



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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GOVERNOR

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Casco Bay Energy Company, L.L.C.) Department
Penobscot County) Findings of Fact and Order
Veazie, Maine) Part 70 Air Emission License
A-728-70-C-R)

After review of the Part 70 License renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344 and Section 590, the Department finds the following facts:

I. Registration

A. Introduction

| FACILITY | Casco Bay Energy Company, L.L.C. (CBEC) |
|--------------------------|---|
| LICENSE NUMBER | A-728-70-C-R |
| LICENSE TYPE | Part 70 License Renewal |
| SIC CODES | 4911 |
| NATURE OF BUSINESS | Electric Services |
| FACILITY LOCATION | Veazie, Maine |
| DATE OF LICENSE ISSUANCE | January 6, 2010 |
| LICENSE EXPIRATION DATE | January 6, 2015 |

B. Emission Equipment

The following emission units are addressed by this Part 70 License:

Fuel Burning Equipment

| Equipment ^a | Licensed Capacity (MMBtu/hr) | Fuel Type, % Sulfur | Design Firing Rate | Stack # Height |
|------------------------|------------------------------|---------------------|---------------------------|----------------|
| Turbine #1 | 1937 ^b | Natural Gas | 90,005 lb/hr ^c | 1 (155 ft) |
| Turbine #2 | 1937 ^b | Natural Gas | 90,005 lb/hr ^c | 2 (155 ft) |
| Auxiliary Boiler | 21 | Natural Gas | 21 MMBtu/hr | 5 (24 ft) |
| Emergency Generator | 3.9 | Diesel, 0.05% | 29 gal/hr | 4 |
| Natural Gas Heater | 5.0 | Natural Gas | 5.0 MMBtu/hr | 6,7 (20 ft) |

- a CBEC did not install a 3.4 (430 BHP) diesel fire pump which was previously licensed
- b Assumes an ambient temperature of 45°F
- c Assumes a LHV (lower heating value) of 950 Btu/scf and an ambient temperature of 45°F.

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| | | |
|----------------------------------|---|------------------------------|
| Casco Bay Energy Company, L.L.C. |) | Department |
| Penobscot County |) | Findings of Fact and Order |
| Veazie, Maine |) | Part 70 Air Emission License |
| A-728-70-C-R | 2 | |

CBEC has additional insignificant activities that do not need to be listed in the emission equipment table above. The list of insignificant activities can be found in the Part 70 license renewal application and in Appendix B of 06-096 CMR 140 of the Department's Regulations.

C. Application Classification

The application for CBEC does not include the licensing of increased emissions or the installation of new or modified equipment, therefore the license is considered to be a renewal Part 70 License issued under 06-096 CMR 140 of the Department's regulations for a Part 70 source. The facility has also requested to update some license conditions to reflect the facilities current equipment operations and recent state and federal rule changes.

D. License Updates

CBEC has requested the following to be addressed in the facility's license renewal.

- Remove the diesel fire pump from licensing and all allowable facility emissions attributed to it.
- The New Source Performance Standards (NSPS) Subpart GG regulation was revised on July 8, 2004 to incorporate alternate monitoring procedures. The revision includes language to minimize the discrepancies that facilities subject to both 40 CFR Part 60 and 40 CFR Part 75 were faced with.
- EPA revised the NSPS Subpart GG regulation to allow facilities that meet the natural gas monitoring exemption requirements provided in 40 CFR Part 60.334(h)(3) to discontinue monitoring of the natural gas for sulfur content. Also the revised regulation exempts facilities that do not claim an allowance for fuel bound nitrogen from monitoring the nitrogen content of the fuel.
- Many of the units affected by subpart GG are already required to install and certify CEMS for NO_x under other requirements, such as the acid rain monitoring regulation in 40 CFR Part 75, or through conditions in various permit requirements. To reduce the burden on these units, the use of CEMS units that are certified according to the requirements of 40 CFR Part 75 will be allowed. The 40 CFR Part 75 testing procedures to certify the CEMS are nearly identical to those in 40 CFR part 60, and 40 CFR Part 75 has rigorous quality assurance and quality control standards. It is appropriate to allow the use of 40 CFR Part 75 CEMS data for Subpart GG compliance demonstration. Furthermore, neither Part 60 or Part 75 have QA/QC procedures for ammonia monitors. Therefore, CBEC requests that the license specify: (i) the NO_x and O₂ monitors must meet the applicable requirements of Part 75, and not those of Part 60; (ii) the NO_x, O₂, CO, and NH₃ monitors may use the hourly data validation procedures specified in 40 CFR Part 60.334(b)(2); and (iii) the

NO_x, O₂, CO, and NH₃ monitors shall perform ongoing CEMS QA/OC tests at the frequency specified in 40 CFR Part 75, Appendix B.

II. EMISSION UNIT DESCRIPTION

A. Process Description

CBEC uses combined cycle power generation technology. The facility consists of two natural gas fired combined cycle combustion turbine generators, a steam turbine generator, a wet mechanical draft cooling tower, a natural gas-fired auxiliary boiler, an emergency generator, a natural gas-fired fuel gas heater, and associated ancillary equipment. Natural gas is combusted in two gas turbines that generate the majority of the electrical output. Exhaust heat from the gas turbines is captured by producing steam in two heat recovery steam generators (HRSGs), and converting it to electric output through the use of a steam turbine/generator.

The facility operates two General Electric GE 7FA combustion turbines with unfired HRSGs to generate a nominal power output of 520 MW at design conditions (45 degrees Fahrenheit, 60% relative humidity, and 1 atmosphere). CBEC uses Dry Low NO_x burners to limit NO_x formation and selective catalytic reduction (SCR) to control NO_x. The Gas Turbines may be operated in the pre-mix (Low- NO_x mode) down to 50 percent of rated load during normal operation. Combustion gases from each turbine are directed to the HRSGs. Steam is produced in each HRSG at three pressure levels. The steam from both HRSGs is directed to a single steam turbine/generator. Facility emissions exit to the atmosphere through two 155-foot exhaust stacks.

A natural gas-fired auxiliary boiler is used to maintain steam pressure to shorten startup times for the combustion turbines, and to provide auxiliary steam for plant operations during outages. The auxiliary boiler is equipped with Dry Low NO_x combustors. The auxiliary boiler is maintained in low-fire standby mode during normal operations.

CBEC has a 350 KW diesel-fired emergency generator to provide emergency power to the facility and a 5 MMBtu/hr natural gas fired fuel heater to pre-heat the natural gas before it reaches the combustion turbines. The facility also includes insignificant emission sources consisting of an 8 cell wet-mechanical draft cooling tower, space heaters, maintenance support equipment, and other smaller pieces of equipment.

B. Best Practical Treatment

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in 06-096 CMR 100 of the Air Regulations. CBEC was issued an initial license A-728-71-A-N on 7/13/98 pursuant to the new source review provisions of 06-096 CMR 115 and issued its Initial Part 70 Air Emissions license on 1/14/03 pursuant to 06-096 CMR 140 for the following:

- Two 170 MW F class, advanced combustion turbine generators with Dry Low NO_x burners using natural gas as fuel.
- Two unfired heat recovery steam generators [HRSGs];
- Two selective catalytic reduction (SCR) systems;
- One condensing steam turbine/generator (steam turbine);
- One 5.0 MMBtu/hr Natural Gas Heater
- One 300 kilowatt (kW) standby generator which will be used less than 500 hours per year
- One 21 MMBtu/hr Auxiliary Boiler with Dry Low NO_x burners; and
- Auxiliary systems to the main equipment including a process water system, a water-cooled condenser and closed-cycle, mechanical draft cooling tower, a generator step-up transformer, and approximately 10 storage tanks containing fluids used by the major facility components.

Emissions are formed primarily by the combustion of natural gas in the turbine generators heater and auxiliary boiler, the combustion of diesel fuel in the standby generator, and the drift of water vapor laden with particulate matter from the cooling tower, and were addressed in the BACT analysis for the original Chapter 115 license. The emission units and emissions controls at CBEC and the initial BACT determinations are less than 15 years old and continue to meet BPT for this renewal Part 70 air emissions license. The Department's original BACT determinations are set forth below for reference.

BACT/BPT for the Gas Turbine Generators

The gas-fired turbines are subject to New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines, for which construction is commenced after October 3, 1977.

40 CFR Part 60, Subpart GG establishes the following emission limits: Pursuant to 40 CFR Part 60.333 SO₂ is limited to (a) 0.015% by volume @ 15% O₂ on a dry basis or (b) the fuel sulfur content shall not exceed 0.8% by weight.

Pursuant to 40 CFR Part 60.332(a)(1) NO_x is limited based on the following equation:

$$STD = 0.0075 \times \frac{(14.4)}{Y} + F$$

where STD is the allowable NO_x emissions (percent by volume at 15% O₂ and on a dry basis), Y is a function of the manufacturer's rated load (kilojoules per watt hour), and F is a function of the fuel-bound nitrogen.

The NSPS establishes a nominal NO_x emission limit for CBEC of 75 ppmvd at 100% load. While the NSPS does apply, the BPT is substantially more stringent; compliance with BPT will insure compliance with the NSPS.

CBEC has installed the following controls for the Electric Generating Systems:

| | |
|--------------------------------|---|
| Turbine NO _x | Dry low NO _x combustor & Selective Catalytic Reduction |
| Turbine SO ₂ | Combustion of natural gas |
| Turbine CO | Good Combustion Practices |
| Turbine PM/PM ₁₀ | Good Combustion Practices, combustion of natural gas |
| Turbine VOC | Good Combustion Practices |
| Cooling tower PM ₁₀ | Drift Eliminators |

A summary of the BACT analysis for each pollutant is discussed below:

Nitrogen Oxides

NO_x emitted from combustion sources results from oxidation of both fuel bound nitrogen and atmospheric nitrogen (thermal NO_x). Natural gas has very low fuel bound nitrogen so reducing NO_x emissions must focus on reducing the thermal NO_x. CBEC uses Dry Low NO_x combustors that provide a staging of combustion, resulting in lean fuel-air mixtures throughout the combustion zone thereby eliminating high flame temperatures and thermal NO_x formation. Dry Low NO_x

combustors represent the state-of-the-art combustion turbine technology without supplemental control.

CBEC evaluated several NO_x control strategies for their technical and economic feasibility and concluded that SCR technology was BACT. SCR uses an ammonia (NH₃) injection system and a catalytic reactor to reduce NO_x. An injection grid disperses NH₃ into the flue gas upstream of the catalyst and the NH₃ and NO_x are reduced to nitrogen gas (N₂) and water vapor in the presence of the catalyst reactor. At the time of the original license, the lowest reported emission limitation reported in the RACT/BACT/LAER Clearinghouse using SCR technology was 3.5 ppmvd. SCR in conjunction with Dry Low NO_x combustors was selected as the BACT technology with a NO_x emission rate of 3.5 ppmvd (24-hr average).

Nitrogen Oxide (NO_x) emissions from the turbine generators are controlled to a level of 3.5 ppmvd @ 15% O₂ using advanced Dry Low NO_x combustors and Selective Catalytic Reduction (SCR) system with ammonia injection. Ammonia slip of up to 20 ppmvd on a 24-hr average and 10 ppmvd of a 30-day rolling average will result from the use of SCR. Ammonia slip is minimized by optimizing the ratio of ammonia to NO_x to near the stoichiometric requirement.

Particulate Matter and PM₁₀

Units firing fuels with low ash content and high combustion efficiency exhibit correspondingly low particulate matter emissions. The most stringent particulate control method demonstrated for gas turbines is the use of low ash fuel such as natural gas. No add on control technologies are listed in the RACT/BACT/LAER Clearinghouse listings for combustion turbines. Proper combustion control and the firing of natural gas with negligible or zero ash content is the predominant control method in use. Add on control, such as ESPs or baghouses, have never been applied to commercial gas fired turbines. The use of ESPs or baghouse filters is considered technically unfeasible, and does not represent an available control technology.

Therefore, the use of natural gas and good combustion control was selected as BACT with a particulate matter emission rate of 10 lb/hr. Total PM emissions will be less than 47.4 tons/yr for each gas turbine.

Sulfur Dioxide (SO₂)

SO₂ is formed from the oxidation of sulfur in fuel. The most stringent method of control for SO₂ that has been demonstrated for gas turbines is firing pipeline quality natural gas. The EPA established NSPS for gas turbines, which commenced construction, modification, or reconstruction after October 3, 1977. The NSPS limit for sulfur in fuel is 0.8% by weight.

Natural gas from pipelines contains an average sulfur content of about 2 grains per hundred cubic foot. Total estimated SO₂ emissions from each gas turbine are 45 tons/yr based on the use of pipeline quality natural gas. Therefore, firing exclusively pipeline quality natural gas was selected as BACT for SO₂.

Carbon Monoxide

Carbon Monoxide (CO) results from the incomplete combustion of gas in the turbine. As with other types of combustors, combustion efficiency is optimized at the design load case.

Dry Low NO_x combustors have been demonstrated to be able to achieve very low CO emissions over a range of operating loads. Most combined cycle projects have satisfied the BPT requirement by demonstrating good combustion control.

CBEC also evaluated the use of a combustion catalyst to control CO. However, a CO oxidation catalyst was rejected since it would result in collateral increases in PM₁₀ (and PM_{2.5}) emissions and is not cost effective for this project.

Therefore, BACT was determined to be good combustion practices achieving CO emissions of 20 ppmvd, the use of Dry Low NO_x combustors, and instrumentation and controls. The resulting emission level results in modeled impacts which are less than one percent of the National Ambient Air Quality Standard.

Volatile Organic Compounds (VOC)

VOCs are emitted from gas-fired turbines as a result of incomplete combustion of fuel. Control of VOCs is accomplished by providing adequate fuel residence time and high temperature in the combustion zone to ensure complete combustion. According to the RACT/BACT/LAER Clearinghouse oxidation catalyst systems have been concluded to represent BACT for VOC control for two units. The same technical factors that apply to the use of catalyst technology for control of CO emissions apply to the use of this technology for collateral control of VOC. However, the oxidation catalyst system was rejected as BACT since it was not cost effective as a control option for CO emissions.

The next level of control is combustion controls where VOC emissions are minimized by optimizing fuel mixing, excess air, and combustion temperature to assure complete combustion of the fuel. Therefore, BACT was determined to be good combustion practices.

Hazardous Air Pollutants (HAP)

CBEC has estimated potential emissions of hazardous air pollutants (HAPs) using applicable Compilation of Air Pollutant Emission Factors (AP-42) and

determined the largest single HAP (formaldehyde) at 5.6 tpy and total facility HAPs at 11.9 tpy. Therefore, Potential emissions of HAPs from the source are less than ten (10) tons per year for any individual HAP and twenty-five (25) tons per year for total HAPs. CBEC is not a major HAP source and is not subject to 40 CFR Part 63 MACT Control Standards.

BACT/BPT for the Standby Generator

The standby generator is used for emergencies and is tested regularly. The standby generator provides power to maintain control, heat tracing, and other required services to allow the plant to remain ready to start, but is not intended to provide enough power for a cold start.

Based on the relatively small size of the diesel generator, and the quantity of pollutants that could potentially be emitted, it was determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified. Therefore, BACT for the 300 kilowatt standby generator was determined to be limiting operation to less than 500 hours per year and limiting fuel use to diesel fuel with a sulfur content not to exceed 0.05% by weight.

BACT/BPT for the Auxiliary Boiler

The auxiliary boiler is subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc – Standards of Performance for Stationary steam generators, for which construction was commenced after June 16, 1989.

A summary of the BACT analysis for each pollutant is described below:

Nitrogen Oxides

CBEC uses Dry Low NO_x combustors on the auxiliary boiler. This results in lean fuel-air mixtures throughout the combustion zone thereby eliminating high flame temperatures and thermal NO_x formation.

Particulate Matter

Units firing fuels with low ash content and high combustion efficiency exhibit correspondingly low particulate matter emissions. Proper combustion control and the firing of natural gas with negligible or zero ash content is the appropriate control method.

Sulfur Dioxide

Sulfur Dioxide is formed from the oxidation of sulfur in fuel. The most stringent method of control of SO₂ that has been demonstrated for boilers is firing pipeline quality natural gas.

Volatile Organic Compounds and Carbon Monoxide

VOC and CO are emitted from boilers as a result of incomplete combustion fuel. Control of VOC and CO is accomplished by providing adequate fuel residence time and proper temperature in the combustion zone to ensure complete combustion.

BACT/BPT for the Natural Gas Heater

The Natural Gas Heater is used to heat the natural gas to a temperature of 40°F before the natural gas reaches the plant. The heater cycles as needed to maintain the natural gas temperature. The heater only burns Pipeline Natural Gas.

Nitrogen Oxides (NO_x)

The heater is a commercially-available packaged unit manufactured by Natco. Installation of low NO_x options would entail a customized, field-erected system which is not feasible for this application. The system is consistent with commercially-available technology, and is the best practical treatment. Emissions for a gas-fired heater provide the lowest NO_x emissions among other available fuels. Emissions are estimated at 100 lb/scf of natural gas burned or 0.10 lb/MMBtu.

Particulate Matter (PM)

Units firing fuels with low sulfur ash content and high combustion efficiency exhibit correspondingly low PM emissions. Proper combustion control and the firing of natural gas with negligible or zero ash content is the appropriate control method.

Sulfur Dioxide (SO₂)

SO₂ is formed from the oxidation of sulfur in fuel. The most stringent method of control for SO₂ that has been demonstrated for heaters is firing pipeline quality natural gas.

Volatile Organic Compounds (VOC) and Carbon Monoxide (CO)

VOC and CO are emitted from heaters as a result of incomplete combustion of fuel. Control of VOC and CO is accomplished by providing adequate fuel residence time and proper temperature in the combustion zone to ensure complete combustion.

C. Streamlining and Periodic Monitoring

Combustion Turbine #1 and #2

Combustion Turbines #1 and #2 were manufactured by General Electric (GE) with a nominal design heat input of 1937 MMBtu/hr firing natural gas. The

turbines were both installed on 5/1/2000, after the New Source Performance Standards (NSPS) Subpart GG applicability date. These turbines are used for electrical purposes. Emissions exit through separate 155-ft stacks.

For the measurement of Ammonia (NH₃), two NO_x analyzers are used to measure the NH₃ slip in the flue gas. This measurement involves splitting the gas sample into two flow streams and converting the NH₃ present in one stream to a gas that can be measured. NH₃ is converted to NO_x in one half of the sample which combines with the NO_x naturally existing in the sample. This converted sample stream will have a higher NO_x level than the non-converted stream. The difference in readings is equal to the NH₃ concentration in the flue gas.

Streamlining

Opacity

CBEC accepts streamlining for opacity requirements. 06-096 CMR 101 of the Department's regulations and BPT are applicable. The Best Practical Treatment (BPT) opacity limit is more stringent. Therefore, only the more stringent BPT opacity limit is included in this license.

Particulate Matter

CBEC accepts streamlining for particulate matter requirements. 06-096 CMR 103 of the Department's regulations and BPT are applicable. The BPT lb/hr limit of 10 lb/hr is more stringent than the lb/hr limit that would be required per 06-096 CMR 103. Therefore, this license will require both the BPT lb/hr PM limit along with the 0.06 lb/MMBtu emission limit from 06-096 CMR 103.

SO₂

CBEC accepts streamlining for SO₂ requirements. 06-096 CMR 106 is applicable, however BPT requirements are more stringent. The NSPS emission limits for SO₂ is streamlined into the more stringent BPT emission limit. Combusting only pipeline quality natural gas meets the more stringent BPT requirements, therefore only the BPT SO₂ limit shall be included in this license.

NO_x

CBEC accepts streamlining for NO_x requirements. NSPS requirements are applicable, however BACT is more stringent. Therefore, only the BACT limits are included in this license.

Periodic Monitoring

Periodic monitoring shall consist of the following recordkeeping:

- a. Annual natural gas used in each turbine indicating the quantity of fuel consumed and heat content of the fuel.
- b. Hours of operation, including startup, shutdown, and any other down time.

c. Malfunctions of the air pollution control system.

Auxiliary Boiler

The Auxiliary boiler was manufactured by Cleaver Brooks with a maximum design heat input of 21 MMBtu/hr firing natural gas. The boiler was installed in 2000, after the NSPS Subpart Dc applicability date. This boiler is used for freeze protection and to maintain steam side components in a “hot” condition when the turbine is not operating. Emission exit through a 24.1-ft stack.

Streamlining

Opacity

CBEC accepts streamlining for opacity requirements. 06-096 CMR 101 of the Department’s regulations and BPT are applicable. The BPT opacity limit is more stringent. Therefore, only the more stringent BPT opacity limit is included in this license.

Particulate Matter

CBEC accepts streamlining for particulate matter requirements. 06-096 CMR 103 of the Department’s regulations and BPT requirements are applicable. The BPT PM limit is more stringent. Therefore, only the more stringent BPT PM limit is included in this license.

SO₂

CBEC accepts streamlining for SO₂ requirements. 06-096 CMR 106 is applicable, however BPT requirements are more stringent. Combusting only pipeline quality natural gas meets the more stringent BPT requirements, therefore only the BPT SO₂ limit shall be included in this license.

Periodic Monitoring

Periodic monitoring shall consist of record keeping, which includes records of fuel use through recording flowmeter readings indicating cubic feet fired.

Based on best management practices and the type of fuel for which the boilers were designed, it is unlikely that the boilers will exceed the opacity limits. Therefore, periodic monitoring by the source for opacity in the form of visible emission testing is not required. However, neither the EPA nor the State is precluded from performing its own testing and may take enforcement action for any violations discovered.

Standby Generator

The standby generator was manufactured by Cummings Diesel (535 HP) and has a maximum firing rate of 29 gal/hr of diesel fuel with a maximum sulfur content of 0.05%. The generator was installed in 2000.

Streamlining

Opacity

CBEC accepts streamlining for opacity requirements. 06-096 CMR 101 of the Department's regulations and BPT are applicable. The BPT opacity limit is more stringent. Therefore, only the more stringent BPT opacity limit is included in this license.

Particulate Matter

CBEC accepts streamlining for particulate matter requirements. 06-096 CMR 103 of the Department's regulations and BPT requirements are applicable. The BPT PM limit is more stringent. Therefore, only the more stringent BPT PM limit is included in this license.

SO₂

The standby generator shall be limited to firing diesel fuel oil with a sulfur content not to exceed 0.05% by weight. 06-096 CMR 106 is applicable, however the BPT requirements are more stringent, and therefore only BPT requirements shall be included in this license.

Periodic Monitoring

Periodic monitoring shall consist of record keeping which includes a written log of all operating hours, records of fuel use through purchase receipts indicating amounts (gallons) and percent sulfur by weight.

Based on best management practices and the type of fuel for which the generator will use, it is unlikely that the generator will exceed the opacity limit. Therefore, periodic monitoring by the source for opacity in the form of visible emission testing is not required. However, neither the EPA nor the State is precluded from performing its own testing and may take enforcement action for any violations discovered.

Natural Gas Heater

The natural gas heater was manufactured by Natco and has a maximum firing rate of 5.0 MMBtu/hr. The heater was installed in 2000 and combusts only pipeline natural gas.

Streamlining

Opacity

CBEC accepts streamlining for opacity requirements. 06-096 CMR 101 of the Department's regulations and BPT are applicable. The BPT opacity limit is more stringent. Therefore, on the more stringent BPT opacity limit is included in this license.

Particulate Matter

CBEC accepts streamlining for PM requirements. 06-096 CMR 103 of the Department's regulations and BPT are applicable. The BPT PM limit is more stringent. Therefore, only the more stringent BPT PM limit is included in this license.

SO₂

CBEC accepts streamlining for SO₂ requirements. 06-096 CMR 106 is applicable, however BPT is more stringent. Combusting only pipeline quality natural gas meets the more stringent BPT requirements, therefore only the BPT SO₂ limit shall be included in this license.

Periodic Monitoring

Periodic monitoring shall consist of record keeping, which includes records of fuel use through recording flowmeter readings indicating the cubic feet of natural gas fired in the heater.

Based on best management practices and the type of fuel for which the heater will use, it is unlikely that the heater will exceed the opacity limit. Therefore, periodic monitoring by the source for opacity in the form of visible emission testing is not required. However, neither the EPA nor the State is precluded from performing its own testing and may take enforcement action for any violations discovered.

D. Compliance Assurance Monitoring (40 CFR Part 64)

CBEC's combustion turbines meet the general applicability criteria of the compliance assurance monitoring (CAM) rule (i.e., 1) federally enforceable emission limits apply, 2) a control device (SCR) will be used to achieve compliance with the emission limits, and 3) pre-control emission exceed major source levels.) Title 40 CFR Part 64.2(b)(vi) of the CAM rule exempts limits for which a Part 70 permit specifies a continuous compliance determination method. CBEC's Part 70 license requires the use of CEMs to determine compliance with NO_x BACT limits (including the NO_x ppm and lb/hr limits) for the turbines. The auxiliary boiler, emergency generator, natural gas heater and other insignificant emission sources do not meet the general applicability criteria; therefore, the CAM Rule is not applicable to any emission unit at CBEC.

E. Facility Emissions

Total Licensed Annual Emission for the Facility *
Tons/year
(used to calculate the annual license fee)

| Equipment | PM | PM ₁₀ | SO ₂ | NO _x | CO | VOC | NH ₃ |
|---------------------|-------------|------------------|-----------------|-----------------|--------------|-------------|-----------------|
| Turbine #1 | 47.4 | 47.4 | 45.0 | 109.5 | 227.8 | 19.7 | 111.7 |
| Turbine #2 | 47.4 | 47.4 | 45.0 | 109.5 | 227.8 | 19.7 | 111.7 |
| Auxiliary Boiler | 1.0 | 1.0 | 0.1 | 3.3 | 3.5 | 1.5 | - |
| Emergency Generator | 0.3 | 0.3 | 0.1 | 4.0 | 0.9 | 0.3 | - |
| Natural Gas Heater | 0.2 | 0.2 | 0.1 | 2.1 | 1.8 | 0.1 | - |
| Total TPY | 96.3 | 96.3 | 90.3 | 228.4 | 461.8 | 41.3 | 223.4 |

* Total licensed annual emissions for the facility have been updated after the removal of the diesel fire pump. Also, after separating the ton per year emissions for each unit, an error was found in total NO_x and has been updated to 228.4 tons per year from 224.4 tons per year.

III. AIR QUALITY ANALYSIS

CBEC previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this Part 70 License Renewal. Modeling for these ambient air quality standards was done and summarized in air emissions license A-728-71-A-N.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this sources:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants the Part 70 License A-728-70-C-R pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to CBEC pursuant to the Department's preconstruction permitting requirements in 06-096 CMR 108 or 115 have been incorporated into this Part 70 license, except for such conditions that MEDEP has determined are obsolete, extraneous or otherwise environmentally insignificant, as explained in the findings of fact accompanying this permit. As such the conditions in this license supersede all previously issued air license conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in 06-096 CMR 115 for making such changes and pursuant to the applicable requirements in 06-096 CMR 140.

For each standard and special condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only**.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD STATEMENTS

- (1) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both; [06-096 CMR 140]
- (2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege; [06-096 CMR 140]
- (3) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable. [06-096 CMR 140]
- (4) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license; [06-096 CMR 140]
- (5) Notwithstanding any other provision in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for

the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 140]

(6) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:

A. Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or

B. The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or effect the provisions of Section 303 of the CAA (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to Section 114 of the CAA.

The following requirements have been specifically identified as not applicable based upon information submitted by the licensee its renewal application dated January 2007. [06-096 CMR 140]

| SOURCE | CITATION | DESCRIPTION | BASIS FOR DETERMINATION |
|------------------|-----------------------------|---|---|
| Auxiliary Boiler | 40 CFR Parts 72-75 | Acid Rain Program | The Auxiliary Boiler is not an electrical steam generating unit. |
| Facility | 06-096 CMR 138 Section 1(A) | Reasonably Available Control Technology for Facilities that emit Nitrogen Oxides | The gas turbines at the facility were constructed after May 31, 1995 and therefore RACT does not apply. |
| Facility | 06-096 CMR 134 | Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds | Exempt pursuant to section 1(C)(6) and PTE from non-exempt sources is less than 40 tons per year |
| Facility | 40 CFR Part 63 | MACT Control Standards | Casco Bay Energy (CBEC) is not a major source of Hazardous Air Pollutants (HAPs) |

(7) The Part 70 license shall be reopened for cause by the Department or EPA, prior to the expiration of the Part 70 license, if:

- A. Additional Applicable requirements under the CAA become applicable to a Part 70 major source with a remaining Part 70 license term of 3 or more years. However, no opening is required if the effective date of the requirement is later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions has been extended pursuant to 06-096 CMR 140;
- B. Additional requirements (including excess emissions requirements) become applicable to a Title IV source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;
- C. The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Part 70 license; or
- D. The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

The licensee shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license or to determine compliance with the Part 70 license.

[06-096 CMR 140]

(8) No license revision or amendment shall be required, under any approved economic incentives, marketable licenses, emissions trading and other similar programs or processes for changes that are provided for in the Part 70 license.

[06-096 CMR 140]

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions and this license (38 M.R.S.A. §347-C);

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in 06-096 CMR 140; [06-096 CMR 140]
- (3) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request; [06-096 CMR 140]
Enforceable by State-only
- (4) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to 38 M.R.S.A. §353.
- (5) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions; [06-096 CMR 140]
Enforceable by State-only
- (6) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Part 70 license. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license; [06-096 CMR 140]
- (7) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, the filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license. [06-096 CMR 140]
- (8) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions;
 2. to demonstrate compliance with the applicable emission standards; or
 3. pursuant to any other requirement of this license to perform stack testing.
- B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
- C. submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 140] **Enforceable by State-only**
- (9) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 CMR 140] **Enforceable by State-only**
- (10) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures,

downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license.

- A. The licensee shall notify the Commissioner within 48 hours of a violation of any emission standard and/or a malfunction or breakdown in any component part that causes a violation of any emission standard, and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;
- B. The licensee shall submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component part causes a violation of any emission standard, together with any exemption requests.

Pursuant to 38 M.R.S.A. § 349(9), the Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection.

- C. All other deviations shall be reported to the Department in the facility's semiannual report.

[06-096 CMR 140]

- (11) Upon the written request of the Department, the licensee shall establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 140]
- (12) The licensee shall submit semiannual reports of any required periodic monitoring. All instances of deviations from Part 70 license requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. [06-096 CMR 140]

- (13) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequently if specified in the applicable requirement or by the Department. The compliance certification shall include the following:
- (a) The identification of each term or condition of the Part 70 license that is the basis of the certification;
 - (b) The compliance status;
 - (c) Whether compliance was continuous or intermittent;
 - (d) The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
 - (e) Such other facts as the Department may require to determine the compliance status of the source;
- [06-096 CMR 140]

SPECIFIC CONDITIONS

- (14) The following shall apply to the conditions in this order as appropriate:
- A. A 30-day rolling block average shall be calculated as the arithmetic average of not more than 30 contiguous 24-hour block averages. A 30-day rolling block average is defined as the sum of the block hour values monitored for the last 30 unit operating days divided by the sum of the block hours monitored for the past 30 unit operating days (reference 40 CFR Part 60 App. A, method 19, equation 19). [A-728-71-A-N (7/13/98), BPT]
 - B. A 24-hour block average shall be calculated as the arithmetic average of not more than 24-one hour block periods. Only one 24-hour block average shall be calculated for one day, beginning at midnight. Hours in which no operation occurs and any hours that are considered exempt from emission standards shall not be included in the 24-hour block average calculation. [A-728-71-A-N (7/13/98), BPT]
 - C. A valid 24-hour block average shall consist of at least 12 hours of valid hourly averages, excluding periods of startup/shutdown. [A-728-71-A-N (7/13/98), BPT]
 - D. The facility can use the same hourly data validation procedure as specified in 40 CFR Part 60.334(b)(2) for all monitors, i.e, NOx, O2, CO, and NH3 monitors, to maximize data availability during partial hours of operation. [40 CFR Part 60 Subpart GG]
- (15) **Electric Generating System**
 [A-728-71-A-N (7/13/98), BPT, A-728-70-A-I (1/14/03), & 40 CFR Part 60]
- A. CBEC electric generating system consists of two nominal 170 MW F class, advanced combustion turbine generators with dry low NOx combustors, two

unfired heat recovery steam generators [HRSGs], and one condensing steam turbine generator (steam turbine).

- B. CBEC shall fire only natural gas in the turbine generators.
- C. Visible emissions from each turbine exhaust stack shall not exceed 20% opacity, measured as 6-minute block averages, except for one 6 minute block average period per hour of not more than 27% opacity. Opacity emissions shall be exempt during the first four hours following the initiation of cold startup, the first three hours following the initiation of a warm startup, the first hour following the initiation of a hot startup or the first hour following the initiation of a shutdown, provided that operating records are available to demonstrate that the facility was being operated to minimize emissions. Compliance with the opacity limit shall be demonstrated in accordance with 40 CFR 60, Appendix A, Method 9 when requested by the Bureau of Air Quality.
- D. CBEC shall operate Selective Catalytic Reduction (SCR) systems to reduce NOx emissions, except during startup and shutdown.
- E. The exhaust from each gas turbine system shall be vented through a 155 foot above ground level stack.
- F. Emissions from each gas turbine shall not exceed the following limits, except during startup or shutdown:

| Pollutant | Emission Limit | Ave. Time | lb/hr | Control Technology |
|------------------|--|--|--------------|--|
| PM | 0.06 lb/MMBtu | - | 10 | Natural Gas Only |
| PM ₁₀ | - | - | 10 | Natural Gas Only |
| SO ₂ | - | - | 11 | Natural Gas Only |
| NO _x | 3.5 ppmvd @ 15% O ₂ | 24 hr block avg | 25 | Dry Low NO _x Technology & SCR |
| CO | 20 ppmvd @ 15% O ₂ | 24 hr block avg | 86.9 | Good Combustion & Dry Low NO _x technology |
| VOC | - | - | 4.5 | Good Combustion Control |
| Ammonia | 20 ppmvd @ 15% O ₂ 10 ppmvd @ 15% O ₂ | 24 hr. block avg 30 day rolling avg | 52.7 26.4 | Good Engineering Practices |

G. Stack Testing

- 1. Compliance with the PM and PM₁₀ lb/hour emission limits shall be determined, when requested by the Department, through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 5, or Method 201 and 201A, or other method approved by the Administrator.
- 2. The VOC lb/hour emission limit shall be demonstrated, when requested by the Department, through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25A.

3. The licensee shall conduct emission testing, and demonstrate compliance with the applicable standard within 60 days after receipt of notice from the Bureau of Air Quality:
 4. All testing programs shall comply with all of the requirements of the DEP Compliance Test Protocol and with 40 CFR Part 60, as appropriate, or other methods approved by the Bureau of Air Quality.
 5. When requested by the Bureau of Air Quality, CO and ammonia lb/hour emission limits shall be demonstrated through stack testing in accordance with 40 CFR Part 60, Appendix A (Method 10 and 19 for CO, or other methods approved by the Administrator).
- H. The natural gas turbines shall comply with the sulfur and nitrogen content monitoring requirement in 40 CFR Part 60.334.
- I. Compliance with the NO_x, CO, diluent gas (oxygen or carbon dioxide) and ammonia ppm_{vd} emission limits, along with the NO_x lb/hr emission limit, shall be demonstrated by the use of continuous emission monitors (CEMS). The NO_x and O₂ monitors shall follow the 40 CFR Part 75 requirements. The NO_x, O₂, CO, and NH₃ monitors shall use the hourly data validation procedures as specified in 40 CFR 60.334(b)(2) and shall follow the frequency for performance of ongoing CEMS QA/QC tests as specified in 40 CFR Part 75, Appendix B. In the event that CBEC uses a split scale NO_x CEMS with a lower scale at 1-10 ppm and an upper scale at approximately 10-250 ppm, CBEC shall be permitted to modify the calibration method in 40 CFR Part 60, Appendix B & F in order to calibrate their NO_x CEMS across two scales, with only one point required to be calibrated in the lower scale.
- J. The NO_x CEMS shall meet the QA/QC requirements as specified in 40 CFR Part 75, Appendices A and B.
- K. The daily calibration drift procedure described in 40 CFR Part 60.13(d) and 40 CFR Part 60 Appendix B Performance Specification 2 may be modified for the ammonia CEMS to allow span drift to be checked using the same daily calibration gas used for the low range of the NO_x CEMS.
- L. CBEC shall maintain records for each gas turbine for:
1. Hours of operation, including startup, shutdown, and any other down time;
 2. Malfunctions of the air pollution control system;
 3. Hourly and annual natural gas use for each turbine indicating the quantity of fuel consumed (cubic feet and the heat content of the fuel, demonstrated by purchase records from the supplier).

- (16) CBEC shall monitor and record the following as specified, for each gas turbine system: [A-728-71-A-N (7/13/98), BPT & 06-096 CMR 140]

| Parameter for each gas turbine system | Monitor | Record Monitor Data |
|---|--------------|---------------------|
| turbine natural gas firing rate (standard cubic feet input) | continuously | continuously |

Continuously is defined as one data point per hour.

Each parameter monitor must record accurate and reliable data. If the parameter monitor is recording accurate and reliable data less than 98% of the source-operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the parameter monitor was not recording accurate and reliable data during that quarter unless the licensee can demonstrate to the satisfaction of the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions.

- (17) #1 and #2 Turbine Startup/Shutdown
[A-728-71-A-N (7/13/98), BPT & A-728-71-A-I (1/14/03)]

A. CBEC shall minimize emissions from the gas turbines to the maximum extent practicable during startup and shutdown, under maintenance or adjustment conditions, and during equipment cleaning conditions by following proper operating procedures to minimize the emission of air contaminants to the maximum extent practical.

1. Turbine startup shall be defined as that period of time from initiation of combustion turbine firing until the combustion turbine achieves combustion operational Mode 6Q. Mode 6Q is defined by the manufacturer as the low emissions mode during which all 6 of the burner nozzles are in use, burning a lean premixed gas for steady-state operation. This period shall not exceed 60 minutes for a hot start, 180 minutes for a warm start, nor 240 minutes for a cold start. A hot start shall be defined as startup when the generating unit has been down for less than 2 hours. A warm start shall be defined as startup when the generating unit has been down for more for more than 2 hours and less than or equal to 48 hours. A cold start shall be defined as startup when the generating unit has been down for more than 48 hours. Unit shutdown shall be defined as the period beginning when the combustion turbine leaves operational Mode 6Q and ending when combustion has ceased. This period shall not exceed 60 minutes.

2. Turbine startup/shutdown CO and NO_x Emission Limits

Emissions from each gas turbine shall not exceed the following limits during startup or shutdown:

| Pollutant | Emission Limit | Averaging Time |
|-----------------|----------------------------------|--|
| NO _x | 90 ppmvd @ 15% O ₂ | Over the duration of all of the block hours of the startup/shutdown using the hourly data validation procedures as specified in 40CFR60.334(b)(2). |
| CO | 1,000 ppmvd @ 15% O ₂ | Over the duration of all of the block hours of the startup/shutdown using the hourly data validation procedures as specified in 40CFR60.334(b)(2). |

(18) Natural Gas Heater [A-728-70-A-I (1/14/03), BPT]

A. CBEC is licensed to operate a natural gas heater (5.0 MMBtu/hr) which is licensed to fire natural gas.
 [MEDEP 06-096 CMR 140, BPT]

B. Emissions from the heater shall not exceed the following:

| Pollutant | lb/MMBtu | Origin and Authority |
|-----------|----------|-----------------------------|
| PM | 0.0092 | A-728-70-A-I (1/14/03), BPT |

| Pollutant | lb/hr | Origin and Authority |
|------------------|-------|-----------------------------|
| PM | 0.046 | A-728-70-A-I (1/14/03), BPT |
| PM ₁₀ | 0.046 | A-728-70-A-I (1/14/03), BPT |
| SO ₂ | 0.023 | A-728-70-A-I (1/14/03), BPT |
| NO _x | 0.48 | A-728-70-A-I (1/14/03), BPT |
| CO | 0.41 | A-728-70-A-I (1/14/03), BPT |
| VOC | 0.023 | A-728-70-A-I (1/14/03), BPT |

C. Visible Emission

CBEC shall operate the Natural Gas Heater such that visible emissions from the stack do not exceed 10% opacity on a six (6) minute block average. Compliance with the visible emission limitation shall be demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9, when requested by the Bureau of Air Quality.

D. CBEC shall maintain records of annual natural gas use for the heater indicating the quantity of fuel consumed.

(19) Auxiliary Boiler [A-728-71-B-A (11/10/99), BPT]

- A. CBEC is licensed to operate Auxiliary Boiler #3 (21 MMBtu/hr) which is licensed to fire natural gas. [MEDEP 06-096 CMR 140, BPT]
- B. Emissions from the boiler shall not exceed the following limits:

| Pollutant | lb/MMBtu | Origin and Authority |
|-----------|----------|------------------------------|
| PM | 0.05 | A-728-71-B-A (11/10/99), BPT |

| Pollutant | lb/hr | Origin and Authority |
|------------------|-------|------------------------------|
| PM | 1.05 | A-728-71-B-A (11/10/99), BPT |
| PM ₁₀ | 1.05 | A-728-71-B-A (11/10/99), BPT |
| SO ₂ | 0.02 | A-728-71-B-A (11/10/99), BPT |
| NO _x | 0.74 | A-728-71-B-A (11/10/99), BPT |
| CO | 0.76 | A-728-71-B-A (11/10/99), BPT |
| VOC | 0.34 | A-728-71-B-A (11/10/99), BPT |

C. Stack Testing

- 1. The licensee shall conduct emission testing, and demonstrate compliance with the applicable standard within 60 days after receipt of notice from the Bureau of Air Quality:
- 2. All testing programs shall comply with all of the requirements of the DEP Compliance Test Protocol and with 40 CFR Part 60, as appropriate, or other methods approved by the Bureau of Air Quality.

D. Visible Emissions

CBEC shall operate the boiler such that the visible emissions from the stack do not exceed 10% opacity on a six (6) minute block average basis. Compliance with the visible emission limitation shall be demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9, when requested by the Bureau of Air Quality.

- E. CBEC shall maintain records of annual natural gas use for the boiler indicating the quantity of fuel consumed.

(20) Standby Generator [A-728-71-A-N (7/13/98), BPT]

- A. Operation of the standby generator shall be limited to 500 hours per year.
- B. To document compliance, CBEC shall maintain an hour meter on the standby generator and shall keep a written log of all operating hours.
- C. Diesel fuel utilized shall be limited to a sulfur content of 0.05% by weight, demonstrated by purchase records from the supplier.
- D. Emissions from the standby generator shall not exceed the following:

Standby Generator

| Pollutant | lb/MMBtu | lb/hr |
|-----------------|----------|-------|
| PM | 0.12 | 0.47 |
| PM10 | n/a | 0.47 |
| SO ₂ | n/a | 0.2 |
| NO _x | n/a | 17.0 |
| CO | n/a | 3.6 |
| VOC | n/a | 1.3 |

Compliance with the above emission limits applicable to the standby generator shall be demonstrated by fuel receipts and stack testing in accordance with 40 CFR Part 60, Appendix A, when requested by the Bureau of Air Quality.

- E. Visible emissions from the unit shall not exceed of 20 percent on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period. Compliance with the visible emission limitation shall be demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9, when requested by the Bureau of Air Quality.
- (21) Each gas turbine system is subject to and shall comply with the requirements of the Federal New Source Performance Standards 40 CFR Part 60, Subparts A (General provisions), and Subpart GG (Stationary Gas Turbines). CBEC shall comply with the notification and record keeping requirements of 40 CFR Part 60.7 and 60.334(j),(j)(1)(iii), and (j)(5).
- (22) Acid Rain Requirements
- A. CBEC shall comply with the applicable Federal acid rain program requirements codified in 40 CFR Parts 72, 73, 75, 77, and 78.
- B. CBEC shall obtain and hold in the EPA Allowance Management System, sufficient Acid Rain allowances for each ton of SO₂ emitted annually in accordance with the requirements of 40 CFR, Part 72, 73, 75, 77, and 78.
- C. The Phase II Acid Rain permit requirements are incorporated and thereby renewed into this Part 70 air license renewal. This Part 70 Air License Renewal constitutes both CBEC's Part 70 Air License and its Phase II Acid Rain Permit.

(23) Record-Keeping

For all record keeping required by this license, the licensee shall maintain records of the most current six-year period. [A-728-71-A-N (7/13/98), BPT]

- A. The following **periodic** records shall be kept:
1. The following records shall be maintained for each Gas Turbine:
 - a. Hourly and annual natural gas use in each turbine indicating the quantity of fuel consumed and heat content of the fuel.
 - b. Hours of operation, including startup, shutdown, and any other down time.
 - c. Malfunctions of the air pollution control system.
 - d. The fuel-bound sulfur content of the natural gas as described Special Condition 15(H).
 2. The following records shall be maintained for the Natural Gas Heater:
 - a. Annual natural gas use indicating the quantity of fuel consumed.
 3. The following records shall be maintained for the Auxiliary Boiler:
 - a. Annual natural gas use indicating the quantity of fuel consumed.
 4. The following records shall be maintained for the Standby Generator:
 - a. Written log of all operating hours.
 - b. The percent (%) sulfur content of the fuel by weight as provided by purchase records from the fuel supplier.
- B. The following **parameter monitor** records shall be kept.
1. Turbine natural gas firing rate (standard cubic feet input).
- C. For all **CEMS**, the following records shall be kept:
1. Documentation that all NO_x and O₂ CEMS are continuously accurate, reliable and operated in accordance with 06-096 CMR 117 and 40 CFR Part 75 and all CO CEMS are continuously accurate, reliable and operated in accordance with 06-096 CMR 117;
 2. Records of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each CEMS as required by 40 CFR Part 51 Appendix P; and
 3. Data indicative of compliance with the applicable emission standard for those periods when the CEMS were not in operation or produced invalid data. In the event the Department does not concur with the licensee's compliance determination, the licensee shall, upon the Department's request, provide additional data, and shall have the burden of demonstrating that the data is indicative of compliance with the applicable standard.
- [MEDEP 06-096 CMR 117]

(24) Insignificant Units and Activities.

- A. CBEC may add or modify units and activities that are identified as "categorically exempt" insignificant units and activities under Appendix B, Section A of 06-096 CMR 140 of the Department's regulations. Addition or modification of such units and activities does not require a license amendment or notice to the Department.
- B. CBEC may add or modify units and activities that are identified as "insignificant based on size or production rate" under Appendix B, Section B of 06-096 CMR 140 of the Department's regulations. CBEC shall provide written notice to the Department within 30 days of such installation or modification. Addition or modification of such units and activities may not require a license amendment.

(25) **Quarterly Reporting**

The licensee shall submit a Quarterly Report to the Bureau of Air Quality within 30 days after the end of each calendar quarter, detailing the following, for the control equipment, parameter monitors and Continuous Emission Monitoring Systems (CEMS) required by this license. [06-096 CMR 117]

- A. All control equipment downtimes and malfunctions;
- B. All CEMS downtimes and malfunctions;
- C. All parameter monitor downtimes and malfunctions;
- D. All excess events of emission and operational limitations set by this Order, Statute, state or federal regulations, as appropriate. The following information shall be reported for each excess event;
 - 1. Standard exceeded;
 - 2. Date, time, and duration of excess event;
 - 3. Amount of air contaminant emitted in excess of the applicable emission standard expressed in the units of the standard;
 - 4. A description of what caused the excess event;
 - 5. The strategy employed to minimize the excess event; and
 - 6. The strategy employed to prevent reoccurrence.
- E. A report certifying there were no excess emissions, if that is the case.

(26) **Semiannual Reporting** [06-096 CMR 140]

- A. The licensee shall submit semiannual reports every six months to the Bureau of Air Quality. The semiannual reports are due on **January 31st** and **July 31st** of each year. The facility's designated responsible official must sign this report.

- B. The semiannual report shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date.
- C. Each semiannual report shall include a summary of the periodic and CEM monitoring required by this license.
- D. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.

(27) **Annual Compliance Certification** [06-096 CMR 140]

CBEC shall submit an annual compliance certification to the Department in accordance with Standard Condition (13) of this license. The annual compliance certification is due January 31 of each year. The facility's designated responsible official must sign this report.

The annual compliance certification shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date. Certification of compliance is to be based on the stack testing or monitoring data required by this license. Where the license does not require such data, or the license requires such data upon request of the Department and the Department has not requested the testing or monitoring, compliance may be certified based upon other reasonably available information such as the design of the equipment or applicable emission factors.

(28) **Annual Emission Statement** [06-096 CMR 137]

In accordance with Emission Statements, 06-096 CMR 137 (last amended November 8, 2008), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

- A. A computer program and accompanying instructions supplied by the Department; or
- B. A written emission statement containing the information required in 06-096 CMR 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator
 Maine DEP
 Bureau of Air Quality
 17 State House Station
 Augusta, ME 04333-0017 Phone: (207) 287-2437

The emission statement must be submitted by the date as specified in 06-096 CMR 137.

(29) **General Applicable State Regulations**

In addition to the other specified State regulations, the licensee is subject to the State regulations listed below.

| Origin and Authority | Requirement Summary | Enforceability |
|----------------------------|----------------------------------|---------------------------|
| 06-096 CMR 102 | Open Burning | - |
| 06-096 CMR 109 | Emergency Episode Regulation | - |
| 06-096 CMR 110 | Ambient Air Quality Standard | - |
| 06-096 CMR 116 | Prohibited Dispersion Techniques | - |
| 38 M.R.S.A. §585-B, §§5 | Mercury Emission Limit | Enforceable by State-only |

(30) **Units Containing Ozone Depleting Substances**

When repairing or disposing of units containing ozone depleting substances, the licensee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. An example of such units include refrigerators and any size air conditioner that contain CFCs.

[40 CFR, Part 82, Subpart F]

(31) **Risk Management Plan**

The licensee is subject to all applicable requirements of 40 CFR Part 68 (Risk Management Plan). This license condition is necessary only for those facilities subject to Part 68.

(32) **Expiration of a Part 70 license**

A. CBEC shall submit a complete Part 70 renewal application at least 6 months prior, but no more than 18-months prior, to the expiration of this air license.

B. Pursuant to Title 5 MRSA §10002, and 06-096 CMR 140, the Part 70 license shall not expire and all terms and conditions shall remain in effect until the Department takes final action on the renewal application of the Part 70 license. An existing source submitting a complete renewal application under 06-096 CMR 140 prior to the expiration of the Part 70 license will not be in violation of operating without a Part 70 license. **Enforceable by State-only**

Casco Bay Energy Company, L.L.C.) Department
Penobscot County) Findings of Fact and Order
Veazie, Maine) Part 70 Air Emission License
A-728-70-C-R 32

(33) **New Source Review**

CBEC is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emissions license and the NSR requirements remain in effect even if this 06-096 CMR 140 Air Emissions License, A-728-70-C-R, expires.

DONE AND DATED IN AUGUSTA, MAINE THIS *6th* DAY OF *January*, 2010.
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Brookes*

DAVID P. LITTELL COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 8, 2007

Date of application acceptance: January 22, 2007

Date filed with the Board of Environmental Protection: _____

This Order prepared by Edwin Cousins, Bureau of Air Quality.

