO (Processes BD1 & BD2).

Title V/Major Source Status

CALPINE JFK ENERGY CENTER is subject to Title V requirements. This determination is based on the following information:

The KIAC Cogeneration Plant - JFK is a major facility because the potential emissions of nitrogen oxides and volatile organic compounds are greater than the major source thresholds, which is 25 tons per year for both nitrogen oxides and volatile organic compounds. Also, the potential emissions of sulfur dioxide is greater than the major source thresholds of 100 tons/year.

Program Applicability

The following chart summarizes the applicability of CALPINE JFK ENERGY CENTER with regards to the principal air pollution regulatory programs:

Regulatory Program	Applicability
PSD	YES
NSR (non-attainment)	YES
NESHAP (40 CFR Part 61)	NO
NESHAP (MACT - 40 CFR Part 63)	YES
NSPS	YES
TITLE IV	YES
TITLE V	YES
TITLE VI	NO
RACT	YES

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SIP	YES
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NOTES:

PSD Prevention of Significant Deterioration (40 CFR 52, 6 NYCRR 231-7, 231-8) - requirements which pertain to major stationary sources located in areas which are in attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

NSR New Source Review (6 NYCRR 231-5, 231-6) - requirements which pertain to major stationary sources located in areas which are in non-attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

NESHAP National Emission Standards for Hazardous Air Pollutants (40 CFR 61, 6 NYCRR 200.10) - contaminant and source specific emission standards established prior to the Clean Air Act Amendments of 1990 (CAAA) which were developed for 9 air contaminants (inorganic arsenic, radon, benzene, vinyl chloride, asbestos, mercury, beryllium, radionuclides, and volatile HAP's).

MACT Maximum Achievable Control Technology (40 CFR 63, 6 NYCRR 200.10) - contaminant and source specific emission standards established by the 1990 CAAA. Under Section 112 of the CAAA, the US EPA is required to develop and promulgate emissions standards for new and existing sources. The standards are to be based on the best demonstrated control technology and practices in the regulated industry, otherwise known as MACT. The corresponding regulations apply to specific source types and contaminants.

NSPS New Source Performance Standards (40 CFR 60, 6 NYCRR 200.10) - standards of performance for specific stationary source categories developed by the US EPA under Section 111 of the CAAA. The standards apply only to those stationary sources which have been constructed or modified after the regulations have been proposed by publication in the Federal Register and only to the specific contaminant(s) listed in the regulation.

Title IV Acid Rain Control Program (40 CFR 72 thru 78, 6 NYCRR 201-6) - regulations which mandate the implementation of the acid rain control program for large stationary combustion facilities.

Title VI Stratospheric Ozone Protection (40 CFR 82, Subpart A thru G, 6 NYCRR 200.10) - federal requirements that apply to sources which use a minimum quantity of CFC's (chlorofluorocarbons), HCFC's (hydrofluorocarbons) or other ozone depleting substances or regulated substitute substances in equipment such as air conditioners, refrigeration equipment or motor vehicle air conditioners or appliances.

RACT Reasonably Available Control Technology (6 NYCRR Parts 212-3, 220-1.6, 220-1.7, 220-2.3, 220-2.4, 226, 227-2, 228, 229, 230, 233, 234, 235, 236) - the lowest emission limit that a specific source is capable of meeting by application of control technology that is reasonably available, considering technological and economic feasibility. RACT is a control strategy used to limit emissions of VOC's and NOx for the purpose of attaining the air quality standard for ozone. The term as it is used in the above table refers to those state air pollution control regulations which specifically regulate VOC and NOx emissions.

SIP State Implementation Plan (40 CFR 52, Subpart HH, 6 NYCRR 200.10) - as per the CAAA, all states are empowered and required to devise the specific combination of controls that, when implemented, will bring about attainment of ambient air quality standards established by the federal government and the individual state. This specific combination of measures is referred to as

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the SIP. The term here refers to those state regulations that are approved to be included in the SIP and thus are considered federally enforceable.

Compliance Status

Facility is in compliance with all requirements.

SIC Codes

SIC or Standard Industrial Classification code is an industrial code developed by the federal Office of Management and Budget for use, among other things, in the classification of establishments by the type of activity in which they are engaged. Each operating establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Larger facilities typically have more than one SIC code.

SIC Code

Description

4931	ELEC & OTHER SERVICES COMBINED
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SCC Codes

SCC or Source Classification Code is a code developed and used" by the USEPA to categorize processes which result in air emissions for the purpose of assessing emission factor information. Each SCC represents a unique process or function within a source category logically associated with a point of air pollution emissions. Any operation that causes air pollution can be represented by one or more SCC's.

SCC Code

Description

1-03-004-02	EXTERNAL COMBUSTION BOILERS - COMMERCIAL/INDUSTRIAL COMMERCIAL/INSTITUTIONAL BOILER - RESIDUAL OIL 10-100MMBTU/HR **
1-03-006-02	EXTERNAL COMBUSTION BOILERS - COMMERCIAL/INDUSTRIAL COMMERCIAL/INSTITUTIONAL BOILER - NATURAL GAS 10-100 MMBtu/Hr
2-02-001-03	INTERNAL COMBUSTION ENGINES - INDUSTRIAL INDUSTRIAL INTERNAL COMBUSTION ENGINE - DISTILLATE OIL (DIESEL) Turbine: Cogeneration
2-02-002-03	INTERNAL COMBUSTION ENGINES - INDUSTRIAL INDUSTRIAL INTERNAL COMBUSTION ENGINE - NATURAL GAS Turbine: Cogeneration

Facility Emissions Summary

In the following table, the CAS No. or Chemical Abstract Service code is an identifier assigned to every chemical compound. [NOTE: Certain CAS No.'s contain a 'NY' designation within them. These are not true CAS No.'s but rather an identification which has been developed by the department to identify groups of contaminants which ordinary CAS No.'s do not do. As an example, volatile organic compounds or VOC's are identified collectively by the NY CAS No. 0NY998-00-0.] The PTE refers to the Potential to Emit. This is defined as the maximum capacity of a facility or air contaminant source to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the

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capacity of the facility or air contamination source to emit any air contaminant , including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount or material combusted, stored, or processed, shall be treated as part of the design only if the limitation is contained in federally enforceable permit conditions. The PTE for each contaminant that is displayed represents the facility-wide PTE in tons per year (tpy) or pounds per year (lbs/yr). In some instances the PTE represents a federally enforceable emissions cap or limitation for that contaminant. The term ‘HAP’ refers to any of the hazardous air pollutants listed in section 112(b) of the Clean Air Act Amendments of 1990. Total emissions of all hazardous air pollutants are listed under the special NY CAS No. 0NY100-00-0. In addition, each individual hazardous air pollutant is also listed under its own specific CAS No. and is identified in the list below by the (HAP) designation.

Cas No.	Contaminant	PTE lbs/yr	PTE tons/yr	Actual lbs/yr	Actual tons/yr
000106-99-0	1,3-BUTADIENE	45		2.7	
000075-07-0	ACETALDEHYDE	1322		242	
000107-02-8	ACROLEIN	122.6		38.7	
007664-41-7	AMMONIA	127729		167800	
007440-38-2	ARSENIC	16.66		0.0673	
000071-43-2	BENZENE	668		72.9	
007440-41-7	BERYLLIUM	2.2		0.00193	
007440-43-9	CADMIUM	8.02		0.034	
000124-38-9	CARBON DIOXIDE	108200000		699754396	
0NY750-00-0	CARBON DIOXIDE EQUIVALENTS	833000		708000000	
000630-08-0	CARBON MONOXIDE	206000		71500	
007440-47-3	CHROMIUM	16.06		0.0728	
007440-48-4	COBALT	0.000388		0.0492	
0NY064-29-0	COPPER (CU 064)	3.6		0.00392	
000100-41-4	ETHYLBENZENE	380		193	
000050-00-0	FORMALDEHYDE	9180		4290	
000110-54-3	HEXANE	1052		8.31	
007439-92-1	LEAD	20.6		0.0868	
007439-96-5	MANGANESE	1028		4.77	
007439-97-6	MERCURY	3.36		0.00844	
000091-20-3	NAPHTHALENE	106.6		8.07	
007440-02-0	NICKEL METAL AND INSOLUBLE COMPOUNDS	7.76		0.0375	
0NY210-00-0	OXIDES OF NITROGEN	1602000		408400	
0NY075-00-0	PARTICULATES	103400		48600	
0NY075-02-5	PM 2.5	99000		48600	
0NY075-00-5	PM-10	99000		48600	
0NY505-00-0	POLYCYCLIC ORGANIC MATTER (POM)	117.2		13.5	
000075-56-9	PROPANE, 1,2- EPOXY-	344		175	
007782-49-2	SELENIUM	41.4		0.151	
007446-09-5	SULFUR DIOXIDE	214000		4870	
000108-88-3	TOLUENE	177.8		786	
0NY100-00-0	TOTAL HAP	15620		6230	
007440-62-2	VANADIUM	1.346		0.0106	
0NY998-00-0	VOC	35200		53400	
001330-20-7	XYLENE, M, O & P MIXT.	906		387	

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NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

- Item A: Public Access to Recordkeeping for Title V Facilities - 6 NYCRR 201-1.10(b)**
The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6 NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.
- Item B: Timely Application for the Renewal of Title V Permits -6 NYCRR Part 201-6.2(a)(4)**
Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.
- Item C: Certification by a Responsible Official - 6 NYCRR Part 201-6.2(d)(12)**
Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official. This certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- Item D: Requirement to Comply With All Conditions - 6 NYCRR Part 201-6.4(a)(2)**
The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
- Item E: Permit Revocation, Modification, Reopening, Reissuance or Termination, and Associated Information Submission Requirements - 6 NYCRR Part 201-6.4(a)(3)**
This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- Item F: Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR 201-6.4(a)(5)**
It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.
- Item G: Property Rights - 6 NYCRR 201-6.4(a)(6)**
This permit does not convey any property rights of any sort or any exclusive privilege.
- Item H: Severability - 6 NYCRR Part 201-6.4(a)(9)**

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If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.

Item I: Permit Shield - 6 NYCRR Part 201-6.4(g)

All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

- i. The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;
- ii. The liability of a permittee of the Title V facility for any violation of applicable requirements prior to or at the time of permit issuance;
- iii. The applicable requirements of Title IV of the Act;
- iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

Item J: Reopening for Cause - 6 NYCRR Part 201-6.4(i)

This Title V permit shall be reopened and revised under any of the following circumstances:

- i. If additional applicable requirements under the Act become applicable where this permit's remaining term is three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended by the Department pursuant to the provisions of Part 201-6.7 and Part 621.
- ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.
- iv. If the permitted facility is an "affected source" subject to the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess

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emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall affect only those parts of the permit for which cause to reopen exists.

Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

Item K: Permit Exclusion - ECL 19-0305

The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

Item L: Federally Enforceable Requirements - 40 CFR 70.6(b)

All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

Item A: Emergency Defense - 6 NYCRR 201-1.5

An emergency, as defined by subpart 201-2, constitutes an affirmative defense to penalties sought in an enforcement action brought by the Department for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated and maintained;
- (3) During the period of the emergency the facility owner or

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operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(4) The facility owner or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner or operator seeking to establish the occurrence of an emergency has the burden of proof.

(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement. item_02

**Item B: General Provisions for State Enforceable Permit Terms and Condition - 6
NYCRR Part 201-5**

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Regulatory Analysis

Location Facility/EU/EP/Process/ES	Regulation	Condition	Short Description

FACILITY	ECL 19-0301	126	Powers and Duties of the Department with respect to air pollution control
FACILITY	40CFR 52-A.21(j)	76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88	Best Available Control Technology
U-00001/E0001	40CFR 52-A.21(j)	114, 115	Best Available Control Technology
U-00002/E0002	40CFR 52-A.21(j)	122, 123	Best Available Control Technology
FACILITY	40CFR 60-A.11	96	General provisions - compliance with standards and maintenance requirements
FACILITY	40CFR 60-A.12	97	General provisions - Circumvention

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FACILITY	40CFR 60-A.13	98, 99	General provisions - Monitoring requirements
FACILITY	40CFR 60-A.14	100	General provisions - Modification
FACILITY	40CFR 60-A.15	101	General provisions - Reconstruction
FACILITY	40CFR 60-A.4	89	General provisions - Address
FACILITY	40CFR 60-A.7	90	General provisions - Notification and recordkeeping
FACILITY	40CFR 60-A.7 (a)	91	Notification and Recordkeeping
FACILITY	40CFR 60-A.7 (b)	92	Notification and Recordkeeping
FACILITY	40CFR 60-A.7 (c)	93	Notification and Recordkeeping
FACILITY	40CFR 60-A.7 (d)	94	Notification and Recordkeeping
FACILITY	40CFR 60-A.7 (f)	95	Notification and Recordkeeping
FACILITY	40CFR 60-Db.47b	102	Emission Monitoring for Sulfur Dioxide.
FACILITY	40CFR 60-Db.48b (f)	103	Emission Monitoring for Particulate Matter and Nitrogen Oxides.
FACILITY	40CFR 60-Db.49b	104	Reporting and Recordkeeping Requirements.
FACILITY	40CFR 60-Dc.48c (a)	105	Reporting and Recordkeeping Requirements.
U-00001/E0001	40CFR 60-Dc.48c (a)	116	Reporting and Recordkeeping Requirements.
U-00001/E0001	40CFR 60-GG.334 (b)	117	Monitoring of Operations: CEMS
FACILITY	40CFR 60-GG.334 (h) (1)	1 -44	Sulfur Content of Fuel
FACILITY	40CFR 60-GG.334 (h) (3)	107	Allowance not to monitor sulfur or nitrogen for natural gas
FACILITY	40CFR 63-A	1 -45	Subpart A - General Provisions apply to all NESHAP affected sources
FACILITY	40CFR 63- JJJJJJ.11201 (b)	1 -46, 1 -47	ICI Boiler Area Source NESHAP - Management Practices
FACILITY	40CFR 63- JJJJJJ.11205 (a)	1 -48	ICI Boiler Area Source NESHAP - Good Air Pollution Control Practices
FACILITY	40CFR 63- JJJJJJ.11210 (h)	1 -49	ICI Boiler Area Source NESHAP - Physical Change to Boiler
FACILITY	40CFR 63- JJJJJJ.11214 (c)	1 -50	ICI Boiler Area Source NESHAP - Energy Assessment for Existing 10 mmBtu/hr or Greater Boilers

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FACILITY	40CFR 63- JJJJJJ.11223 (b)	1	-51	ICI Boiler Area Source NESHAP - Tune- up Procedures
FACILITY	40CFR 63- JJJJJJ.11223 (c)	1	-52	ICI Boiler Area Source NESHAP - Oxygen Trim System
FACILITY	40CFR 63- JJJJJJ.11225 (a)	1	-53	ICI Boiler Area Source NESHAP - Notifications
FACILITY	40CFR 63- JJJJJJ.11225 (b)	1	-54	ICI Boiler Area Source NESHAP - Annual Compliance Certification Report
FACILITY	40CFR 63- JJJJJJ.11225 (d)	1	-55	ICI Boiler Area Source NESHAP - Form of Records
FACILITY	40CFR 68	19		Chemical accident prevention provisions
FACILITY	40CFR 75-C.20	108		CEM operation and maintenance requirements - certification and recertification procedures
FACILITY	40CFR 82-F	20		Protection of Stratospheric Ozone - recycling and emissions reduction
FACILITY	40CFR 97-AAAAA.406	109		Transport Rule (TR) NOx Annual Trading Program Standard Requirments
FACILITY	40CFR 97-BBBBB.506	110		Transport Rule (TR) NOx Ozone Season Trading Program Standard Requirement
FACILITY	40CFR 97-CCCCC.606	111		Transport Rule (TR) SO2 Group 1 Trading Program Standard Requirments
FACILITY	6NYCRR 200.6	1		Acceptable ambient air quality.
FACILITY	6NYCRR 200.7	10		Maintenance of equipment.
FACILITY	6NYCRR 201-1.4	127		Unavoidable noncompliance and violations
FACILITY	6NYCRR 201-1.7	11		Recycling and Salvage
FACILITY	6NYCRR 201-1.8	12		Prohibition of reintroduction of collected contaminants to the air
FACILITY	6NYCRR 201-3.2 (a)	13		Exempt Activities - Proof of eligibility
FACILITY	6NYCRR 201-3.3 (a)	14		Trivial Activities - proof of eligibility
FACILITY	6NYCRR 201-6	21, 112, 113		Title V Permits and the Associated Permit Conditions
FACILITY	6NYCRR 201-6.4 (a) (4)	15		General Conditions - Requirement to Provide Information
FACILITY	6NYCRR 201-6.4 (a) (7)	2		General Conditions - Fees

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FACILITY	6NYCRR 201-6.4 (a) (8)	1	-1	General Conditions -
FACILITY	6NYCRR 201-6.4 (c)	3		Right to Inspect
FACILITY	6NYCRR 201-6.4 (c) (2)	4		Recordkeeping and
FACILITY	6NYCRR 201-6.4 (c) (3) (ii)	5		Reporting of
FACILITY	6NYCRR 201-6.4 (d) (4)	22		Compliance Monitoring
FACILITY	6NYCRR 201-6.4 (e)	6, 2	-2	Records of
FACILITY	6NYCRR 201-6.4 (f) (6)	17		Monitoring, Sampling
FACILITY	6NYCRR 201-6.4 (g)	1	-2, 2	and Measurement
FACILITY	6NYCRR 201-6.5 (a)	2	-7	Reporting
FACILITY	6NYCRR 201-7	23, 1	-56	Requirements -
FACILITY	6NYCRR 202-1.1	18		Deviations and
FACILITY	6NYCRR 202-1.5	25		Noncompliance
FACILITY	6NYCRR 202-2	26		Compliance Schedules
FACILITY	6NYCRR 202-2.1	7		- Progress Reports
FACILITY	6NYCRR 202-2.5	8, 2	-1	Compliance
FACILITY	6NYCRR 207.2	1	-6	Certification
FACILITY	6NYCRR 211.1	28, 29		Off Permit Changes
FACILITY	6NYCRR 211.2	128		Permit Shield
FACILITY	6NYCRR 212-2.3 (b)	2	-8, 2 -9, 2 -10, 2 -11, 2 -12, 2 -13, 2 -14, 2 -15	State Enforceable
FACILITY	6NYCRR 215.2	9		Requirements
FACILITY	6NYCRR 225-1.2	1	-7	Federally Enforceable
FACILITY	6NYCRR 225-1.2 (f)	1	-8	Emissions Caps
FACILITY	6NYCRR 225-1.2 (h)	1	-9	Required emissions
FACILITY	6NYCRR 225-1.5 (c)	1	-10	tests.
FACILITY	6NYCRR 225-1.6	43		Prohibitions.
FACILITY	6NYCRR 227.2 (b) (1)	57, 1	-23	Emission Statements
FACILITY	6NYCRR 227-1.2	45		Emission Statements -
FACILITY	6NYCRR 227-1.3 (a)	1	-11, 1 -12, 1 -13	Applicability
FACILITY	6NYCRR 227-1.4	129		Emission Statements -
FACILITY	6NYCRR 227-1.4 (a)	130		record keeping
FACILITY	6NYCRR 227-1.4 (d)	49		requirements.
				Episode action plan.
				General Prohibitions
				- air pollution
				prohibited
				General Prohibitions
				- visible emissions
				limited.
				State Air Program
				Non-Criteria air
				contaminants subject
				Table 4
				Open Fires -
				Prohibitions
				Sulfur-in-Fuel
				Limitations
				Sulfur-in-Fuel
				Limitations
				Sulfur-in-Fuel
				Limitations
				Monitoring
				Requirements
				Reports, Sampling,
				and Analysis
				Particulate
				emissions.
				Particulate Emissions
				from Liquid Fuels.
				Smoke Emission
				Limitations.
				Stack Monitoring.
				(see narrative)
				Stack Monitoring.
				(see narrative)
				Stack Monitoring

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FACILITY	6NYCRR 227-1.7	1 -14, 1 -15	General Emission Data.
U-00001/E0001/GT7	6NYCRR 227-1.7	121	General Emission Data.
FACILITY	6NYCRR 227-2.4 (e) (3)	1 -16, 1 -17	NOx requirements for other combustion turbines.
FACILITY	6NYCRR 227-2.5 (c)	1 -18, 1 -19, 1 -20	Alternative RACT option.
FACILITY	6NYCRR 227-2.6	55	Testing, monitoring, and reporting requirements
FACILITY	6NYCRR 227-2.6 (a)	1 -21	Applicable testing and/or monitoring requirements.
FACILITY	6NYCRR 227-2.6 (b)	1 -22	CEMS requirements
FACILITY	6NYCRR 231-1.4	131	Lowest achievable emission rate
FACILITY	6NYCRR 231-1.6	132	Air quality impact evaluation
FACILITY	6NYCRR 231-11.2	2 -4	Reasonable Possibility requirements for insignificant mods
FACILITY	6NYCRR 231-11.2 (b)	2 -5	Reasonable Possibility requirements for insignificant mods - less than 50% with excluded emissions
FACILITY	6NYCRR 231-13	2 -6	Tables and Emission Thresholds
FACILITY	6NYCRR 231-2.7 (b)	1 -24, 1 -25, 1 -26, 1 -27, 1 -28, 1 -29, 1 -30, 1 -31, 1 -32, 1 -33, 1 -34, 1 -35, 1 -36, 1 -37, 1 -38, 1 -39, 1 -40, 1 -41, 1 -42	Net emission increase determination
FACILITY	6NYCRR 242-1.5	133, 134, 135	CO2 Budget Trading Program - Standard requirements
FACILITY	6NYCRR 242-8.5	136	CO2 Budget Trading Program - Recordkeeping and reporting

Applicability Discussion:

Mandatory Requirements: The following facility-wide regulations are included in all Title V permits:

ECL 19-0301

This section of the Environmental Conservation Law establishes the powers and duties assigned to the Department with regard to administering the air pollution control program for New York State.

6 NYCRR 200.6

Acceptable ambient air quality - prohibits contravention of ambient air quality standards without mitigating measures

6 NYCRR 200.7

Anyone owning or operating an air contamination source which is equipped with an emission control

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device must operate the control consistent with ordinary and necessary practices, standards and procedures, as per manufacturer's specifications and keep it in a satisfactory state of maintenance and repair so that it operates effectively

6 NYCRR 201-1.4

This regulation specifies the actions and recordkeeping and reporting requirements for any violation of an applicable state enforceable emission standard that results from a necessary scheduled equipment maintenance, start-up, shutdown, malfunction or upset in the event that these are unavoidable.

6 NYCRR 201-1.7

Requires the recycle and salvage of collected air contaminants where practical

6 NYCRR 201-1.8

Prohibits the reintroduction of collected air contaminants to the outside air

6 NYCRR 201-3.2 (a)

An owner and/or operator of an exempt emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains exempt emission sources or units, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6 NYCRR 201-3.3 (a)

The owner and/or operator of a trivial emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains trivial emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6 NYCRR Subpart 201-6

This regulation applies to those terms and conditions which are subject to Title V permitting. It establishes the applicability criteria for Title V permits, the information to be included in all Title V permit applications as well as the permit content and terms of permit issuance. This rule also specifies the compliance, monitoring, recordkeeping, reporting, fee, and procedural requirements that need to be met to obtain a Title V permit, modify the permit and demonstrate conformity with applicable requirements as listed in the Title V permit. For permitting purposes, this rule specifies the need to identify and describe all emission units, processes and products in the permit application as well as providing the Department the authority to include this and any other information that it deems necessary to determine the compliance status of the facility.

6 NYCRR 201-6.4 (a) (4)

This mandatory requirement applies to all Title V facilities. It requires the permittee to provide information that the Department may request in writing, within a reasonable time, in order to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The request may include copies of records required to be kept by the permit.

6 NYCRR 201-6.4 (a) (7)

This is a mandatory condition that requires the owner or operator of a facility subject to Title V requirements to pay all applicable fees associated with the emissions from their facility.

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6 NYCRR 201-6.4 (a) (8)

This is a mandatory condition for all facilities subject to Title V requirements. It allows the Department to inspect the facility to determine compliance with this permit, including copying records, sampling and monitoring, as necessary.

6 NYCRR 201-6.4 (c)

This requirement specifies, in general terms, what information must be contained in any required compliance monitoring records and reports. This includes the date, time and place of any sampling, measurements and analyses; who performed the analyses; analytical techniques and methods used as well as any required QA/QC procedures; results of the analyses; the operating conditions at the time of sampling or measurement and the identification of any permit deviations. All such reports must also be certified by the designated responsible official of the facility.

6 NYCRR 201-6.4 (c) (2)

This requirement specifies that all compliance monitoring and recordkeeping is to be conducted according to the terms and conditions of the permit and follow all QA requirements found in applicable regulations. It also requires monitoring records and supporting information to be retained for at least 5 years from the time of sampling, measurement, report or application. Support information is defined as including all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

6 NYCRR 201-6.4 (c) (3) (ii)

This regulation specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.

6 NYCRR 201-6.4 (d) (4)

This condition applies to every Title V facility subject to a compliance schedule. It requires that reports, detailing the status of progress on achieving compliance with emission standards, be submitted semiannually.

6 NYCRR 201-6.4 (e)

Sets forth the general requirements for compliance certification content; specifies an annual submittal frequency; and identifies the EPA and appropriate regional office address where the reports are to be sent.

6 NYCRR 201-6.4 (f) (6)

This condition allows changes to be made at the facility, without modifying the permit, provided the changes do not cause an emission limit contained in this permit to be exceeded. The owner or operator of the facility must notify the Department of the change. It is applicable to all Title V permits which may be subject to an off permit change.

6 NYCRR 201-6.4 (g)

Permit Exclusion Provisions - specifies those actions, such as administrative orders, suits, claims for natural resource damages, etc that are not affected by the federally enforceable portion of the permit, unless they are specifically addressed by it.

6 NYCRR 202-1.1

This regulation allows the department the discretion to require an emission test for the purpose of determining compliance. Furthermore, the cost of the test, including the preparation of the report are to be borne by the owner/operator of the source.

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6 NYCRR 202-2.1

Requires that emission statements shall be submitted on or before April 15th each year for emissions of the previous calENdar year.

6 NYCRR 202-2.5

This rule specifies that each facility required to submit an emission statement must retain a copy of the statement and supporting documentation for at least 5 years and must make the information available to department representatives.

6 NYCRR 211.2

This regulation limits opacity from sources to less than or equal to 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

6 NYCRR 215.2

Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

40 CFR Part 68

This Part lists the regulated substances and there applicability thresholds and sets the requirements for stationary sources concerning the prevention of accidental releases of these substances.

40 CFR Part 82, Subpart F

Subpart F requires the reduction of emissions of class I and class II refrigerants to the lowest achievable level during the service, maintenance, repair, and disposal of appliances in accordance with section 608 of the Clean Air Act AmENDments of 1990. This subpart applies to any person servicing, maintaining, or repairing appliances except for motor vehicle air conditioners. It also applies to persons disposing of appliances, including motor vehicle air conditioners, refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment. Those individuals, operations, or activities affected by this rule, may be required to comply with specified disposal, recycling, or recovery practices, leak repair practices, recordkeeping and/or technician certification requirements.

Facility Specific Requirements

In addition to Title V, CALPINE JFK ENERGY CENTER has been determined to be subject to the following regulations:

40 CFR 52.21 (j)

BACT determinations are made on a case-by-case basis and can be no less stringent than any requirement that exists in the current State Implementation Plan (SIP) or 40 CFR 60 and 61. Emission and operational limitations required from a BACT determination will have to be entered into the special permit conditions, separately by the permit reviewer.

40 CFR 60.11

This regulation specifies the type of opacity monitoring requirements in relation to compliance with the standards and maintenance requirements.

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40 CFR 60.12

This regulation prohibits an owner or operator from concealing emissions in violation of applicable standards by any means.

40 CFR 60.13

This regulation specifies how monitoring shall be performed and which methods and appendices are used to determine if the monitoring is adequate and in compliance with the regulated standards.

40 CFR 60.14

This regulation defines the term modification and what is and is not considered to be a modification, for the purpose of rule applicability.

40 CFR 60.15

This regulation defines the term reconstruction and what is and is not considered to be a reconstruction project, for the purpose of rule applicability.

40 CFR 60.334 (b)

This regulation allows the owner/operator of a gas turbine to use a CEMS to monitor NO_x emissions instead of monitoring fuel and water/steam usage.

40 CFR 60.334 (h) (1)

This regulation requires the owner or operator of a gas turbine to monitor the sulfur content of the fuel burned in the turbine.

40 CFR 60.334 (h) (3)

This regulation allows the owner or operator of a gas turbine to not monitor the fuel for sulfur or nitrogen content if the fuel meets the 40 CFR 60.331(u) definition of natural gas.

40 CFR 60.4

This condition lists the USEPA Region 2 address for the submittal of all communications to the "Administrator". In addition, all such communications must be copied to NYSDEC Bureau of Quality Assurance (BQA).

40 CFR 60.47b

This regulation is for emission monitoring for sulfur dioxide. This regulation specifies the requirements and procedures for complying with the emissions of sulfur dioxide from industrial-commercial steam generating units. Facilities which combust very low sulfur oil are not subject to the requirements of section 40 CFR 60-Db.47b if fuel receipts are obtained in accordance with subdivision 40 CFR 60-Db.49b(r). The owner or operator of a facility, who elects to demonstrate that the affected facility combusts only very low sulfur oil, shall obtain and maintain at the facility, fuel receipts from the oil

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supplier, which certify that the oil meets the definition of distillate oil as defined in 40 CFR 60.41b. For the purposes of this requirements, the oil need not meet the fuel nitrogen content specification in the definition of distillate oil.

40 CFR 60.48b (f)

This regulation requires that standby methods of obtaining minimum emissions data for oxides of nitrogen be specified by the source owner or operator.

40 CFR 60.48c (a)

This regulation requires the owner and operator of each affected facility to submit notification of the date of construction or reconstruction, anticipated startup, and actual startup of the facility. The notification must include the following information:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.
- (2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 CFR 60.42c., or 40 CFR 60.43c.
- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

40 CFR 60.49b

This rule specifies the reporting and recordkeeping requirements for affected steam generating units.

40 CFR 60.7

This regulation is for general provisions - notification and recordkeeping. This regulation specifies and identifies those facilities that are required to install CEMs devices to submit an excess emissions and monitoring systems performance report.

40 CFR 60.7 (a)

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This regulation requires any owner or operator subject to a New Source Performance Standard (NSPS) to furnish the Administrator with notification of the dates of: construction or reconstruction, initial startup, any physical or operational changes, commencement of performance testing for continuous monitors and anticipated date for opacity observations as required.

40 CFR 60.7 (b)

This regulation requires the owner or operator to maintain records of the occurrence and duration of any startup, shutdown, or malfunction of the source or control equipment or continuous monitoring system.

40 CFR 60.7 (c)

This requirement details the information to be submitted in excess emissions and monitoring systems performance reports which must be submitted at least semi-annually for sources with compliance monitoring systems.

40 CFR 60.7 (d)

This condition specifies the required information and format for a summary report form and details when either a summary form and/or excess emissions reports are required.

40 CFR 60.7 (f)

This condition specifies requirements for maintenance of files of all measurements, including continuous monitoring system (CMS), monitoring device, and performance testing measurements; all CMS performance evaluations; all CMS or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices for at least two years.

40 CFR 63.11201 (b)

These conditions state the management practices that are required for new and existing affected sources.

40 CFR 63.11205 (a)

This condition states that the owner or operator of an industrial, commercial, or institutional boiler must use good air pollution control practices

40 CFR 63.11210 (h)

This condition states when compliance must be demonstrated for an owner or operator that makes a physical change to a boiler such that it is subject to a different subcategory

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of subpart JJJJJ or newly subject to subpart JJJJJ.

40 CFR 63.11214 (c)

This condition states the notification required for boilers subject to the requirement to perform an energy assessment.

40 CFR 63.11223 (b)

This condition states what procedures an owner or operator of an industrial, commercial, or institutional boiler must follow to demonstrate continuous compliance with the tune-up requirements

40 CFR 63.11223 (c)

This condition states that owners or operators of boilers that use an oxygen trim system must conduct a tune-up every five years.

40 CFR 63.11225 (a)

This condition states what notifications must be submitted.

40 CFR 63.11225 (b)

This condition states what must be submitted in the annual compliance certification report.

40 CFR 63.11225 (d)

This condition states what form the records must be kept.

40 CFR 75.20

This section requires the facility to ensure that each emission or opacity monitoring system, including automated data acquisition and handling systems, meet the initial certification requirements of this

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section. It requires that all applicable initial certification tests are completed by the deadlines specified in § 75.4 and prior to use in the Acid Rain Program.

40 CFR 97.406

This regulation provides the general requirements for implementing EPAs Transport Rule (TR) 40 CFR Part 97, Subpart AAAAA; intended to reduce the interstate transport of fine particulate matter and ozone. This particular condition requires facilities to measure and report their emissions of Nitrogen Oxide (NOx) and to hold TR annual NOx allowances sufficient to cover these emissions. Commonly referred to as a budget trading program, each State has an established 'budget' of emissions that are distributed or sold to facilities, which, in turn, can only emit as much as they hold in allowances.

40 CFR 97.506

This regulation provides the general requirements for implementing EPAs Transport Rule (TR) 40 CFR Part 97, Subpart BBBBB; intended to reduce the interstate transport of fine particulate matter and ozone. This particular condition requires facilities to measure and report their emissions of Nitrogen Oxide (NOx) during the ozone season (May through September) and to hold TR ozone season NOx allowances sufficient to cover these emissions. Commonly referred to as a budget trading program, each State has an established 'budget' of emissions that are distributed or sold to facilities, which, in turn, can only emit as much as they hold in allowances.

40 CFR 97.606

This regulation provides the general requirements for implementing EPAs Transport Rule (TR) 40 CFR Part 97, Subpart CCCCC; intended to reduce the interstate transport of fine particulate matter and ozone. This particular condition requires facilities to measure and report their emissions of sulfur dioxide (SO2) annually and to hold TR annual SO2 allowances sufficient to cover these emissions. Commonly referred to as a budget trading program, each State has an established 'budget' of emissions that are distributed or sold to facilities, which, in turn, can only emit as much as they hold in allowances.

40 CFR Part 63, Subpart A

The General Provisions in 40CFR63, Subpart A apply to facilities subject to other National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) regulations in 40 CFR 63. These rules are also known as MACT rules since they are based on attaining Maximum Achievable Control Technology. Each MACT rule has a table or section that describe which portions of the

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General Provisions apply to facilities covered by that particular rule and which portions are overridden or do not apply. Note that NESHAP regulations found in 40CFR61 do **not** trigger the general provisions of 40CFR63.

6 NYCRR 201-6.5 (a)

This subdivision states that the Department shall include state enforceable conditions in Title V permits. State enforceable conditions related to regulations developed pursuant to the Climate Leadership and Community Protection Act (CLCPA) and Article 75 of New York State Environmental Conservation Law may be included in future versions of this permit, as applicable.

6 NYCRR 202-1.5

This rule prohibits the concealment of an emission by the use of air or other gaseous diluents (diluting agents) to achieve compliance with an emission standard which is based on the concentration of a contaminant in the gases emitted through a stack.

6 NYCRR 207.2

This regulation details the requirement for "episode action plan" for a significant air contamination source, as defined by Part 207-1. The plan shall contain detailed steps which will be taken by the contamination source owner to reduce air contaminant emissions during each stage of an air pollution episode.

6 NYCRR 211.1

This regulation requires that no person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property.

6 NYCRR 212-2.3 (b)

Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

6 NYCRR 225-1.2

This section of the regulation establishes sulfur-in-fuel limitations for coal, residual oil, distillate oil, and waste oil.

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6 NYCRR 225-1.2 (f)

Sulfur-in-fuel limitations for the purchase of #2 heating oil on or after July 1, 2012.

6 NYCRR 225-1.2 (h)

Sulfur-in-fuel limitation for the firing of distillate oil on or after July 1, 2016.

6 NYCRR 225-1.5 (c)

This citation sets the daily and weekly fuel monitoring requirements for subject emission sources.

6 NYCRR 225-1.6

This section establishes the requirements for reporting, sampling, and analyzing fuel by subject facilities.

6 NYCRR 227.2 (b) (1)

This regulation is from the 1972 version of Part 227 and still remains as part of New York's SIP. The rule establishes a particulate limit of 0.10 lbs/mmBtu based on a 2 hour average emission for any oil fired stationary combustion installation.

6 NYCRR 227-1.2

6 NYCRR 227-1.3 (a)

This regulation prohibits any person from operating a stationary combustion installation which emits smoke equal to or greater than 20% opacity except for one six-minute period per hour of not more than 27% opacity.

6 NYCRR 227-1.4

Subdivisions (a) and (f) of this section (227-1.4) have not been approved by EPA and have not been included in the NYS SIP.

6 NYCRR 227-1.4 (a)

Subdivisions (a) and (f) of this section (227-1.4) have not been approved by EPA and have not been included in the NYS SIP.

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6 NYCRR 227-1.4 (d)

This section allows the owner or operator of a facility subject to this section to use alternative monitoring instead of a COM or CEMS. The owner or operator must show that these systems would not provide accurate readings of emissions; would be too expensive; or cannot be installed due to physical limitations of the stack.

6 NYCRR 227-1.7

General emission data.

6 NYCRR 227-2.4 (e) (3)

NO_x RACT requirements for combustion turbines fired with fuels other than natural gas or distillate oil.

6 NYCRR 227-2.5 (c)

This provision allows the owner or operator to demonstrate that the applicable presumptive RACT emission limit in section 227-2.4 of this Subpart is not economically or technically feasible. Based on this determination the Department is allowed to set a higher emission source specific emission limit.

6 NYCRR 227-2.6

This regulation establishes the compliance testing, monitoring, and reporting requirements for NO_x RACT affected stationary combustion installations.

6 NYCRR 227-2.6 (a)

Applicable testing and/or monitoring requirements for emission sources subject to NO_x RACT.

6 NYCRR 227-2.6 (b)

Any owner or operator of a combustion source subject to reasonably available control technology (RACT) requirements, under this subdivision, for NO_x and either is required or opts to employ a continuous emissions monitoring system (CEMS) must:

- 1) Submit a CEMS monitoring plan for approval by the Department,
- 2) Submit a CEMS certification protocol,
- 3) Meet CEMS monitoring requirements as detailed in this paragraph of this subdivision, and

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4) Meet CEMS recordkeeping and reporting requirements as detailed in this paragraph of this subdivision.

6 NYCRR 231-1.4

Lowest achievable emission rate (LAER).

6 NYCRR 231-1.6

Air quality impact evaluation.

6 NYCRR 231-11.2

This section contains the reasonable possibility requirements for insignificant modifications for this Part.

6 NYCRR 231-11.2 (b)

This subdivision is referred to as the "Reasonable Possibility" provisions. This citation lists the record keeping requirements for insignificant modifications that are less than 50% of the applicable significant project threshold including excluded emissions as defined in Part 231-4.1(b)(40)(i)(c).

6 NYCRR 231-2.7 (b)

The provisions of Subpart 231-2 apply to new or modified major facilities. The contaminants of concern state-wide are nitrogen oxides and volatile organic compounds since New York State is located in the ozone transport region and because there are ozone non-attainment areas within the state. In the New York City metropolitan area, carbon monoxide is also a non-attainment contaminant. In addition, particulate matter less than 10 microns in size (PM-10) is a non-attainment contaminant in Manhattan County.

Pursuant to section 231-2.7, existing major facilities may avoid the requirements of Subpart 231-2 by conducting a netting analysis. This is done by utilizing the following equation:

$$NEI = PEP + CEI - ERCs$$

where:

NEI = net emission increase

PEP = project emission potential for the proposed source project

CEI = creditable emission increases

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ERCs = emission reduction credits

All of the creditable emission increases and emission reduction credits must have occurred at the facility for which the netting analysis is being conducted and must have occurred during the contemporaneous period for the proposed project. If the net emission increase is less than the threshold values incorporated into sections 231-2.12 and 231-2.13, then the the proposed source project is not subject to the requirements of Subpart 231-2.

6 NYCRR 242-1.5

This regulation requires that the facility hold enough carbon dioxide allowances in their carbon dioxide budget at least equal to the amount of carbon dioxide emitted from the facility each year.

6 NYCRR 242-8.5

This regulation requires the CO₂ authorized account representative to comply with all applicable recordkeeping and reporting requirements in section 242-8.5, the applicable record keeping and reporting requirements under 40 CFR 75.73 and with the certification requirements of section 242-2.1(e) of this Part.

6 NYCRR Subpart 201-7

This regulation sets forth an emission cap that cannot be exceeded by the facility. In this permit that cap is :

1. The duct burners associated with the two combustion turbines are limited to natural gas firing. The total natural gas use shall not exceed 1,034 million standard cubic feet per year, based on a daily rolling basis.
2. The sum of Oxides of Nitrogen emissions from Emission Units U-00001 and U-00002 for the two combustion turbines shall not equal or exceed 360,329 pounds per year (180.2 tons per year).
3. The sum of Carbon Monoxide emissions from Emission Units U-00001 and U-00002 for the two combustion turbines shall not equal or exceed 106,270 pounds per year (53.14 tons per year).
4. Periodic testing on liquid fuel (Process BD1) will not exceed a combined total of 48 hours during any calendar year for the six emergency boilers (Emission Sources HWG01, HWG02, HWG03, HWG04, HWG05 & HWG06) in Emission unut B-OILRS.
5. In order to limit emissions below applicability thresholds for both 40 CFR 52.21 Prevention of Significant Deterioration (PSD) and 6 NYCRR Part 231-2 New Source Review requirements, annual emissions of Nitrogen Oxides (NOx) from Emission Unit B-OILRS shall not exceed 24 tons per year, on a rolling 12-month basis.

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6 NYCRR Subpart 202-2

This subpart of Part 202 sets forth the general requirements for submitting an annual statement or emissions.

6 NYCRR Subpart 231-13

This Subpart contains the tables and emission thresholds used for determining rule applicability for this Part.

Non Applicability Analysis

List of non-applicable rules and regulations:

Location Facility/EU/EP/Process/ES	Regulation	Short Description
FACILITY	40 CFR 52.21 (j)	Best Available Control Technology

Reason: PSD (Prevention of Significant Deterioration), 40 CFR 52.21 (j):

On November 22, 1995, the NYSDEC issued Certificates to Operate to the PANY / NJ for each of the six boilers.

For each of the prior PANY / NJ Certificates to Operate, the NYSDEC added Special Permit Conditions which limited the total emissions from the six emergency boilers at the facility to 24 tons per year of Nitrogen Oxides (NOx). Calpine has operated these six boilers on behalf of the PANY / NJ.

Upon the request of the NYSDEC, these six emergency boilers are being added to Calpine's Title V Renewal #2 permit for the KIAC facility. Calpine will continue to operate the six boilers.

With this emission limitation, the addition of the previously permitted to operate six emergency boilers, to the Title V permit for the KIAC facility does not qualify as a "modification" as defined under the

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The NOx emissions are based on the continuous emissions monitoring systems (CEMS) for the two CTG units. The resulting baseline emissions are 73.4 tpy for NOx and 8.5 tpy for VOC.

Projected Operating Hours and their NOx emissions (based on Calpine dispatch modeling for the units and does not take into account effects of the proposed TP upgrade because the relatively modest heat rate impact of the upgrades on the units and limited expected utilization assure that projections are reliable for post upgrade dispatch) for the next 5 years:

Year	Operating Hours	NOx Emissions (tons)
2020	7,244	44.7
2021	8,803	54.3
2022	9,353	57.7
2023	9,278	57.2
2024	8,262	50.9
2025	9,413	58.1

Projected Actual Emissions:

Based on the above analysis, the project emission potential, based on a comparison of past actual

to projected future actual emissions, does not equal or exceed the applicable significant project thresholds under Part 231 or PSD significant emission rate thresholds.

The project is therefore

considered a minor modification and is subject to the provisions of section 231-11.2 of Part 231 and provisions of Subpart 201-6 (Title V Facility Permits), for a minor permit modification that does not trigger an NSR major modification.

The Net Emission Increase (NEI) has to be < Significant Emission Increase (SNEIT) of 25 tpy NOx for this project.

NEI = NOx emissions from Project Emission Potential (PEP) =

NEI = 2.5 tpy = 2.5 tpy < 25 tpy

FACILITY	6 NYCRR 231-2.2 (a)	Applicability to emission increases in any nonattainment area and attainment portions of the ozone transport region.
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Reason: An application to implement the proposed project would consider:

New Source Review non-Applicability:

A. A project that does not change any permitted emission limits and that has an actual emission increase below the Part 231 thresholds of 2.5 tons/year NOx and VOC does not trigger NSR and requires only a Title V minor modification.

B. A project emission increase in the range of 2.5 to 25 tons/year NOx

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and VOC would require a netting analysis, but may still not trigger NSR and requires only a Title V modification if the net emissions increase is below 25 tons/year NOx and VOC. Calpine provided the following analysis in support of its application for the project:

C. An applicability determination according to NYCRR Part 231 involving comparison of past actual to projected future actual emissions.

D. Past actual (baseline) emissions will be based on a representative 24-month period from the previous 5 years.

E. Projected future actual emissions will be based on projected operations, but may default to the same operation/demand as for the baseline period, except for the increases associated with the proposed project. Increases due to increased demand would typically be excluded as "could have accommodated" emissions.

Projected Actual Emissions:

Based on the above analysis, the project emission potential, based on a comparison of past actual to projected future actual emissions, does not equal or exceed the applicable significant project thresholds under Part 231 or PSD significant emission rate thresholds. The project is therefore considered a minor modification and is subject to the provisions of section 231-11.2 of Part 231 and provisions of Subpart 201-6 (Title V Facility Permits), for a minor permit modification that does not trigger an NSR major modification.

FACILITY	6 NYCRR 231-6.1	Applicability
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Reason: The proposed permit modification is to upgrade the software for two General Electric LM6000 (Emission Sources GT001 & GT002) aeroderivative combustion turbines to enhance utilization of the existing units' capability for better performance.

The proposed modification (combustion turbine upgrade) project has a projected actual emissions increase which does not equal or exceed the applicable significant project threshold of 2.5 tons/year of NOx or VOC in a severe ozone non-attainment area. The baseline selected represents the maximum 24-month period for GT1 and GT2 NOx emissions from the prior 5 years (contemporaneous period). The projected increases were calculated based on applying the upgrade fuel firing rate increase to the baseline operating hours at ambient temperatures > 46 F and multiplying fuel usage by emission factors for the units. Future operation for the next five years is projected to be less than that for the selected baseline period.

Operating Hours and their NOx emissions for the last 5 years:

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Year	Operating Hours	NOx Emissions (tons)
2015	14,151	74.2
2016	13,864	77.7
2017	12,133	69.0
2018	12,489	72.0
2019	10,852	58.5

Projected Operating Hours and their NOx emissions (based on Calpine dispatch modeling for the units and does not take into account effects of the proposed TP upgrade because the relatively modest heat rate impact of the upgrades on the units and limited expected utilization assure that the projections are reasonably reliable for post-upgrade dispatch) for the next 5 years:

Year	Operating Hours	NOx Emissions (tons)
2020	7,244	44.7
2021	8,803	54.3
2022	9,353	57.7
2023	9,278	57.2
2024	8,262	50.9
2025	9,413	58.1

Because the projected future operation is < the operation associated with the baseline period, the baseline operation was utilized for a conservative basis for calculation of projected actual emissions. Two years of hourly data was collected the 24-month baseline, including operating hours, generation, fuel heat input and NOx emissions. The upgrade will only be implemented when a turbine is operating at full load when the ambient temperature is > 46 degrees F.

NOTE: Non-applicability determinations are cited as a permit condition under 6 NYCRR Part 201-6.4(g). This information is optional and provided only if the applicant is seeking to obtain formal confirmation, within an issued Title V permit, that specified activities are not subject to the listed federal applicable or state only requirement. The applicant is seeking to obtain verification that a requirement does not apply for the stated reason(s) and the Department has agreed to include the non-applicability determination in the issued Title V permit which in turn provides a shield against any potential enforcement action.

Compliance Certification

Summary of monitoring activities at CALPINE JFK ENERGY CENTER:

Location Facility/EU/EP/Process/ES	Cond No.	Type of Monitoring

FACILITY	76	work practice involving specific operations

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FACILITY	77	continuous emission monitoring (cem)
FACILITY	78	continuous emission monitoring (cem)
FACILITY	79	continuous emission monitoring (cem)
FACILITY	80	continuous emission monitoring (cem)
FACILITY	81	continuous emission monitoring (cem)
FACILITY	82	record keeping/maintenance procedures
FACILITY	83	continuous emission monitoring (cem)
FACILITY	84	continuous emission monitoring (cem)
FACILITY	85	continuous emission monitoring (cem)
FACILITY	86	record keeping/maintenance procedures
FACILITY	87	work practice involving specific operations
FACILITY	88	work practice involving specific operations
U-00001/E0001	114	record keeping/maintenance procedures
U-00001/E0001	115	record keeping/maintenance procedures
U-00002/E0002	122	record keeping/maintenance procedures
U-00002/E0002	123	record keeping/maintenance procedures
FACILITY	96	record keeping/maintenance procedures
FACILITY	90	record keeping/maintenance procedures
FACILITY	91	record keeping/maintenance procedures
FACILITY	93	record keeping/maintenance procedures
FACILITY	102	record keeping/maintenance procedures
FACILITY	103	record keeping/maintenance procedures
FACILITY	104	record keeping/maintenance procedures
FACILITY	105	record keeping/maintenance procedures
U-00001/E0001	116	record keeping/maintenance procedures
FACILITY	1-44	monitoring of process or control device parameters as surrogate
FACILITY	107	monitoring of process or control device parameters as surrogate
FACILITY	1-45	record keeping/maintenance procedures
FACILITY	1-46	record keeping/maintenance procedures
FACILITY	1-47	record keeping/maintenance procedures
FACILITY	1-48	record keeping/maintenance procedures
FACILITY	1-49	record keeping/maintenance procedures
FACILITY	1-50	record keeping/maintenance procedures
FACILITY	1-51	record keeping/maintenance procedures
FACILITY	1-52	record keeping/maintenance procedures
FACILITY	1-53	record keeping/maintenance procedures
FACILITY	1-54	record keeping/maintenance procedures
FACILITY	1-55	record keeping/maintenance procedures
FACILITY	108	record keeping/maintenance procedures
FACILITY	109	record keeping/maintenance procedures
FACILITY	110	record keeping/maintenance procedures
FACILITY	111	record keeping/maintenance procedures
FACILITY	5	record keeping/maintenance procedures
FACILITY	2-2	ambient air monitoring
FACILITY	6	record keeping/maintenance procedures
FACILITY	1-3	monitoring of process or control device parameters as surrogate
FACILITY	1-4	monitoring of process or control device parameters as surrogate
FACILITY	1-5	monitoring of process or control device parameters as surrogate
FACILITY	24	work practice involving specific operations
FACILITY	26	record keeping/maintenance procedures
FACILITY	7	record keeping/maintenance procedures
FACILITY	1-6	record keeping/maintenance procedures
FACILITY	29	record keeping/maintenance procedures
FACILITY	2-8	continuous emission monitoring (cem)
FACILITY	2-9	continuous emission monitoring (cem)
FACILITY	2-10	continuous emission monitoring (cem)
FACILITY	2-11	continuous emission monitoring (cem)
FACILITY	2-12	continuous emission monitoring (cem)
FACILITY	2-13	continuous emission monitoring (cem)
FACILITY	2-14	continuous emission monitoring (cem)

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FACILITY	2-15	continuous emission monitoring (cem)
FACILITY	1-7	work practice involving specific operations
FACILITY	1-8	work practice involving specific operations
FACILITY	1-9	work practice involving specific operations
FACILITY	1-10	record keeping/maintenance procedures
FACILITY	43	record keeping/maintenance procedures
FACILITY	1-23	intermittent emission testing
FACILITY	57	intermittent emission testing
FACILITY	45	intermittent emission testing
FACILITY	1-11	monitoring of process or control device parameters as surrogate
FACILITY	1-12	monitoring of process or control device parameters as surrogate
FACILITY	1-13	monitoring of process or control device parameters as surrogate
FACILITY	129	record keeping/maintenance procedures
FACILITY	130	monitoring of process or control device parameters as surrogate
FACILITY	49	record keeping/maintenance procedures
FACILITY	1-14	record keeping/maintenance procedures
FACILITY	1-15	record keeping/maintenance procedures
U-00001/E0001/GT7	121	intermittent emission testing
FACILITY	1-16	continuous emission monitoring (cem)
FACILITY	1-17	continuous emission monitoring (cem)
FACILITY	1-18	monitoring of process or control device parameters as surrogate
FACILITY	1-19	intermittent emission testing
FACILITY	1-20	intermittent emission testing
FACILITY	55	record keeping/maintenance procedures
FACILITY	1-21	record keeping/maintenance procedures
FACILITY	1-22	record keeping/maintenance procedures
FACILITY	131	record keeping/maintenance procedures
FACILITY	132	record keeping/maintenance procedures
FACILITY	2-4	record keeping/maintenance procedures
FACILITY	2-5	record keeping/maintenance procedures
FACILITY	2-6	record keeping/maintenance procedures
FACILITY	1-24	continuous emission monitoring (cem)
FACILITY	1-25	continuous emission monitoring (cem)
FACILITY	1-26	continuous emission monitoring (cem)
FACILITY	1-27	continuous emission monitoring (cem)
FACILITY	1-28	continuous emission monitoring (cem)
FACILITY	1-29	continuous emission monitoring (cem)
FACILITY	1-30	continuous emission monitoring (cem)
FACILITY	1-31	continuous emission monitoring (cem)
FACILITY	1-32	continuous emission monitoring (cem)
FACILITY	1-33	continuous emission monitoring (cem)
FACILITY	1-34	continuous emission monitoring (cem)
FACILITY	1-35	continuous emission monitoring (cem)
FACILITY	1-36	continuous emission monitoring (cem)
FACILITY	1-37	continuous emission monitoring (cem)
FACILITY	1-38	continuous emission monitoring (cem)
FACILITY	1-39	continuous emission monitoring (cem)
FACILITY	1-40	monitoring of process or control device parameters as surrogate
FACILITY	1-41	monitoring of process or control device parameters as surrogate
FACILITY	1-42	monitoring of process or control device parameters as surrogate
FACILITY	1-43	monitoring of process or control device parameters as surrogate
FACILITY	134	record keeping/maintenance procedures
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Basis for Monitoring

The facility is subject to the requirements of Title V. The facility is required, under the provisions of 6 NYCRR Subpart 201-6, to submit semiannual compliance reports and an annual Compliance Certification. The facility is required to comply with the following monitoring conditions:

Condition # 2-8 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002, EPs: E0001 & E0002, Processes: GT5 & GT6 and Emission Sources/Controls: GT001, GT002, SCR01 & SCR02. The Ammonia limit is 10.00 parts per million by volume (dry, corrected to 15% O₂).

This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NO_x and fuel flow.

The NH₃ emissions are limited to 10.0 parts per million by volume (dry, corrected to 15% O₂), on an hourly average basis. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor NH₃ emissions from the combustion turbine/HRSG without the duct burner unit during natural gas firing in the combustion turbine and no duct burner unit.

KIAC will use CEMS to monitor the NH₃ emission at the stack.

Condition # 2-9 for 6 NYCRR 212.2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002,

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EPs: E0001 & E0002, Processes: GT1 & GT2 and Emission Sources/Controls: GT001, GT002, DB001, DB002, SCR01 & SCR02. The Ammonia limit is 10.0 parts per million by volume (dry, corrected to 15% O₂).

This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NO_x and fuel flow.

The NH₃ emissions are limited to 10.0 parts per million by volume (dry, corrected to 15% O₂), on an hourly average basis during natural gas firing in the combustion turbine/HRSG and natural gas firing in the duct burner. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor the NH₃ emissions from the combustion turbine/HRSG and duct burner units during natural gas firing in the combustion turbine and natural gas firing in the duct burner unit.

KIAC will use CEMS to monitor the NH₃ emission at the stack.

Condition # 2-10 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002, EPs: E0001 & E0002, Processes: GT7 & GT8 and Emission Sources/Controls: GT001 & GT002, SCR01 & SCR02. The Ammonia limit is 10.0 parts per million by volume (dry, corrected to 15% O₂).

This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

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KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NOx and fuel flow.

The NH₃ emissions are limited to 10.0 parts per million by volume (dry, corrected to 15% O₂), on an hourly average basis. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor NH₃ emissions from the combustion turbine/HRSG without the duct burner unit during light distillate fuel firing.

KIAC will use CEMS to monitor the NOx emission at the stack.

Condition # 2-11 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EU: U-00001, EP: E0001 Processes: GT3 & GT4 and ES/C: DB001, DB002, GT001, GT002, SCR01 & SCR02. The Ammonia limit is 10.0 parts per million by volume (dry, corrected to 15% O₂).

This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NOx and fuel flow.

The NH₃ emissions are limited to 10.0 parts per million by volume (dry, corrected to 15% O₂), on an hourly average basis. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

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CEMS are to be used to monitor the NH₃ emissions from the combustion turbine/HRSG and duct burner units during light distillate fuel firing in the combustion turbine and natural gas firing in the duct burner unit.

KIAC will use CEMS to monitor the NH₃ emission at the stack.

Condition # 2-12 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002, EPs: E0001 & E0002, Processes: GT1 & GT2 and Emission Sources/Controls: GT001, GT002, DB001, DB002, SCR01 & SCR02. The Ammonia limit is 9.19 pounds per hour.

This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NO_x and fuel flow.

The NH₃ emissions are limited to 9.19 pounds per hour, on an hourly average basis during natural gas firing in the combustion turbine/HRSG and natural gas firing in the duct burner. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor the NH₃ emissions from the combustion turbine/HRSG and duct burner units during natural gas firing in the combustion turbine and natural gas firing in the duct burner unit.

KIAC will use CEMS to monitor the NH₃ emission at the stack.

Condition # 2-13 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002, EPs: E0001 & E0002, Processes: GT5 & GT6 and ES/C: GT001, GT002, SCR01 & SCR02. The Ammonia limit is 6.61 pounds per hour.

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This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NOx and fuel flow.

The NH₃ emissions are limited to 6.61 pounds per hour, on an hourly average basis during natural gas firing in the turbine without duct firing. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor NH₃ emissions from the combustion turbine/HRSG without duct burners units while firing natural gas in the combustion turbine and no duct burner unit.

KIAC will use CEMS to monitor the NH₃ emission at the stack.

Condition # 2-14 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002, EPs: E0001 & E0002, Processes: GT3 & GT4 and Emission Sources/Controls: GT001, GT002, DB001, DB002, SCR01 & SCR02. The Ammonia limit is 9.25 pounds per hour.

This condition requires compliance with the degree of control specified in Table 4 for new (after July 1, 1973) process emission sources. Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NOx and fuel flow.

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The NH₃ emissions are limited to 9.25 pounds per hour, on an hourly average basis. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor the NH₃ emissions from the combustion turbine/HRSG and duct burner units during light distillate fuel firing in the combustion turbine and natural gas firing in the duct burner unit.

KIAC will use CEMS to monitor the NH₃ emission at the stack.

Condition # 2-15 for 6 NYCRR 212-2.3 (b): This condition is an emission unit level, emission point level, process level and emission source/control condition for Continuous Emission Monitoring (CEM) for Ammonia that applies to EUs: U-00001 & U-00002, EPs: E0001 & E0002, Processes: GT7 & GT8 and Emission Sources/Controls: GT001, GT002, SCR01 & SCR02. The Ammonia limit is 6.67 pounds per hour.

Table 4 of 212-2.3 describes the reduction in emissions required for a non-criteria air contaminant based on its uncontrolled emission rate. The uncontrolled emission rate in conjunction with the assigned environmental rating determines the degree of controlled applied.

KIAC will control Ammonia emissions through proper operation and control of the Selective Catalytic Reduction (SCR). Control of the Ammonia feed rate will be based on the NO_x and fuel flow.

The NH₃ emissions are limited to 6.67 pounds per hour, on an hourly average basis during light distillate oil firing in the turbine without duct firing. This emission limit applies at all times, except during periods of start-up/shutdown, equipment maintenance, malfunctions and upsets as per the requirements of 6 NYCRR 201-1.4.

Operation of the source in this manner shall constitute BACT for purposes of 6 NYCRR 212-2.3 (b) and 40 CFR 52.21(j), Subpart A.

CEMS are to be used to monitor NH₃ emissions from the combustion turbine/HRSG without duct burners units while firing light distillate fuel oil in the combustion turbine and natural gas in the duct burner unit.

KIAC will use CEMS to monitor the NO_x emission at the stack.

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