



DEPARTMENT ORDER

**Westbrook Energy Center, LLC
Cumberland County
Westbrook, Maine
A-743-70-J-R**

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Renewal**

FINDINGS OF FACT

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 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Westbrook Energy Center, LLC (Westbrook)
LICENSE TYPE	Part 70 License Renewal
NAICS CODES	221112
NATURE OF BUSINESS	Fossil Fuel Electric Power Generation
FACILITY LOCATION	60 Eisenhower Drive, Westbrook, ME 04092

Westbrook is a natural gas fired combined cycle power plant nominally rated at 528 megawatts (MW) which produces market electricity. Each of the combined cycle systems consists of a gas combustion turbine and an unfired heat recovery steam generator (HRSG). The steam produced in each HRSG is routed to a single condensing steam turbine generator.

Westbrook has the potential to emit more than 100 tons per year (tpy) of particulate matter (PM), Particulate Matter under 10 micrometers (PM₁₀), nitrogen oxides (NO_x), and carbon monoxide (CO), and more than 100,000 tpy of carbon dioxide equivalent (CO_{2e}); therefore, the source is classified as a major source for criteria pollutants.

Westbrook does not have the potential to emit 10 tpy or more of a single hazardous air pollutant (HAP) or 25 tpy or more of combined HAP; therefore, the source is classified as an area source for HAP.

B. Emission Equipment

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

Turbines and Boilers

Equipment	Maximum Heat Input Capacity (MMBtu/hr)	Max. Firing Rate (scf/hr)	Fuel Type,	Mfr. Date	Install. Date	Stack #
Combustion Turbine #1	2,013	2,013,000	Natural Gas	2000	2000	1
Combustion Turbine #2	2,013	2,013,000	Natural Gas	2000	2000	2
Auxiliary Boiler	29.1	29,110	Natural Gas	2000	2000	3

Engines

Equipment	Maximum Heat Input Capacity (MMBtu/hr)	Max. Firing Rate (gal/hr)	Output	Fuel Type, % sulfur	Mfr. Date	Install. Date	Stack #
Emergency Generator	8.1	59.2	800 KW	distillate, 0.0015%	2000	2000	4
Fire Pump	3.2	23	412 Hp	distillate, 0.0015%	2000	2000	5
BSEG #1*	37.6	274.6	4,000 KW	distillate, 0.0015%	2017	2018	6
BSEG #2*	37.6	274.6	4,000 KW	distillate, 0.0015%	2017	2018	7

*Black Start Emergency Generator

Process Equipment

Equipment	Flow Rate	Mfr. Date	Install. Date	Pollution Control Equipment
Cooling Tower	145,840 GPM	2000	2000	Drift Eliminators

Westbrook has insignificant activities which do not need to be listed in the emission equipment tables above. The list of insignificant activities can be found in the Part 70 license application and in Appendix B of *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140.

C. Acronyms and Units of Measure

BACT	Best Available Control Technology
BPT	Best Practical Treatment
C.F.R.	Code of Federal Regulations
C.M.R.	Code of Maine Rules
CEMS	Continuous Emissions Monitoring System
CPMS	Continuous Parameter Monitoring System
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide equivalent
CTM	Conditional Test Method
EPA or US EPA	United States Environmental Protection Agency
gal/hr	gallon per hour
GHG	Greenhouse Gases
gr/dscf	grains per dry standard cubic feet
HAP	Hazardous Air Pollutants
lb/hr	pounds per hour
lb/MMBtu	pounds per million British Thermal Units
M.R.S.	Maine Revised Statutes
MMBtu	Million British Thermal Units
MMBtu/hr	million British Thermal Units per hour
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
NSR	New Source Review
O ₂	Oxygen
PM	Particulate Matter less than 100 microns in diameter
PM ₁₀	Particulate Matter less than 10 microns in diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in diameter
ppmdv	parts per million on a dry volume basis
PSD	Prevention of Significant Deterioration
RICE	Reciprocating Internal Combustion Engine
SO ₂	Sulfur Dioxide
ton/hr	ton per hour
tpy	ton per year
VOC	Volatile Organic Compounds

D. Definitions

Black Start means the process of restarting electric generation equipment without relying on a power source external to the facility.

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

Portable Engine means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

E. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application for Westbrook does not include the licensing of increased emissions or the installation of new or modified equipment; therefore, the license is considered to be a Part 70 License renewal issued under *Part 70 Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 140.

F. Facility Description

Westbrook operates two combined cycle systems. These systems each consist of a natural gas combustion turbine and an unfired heat recovery steam generator (HRSG). A single condensing steam turbine generator utilizes the steam to produce electricity. The facility has a nominal electric production rating of 528 MW.

Each combined cycle system starts with combustion air entering the inlet of the gas turbine where it is compressed and mixed with the incoming fuel. This combination is burned in the combustion section of the turbine, which incorporates a dry low NO_x system to minimize NO_x emissions and create a high pressure, hot gas. The gas is expanded through the power section of the turbine where most of its thermal energy is converted to work as it rotates the turbine, producing electricity.

Exhaust from each combustion turbine is directed to its associated HRSG where it passes over tubes to create high-pressure steam. A selective catalytic reduction (SCR) system within each HRSG controls NO_x emissions from the exhaust gases. Each system exhausts to a separate 165-foot stack.

The steam produced from each of the HRSGs is routed to the steam turbine, contributing additional electrical power output for the facility.

A natural gas fired package Auxiliary Boiler is used to assist with steam turbine startup. An Emergency Generator and Fire Pump are also located at the facility. A Cooling Tower is used to transfer waste heat from cooling water to the atmosphere. The cooling water is used to cool the condensed steam from the steam turbine.

When Westbrook's electric generation equipment is offline, the facility usually draws power from the grid to provide the energy needed to restart the facility's electrical generation equipment. In the event of a regional grid outage, however, this power is not available. For this situation, Westbrook has installed two 4 MW black start electrical generators, BSEG #1 and BSEG #2, to provide the power necessary to restart the facility's electrical generation equipment. This ability allows Independent System Operator-New England (ISO-NE) to call upon Westbrook to provide power to help restart other electric generating stations and thus help restore the regional electric grid during grid outage events.

G. General Facility Requirements

Westbrook is subject to the following state and federal regulations listed below in addition to the regulations listed for specific units as described further in this license.

Citation	Requirement Title
06-096 C.M.R. ch. 101	Visible Emissions Regulation
06-096 C.M.R. ch. 102	Open Burning
06-096 C.M.R. ch. 103	Fuel Burning Equipment Particulate Emission Standard
06-096 C.M.R. ch. 106	Low Sulfur Fuel Regulation
06-096 C.M.R. ch. 109	Emergency Episode Regulations
06-096 C.M.R. ch. 110	Ambient Air Quality Standards
06-096 C.M.R. ch. 116	Prohibited Dispersion Techniques
06-096 C.M.R. ch. 117	Source Surveillance – Emissions Monitoring

Citation	Requirement Title
06-096 C.M.R. ch. 137	Emission Statements
06-096 C.M.R. ch. 140	Part 70 Air Emission License Regulations
06-096 C.M.R. ch. 143	New Source Performance Standards
06-096 C.M.R. ch. 144	National Emission Standards for Hazardous Air Pollutants
06-096 C.M.R. ch. 156	CO ₂ Budget Trading Program
40 C.F.R. Part 60, Subpart Dc	Standards of Performance for Small Industrial- Commercial-Institutional Steam Generating Units
40 C.F.R. Part 60, Subpart KKKK	Standards of Performance for Stationary Combustion Turbines
40 C.F.R. Part 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 C.F.R. Part 63, Subpart ZZZZ	National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 C.F.R. Part 68	Chemical Accident Prevention Provisions
40 C.F.R. Part 70	State Operating Permit Programs
40 C.F.R. Part 72	Permits Regulation (Acid Rain)
40 C.F.R. Part 73	Sulfur Dioxide Allowance System
40 C.F.R. Part 75	Continuous Emissions Monitoring
40 C.F.R. Part 77	Excess Emissions
40 C.F.R. Part 82	Protection of Stratospheric Ozone
40 C.F.R. Part 98	Mandatory Greenhouse Gas Reporting

II. BEST PRACTICAL TREATMENT (BPT) AND EMISSION STANDARDS

A. Introduction

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 *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

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 emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. NO_x RACT (Reasonably Available Control Technology)

Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides, 06-096 C.M.R. ch. 138 (NO_x RACT) is applicable to sources that have the potential to emit quantities of NO_x equal to or greater than 100 tons/year. NO_x RACT is applicable to existing sources that were operating prior to May 31, 1995. As a new source in 1998, Westbrook is not subject to 06-096 C.M.R. ch. 138.

C. VOC RACT (Reasonably Available Control Technology)

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 C.M.R. ch. 134 (VOC RACT) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year from non-exempt equipment. Westbrook's generators, boiler, and combustion turbines are classified as VOC-emitting equipment from which the VOC emitted are from incomplete combustion and are considered exempt per 06-096 C.M.R. ch. 134(1)(C)(4). With the exemption of the VOC emissions from these units, the total emitted quantity of VOC emissions for the facility is under the 40 TPY threshold. In addition, the facility underwent a Best Available Control Technology (BACT) analysis for VOC when it was originally licensed in 1998.

D. Acid Rain

Westbrook Combustion Turbines #1 and #2 are subject to the federal Acid Rain Program, *State Operating Permits Program*, 40 C.F.R. Part 70, and *Permits Regulation*, C.F.R. Part 72; therefore, the facility is required to have a Phase II acid rain permit. Westbrook was issued an acid rain permit, A-743-70-A-S, on 10/10/2001.

E. Mandatory Greenhouse Gas (GHG) Reporting

Federal regulation *Mandatory Greenhouse Gas Reporting*, 40 C.F.R. Part 98, which contains GHG reporting and related monitoring and recordkeeping requirements, is applicable to the owners/operators of any facility which falls into any one of the following three categories, per *General Provisions, Who must report?*, 40 C.F.R. § 98.2.

- (a)(1) A facility that contains any source category that is listed in Table A-3 of this subpart in any calendar year starting in 2010.
- (a)(2) A facility that contains any source category that is listed in Table A-4 of this subpart and that emits 25,000 metric tons CO₂e or more per year in combined emissions from stationary fuel combustion units, miscellaneous uses of carbonate, and all applicable source categories that are listed in Table A-3 and Table A-4 of this subpart.
- (a)(3) A facility that in any calendar year starting in 2010 meets all three of the conditions listed in this paragraph (a)(3). For these facilities, the annual GHG report must cover emissions from stationary fuel combustion sources only.

- (i) The facility does not meet the requirements of either paragraph (a)(1) or (a)(2) of this section.
- (ii) The aggregate maximum rated heat input capacity of the stationary fuel combustion units at the facility is 30 MMBtu/hour or greater.
- (iii) The facility emits 25,000 metric tons CO₂e or more per year in combined emissions from all stationary fuel combustion sources.

Westbrook is an electricity generation unit that reports CO₂ mass emissions year-round through 40 CFR part 75 (subpart D), as found in Table A-3 of this subpart, and thus is subject under (a)(1) above.

This facility shall fulfill the recordkeeping and reporting requirements of 40 C.F.R. Part 98.

F. CO₂ Budget Source

Westbrook was issued license A-743-78-A-N, on 1/15/2009, per Maine's *CO₂ Budget Trading Program*, 06-096 C.M.R. ch. 156 for Combustion Turbines #1 and #2.

G. Compliance Assurance Monitoring (CAM)

Compliance Assurance Monitoring, 40 C.F.R. Part 64 is applicable to units at major sources if the unit has emission limits, a control device to meet the limits, and pre-control emissions greater than 100% of the major source threshold (50 tons/year for VOC and 100 tpy for any other pollutant).

The only units that satisfy the three general applicability criteria for CAM are Combustion Turbines #1 and #2 for the pollutant NO_x. However, 40 CFR §64.2(b)(vi) of the CAM rule specifies an exemption for any emission limitation or standard for which a Part 70 permit specifies a continuous compliance determination method. Westbrook is required per the Part 70 license to use a continuous emission monitoring system (CEMS) to determine compliance with the NO_x emission limits (both the NO_x ppm and lb/hr limits) for Combustion Turbines #1 and #2, thus the units are exempt from 40 CFR Part 64. All other pollutant emission units contained in this license do not meet the general applicability criteria. Therefore, CAM is not applicable to any emission units at Westbrook.

H. Fuel Sulfur Content Requirements

Westbrook is licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S. § 603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, the distillate fuel purchased or otherwise obtained for use at this facility shall not exceed 0.0015% by weight (15 ppm).

I. Combustion Turbines #1 and #2

Combustion Turbines #1 and #2 are General Electric model MS7001FA combustion turbines manufactured and installed in 2000. Each unit has a heat input capacity of 2,013 MMBtu/hr based on the results of an advanced gas path project licensed in 2010, operation at base load with an ambient temperature of -20°F and firing natural gas at a higher heat value of 1,000 Btu/scf.

The combustion turbines produce electricity as part of a combined cycle system, including an unfired heat recovery steam generator (HRSG) on each combustion turbine which utilizes the exhaust gases and one steam turbine which utilizes the steam.

Emissions from the combustion turbines exit through separate stacks designated Stack 1 and Stack 2, respectively. The two stacks each have an inside diameter of 18 feet and an above ground level (AGL) height of 165 feet.

1. Control Equipment

Combustion Turbines #1 and #2 are each equipped with dry low-NO_x combustors and a selective catalytic reduction (SCR) system with ammonia injection for the control of NO_x emissions.

2. Startup, Shutdown, and Runback

The combustion turbines at Westbrook are licensed to operate at steady state but also have specific emission limits for startup, shutdown, and runback events. Hourly emissions rates of NO_x and CO are typically higher during periods of startup, shutdown, and runback due, in general, to the combustion turbine's dry low NO_x system not being in full operational mode, the NO_x emissions not being controlled by the selective catalytic reduction (SCR) system, and the combustion turbine not operating at full load where it is most efficient. When the combustion turbine exhaust gas is below the minimum catalyst activation temperature, the control system does not permit the flow of ammonia and therefore the SCR does not function during these events.

Startup and shutdown events consist of specific steps to thermally stabilize the combined cycle combustion turbine unit during startup or shutdown to ensure safe, efficient, and proper operation. Combined cycle units have different startup times depending on how long the unit has not been operating (standstill time). The periods of startup are referred to as cold, warm, or hot starts. The combustion portion of a combined cycle unit is not as affected by the duration of standstill time as the heat recovery steam generator (HRSG) and steam turbine. The steam turbine contains components with metallurgical properties that need to heat up properly to avoid thermal stress on the equipment. Westbrook's startups are defined as the period of time from initiation of combustion turbine firing until the unit reaches steady state load operation,

not to exceed a time period of 300 minutes, per Part 70 License A-743-70-D-R, (6/9/2015). Shutdown occurs by reducing gas combustion loads and then shutting down the steam turbine when exhaust gas temperature reaches a minimum level, followed by full reduction of fuel. Westbrook's shutdowns are defined as the period of time from steady state operation to cessation of combustion turbine firing, not to exceed 60 minutes.

However, there are occasions when a turbine startup may be required to exceed 300 minutes based on OEM (original equipment manufacturer) recommendations. Specifically, instances when a turbine startup may exceed 300 minutes are typically following a major outage when turbine parts have been replaced. Due to the parts' metallurgical properties, slower initial load changes may be required or due to an extended tuning schedule based on OEM recommendations, additional time may be necessary to properly complete the startup.

A runback event is when a combustion turbine, without warning, automatically initiates a shutdown and drops out of Mode 6Q (6Q is the mode in which the combustor dynamics are optimum). When out of Mode 6Q, the selective catalytic reduction (SCR) equipment is not operational and the dry low NO_x system is not fully operational. A combustion turbine runback is the time during which a combustion turbine is returned to steady state operations after the initiation of an unplanned shutdown. Runback events are not common but do occasionally occur.

NO_x and CO emissions can be highly variable during these events and are greater than emission rates during steady state operations because the emission control systems are not functional or are only partially functional. The combustion turbines are also not operating at full load where operations are most efficient. The combustion turbines must achieve a minimum operating rate before the dry low NO_x combustor systems are fully functioning. The SCR systems must be heated to a specific minimum temperature before the catalyst becomes effective.

Part 70 license A-743-70-D-R (6/9/2015) defines turbine shutdown and runback events as each not to exceed 60 minutes (1 hour).

In NSR A-743-77-3-A (2/16/2016), Westbrook clarified and adjusted the licensed NO_x and CO emission limits during startup, shutdown, and runback events, based on a shorter averaging time than previously utilized.

3. Electrical Supply Emergency Conditions

Due to its geographical location in the regional electrical grid and its power generating capabilities, Westbrook may be required by Independent System Operator-New England (ISO-NE) to operate at low loads in the event of an ISO-NE electrical supply emergency. An ISO-NE electrical emergency is generally defined as a wide-spread

electrical outage or blackout and, although rare, it can occur if multiple reliability safeguards break down. Requiring Westbrook to operate below normal operating loads to provide electrical load back to the grid and help establish grid stability after these potential emergency electrical supply blackouts is more environmentally beneficial than operating many small emergency diesel generators throughout the state to provide the power necessary to bring the grid back up.

In the initial Part 70 license A-743-70-A-I (8/12/2003), condition (15)(M) addressed electrical supply emergency scenarios but was not included in the subsequent renewal because the language did not specify emission limits during the events. The following wording was in the initial Part 70 license:

(15)(M) The emission limits contained in this permit do not apply if the facility, during an electricity supply emergency, is directed by Independent System Operator - New England (ISO-NE) to operate at low loads such that the SCR cannot operate due to unstable temperatures. During such operation, Calpine will use its best efforts to minimize air emissions and shall operate the SCR as soon as it is practical once temperatures stabilize.

EPA does not allow for blanket exemptions from emission limits, and, therefore, the condition was not incorporated into the Part 70 license renewal; however, Westbrook proposed a revised condition for these emergency scenarios. The proposed condition is as follows:

The NO_x and CO emission limits (ppm and lb/hr) for steady state load operation contained in this license do not apply if the facility, during an electricity supply emergency, is directed by Independent System Operator - New England (ISO-NE) to operate at low loads such that the SCR cannot operate due to unstable temperatures. During such operation, the NO_x and CO lb/hr limits for startup, shutdown, and runback events shall apply.

The Department approved the proposed license language to address the electrical supply emergency scenarios in NSR License A-743-77-3-A (2/16/2016). Steady state operation emission limits would not apply, and the appropriate approach to minimize emissions during the low load operation is utilizing good engineering and operating practices in accordance with manufacturer recommendations, as detailed in the discussion on startup, shutdown, and runback events.

4. New Source Performance Standards (NSPS)

Due to the modification of Combustion Turbines #1 and #2 in 2010/2011, addressed in NSR License A-743-77-1-A (11/3/2010), through the advanced gas path project, the units are subject to 40 C.F.R. Part 60, Subpart KKKK, *Standards of Performance for Stationary Combustion Turbines*, for stationary combustion turbines with a heat input capacity of 10 MMBtu/hr or more that are constructed, reconstructed, or modified after February 18, 2005. NO_x and SO₂ are regulated under 40 C.F.R. Part 60, Subpart KKKK.

a. General Requirements

- (1) Westbrook shall operate and maintain the stationary combustion turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.
- (2) Westbrook shall develop, demonstrate, and provide information satisfactory to the Administrator on methods for apportioning the combined gross energy output from the heat recovery unit for each of the affected combustion turbines. The Administrator may approve such demonstrated substitute methods for apportioning the combined gross energy output measured at the steam turbine whenever the demonstration ensures accurate estimation of emissions related under Subpart KKKK.

[40 C.F.R. § 60.4333]

b. Fuel Sulfur Requirements

Compliance with the fuel sulfur content requirements in 40 C.F.R. Part 60, Subpart KKKK are met by having a current tariff sheet or purchase contract which specifies the maximum total sulfur content of the natural gas being supplied to be 20 grains of sulfur or less per 100 standard cubic feet. [40 C.F.R. § 60.4365(a)]

c. CEMS Requirements

- (1) Westbrook shall install, certify, maintain, and operate a continuous emission monitoring system (CEMS) for each combustion turbine consisting of a NO_x monitor and a diluent gas (oxygen (O₂) or carbon dioxide (CO₂)) monitor, to determine the hourly NO_x emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and

[40 C.F.R. § 60.4345]

- (2) Install, calibrate, maintain, and operate, according to the manufacturer's specifications, fuel flow meters to continuously measure the heat input to each unit; and [40 C.F.R. § 60.4345]
 - (3) Install, calibrate, maintain, and operate, according to the manufacturer's specifications, watt meters to continuously measure the gross electrical output of each unit in megawatt-hours. [40 C.F.R. § 60.4345]
 - (4) Install and certify each NO_x diluent CEMS according to Performance Specification 2 (PS 2) in appendix B of Subpart KKKK, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in appendix F of Subpart KKKK is not required. Alternatively, a NO_x diluent CEMS that is installed and certified according to appendix A of part 75 is acceptable for use under Subpart KKKK. The relative accuracy test audit (RATA) of each CEMS shall be performed on a lb/MMBtu basis. [40 C.F.R. § 60.4345]
 - (5) As specified in § 60.13(e)(2), during each full unit operating hour, both the NO_x monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO_x emission rate for the hour. [40 C.F.R. § 60.4345]
 - (6) Westbrook shall develop and keep on-site a quality assurance (QA) plan for all continuous monitoring equipment described above. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 75. [40 C.F.R. § 60.4345]
- d. Emissions Calculations
- (1) Westbrook has the option under Subpart KKKK to express SO₂ emissions in units of lb/MW-hr gross output or lb/MMBtu. Westbrook has chosen to use the option of lb/MMBtu. [40 C.F.R. § 60.4330]

- (2) All CEMS data must be reduced to hourly averages as specified in § 60.13(h).
 - (3) For each unit operating hour in which a valid hourly average, as described in § 60.4345(b), is obtained for both NO_x and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO_x emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in appendix A of this part. For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂ (or the hourly average CO₂ concentration is less than 1.0 percent CO₂), a diluent cap value of 19.0 percent O₂ or 1.0 percent CO₂ (as applicable) may be used in the emission calculations.
 - (4) Only quality assured data from the CEMS shall be used to identify excess emissions under Subpart KKKK. Periods where the missing data substitution procedures in subpart D of part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c).
 - (5) All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data shall be reduced to hourly averages.
 - (6) Hourly average NO_x emission rates shall be calculated, in units of the emission standards under § 60.4320 using either ppm for units complying with the concentration limit or the equations found in § 60.4350 for units complying with the output-based standard.
 - (7) Westbrook shall use the calculated hourly average emission rates from § 60.4350(f) to assess excess emissions on a 30-unit-operating day rolling average basis, as described in § 60.4380(b)(1).
[40 C.F.R. § 60.4350]
- e. Performance Testing
- (1) Westbrook shall annually determine the sulfur content of the natural gas being supplied to the combustion turbines using the methods specified in § 60.4415. The period between annual tests shall not exceed 14 months.
[40 C.F.R. § 60.4415]
 - (2) Westbrook shall conduct an annual performance test of the NO_x and diluent CEMS according to the methods specified in § 60.4400. The period between annual tests shall not exceed 14 months.
[40 C.F.R. § 60.4400]

The testing requirements of C.M.R. ch. 117 state that a RATA shall be conducted at the latest every 4th quarter. The 14-month allowance listed above does not supersede these requirements. However, a conditional grace period is specified in 06-096 C.M.R. ch. 117 (4)(B)(5)(d).

f. Reporting Requirements

(1) Westbrook shall submit reports of excess emissions and monitor downtime, in accordance with § 60.7(c). Excess emissions shall be reported for all periods of unit operation, including start-up, shutdown, and malfunction.
[40 C.F.R. § 60.4375]

(i) An excess emission is any unit operating period in which the 30-day rolling average NO_x emission rate exceeds the applicable emission limit in § 60.4320. For the purposes of Subpart KKKK, a “30-day rolling average NO_x emission rate” is the arithmetic average of all hourly NO_x emission data in ppm or ng/J (lb/MWh) measured by the continuous emission monitoring equipment for a given day and the 29 unit-operating-days immediately preceding that unit-operating-day. A new 30-day average is calculated each unit-operating-day as the average of all hourly NO_x emissions rates for the preceding 30 unit-operating-days if a valid NO_x emission rate is obtained for at least 75 percent of all operating hours.

(ii) A period of monitor downtime is any unit-operating-hour in which the data for any of the following parameters are either missing or invalid: NO_x concentration, CO₂ or O₂ concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if this information is used for compliance purposes.

(iii) For operating periods during which multiple emissions standards apply, the applicable standard is the average of the applicable standards during each hour. For hours with multiple emissions standards, the applicable limit for that hour is determined based on the condition that corresponded to the highest emissions standard.

[40 C.F.R. § 60.4380]

(2) All reports required under § 60.7(c) must be postmarked by the 30th day following the end of each 6-month period.
[40 C.F.R. § 60.4395]

5. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

Combustion Turbines #1 and #2 are not subject to 40 C.F.R. Part 63, Subpart YYY YYY *National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines* because the facility is not a major source for HAPs.

6. Emission Limits and Streamlining

a. Criteria Pollutants

For Combustion Turbines #1 and #2, a listing of potentially applicable emission standards, the origin and authority of the standards, and the applicable emission limits for each unit can be found below. Limits are on a 1-hour block average basis unless otherwise stated.

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.06 lb/MMBtu	06-096 C.M.R. ch. 103, § 2(B)(1)(c)	0.06 lb/MMBtu
	22 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	22 lb/hr
PM ₁₀	22 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	22 lb/hr
SO ₂	0.06 lb/MMBtu	40 CFR Part 60, Subpart KKKK, § 60.4330(a)(2)	0.06 lb/MMBtu
	12 lb/hr (based on 2 gr sulfur/100 scf gas)	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	12 lb/hr

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
NO _x	15 ppm @ 15% O ₂ (30-day rolling average)	40 CFR Part 60, Subpart KKKK, § 60.4320	15 ppm @ 15% O ₂ (30-day rolling average)
	2.5 ppm _{dv} @15% O ₂ (3-hr block avg, excluding startup, shutdown, and runback events)	A-743-71-A-N (12/4/1998), LAER and A-743-77-1-A (11/3/2010), BACT	2.5 ppm _{dv} @ 15% O ₂ (3-hr block avg, excluding startup, shutdown, and runback events)
	18 lb/hr (1-hr block avg, steady state load operation, excluding startup, shutdown, and runback events)	A-743-71-A-N (12/4/1998), LAER and A-743-77-1-A (11/3/2010), BACT	18 lb/hr (1-hr block avg, steady state load operation, excluding startup, shutdown, and runback events)
	360 lb/hr (startup, shutdown, and runback events)	A-743-77-3-A (2/16/2016), BACT	360 lb/hr (startup, shutdown, and runback events)
CO	15 ppm _{dv} @ 15% O ₂ (24-hr block avg, excluding startup, shutdown, and runback events)	A-743-71-A-N (12/4/1998), A-743-77-1-A (11/3/2010), and A-743-77-2-A (8/14/2013), BACT	15 ppm _{dv} @ 15% O ₂ (24-hr block avg, excluding startup, shutdown, and runback events)
	53 lb/hr (1-hr block avg, steady state load operation, excluding startup, shutdown, and runback events)	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), and A-743-77-2-A (8/14/2013), BACT	53 lb/hr (1-hr block avg, steady state load operation, excluding startup, shutdown, and runback events)
	2000 lb/hr (startup, shutdown, and runback events)	A-743-77-3-A (2/16/2016), BACT	2000 lb/hr (startup, shutdown, and runback events)
VOC	3 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	3 lb/hr

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
NH ₃	10 ppm _{dv} @15% O ₂ (30-day rolling avg)	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	10 ppm _{dv} @15% O ₂ (30-day rolling avg)
	20 ppm _{dv} @15% O ₂ (24-hr block avg)	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	20 ppm _{dv} @15% O ₂ (24-hr block avg)
	27 lb/hr	A-743-77-1-A (11/3/2010), BACT	27 lb/hr

b. Visible Emissions

Combustion Turbines #1 and #2 shall not exceed a visible emissions limit of 20% opacity on a six-minute block average basis except for one six-minute period per hour of not more than 27%.

[06-096 C.M.R. ch. 115, BACT as established in A-743-77-1-A (11/3/2010)]

7. Emission Limit Compliance Methods

Compliance with the emission limits associated with Combustion Turbines #1 and #2 shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Applicable Emission Limit	Compliance Method	Frequency
PM	lb/MMBtu	40 C.F.R. Part 60, App. A, Method 5	As requested
	lb/hr		
PM ₁₀	lb/hr	Stack Testing: 40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO ₂	lb/hr	Fuel sulfur content and fuel flow rate	As purchased and utilized
	lb/MMBtu		
NO _x	ppm _{dv}	NO _x CEMS	Continuously
	lb/hr	DAHS (Data Acquisition and Handling System) calculated	
CO	ppm _{dv}	CO CEMS	Continuously
	lb/hr	DAHS calculated	
VOC	lb/hr	Stack Testing: 40 CFR Part 60, App. A, Methods 18 and 25A	As requested

Pollutant	Applicable Emission Limit	Compliance Method	Frequency
NH ₃	ppmdv	NH ₃ CEMS	Continuously
	lb/hr	Stack Testing: C.T.M. 027	As requested
Visible Emissions	opacity	40 CFR Part 60, App. A, Method 9	As requested

8. Periodic Monitoring

Westbrook shall record data and maintain records for or of the following values for Combustion Turbines #1 and #2.

- a. Hours of operation for Combustion Turbines #1 and #2 on a daily, monthly, and calendar year basis.
- b. Natural gas usage for Combustion Turbines #1 and #2 on a monthly and 12-month rolling total basis.
- c. Records of the calendar date, time, and duration of each startup, shutdown, and runback event;
- d. Records of the calendar date, time, and duration of any air pollution control system malfunction.

9. Parameter Monitors

During all operating times, Westbrook shall operate, record data, and maintain records from the following CPMS for Combustion Turbines #1 and #2:

Parameter	Frequency	Units
Natural gas flow rate for each unit	Continuously <i>(with recordings of flow rate on a one-hour block average basis)</i>	scf input/hr

[40 C.F.R. § 60.4345]

10. CEMS

- a. For Combustion Turbines #1 and #2, the table below lists the required continuous emission monitoring systems (CEMS).

Pollutant and Continuous Monitors	Units	Averaging Period	Origin and Authority
NO _x CEMS	ppmdv	1-hour block average	06-096 C.M.R. ch. 117, 40 C.F.R. Part 75, and 40 C.F.R. Part 60 Subpart KKKK
	lb/hr (calculated)	1-hour block average	
O ₂ CEMS	%	1-hour block average	06-096 C.M.R. ch. 117, 40 C.F.R. Part 75, and 40 C.F.R. Part 60 Subpart KKKK
CO CEMS	ppmdv	1-hour block average	06-096 C.M.R. ch. 117
	lb/hr (calculated)		
NH ₃ CEMS	ppmdv	1-hour block average	06-096 C.M.R. ch. 117
	lb/hr (calculated)	1-hour block average	

- b. The most comprehensive CEM requirements should be used for CEM operations when more than one regulation is applicable. [A-743-71-A-N (12/4/1998), A-743-70-A-I (8/12/2003), and 06-096 C.M.R. ch. 140, BPT]

11. Annual Combustion Turbine Limits

In order to demonstrate that the modification to the Combustion Turbines #1 and #2 addressed in NSR License A-743-77-1-A (11/3/2010) remains a minor modification for PM, PM₁₀, SO₂, and NO_x, actual emissions from the combustion turbines combined shall not exceed the following annual emission rates:

Emission Units	PM (TPY)	PM ₁₀ (TPY)	SO ₂ (TPY)	NO _x (TPY)
Combustion Turbines #1 and #2 total	36	26	90	137

Compliance with the PM, PM₁₀, SO₂, and NO_x annual emission limits shall be determined on a 12-month rolling total basis for a period of ten years following

commencement of operation of the modification. The ten-year period began on December 1, 2012, and ends on November 30, 2022.

CO and VOC shall not exceed the following annual emission rates, on a 12-month rolling total basis:

Emission Units	CO (TPY)	VOC (TPY)
Combustion Turbines #1 and #2 total	525	26

Calculations of annual emissions from the gas turbines shall be based on the best information available, including but not limited to continuous emission monitoring system data, stack test data, and mass balance methods, as appropriate.

[06-096 C.M.R. ch. 115, BACT, A-743-77-2-A (8/14/2013)]

J. Auxiliary Boiler

Westbrook operates a natural gas Auxiliary Boiler rated at a maximum heat input of 29.1 MMBtu/hr (29,100 scf/hr). The unit is a Nebraska model number NS-B-39 with a Todd Combustion burner, installed and manufactured in 2000.

The Auxiliary Boiler is used to provide steam to the auxiliary steam system during plant startup conditions. Normally, the auxiliary steam system receives steam from the main steam system through a pressure reducing valve and desuperheater, providing steam to the steam turbine seals and the de-aerating condenser at low unit loads. However, during startup conditions, the Auxiliary Boiler is used as the steam source for the system.

Emissions exit through Stack #3, which has an inside diameter of 24 inches and above ground level (AGL) height of 90 feet.

The Auxiliary Boiler is limited to 98 MMscf/yr of natural gas on a 12-month rolling total basis.

1. Control Equipment

The Auxiliary Boiler is equipped with a low NO_x burner and flue gas recirculation. These controls lower the flame temperature, thereby reducing NO_x formation.

2. New Source Performance Standards (NSPS)

Due to the size and year of manufacture, the Auxiliary Boiler is subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

Westbrook shall comply with all requirements of 40 C.F.R. Part 60, Subpart Dc applicable to the Auxiliary Boiler including, but not limited to, the following:

Westbrook shall maintain records of the amounts of fuel combusted during each month. [40 C.F.R. § 60.48c(g)]

3. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

The Auxiliary Boiler is not subject to *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ because it combusts only gaseous fuels.

4. Emission Limits and Streamlining

a. Criteria Pollutants

For the Auxiliary Boiler, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested (* denotes a request for streamlining), and the applicable emission limits can be found below. Limits are on a 1-hour block average basis unless otherwise stated.

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.12 lb/MMBtu	06-096 C.M.R. ch. 103 §(2)(B)(1)(a)	0.01 lb/MMBtu *
	0.01 lb/MMBtu	A-743-71-C-M (10/19/2001), BACT	
	0.29 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.29 lb/hr
PM ₁₀	0.29 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.29 lb/hr
SO ₂	0.03 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.03 lb/hr
NO _x	0.035 lb/MMBtu	A-743-71-A-N (12/4/1998), BACT	0.035 lb/MMBtu
	1.02 lb/hr	A-743-71-B-M (10/22/2000), BACT	1.02 lb/hr
CO	4.40 lb/hr	A-743-71-B-M (10/22/2000), BACT	4.40 lb/hr
VOC	0.58 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.58 lb/hr

b. Visible Emissions

Visible emissions from the Auxiliary Boiler shall not exceed 10% opacity on a 6-minute block average basis.

5. Emission Limit Compliance Methods

Compliance with the emission limits associated with the Auxiliary Boiler shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Applicable Emission Limit	Compliance Method	Frequency
PM	lb/MMBtu	40 C.F.R. Part 60, App. A, Method 5	As requested
	lb/hr		
PM ₁₀	lb/hr	40 C.F.R. Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO ₂	lb/hr	40 C.F.R. Part 60, App. A, Method 6	As requested
NO _x	lb/MMBtu	40 C.F.R. Part 60, App. A, Method 7	As requested
	lb/hr	40 C.F.R. Part 60, App. A, Method 7	As requested
CO	lb/hr	40 C.F.R. Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 C.F.R. Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	% opacity on a 6-minute block average basis	40 C.F.R. Part 60, App. A, Method 9	As requested

6. Compliance Assurance Monitoring

CAM is not applicable to the Auxiliary Boiler.

7. Periodic Monitoring

Westbrook shall record data and maintain records of the natural gas usage for the Auxiliary Boiler on a monthly and 12-month rolling total basis.
 [06-096 C.M.R. ch. 137 and 40 C.F.R. Part 60, § 60.48c(g)(2)]

8. Parameter Monitors

There are no Parameter Monitors required for the Auxiliary Boiler.

9. CEMS and COMS

CEMS and COMS are not required for the Auxiliary Boiler.

K. Emergency Generator, Fire Pump, BSEG #1, and BSEG #2

Westbrook operates an Emergency Generator. The Emergency Generator is a generator set consisting of an engine and an electrical generator. The Emergency Generator has an engine rated at 8.1 MMBtu/hr which fires distillate fuel and was manufactured in 2000.

Westbrook operates a Fire Pump. The Fire Pump has an engine rated at 3.2 MMBtu/hr which fires distillate fuel. The Fire Pump was manufactured in 2000.

Westbrook operates BSEG #1 and BSEG #2 as black start emergency engines that are used to restart the facility's electric generation equipment in the event of a regional electric grid failure. BSEG #1 and BSEG #2 are both licensed to fire distillate fuel, have engines rated at 37.6 MMBtu/hr, and exhaust through separate stacks. BSEG #1 and BSEG #2 were both manufactured in 2017 and installed at the facility in 2018.

1. Control Equipment

There is no control equipment required for the Emergency Generator, Fire Pump, BSEG #1, or BSEG #2.

2. Operating Hours Restriction

Westbrook shall be limited to an operating hour restriction of 250 hours/year (each) for BSEG #1 and BSEG #2, with the limit of 100 hours/year each for non-emergency operation from 40 C.F.R. Part 60, Subpart IIII included in the 250 hours/year limit.

3. New Source Performance Standards (NSPS)

The federal regulation 40 C.F.R. Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* is not applicable to the Emergency Generator and Fire Pump since the units were ordered prior to July 11, 2005, and manufactured prior to April 1, 2006.

40 C.F.R. Part 60 Subpart IIII is applicable to BSEG #1 and BSEG #2 since the units were ordered after July 11, 2005, and manufactured after April 1, 2006. By meeting the requirements of 40 C.F.R. Part 60, Subpart IIII, the engines also meet the requirements

found in *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ*. Westbrook operates BSEG #1 and BSEG #2 as emergency engines.

a. Emergency Engine Designation and Operating Criteria

Under Subpart IIII, a stationary reciprocating internal combustion engine (ICE) is considered an **emergency** stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under Subpart IIII, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE more than 100 hours per calendar year.

- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. § 60.4211(f) and §60.4219]

b. 40 C.F.R. Part 60, Subpart III Requirements

(1) Manufacturer Certification Requirement

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 C.F.R. § 60.4202. [40 C.F.R. § 60.4205(b)]

(2) Ultra-Low Sulfur Fuel Requirement

The distillate fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 C.F.R. § 60.4207(b)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each engine. [40 C.F.R. § 60.4209(a)]

(4) Operation and Maintenance Requirement

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. Westbrook may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)]

(5) Annual Time Limit for Maintenance and Testing

The engines shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). [40 C.F.R. § 60.4211(f)]

(6) Initial Notification Requirement

No initial notification is required for emergency engines. [40 C.F.R. § 60.4214(b)]

(7) Recordkeeping

Westbrook shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

4. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 C.F.R. Part 63, Subpart ZZZZ is applicable to the Emergency Generator and the Fire Pump. The units are considered existing, emergency stationary reciprocating internal combustion engines (RICE) at an area HAP source and are not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements.

a. Emergency Engine Designation and Operating Criteria

Under Subpart ZZZZ, a stationary reciprocating internal combustion engine (RICE) is considered an **emergency** stationary RICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under Subpart ZZZZ, resulting in the engine being subject to requirements applicable to **non-emergency** engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster or equipment failure;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The Emergency Generator and Fire Pump shall be limited to the usage outlined in 40 C.F.R. § 63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 C.F.R. Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in 40 C.F.R. § 63.6640(f) may cause these engines to not be considered emergency engines and therefore subject to all applicable requirements for non-emergency engines.

b. 40 C.F.R. Part 63, Subpart ZZZZ Requirements

(1) Operation and Maintenance Requirements
(40 C.F.R. § 63.6603(a) and Table 2(d))

	Operating Limitations
Compression ignition (distillate fuel) units: Emergency Generator and Fire Pump	<ul style="list-style-type: none">- Change oil and filter every 500 hours of operation or annually, whichever comes first;- Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions, or Westbrook shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engines in a manner consistent with good air pollution control practice for minimizing emissions. [40 C.F.R. § 63.6625(e)]

(2) Optional Oil Analysis Program

Westbrook has the option of utilizing an oil analysis program which complies with the requirements of § 63.6625(i) in order to extend the specified oil change requirement. If this option is used, Westbrook must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for each engine. The analysis program must be part of the maintenance plan for each engine. [40 C.F.R. § 63.6625(i)]

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on each engine. [40 C.F.R. § 63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements

During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 C.F.R. § 63.6625(h) and 40 C.F.R. Part 63, Subpart ZZZZ Table 2d]

(5) Annual Time Limit for Maintenance and Testing

As emergency engines, the units shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by

providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). [40 C.F.R. § 63.6640(f)]

(6) Recordkeeping

Westbrook shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 63.6655(f)]

5. Emission Limits and Streamlining

- a. Criteria Pollutants for the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 a listing of potentially applicable emission standards, the origin and authority of the standards, and the applicable emission limits can be found below. Limits are on a 1-hour block average basis unless otherwise stated.

Emergency Generator

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.12 lb/MMBtu	06-096 C.M.R. ch. 103 § 2(B)(1)(a) and A-743-71-A/N (12/4/1998), BACT	0.12 lb/MMBtu
	0.81 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.81 lb/hr
PM ₁₀	0.81 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.81 lb/hr
SO ₂	0.01 lb/hr (based on 0.0015% sulfur limit, by weight)	06-096 C.M.R. ch. 140, BPT	0.01 lb/hr
NO _x	25.6 lb/hr	A-743-71-B-M (10/22/2000), BACT	25.6 lb/hr
CO	6.8 lb/hr	A-743-71-B-M (10/22/2000), BACT	6.8 lb/hr
VOC	0.64 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.64 lb/hr

Fire Pump

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.12 lb/MMBtu	06-096 C.M.R. ch. 103 § 2(B)(1)(a) and A-743-71-A-N (12/4/1998), BACT	0.12 lb/MMBtu
	0.37 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.37 lb/hr
PM ₁₀	0.37 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.37 lb/hr

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
SO ₂	0.005 lb/hr (based on 0.0015% sulfur limit, by weight)	06-096 C.M.R. ch. 140, BPT	0.005 lb/hr
NO _x	13.9 lb/hr	A-743-71-B-M (10/22/2000), BACT	13.9 lb/hr
CO	3.0 lb/hr	A-743-71-B-M (10/22/2000), BACT	3.0 lb/hr
VOC	0.11 lb/hr	A-743-71-B-M (10/22/2000), BACT	0.11 lb/hr

BSEG #1 and #2 (each)

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.12 lb/MMBtu	06-096 C.M.R. ch. 103 § 2(B)(1)(a) and A-743-77-4-A (5/18/2017), BACT	0.12 lb/MMBtu
	0.70 lb/hr	A-743-77-4-A (5/18/2017), BACT	0.70 lb/hr
PM ₁₀	0.70 lb/hr	A-743-77-4-A (5/18/2017), BACT	0.70 lb/hr
PM _{2.5}	0.70 lb/hr	A-743-77-4-A (5/18/2017), BACT	0.70 lb/hr
SO ₂	0.06 lb/hr (based on 0.0015% sulfur limit, by weight)	A-743-77-4-A (5/18/2017), BACT	0.06 lb/hr
NO _x	83.5 lb/hr	A-743-77-4-A (5/18/2017), BACT	83.5 lb/hr
CO	20.4 lb/hr	A-743-77-4-A (5/18/2017), BACT	20.4 lb/hr
VOC	1.8 lb/hr	A-743-77-4-A (5/18/2017), BACT	1.8 lb/hr

b. Visible Emissions

Visible emissions from each of the emergency engines shall not exceed 20% opacity on a six-minute block average basis. During periods of startup Westbrook may elect to comply with the following work practice standards in lieu of the numerical opacity limit.

[06-096 C.M.R. ch. 101, § 3(A)(4)(a)]

- (1) Maintain a log (written or electronic) of the date, time, and duration of all engine startups.
- (2) Operate in accordance with the manufacturer's emission-related operating instructions.

- (3) Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.
- (4) Operate the engines, including any associated air pollution control equipment, at all times in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.

6. Emission Limit Compliance Methods

Compliance with the emission limits associated with the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 shall be demonstrated in accordance with the appropriate test methods upon request of the Department.

7. Compliance Assurance Monitoring

CAM is not applicable to the Emergency Generator, Fire Pump, BSEG #1, or BSEG #2.

8. Periodic Monitoring

Westbrook shall operate, record data, and maintain records from the following periodic monitors for the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2:

- a. Hours of operating time on a calendar year basis. [06-096 C.M.R. ch. 137]
- b. Log of the duration and reasons for all operating times as they occur.
- c. Records of all maintenance conducted.
- d. Sulfur content of the distillate fuel fired based on fuel receipts from the supplier. [40 C.F.R. Part 63, Subpart ZZZZ and 40 C.F.R. Part 60, Subpart IIII]

9. Parameter Monitors

There are no Parameter Monitors required the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2.

10. CEMS and COMS

There are no CEMS or COMS required for the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2.

L. Cooling Tower

Westbrook operates a wet mechanical cooling tower to transfer waste heat from cooling water to the atmosphere. Cooling water is used to cool and condense steam exiting the steam turbine.

The Cooling Tower functions by spraying cool water over a column of packing, while a fan draws air up through the packing to promote evaporative cooling. During the process, water mist droplets can become entrained in the circulating air and get discharged to the atmosphere. The 'drift' droplets can be a source of particulate matter emissions as the water evaporates and the dissolved salts in the water solidify.

Westbrook minimizes emissions from the Cooling Tower by the use of drift eliminators within the tower to capture the mist and droplets from the air stream before exiting the tower, subsequently reducing PM and PM₁₀ emissions.

1. BPT

The Department determined that BACT for the Cooling Tower was the use of the drift eliminators in the towers and the use of the Portland Water District's water source which has been found to have a low salt content. The previous BACT is now considered BPT.

Westbrook shall maintain proper operation and maintenance of the Cooling Tower, including the drift eliminators.

2. Control Equipment

The Cooling Tower is equipped with drift eliminators.

3. Emission Limits

Total annual emission from the Cooling Tower of PM and PM₁₀ are each limited to 12.3 tons/year. [06-096 C.M.R. ch. 140, BPT and A-743-77-2-A (8-15-2013)]

The 12.3 tons/year emission limit is based on worst case scenario values at 100% facility capacity, a design drift rate of 0.005%, and a concentration of total dissolved solids (TDS) in the water based on a Portland Water District sample of 31 ppm with an additional 10% factored into the concentration calculations.

4. Periodic Monitoring

- a. Westbrook shall maintain documentation of inspection dates, times and reasons for inspections, and any maintenance conducted on the Cooling Tower and drift eliminators.
- b. Westbrook shall maintain documentation of the makeup cooling water throughput for the Cooling Tower on a monthly basis.

M. Portable Engines

Westbrook may operate portable engines on-site for maintenance and emergency-only purposes. Depending on their size and age, these engines may be subject to *Visible Emissions Regulation*, 06-096 C.M.R. ch. 101 and *Fuel Burning Equipment Particulate Emission Standard*, 06-096 C.M.R. ch. 103.

Any engine which cannot meet the definition of “portable engine” as defined by this license may be subject to additional State and Federal regulations. A license amendment may be necessary for a portable engine to be reclassified as stationary.

N. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.
[06-096 C.M.R. ch. 101, § 3(C)]

O. General Process Sources

Visible emissions from any general process source shall not exceed 20% on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 3(B)(4)]

P. Emission Statements

Westbrook is subject to emissions inventory requirements contained in *Emission Statements*, 06-096 C.M.R. ch. 137. Westbrook shall maintain the following records in order to comply with this rule:

1. The amount of distillate fuel fired in the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 (each) on a monthly basis;
2. The sulfur content of the distillate fuel fired in the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2;

3. The amount of natural gas fired in the Auxiliary Boiler, Combustion Turbine #1, and Combustion Turbine #2 (each) on a monthly basis;
4. All data recorded by each CEMS for Combustion Turbines #1 and #2;
5. Hours of operation for the Emergency Generator, Fire Pump, BSEG #1, BSEG #2, the Auxiliary Boiler, Combustion Turbine #1, Combustion Turbine #2, and the Cooling Tower; and
6. Makeup cooling water throughput for the Cooling Tower on a monthly basis.

In reporting year 2020 and every third year thereafter, Westbrook shall report to the Department emissions of hazardous air pollutants as required by 06-096 C.M.R. ch. 137, § (3)(C). The Department will use these reports to calculate and invoice for the applicable annual air quality surcharge for the subsequent three billing periods. Westbrook shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3). [38 M.R.S. § 353-A(1-A)]

Q. Facility Annual Emissions

Westbrook shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on the following:

- Firing 98 MMscf/yr natural gas in the Auxiliary Boiler;
- Operating the Emergency Generator and Fire Pump each for 100 hrs/yr;
- Operating the BSEG #1 and #2 each for 250 hr/yr;
- Operating the Cooling Tower for 8760 hr/yr; and
- Operating Combustion Turbines #1 and #2 for 8760 hr/yr.

**Total Licensed Annual Emissions for the Facility
 Tons/year**

(used to calculate the annual license fee)

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Combustion Turbines #1 and #2	36	26	90	137	525	26
Auxiliary Boiler	0.49	0.49	0.05	1.72	7.41	0.98
Emergency Generator	0.04	0.04	Neg.	1.28	0.34	0.03
Fire Pump	0.02	0.02	Neg.	0.70	0.15	0.01
BSEG #1 and #2	0.17	0.17	0.01	20.90	5.10	0.50
Cooling Tower	12.3	12.3	—	—	—	—
Total TPY	49.0	39.0	90.1	161.6	538.0	27.5

Westbrook is an area source for hazardous air pollutants; therefore, HAP emissions shall not exceed the following:

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

Westbrook 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 (see air emission license A-743-77-2-A, issued on 8/14/2013). An additional ambient air quality analysis is not required for this Part 70 License Renewal.

ORDER

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

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

The Department hereby grants the Part 70 License A-743-70-J-R pursuant to 06-096 C.M.R. ch. 140 and the preconstruction permitting requirements of 06-096 C.M.R. ch. 115 and subject to the standard and specific conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to Westbrook pursuant to the Department's preconstruction permitting requirements have been incorporated into this Part 70 license, except for such conditions that the Department has determined are obsolete, extraneous, or otherwise environmentally insignificant, as explained in the Findings of Fact accompanying this Order. 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 *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115 for making such changes and pursuant to the applicable requirements in 06-096 C.M.R. ch. 140.

For each standard and specific 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 of this License or part thereof 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 C.M.R. ch. 140]
- (2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 140]
- (3) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable. [06-096 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 affect 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 in an application dated November 15th, 2019.

Permit Shield Table

Source	Citation	Description	Basis for Determination
Facility	40 C.F.R. Part 60, Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	Westbrook does not operate Boilers > 100 MMBtu/hr.
Facility	40 C.F.R. Part 60, Subpart GG	Standard of Performance for Stationary Gas Turbines	Westbrook is subject to 40 C.F.R. Subpart KKKK
Facility	40 C.F.R. Part 63, Subpart YYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	Westbrook is not a major source of HAP.
Facility	40 C.F.R. Part 64	Compliance Assurance Monitoring	Westbrook operates CEMS for Combustion Turbines #1 and #2.
Facility	06-096 C.M.R. ch. 134	VOC RACT	Emission sources which have not been subjected to BACT total less than 40 tpy of VOC.
Facility	06-096 C.M.R. ch. 138	NOx RACT	Facility is newer than the applicability date.

[06-096 C.M.R. ch. 140]

- (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 three 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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. § 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 Chapter 140. [06-096 C.M.R. ch. 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 C.M.R. ch. 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. § 353-A.
- (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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 140]
- (8) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. 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 C.F.R. 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 C.M.R. ch. 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 C.F.R. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 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 C.M.R. ch. 140]

SPECIFIC CONDITIONS

- (14) **The following shall apply to the conditions in this order as appropriate, unless it is stated otherwise for such unit:**
- A. A 24-hour block average basis shall be calculated as the arithmetic average of not more than 24 and not less than 8 one (1) hour block average periods. Only one 24-hour block average shall be calculated for one day, beginning at midnight. Any hour that has been impacted by a start-up or shut down shall not be included in the 24-hour block average. This refers to the NO_x, CO, and NH₃ ppm limits of Condition 15(D).

- B. A 3-hour block average basis shall be calculated as the arithmetic average of not more than 3 one (1) hour block average periods. At least 2 hours must be valid in order for a valid 3-hour block. [06-096 C.M.R. ch. 117] No more than eight 3-hour block averages shall be calculated for one day. One 3-hour block average shall be calculated for the period from midnight to 3:00 a.m., one from 3:00 a.m. to 6:00 a.m., one from 6:00 a.m. to 9:00 a.m., etc. Any hour that has been impacted by a start-up, shut down, or runback shall not be included in the 3-hour block average.
- C. A 1-hour block average shall be calculated as the arithmetic average of the pound per hour values that are calculated every minute.
- D. A 30-day rolling average basis shall be calculated as the arithmetic average of not more than 30 twenty-four (24) hour block averages, made up of data from 30 consecutive operating days.
- E. A 6-minute block average basis shall be calculated as the arithmetic average of 24 consecutive fifteen-second block average periods. No more than 10 six-minute block averages shall be calculated for any one-hour period.
[A-743-71-A-N, BPT (12/4/1998) and A-743-70-A-I, BPT (8/12/2003)]

(15) **Combustion Turbines #1 and #2**

A. Allowable Fuels

- 1. Combustion Turbines #1 and #2 are licensed to fire natural gas. The natural gas shall be pipeline quality (maximum of 2 gr sulfur/100 scf gas).
[06-096 C.M.R. ch. 140, BPT A-743-70-A-I (8/12/2003)]
- 2. Westbrook shall maintain records of the quantity of fuel consumed on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 140, BPT A-743-70-D-R (6/9/2015)]

B. The exhaust from each combustion turbine shall be vented through separate 165-foot above ground level stacks. [06-096 C.M.R. ch. 140, BPT A-743-70-A-I (8/12/2003)]

C. Control Equipment

- 1. Westbrook shall operate selective catalytic reduction (SCR) systems on each combustion turbine to reduce NO_x emissions during all times the associated turbine is operating, except during startup, shutdown, and runback events.
[06-096 C.M.R. ch. 115, BACT A-743-71-A-N (12/4/1998)]

2. Westbrook shall operate dry low- NO_x combustors on each combustion turbine to reduce NO_x emissions during all times the associated turbine is operating. [06-096 C.M.R. ch. 115, BACT A-743-71-A-N (12/4/1998)]

D. Emissions Limits

Emission limits are on a 1-hour block average basis unless otherwise stated.

1. Emissions from Combustion Turbines #1 and #2 shall each not exceed the following concentration emission limits, except during turbine startup, shutdown, and runback events:

Pollutant	ppmdv @ 15%O ₂	Origin and Authority	Averaging Time
NO _x	2.5	A-743-71-A-N (12/4/1998), LAER and A-743-77-1-A (11/3/2010), BACT	3-hr block average
	15	40 CFR Part 60, Subpart KKKK, § 60.4320	30-day rolling avg
CO	15	A-743-71-A-N (12/4/1998), A-743-77-1-A (11/3/2010), and A-743-77-2-A (8/14/2013), BACT	24-hr block avg
NH ₃	10	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	30-day rolling avg
	20	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT	24-hr block avg

2. Emissions from Combustion Turbines #1 and #2 shall not exceed the following mass emission limits:

Pollutant	Emission Limit	Origin and Authority
PM	22 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT
	0.06 lb/MMBtu	06-096 C.M.R. ch. 103, § 2(B)(1)(c)
PM ₁₀	22 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT
SO ₂	12 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT
	0.06 lb/MMBtu	40 CFR Part 60, Subpart KKKK, § 60.4330(a)(2)

Pollutant	Emission Limit	Origin and Authority
NO _x	18 lb/hr <i>(steady state operations, excluding startup, shutdown, and runback events)</i>	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT
	360 lb/hr <i>(startup, shutdown, and runback events)</i>	A-743-77-3-A (2/16/2016), BACT
CO	53 lb/hr <i>(steady state operations, excluding startup, shutdown, and runback events)</i>	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), and A-743-77-2-A (8/14/2013), BACT
	2000 lb/hr <i>(startup, shutdown, and runback events)</i>	A-743-77-3-A (2/16/2016), BACT
VOC	3 lb/hr	A-743-71-A-N (12/4/1998) and A-743-77-1-A (11/3/2010), BACT
NH ₃	27 lb/hr	A-743-77-1-A (11/3/2010), BACT

E. Visible Emissions

Combustion Turbines #1 and #2 shall not exceed a visible emissions limit of 20% opacity on a six-minute block average basis except for one six-minute period per hour of not more than 27%.

[06-096 C.M.R. ch. 115, BACT as established in A-743-77-1-A (11/3/2010)]

F. Startup/Shutdown/Runback Provisions

1. Turbine start-up shall be defined as that period of time from initiation of combustion turbine firing until the unit reaches steady state load operation. Steady state operation shall be reached when the combustion turbine reaches 60% base load and the steam turbine is declared available for load changes. Start-up shall be completed as soon as practicable and shall not exceed 300 minutes. Upon prior approval by the Department, and in accordance with OEM recommendations, Westbrook may complete a startup that exceeds 300 minutes. Westbrook shall track and record all start-up times and durations. Records on start-ups lasting longer than 240 minutes shall include an explanation of the circumstances that led to the longer start-up.
2. A Turbine Shutdown shall be defined as that period of time from steady state operation to cessation of combustion turbine firing. This period shall not exceed 60 minutes. Westbrook shall track and record all shut down times and durations.
3. A Turbine Runback shall be defined as that period of time during which a turbine is returned to steady state operation after the initiation of an unplanned shutdown – i.e., an occasion when a combustion turbine, without warning, automatically initiates a shutdown and drops out of Mode 6Q. Runbacks shall be completed as

soon as practicable but in no case shall the period exceed 60 minutes. Westbrook shall track and record all runback times and durations.

4. Westbrook shall minimize emissions from the combustion turbines to the maximum extent practicable during start-up, shutdown, and runback events, under maintenance or adjustment conditions, and during equipment cleaning conditions. [A-743-70-A-I (8/12/2003) and 06-096 C.M.R. ch. 140, BPT]

G. Compliance Methods

Compliance with the emission limits listed above shall be demonstrated in accordance with the following methods and frequencies, or other methods and frequencies as approved by the Department [06-096 C.M.R. ch. 140]:

Pollutant	Unit of Emission Standard	Compliance Method	Frequency
PM	lb/hr	Stack Testing: 40 CFR Part 60, Appendix A, Method 5	As requested
	lb/MMBtu		
PM ₁₀	lb/hr	Stack Testing: 40 CFR Part 60, Appendix A, Method 5 or EPA Test Method 201 or 201A	As requested
SO ₂	lb/hr	Fuel sulfur quality and fuel flow rate	As purchased and utilized
	lb/MMBtu		
NO _x	ppmdv	NO _x CEMS	Continuous
	lb/hr	DAHS calculated	
CO	ppmdv	CO CEMS	Continuous
	lb/hr	DAHS calculated	
VOC	lb/hr	Stack Testing: 40 C.F.R. Part 60, App. A, Method 18 and 25A	As requested
NH ₃	ppmdv	NH ₃ CEMS	Continuous
	lb/hr	Stack Testing: C.T.M. 027	As requested
Visible Emissions	opacity	40 CFR Part 60, Appendix A, Method 9	As requested

Westbrook shall conduct emission testing to demonstrate compliance with the applicable standard within 60 days after receipt of notice from the Department. [A-743-71-A-N (12/4/1998), BPT and A-743-70-A-I (8/12/2003), BPT]

H. Periodic Monitoring

Westbrook shall record data and maintain records of the following values for Combustion Turbines #1 and #2:

1. Hours of operation for Combustion Turbines #1 and #2 on a daily, monthly, and calendar year basis;
2. Natural gas usage for Combustion Turbines #1 and #2 on a monthly and 12-month rolling total basis;
3. Records of the calendar date, time, and duration of each startup, shutdown, and runback event;
4. Records of the calendar date, time, and duration of any air pollution control system malfunction.

[A-743-71-A-N BPT (12/4/1998), A-743-70-A-I BPT (8/12/2003), and 06-096 C.M.R. ch. 101(4)(A)]

I. CEMS

1. Westbrook shall operate and maintain the following continuous emission monitoring systems (CEMS) for Combustion Turbines #1 and #2 whenever the units are operating:

Pollutant and Continuous Monitor	Unit of Measurement	Origin and Authority
NO _x CEMS	ppmdv	06-096 C.M.R. ch. 117; 40 C.F.R. Part 60, Subpart KKKK, and 40 C.F.R. Part 75
	lb/hr (calculated)	
CO CEMS	ppmdv	06-096 C.M.R. ch. 117
	lb/hr (calculated)	
O ₂ CEMS	%	06-096 C.M.R. ch. 117; 40 C.F.R. Part 60, Subpart KKKK, and 40 C.F.R. Part 75
NH ₃ CEMS	ppmdv	06-96 C.M.R. ch. 117
	lb/hr (calculated)	

2. The most comprehensive CEM requirements should be used for CEM operations when more than one regulation is applicable. [A-743-71-A-N (12/4/1998), A-743-70-A-I (8/12/2003), and 06-096 C.M.R. ch. 140, BPT] **Enforceable by State-only**
3. Westbrook shall maintain records documenting that all CEMS are continuously accurate, reliable, and operated in accordance with 06-096 C.M.R. ch. 117; 40 CFR Part 51, Appendix P; 40 CFR Part 60.13; 40 C.F.R. Part 60; Appendices B and F; all applicable portions of 40 C.F.R. Parts 72 and 75; and 40 C.F.R. Part 52.1020(c)(24). [A-743-70-A-I (8/12/2003)]
4. Westbrook shall maintain records of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each CEMS as required by 40 C.F.R. Part 51, Appendix P. [A-743-70-A-I (8/12/2003)]
5. Westbrook shall maintain records of other data indicative of compliance with the applicable emission standards 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.[A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State-only**

J. Annual Combustion Turbine Limits

1. In order to demonstrate that the modification to the Combustion Turbines #1 and #2 addressed in NSR License A-743-77-1-A (11/3/2010) remains a minor modification for PM, PM₁₀, SO₂, and NO_x, actual emissions from the combustion turbines combined shall not exceed the following annual emission rates:

Emission Units	PM (TPY)	PM₁₀ (TPY)	SO₂ (TPY)	NO_x (TPY)
Combustion Turbines #1 and #2 total	36	26	90	137

Compliance with the PM, PM₁₀, SO₂, and NO_x annual emission limits shall be determined on a 12-month rolling total basis for a period of ten years following commencement of operation of the modification. The ten-year period began on December 1, 2012, and ends on November 30, 2022.

2. CO and VOC shall not exceed the following annual emission rates, on a 12-month rolling total basis:

Emission Units	CO (TPY)	VOC (TPY)
Combustion Turbines #1 and #2 total	525	26

3. Calculations of annual emissions from the combustion turbines shall be based on the best information available, including, but not limited to continuous emission monitoring system data, stack test data, and mass balance methods, as appropriate. [A-743-77-1-A (11/ 3/ 2010), BACT and A-743-77-2-A (8/14/2013), BACT]

K. 40 C.F.R. Part 60, Subpart KKKK

1. General Requirements

Westbrook shall operate and maintain the stationary combustion turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

[40 C.F.R. § 60.4333]

2. Fuel Sulfur Requirements

Compliance with the fuel sulfur content requirements in 40 C.F.R. Part 60, Subpart KKKK shall be met by fuel sampling as per 40 C.F.R. § 60.4365 (b), or by having a current tariff sheet which specifies the maximum total sulfur content of the natural gas being supplied to be 20 grains of sulfur or less per 100 standard cubic feet. [40 C.F.R. § 60.4365(a)]

3. NO_x CEMS Requirements

- a. Westbrook shall install, certify, maintain, and operate a continuous emission monitoring system (CEMS) for each combustion turbine consisting of a NO_x monitor and a diluent gas (oxygen (O₂) or carbon dioxide (CO₂)) monitor, to determine the hourly NO_x emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBtu); and

[40 C.F.R. § 60.4345]

- b. Install, calibrate, maintain, and operate, according to the manufacturer's specifications, fuel flow meters to continuously measure the heat input to each unit; and [40 C.F.R. § 60.4345]

- c. Install and certify each NO_x diluent CEMS according to Performance Specification 2 (PS 2) in appendix B of Subpart KKKK, except the 7-day calibration drift is based on unit operating days, not calendar days. With state approval, Procedure 1 in appendix F of Subpart KKKK is not required. Alternatively, a NO_x diluent CEMS that is installed and certified according to appendix A of part 75 is acceptable for use under Subpart KKKK. The relative accuracy test audit (RATA) of each CEMS shall be performed on a lb/MMBtu basis. [40 C.F.R. § 60.4345]
 - d. As specified in § 60.13(e)(2), during each full unit operating hour, both the NO_x monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour to validate the hour. For partial unit operating hours, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NO_x emission rate for the hour. [40 C.F.R. § 60.4345]
 - e. Westbrook shall develop and keep on-site a quality assurance (QA) plan for all continuous monitoring equipment described above. For the CEMS and fuel flow meters, the owner or operator may, with state approval, satisfy the requirements of this paragraph by implementing the QA program and plan described in section 1 of appendix B to part 75. [40 C.F.R. § 60.4345]
4. Emissions Calculations
- a. All CEMS data must be reduced to hourly averages as specified in § 60.13(h).
 - b. For each unit operating hour in which a valid hourly average, as described in § 60.4345(b), is obtained for both NO_x and diluent monitors, the data acquisition and handling system must calculate and record the hourly NO_x emission rate in units of ppm or lb/MMBtu, using the appropriate equation from method 19 in appendix A of this part. For any hour in which the hourly average O₂ concentration exceeds 19.0 percent O₂ (or the hourly average CO₂ concentration is less than 1.0 percent CO₂), a diluent cap value of 19.0 percent O₂ or 1.0 percent CO₂ (as applicable) may be used in the emission calculations.

- c. Only quality assured data from the CEMS shall be used to identify excess emissions under Subpart KKKK. Periods where the missing data substitution procedures in subpart D of part 75 are applied are to be reported as monitor downtime in the excess emissions and monitoring performance report required under §60.7(c).
 - d. All required fuel flow rate, steam flow rate, temperature, pressure, and megawatt data shall be reduced to hourly averages.
 - e. Hourly average NO_x emission rates shall be calculated, in units of the emission standards under § 60.4320 using either ppm for units complying with the concentration limit or the equations found in § 60.4350 for units complying with the output-based standard.
 - f. Westbrook shall use the calculated hourly average emission rates from § 60.4350(f) to assess excess emissions on a 30-unit-operating day rolling average basis, as described in § 60.4380(b)(1).
[40 C.F.R. § 60.4350]
5. Performance Testing
- a. Westbrook shall annually test the sulfur content of the natural gas being supplied to the combustion turbines using the methods specified in § 60.4415. The period between annual tests shall not exceed 14 months.
[40 C.F.R. § 60.4415]
 - b. Westbrook shall conduct an annual performance test of the NO_x and Dilution CEMS according to the methods specified in § 60.4400. This testing shall be concurrent with the testing requirements of C.M.R. ch. 117.
[40 C.F.R. § 60.4400]
6. Reporting Requirements
- a. Westbrook shall submit reports of excess emissions and monitor downtime, in accordance with § 60.7(c). Excess emissions shall be reported for all periods of unit operation, including start-up, shutdown, and malfunction.
[40 C.F.R. § 60.4375]
 - b. All reports required under § 60.7(c) shall be postmarked by the 30th day following the end of each 6-month period.
[40 C.F.R. § 60.4395]

(16) **Auxiliary Boiler**

A. Allowable Fuels

1. The Auxiliary Boiler is licensed to fire natural gas. [A-743-71-A-N (12/4/1998), BACT]
2. Fuel use in the Auxiliary Boiler shall not exceed 98 MMscf/yr based on a 12-month rolling total. [A-743-71-C-M (10/19/2001), BACT]

B. Emissions Limits

1. Emissions from the Auxiliary Boiler shall not exceed the following limits:

Pollutant	lb/MMBtu	Origin and Authority
PM	0.01	A-743-71-C-M (10/19/2001), BACT
NO _x	0.035	A-743-71-A-N (12/4/1998), BACT

Pollutant	lb/hr	Origin and Authority
PM	0.29 lb/hr	A-743-71-B-M (10/22/2000), BACT
PM ₁₀	0.29 lb/hr	A-743-71-B-M (10/22/2000), BACT
SO ₂	0.03 lb/hr	A-743-71-B-M (10/22/2000), BACT
NO _x	1.02 lb/hr	A-743-71-B-M (10/22/2000), BACT
CO	4.40 lb/hr	A-743-71-B-M (10/22/2000), BACT
VOC	0.58 lb/hr	A-743-71-B-M (10/22/2000), BACT

2. Visible Emissions

Visible emissions from the Auxiliary Boiler shall not exceed 10% opacity on a 6-minute block average basis. [06-096 C.M.R. ch. 101 (3)(A)(3)]

C. Compliance Methods

Compliance with the emission limits associated with the Auxiliary Boiler shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Applicable Emission Limit	Compliance Method	Frequency
PM	lb/MMBtu	40 C.F.R. Part 60, App. A, Method 5	As requested
	lb/hr		

Pollutant	Applicable Emission Limit	Compliance Method	Frequency
PM ₁₀	lb/hr	40 C.F.R. Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO ₂	lb/hr	40 C.F.R. Part 60, App. A, Method 6	As requested
NO _x	lb/MMBtu	40 C.F.R. Part 60, App. A, Method 7	As requested
	lb/hr	40 C.F.R. Part 60, App. A, Method 7	As requested
CO	lb/hr	40 C.F.R. Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 C.F.R. Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	% opacity on a 6-minute block average basis	40 C.F.R. Part 60, App. A, Method 9	As requested

[06-096 C.M.R. ch. 140 and A-743-70-A-I (8/12/2003), BPT]

D. Periodic Monitoring

Westbrook shall record data and maintain records of the natural gas usage for Auxiliary Boiler on a monthly and 12-month rolling total basis.

[A-743-71-C-M (10/19/2001), BACT and 40 C.F.R. § 60.48c(g)]

(17) **Emergency Generator, Fire Pump, BSEG #1, and BSEG #2**

A. Allowable Operation and Fuels

1. The Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 are licensed to fire distillate fuel. [06-096 C.M.R. ch. 140, BPT]
2. BSEG #1 and BSEG #2 shall be limited to an operating hour restriction of 250 hours/year (each), with the limit of 100 hours/year each for non-emergency operation from 40 C.F.R. Part 60, Subpart IIII included in the 250 hours/year limit. [A-743-77-4-A (5/18/2017), BACT]

B. Fuel Sulfur Content

1. The fuel oil sulfur content shall be limited to 0.0015% sulfur by weight. [38 M.R.S. § 603-A(2)(A)(3)]

2. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the tank containing the fuel to be fired. [06-096 C.M.R. ch. 140, BPT]

C. Emissions shall not exceed the following limits:

Unit	PM (lb/MMBtu)
Emergency Generator	0.12
Fire Pump	0.12
BSEG #1	0.12
BSEG #2	0.12

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Emergency Generator	0.81	0.81	-	0.01	25.60	6.80	0.64
Fire Pump	0.37	0.37	-	0.005	13.90	3.00	0.11
BSEG #1	0.70	0.70	0.70	0.06	83.50	20.40	1.80
BSEG #2	0.70	0.70	0.70	0.06	83.50	20.40	1.80

[Emergency Generator and Fire Pump: A-743-71-A-N (12/4/1998), BACT; and A-743-71-B-M (10/22/2000), BACT]

[BSEG #1 and BSEG #2: A-743-77-4-A (5/18/2017), BACT]

D. Visible Emissions

Visible emissions from each of the emergency engines shall not exceed 20% opacity on a six-minute block average basis. During periods of startup Westbrook may elect to comply with the following work practice standards in lieu of the numerical visible emission standard. [06-096 C.M.R. ch. 101, § 3(A)(4)]

1. Maintain a log (written or electronic) of the date, time, and duration of all generator startups.
2. Operate in accordance with the manufacturer's emission-related operating instructions.
3. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations shall apply.

4. Operate the engines, including any associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Department that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the unit.
- E. The Emergency Generator and Fire Pump shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart ZZZZ, including the following:
1. Westbrook shall meet the following operational limitations for the Emergency Generator and the Fire Pump;
 - a. Change the oil and filter every 500 hours of operation or annually, whichever comes first;
 - b. Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
 - c. Inspect the hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Records shall be maintained documenting compliance with the operational limitations.

[40 C.F.R. § 63.6603(a) and Table 2(d); and 06-096 C.M.R. ch. 140, BPT]

2. Oil Analysis Program Option
Westbrook has the option of utilizing an oil analysis program which complies with the requirements of § 63.6625(i) in order to extend the specified oil change requirement. If this option is used, Westbrook must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 C.F.R. § 63.6625(i)]
3. Non-Resettable Hour Meter
A non-resettable hour meter shall be installed and operated on each engine.
[40 C.F.R. § 63.6625(f)]

4. Startup Idle and Startup Time Minimization
During periods of startup, Westbrook shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
[40 C.F.R. § 63.6625(h) & 40 C.F.R. Part 63, Subpart ZZZZ Table 2d]
 5. Maintenance, Testing, and Non-Emergency Operating Situations
 - a. The engines shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written logs) of all engine operating hours. [40 C.F.R. § 63.6640(f) and 06-096 C.M.R. ch. 140, BPT]
 - b. Westbrook shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. §§ 63.6655(e) and (f)]
 6. Operation and Maintenance
The engines shall be operated and maintained according to the manufacturer's emission-related written instructions, or Westbrook shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of each engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 C.F.R. § 63.6625(e)]
- F. BSEG #1 and BSEG #2 shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart IIII, including the following:
1. Manufacturer Certification
The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in § 60.4202.
[40 C.F.R. § 60.4205(b)]
 2. Ultra-Low Sulfur Distillate Fuel
The distillate fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur by weight). Compliance with the fuel sulfur content limit shall be based on

fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 140, BPT]

3. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on each engine.
[40 C.F.R. § 60.4209(a)]

4. Annual Time Limit for Maintenance and Testing

a. The engines shall each be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). These limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 C.F.R. § 60.4211(f) and 06-096 C.M.R. ch. 140, BPT]

b. Westbrook shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the number of hours each unit operated for emergency purposes, the number of hours each unit operated for non-emergency purposes, and the reason each engine was in operation during each time. [40 C.F.R. § 60.4214(b)]

5. Operation and Maintenance

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. Westbrook may only change those emission-related settings that are permitted by the manufacturer.
[40 C.F.R. § 60.4211(a)]

G. Compliance Methods

1. Compliance with the emission limits associated with the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 shall be demonstrated in accordance with the appropriate test methods upon request of the Department.

[A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State Only**

2. Compliance with the visible emission limits associated with the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 shall be demonstrated in accordance with 40 CFR Part 60, Appendix A, Method 9 upon request of the Department.

[A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State Only**

(18) **Cooling Tower**

- A. Westbrook shall use drift eliminators in the Cooling Tower to reduce drift and resulting PM and PM₁₀ emissions.
[A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State Only**
- B. Westbrook shall maintain proper operation and maintenance of the Cooling Tower, including the drift eliminators.
[A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State Only**
- C. Westbrook shall maintain documentation of inspection dates, times, and reasons for inspections, and maintenance conducted on the Cooling Tower.
[A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State Only**
- D. Westbrook shall maintain documentation of the makeup cooling water throughput for the Cooling Tower on a monthly basis. [A-743-70-D-R (6/9/2015), BPT and 06-096 C.M.R. ch. 140] **Enforceable by State Only**

(19) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.
[06-096 C.M.R. ch. 101, § 3(C)]

(20) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 3(B)(4)]

(21) **CEMS Recordkeeping**

- A. The licensee shall maintain records documenting that all CEMS are continuously accurate, reliable, and operated in accordance with 06-096 C.M.R. ch. 117, 40 C.F.R. Part 51, Appendix P, and 40 C.F.R. Part 60, Appendices B and F.
- B. The licensee shall maintain records of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each CEMS as required by 40 C.F.R. Part 51, Appendix P.

- C. The licensee shall maintain records of other data indicative of compliance with the applicable emission standards 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.
[06-096 C.M.R. ch. 140] **Enforceable by State-only**

(22) **Quarterly Reporting**

The licensee shall submit a Quarterly Report to the Department 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 C.M.R. ch. 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 regulations, 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.

(23) **Semiannual Reporting** [06-096 C.M.R. ch. 140]

- A. The licensee shall submit to the Department semiannual reports which 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 on or before the due date or if the report is received by the Department within seven calendar days of the due date.
- C. Each semiannual report shall include a summary of the periodic 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.

(24) **Annual Compliance Certification**

Westbrook shall submit an annual compliance certification to the Department and EPA in accordance with Standard Condition (13) of this license. The annual compliance certification is due **January 31st** 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 on or before the due date or if the report is received by the Department 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. [06-096 C.M.R. ch. 140]

(25) **Annual Emission Statement**

- A. In accordance with *Emission Statements*, 06-096 C.M.R. ch. 137, Westbrook shall annually report to the Department, in a format prescribed by the Department, the information necessary to accurately update the State's emission inventory. The emission statement shall be submitted as specified by the date in 06-096 C.M.R. ch. 137.

B. Westbrook shall keep the following records in order to comply with 06-096 C.M.R. ch. 137:

1. The amount of distillate fuel fired in the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2 (each) on a monthly basis;
2. The amount of natural gas fired in Combustion Turbines #1, #2, and the Auxiliary Boiler on a monthly basis;
3. The sulfur content of the distillate fuel fired in the Emergency Generator, Fire Pump, BSEG #1, and BSEG #2;
4. Makeup cooling water throughput for the Cooling Tower on a monthly basis;
5. All relevant CEMS data; and
6. Hours each emission unit was operating on a monthly basis

[06-096 C.M.R. ch. 137]

C. In reporting year 2020 and every third year thereafter, Westbrook shall report to the Department emissions of hazardous air pollutants as required by 06-096 C.M.R. ch. 137, § (3)(C). Westbrook shall pay the annual air quality surcharge, calculated by the Department based on these reported emissions of hazardous air pollutants, by the date required in Title 38 M.R.S. § 353-A(3).
[38 M.R.S. § 353-A(1-A)]

(26) **General Applicable State Regulations**

The licensee is subject to the State regulations listed below.

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

(27) **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 C.F.R. Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. Examples of such units include refrigerators and any size air conditioners that contain CFCs. [40 C.F.R. Part 82, Subpart F]

(28) **Asbestos Abatement**

When undertaking Asbestos abatement activities, Westbrook shall comply with the *Standard for Asbestos Demolition and Renovation*, 40 C.F.R. Part 61, Subpart M.

(29) **Acid Rain**

Westbrook shall continue to comply with the federal Acid Rain Program, *State Operating Permits Program*, 40 C.F.R. Part 70 and *Permits Regulation*, 40 C.F.R. Part 72, in accordance with the Phase II acid rain permit, A-743-70-A-S, issued on 10/10/2001.

(30) **CO₂ Budget Source**

Westbrook shall continue to comply with the requirements of license A-743-78-A-N, issued 1/15/2009, per Maine's *CO₂ Budget Trading Program*, 06-096 C.M.R. ch. 156 for Combustion Turbines #1 and #2 [06-096 C.M.R. ch. 156] **Enforceable by State-only**

(31) **Chemical Accident Prevention Provisions**

The licensee is subject to all applicable requirements of *Chemical Accident Prevention Provisions*, 40 C.F.R. Part 68.

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

- A. Westbrook shall submit a complete Part 70 renewal application at least six but no more than 18 months prior to the expiration of this air license.
- B. Pursuant to Title 5 M.R.S. §10002, and 06-096 C.M.R. ch. 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 C.M.R. ch. 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**

(33) **ISO-NE Electrical Supply Emergency**

Combustion Turbines #1 and #2 NO_x and CO emission limits (ppm and lb/hr) for steady state load operation do not apply if the facility, during an electricity supply emergency, is directed by Independent System Operator - New England (ISO-NE) to operate at low loads such that the SCR cannot operate due to unstable temperatures. During such operation, the NO_x and CO lb/hr limits for startup, shutdown, and runback events shall apply to each combustion turbine. [A-743-77-3-A (2/16/2016), BACT]

(34) **New Source Review**

Westbrook is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emission license, and the NSR requirements remain in effect even if this 06-096 C.M.R. ch. 140 Air Emission License, A-743-70-J-R, expires.

DONE AND DATED IN AUGUSTA, MAINE THIS 8th DAY OF JULY, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
GERALD D. REID, COMMISSIONER

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

[Note: If a complete renewal application, as determined by the Department, is submitted at least six but no more than 18 months prior to expiration of the facility's Part 70 license, then pursuant to Title 5 M.R.S. §10002, all terms and conditions of the Part 70 license shall remain in effect until the Department takes final action on the Part 70 license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/19/2019
Date of application acceptance: 11/21/2019

Date filed with the Board of Environmental Protection:

This Order prepared by Chris Ham, Bureau of Air Quality.

FILED
JUL 08, 2020
State of Maine
Board of Environmental Protection