STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION | AUGUSTA, MAINE 04333-0017
DEPARTMENT ORDER

Maritimes & Northeast Pipeline, L.L.C.	**|**	**Departmental**
York County	**|**	**Findings of Fact and Order**
Eliot, Maine	**|**	**Air Emission License**
A-855-71-K-R/M	**|**	**Renewal and Amendment**

Findings of Fact

After review of the air emission 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

Maritimes & Northeast Pipeline, L.L.C. (M&N) has applied to renew their Air Emission License for the operation of emission sources associated with their natural gas compressor station.

The equipment addressed in this license is located at Rt 236 in Eliot, Maine.

M&N has requested modifications to the language describing how SoLoNO$_x$™ functions, reversing the replacement of Boiler #1 by Boiler #2 in amendment A-855-71-J-A (issued 4/3/2019), and some minor changes to the emissions limits. SO_2 emission rates have been updated to reflect AP-42's emission factor using the associated sulfur content provided by the gas tariff sheet.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

Equipment	Max. Capacity	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Turbine #1	98.6 MMBtu/hr	96,678 scf/hr	Natural Gas [A]	2007	2008	1
Turbine #2	61.1 MMBtu/hr	59,869 scf/hr	Natural Gas [A]	2020	2020	2
Boiler #1 [B]	3.9 MMBtu/hr	3,850 scf/hr	Natural Gas [A]	2008	2008	BLR-1
Boiler #2 [C]	4.7 MMBtu/hr	4,632 scf/hr	Natural Gas [A]	2020	-	BLR-1

Equipment	Max. Capacity	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Generator #1	5.02 MMBtu/hr	4,920 scf/hr	Natural Gas [A]	2008	2008	N/A

[A] Pipeline quality natural gas (1,020 Btu/scf).
[B] Boiler #1 added back to license from prior to amendment A-855-71-J-A
[C] Boiler #2 was never actually installed

M&N also has 17 small, natural gas-fired heaters and one propane gas-fired heating device not listed in the table above. These are considered insignificant emissions units because they are each rated below 1.0 MMBtu/hr, the heat input capacity at or above which would require their inclusion in the license; therefore, these small heaters are not addressed further in this license.

M&N may operate small stationary engines smaller than 0.5 MMBtu/hr. These engines are considered insignificant activities and are not required to be included in this license. However, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website; http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf

Additionally, M&N may operate portable engines used for maintenance or emergency-only purposes. These engines are considered insignificant activities and are not required to be included in this license. However, they may still be subject to applicable State and Federal regulations.

M&N does not currently operate a parts washer but would like to maintain the ability to add one in the future.

C. Definitions

Low_Load.Operation means periods of operation during maintenance activities of the turbine that require operation at low load with SoLoNOx™ Disabled, as recommended by the manufacturer.

Low.Temperature.Operation means operation at or below an ambient temperature of 0 °F.

Normal. Operation means operation when NO_x control technology SoLoNOx™ is Enabled and Active at temperatures above 0 °F. During normal operation, the majority of fuel fired in the turbines is lean-premixed fuel, and the balance is pilot fuel. When

in normal operation, the turbine is considered to be achieving vendor guaranteed emission rates.

Portable.or.Non_Road.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.

An engine is not a non-road (portable) engine if it remains or will remain at a location for more than 12 consecutive months or for a shorter period of time if sited at a seasonal source. A seasonal source is a source that remains in a single location for two years or more and which operates for fewer than 12 months in a calendar year. If an engine operates at a seasonal source for one entire season, the engine does not meet the criteria of a non-road (portable) engine and is subject to applicable stationary engine requirements.

Records or.Logs mean either hardcopy or electronic records.

Shutdown means the time from when SoLoNOx™ becomes Inactive to the end of fuel combustion.

Startup means the time from the start of fuel combustion to the time that SoLoNOx™ becomes Active.

Transient.Event means a period of time when SoLoNOx™ is Enabled but also Inactive.

Fugitive.Emissions.Component means any component that has the potential to emit fugitive emissions of methane or VOC at a well site or compressor station, including valves, connectors, pressure relief devices, open-ended lines, flanges, covers and closed cent systems not subject to § 60.5411 or § 60.5411a, thief hatches or other openings on a controlled storage vessel not subject to § 60.5395 or § 60.5395a, compressors, instruments, and meters. Devices that vent as part of normal operations, such as natural gas-driven pneumatic controllers or natural gas-driven pumps, are not fugitive emissions components, insofar as the natural gas discharged from the device's vent is not considered a fugitive emissions. Emissions originating

from other than the device's vent, such as the thief hatch or a controlled storage vessel, would be considered fugitive emissions.

D. Application Classification

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

M&N has applied to renew currently licensed emission units as well as modify their license as addressed in Section I(A) above.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emissions" levels as defined in the Department's Definitions.Regulation, 06-096 Code of Maine Rules (C.M.R.) ch. 100. The emission increases are determined by subtracting the current licensed annual emissions preceding the modification from the maximum future licensed annual emissions, as follows:

Pollutant	Current License (tpy)	Future License (tpy)	Net Change (tpy)	Significant Emissions Levels
PM	4.3	4.3	-	100
PM_{10}	4.3	4.3	-	100
$PM_{2.5}$	-	4.3	-	100
SO_2	3.6	3.6	-	100
NO_x	32.1	31.5	-0.6	100
CO	66.1	65.1	-1.0	100
VOC	37.0	36.9	-0.1	766

This amendment will not increase licensed emissions of any pollutant. As such, this modification is determined to be a minor revision. Therefore, this license is considered to be both a renewal and a minor revision and has been processed through Major.and.Minor.Source.Air.Emission.License.Regulations, 06-096 C.M.R. ch. 115.

E. Facility Classification

With the annual facility-wide emission limits, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because M&N is subject to license restrictions that keep facility emissions below major source thresholds for NO_x, CO, and VOC; and

- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

II. Best Practical Treatment (BPT)

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.

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

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

B. Turbines #1 and #2

Turbine #1 is a simple cycle combustion turbine, Solar Taurus Model 70-10302S3. It provides direct drive power to run a compressor that is used to recompress and transport natural gas through the transmission pipeline. Turbine #1 has an approximate maximum heat input of 98.6 MMBtu/hr firing pipeline quality natural gas.

Turbine #2 is a simple cycle combustion turbine, Solar Centaur Model 50-6202LS. It provides direct drive power to run a compressor that is used to recompress and transport natural gas through the transmission pipeline. Turbine #2 has an approximate maximum heat input of 61.1 MMBtu/hr (at temperatures > 0 °F) firing pipeline quality natural gas.

Turbine #1 was manufactured in 2007 and installed in 2008. Turbine #2 was manufactured in 2020 and installed in 2020.

Turbines #1 and #2 are each equipped with SoLoNOx™ which combines premixing and lean fuel-air mixtures with a two-stage combustion zone, thereby reducing the flame temperature and consequently thermal NO_x formation.

1. Turbine Replacement

   M&N's license allows for the replacement of turbine core components with like-kind equipment without triggering additional licensing requirements or the need for a licensing action. Such a replacement involves the replacement of modular turbine core components and not the entire "stationary combustion turbine" which makes up the affected facility as defined by New Source Performance Standards (NSPS). In order to constitute a modification or reconstruction, the change would have to either result in an increase in emissions or exceed 50% of the fixed capital cost of a new facility. The replacement of the turbine core components does not meet either of these criteria.

   Since such a replacement does not cause the affected facility to be considered modified or reconstructed, M&N will not be required to submit notification the EPA of turbine component replacement, nor will they be required by NSPS applicable requirements to perform initial compliance testing after component replacement. However, M&N shall notify the Department when a replacement occurs, and the Department is not precluded from requiring compliance performance testing at any time.

2. 40 C.F.R. Part 60, Subpart KKKK

   Turbines #1 and #2 are subject to Standards. of. Performance. for. Stationary. Combustion.Turbines, Title 40 Code of Federal Regulations (40 C.F.R.) Part 60, Subpart KKKK (Subpart KKKK) since they were constructed after February 18, 2005.

   a. Standards

      (1) Nitrogen Oxides (NO_x)

      Pursuant to Table 1 of Subpart KKKK, Turbines #1 and #2 are subject to a NO_x emission limit of 25 ppm at 15% O_2 during operation at or above 75% of peak load and at temperatures at or above 0 °F. However, the BPT limit for NO_x emissions is more stringent, and therefore, only the more stringent limit is contained in the Order of the license.

      For operating loads less than 75% of peak load or temperatures below 0 °F, Table 1 of Subpart KKKK limits NO_x to 150 ppm at 15% O_2.

(2) Sulfur Dioxide (SO_2)

M&N has elected to comply with an SO_2 emission limits of 0.060 lb/MMBtu pursuant to 40 C.F.R. § 60.4330(a)(2).

b. Performance Testing

(1) Pursuant to 40 C.F.R. § 60.4340(a), M&N must conduct annual performance tests for NO_x unless the results of the previous performance test is less than or equal to 75% of the emission limit contained in Subpart KKKK, in which case M&N must conduct performance testing for NO_x at least once every two years with no more than 26 calendar months between tests. Because Turbines #1 and #2 are subject to BPT emission limits for NO_x that are less than 75% of the Subpart KKKK emission limit, it is anticipated that M&N will always be subject to performance testing on a two-year schedule.

(2) Performance testing for NO_x shall be done at any load condition within plus or minus 25% of 100% of peak load. M&N shall conduct three separate test runs for each performance test. The minimum run time shall be 20 minutes. The ambient temperature shall be greater than 0 °F during the performance test. [40 C.F.R. § 60.4400(b)]

(3) Performance tests for SO_2 shall be conducted on an annual basis with no more than 14 calendar months between tests. [40 C.F.R. §§ 60.8(a) & 60.4415(a)]

M&N may conduct performance tests for SO_2 by collecting a representative sample of natural gas in accordance with ASTM D5287 and analyzing the sample for total sulfur content of the fuel using ASTM D1072 or other procedures allowed by Subpart KKKK. The fuel analysis may be performed by M&N, a service contractor, or other qualified agency. [40 C.F.R. § 60.4415(a)(1)]

M&N intends to comply with the performance test requirement for SO_2 by producing a tariff sheet from the fuel vendor that contains documentation for the method of sampling and analyzing the natural gas for total sulfur content of the fuel complies with the methods specified by 40 C.F.R. § 60.4415(a)(1).

c. Recordkeeping

M&N shall keep a record of current FERC gas tariff sheets, which document the total sulfur content is 20.0 grains of sulfur or less per 100 scf of gas. [40 C.F.R. § 60.4365(a)]

3. Operation at Low Temperature

Under normal operating conditions, the majority of the fuel is lean-premixed fuel and the balance is pilot fuel. However, the turbine control systems are programmed to increase pilot fuel when the ambient temperature drops below 0 °F to maintain combustion stability. As a result, emissions increase at these temperatures. This license includes provisions for increased emissions during periods when the ambient temperature falls below 0 °F. These provisions are consistent with the NSPS Subpart KKKK limits for cold temperature operation.

4. Startup/Shutdown and Transient Events

As discussed in the BPT section below, emissions of NO_x, CO, and VOC are controlled using Solar's SoLoNO$_x$™ which is a technology based on dry, lean-premixed combustion.

SoLoNO$_x$™ can either be Enabled or Disabled, essentially on or off. SoLoNO$_x$™ is typically Disabled during low load conditions, such as startup and shutdown, and during low-temperature operation (see Definitions section) and low load operation as recommended by the manufacturer. The control systems for Turbines #1 and #2 are equipped with interlocks which prevents operating in SoLoNO$_x$™ Disabled mode except for periods of startup, shutdown, low-temperature, and low load operation as recommended by the manufacturer. Startup and shutdown events are estimated to take approximately nine minutes each with no more than two startups and two shutdowns in any given hour, for a total of 18 minutes of startup and 18 minutes of shutdown in an hour.

When Enabled, SoLoNO$_x$™ can be either Active or Inactive. A transient event occurs when SoLoNO$_x$™ is Enabled but Inactive. These are infrequent periods of short duration (typically a few minutes or less) when the turbine is not achieving the emissions guarantee provided by Solar. These periods occur as a result of the turbine losing combustion stability in the lean premix mode. To stabilize combustion, the turbine control system increased the pilot fuel to the combustion chamber, resulting in higher emissions until stable lean premix mode can be achieved again. The cause of transient events is usually outside the control

of M&N, e.g., a bump/drop in pipeline pressure due to a large facility coming on/off-line.

Limiting the frequency of startups, shutdowns, low load, and transient events would not allow the facility to respond to demands of the natural gas pipeline as necessary to provide reliable and stable fuel supply to the region and is therefore not considered practicable for the facility. Therefore, the frequency of M&N's startups and shutdowns is unrestricted given the inconsistency of natural gas demands and M&N's role in providing reliable fuel supply. Emissions during startup, shutdown, low load, and transient events will be tracked and included in determining compliance with M&N's annual emission limitations.

M&N will continuously monitor the SoLoNO$_x$^{TM} system and whether it is Enabled/Disabled and Active/Inactive. M&N shall keep records of the date, time, and duration of all startups and shutdowns. In calculating compliance with the facility's annual emission limits, M&N shall determine the amount of operating time the turbine spent in each mode and calculate emissions based on the following:

Mode	Calculate Emissions Using Emission Factors Based On ...
Startup	Emission data supplied by the turbine manufacturer at the time of the most recent permit application.
Shutdown	Emission data supplied by the turbine manufacturer at the time of the most recent permit application.
Normal Operation	Licensed emission limits for temperatures above 0 °F.
Low Temperature	Licensed emission limits for appropriate temperature range.
Low Load Operation	Licensed emission limits for temperatures less than or equal to -20 °F.
Transient Event	Licensed emission limits for temperatures less than or equal to -20 °F.

M&N shall keep records of the number of hours during the calendar year that the ambient temperature is at or below 0 °F and the number of hours during the calendar year that the ambient temperature is at or below -20 °F. Ambient temperature will be measured at the turbine inlet primarily, but meteorological data from an appropriate representative location may be used to fill any gaps in M&N's temperature data.

5. BPT Findings

The following control strategies represent BPT for Turbines #1 and #2:

$PM/PM_{10}/PM_{2.5}$	Good Combustion Practices
SO_2	Firing of Pipeline Quality Natural Gas
NO_x	$SoLoNO_x$ Combustion Technology
CO	$SoLoNO_x$ Combustion Technology
VOC	$SoLoNO_x$ Combustion Technology
HAP	Good Combustion Practices

The BPT emissions limits for the turbines were based on the following:

a. Particulate Matter (PM, PM_{10}, $PM_{2.5}$)
BPT for PM emissions from Turbines #1 and #2 consists of firing pipeline quality natural gas exclusively and good combustion practices. Units firing fuel with low ash content and high combustion efficiency exhibit low particulate matter emissions. The most stringent particulate control method demonstrated for gas turbines is the use of low ash fuel such as natural gas. Thus, firing only pipeline quality natural gas and maintaining good combustion practices represents BPT.

Turbines #1 and #2 are fuel burning equipment with rated capacities each greater than 3 MMBtu/hr; therefore, they are subject to Fuel. Burning. Equipment.Particulate.Emission.Standard, 06-096 C.M.R. ch. 103. They are subject to a PM emission limit of 0.08 lb. MMBtu pursuant to § 2(B)(1)(b) of this rule because they have maximum heat input capacities between 50 and 250 MMBtu/hr and fire natural gas. Turbines #1 and #2 are subject to a lb/hr PM emission limit that corresponds to a much lower lb/MMBtu level than 0.08 lb/MMBtu; therefore, the Department find that Turbines #1 and #2 meet the ch. 103 PM emission limit by meeting the PM lb/hr emission limits in the table below.

b. Sulfur Dioxide
Sulfur Dioxide (SO_2) is formed from the oxidation of sulfur in fuel. The most stringent method of control for SO_2 that has been demonstrated for gas-fired turbines is firing pipeline quality natural gas.

c. Nitrogen Oxides

Nitrogen Oxides (NO_x) emitted from combustion turbines result from the oxidation of both fuel-bound nitrogen and atmospheric nitrogen (thermal NO_x). Natural gas has very low fuel-bound nitrogen; therefore, reducing NO_x emissions must focus on reducing the thermal NO_x component. M&N uses SoLoNO$_x$™ combustion technology, which employs lean-premixed combustion techniques. The premixing of fuel and air upstream of the primary combustion zone helps to ensure that the flame operates at a fuel-lean condition, thus lowering flame temperature and minimizing thermal NO_x formation.

The Department determined BPT for NO_x emissions consists of operating Turbines #1 and #2 with SoLoNO$_x$™ combustion technology. NSPS Subpart KKKK contains a NO_x emissions limit. The BACT emission limits for NO_x for all ambient temperatures as listed in the table below have been determined to be more stringent than the NSPS limit.

d. Carbon Monoxide

Carbon Monoxide (CO) results from incomplete combustion of gas in the turbine.

The gas turbine uses a dry low-NO_x combustor system, integrates sophisticated burner controls with staged premixed combustion zones, and uses fuel feed systems to achieve the required low-NO_x emissions. Additional CO reductions are attributed to the SoLoNO$_x$™ technology.

The Department determined M&N's use of SoLoNO$_x$™ combustion technology and associated good combustion practices and instrumentation and controls for CO along with ambient temperature specific limits contained in the table below, represents BPT.

e. Volatile Organic Compounds

The majority of volatile organic compounds (VOC) emitted from gas-fired turbines comes from unburned hydrocarbons. Control of VOC is accomplished by providing adequate fuel residence time and adequately high temperature in the combustion zone to ensure complete combustion. The Department determined BPT for VOC is using the SoLoNO$_x$™ combustion technology along with the ambient temperature specific limits contained in the table below.

6. Summary of Emission Limits

Except during periods of startup, shutdown, and low load, Turbine #1 shall not exceed the following emission limits.

Unit	Pollutant	lb/MMBtu
Turbine #1	PM	0.01

Pollutant	Emission Limit T > 0 °F	Emission Limit 0 °F ≥ T > -20 °F	Emission Limit T ≤ -20 °F & Transient Events	Citation
PM	0.65 lb/hr	0.68 lb/hr	0.68 lb/hr	06-096 C.M.R. ch. 115, BPT
PM_{10}	0.65 lb/hr	0.68 lb/hr	0.68 lb/hr	06-096 C.M.R. ch. 115, BPT
$PM_{2.5}$	0.65 lb/hr	0.68 lb/hr	0.68 lb/hr	06-096 C.M.R. ch. 115, BPT
SO_2	0.55 lb/hr	0.58 lb/hr	0.58 lb/hr	06-096 C.M.R. ch. 115, BPT
NO_x	15 ppmdv @ 15% O_2	-	-	06-096 C.M.R. ch. 115, BPT
NO_x	-	150 ppmdv @ 15% O_2	150 ppmdv @ 15% O_2	40 C.F.R. Part 60, Subpart KKKK
NO_x	5.34 lb/hr	15.74 lb/hr	44.97 lb/hr	06-096 C.M.R. ch. 115, BPT
CO	5.42 lb/hr	22.81 lb/hr	34.22 lb/hr	06-096 C.M.R. ch. 115, BPT
VOC	0.68 lb/hr	1.43 lb/hr	2.14 lb/hr	06-096 C.M.R. ch. 115, BPT

Except during periods of startup, shutdown, and low load, Turbine #2 shall not exceed the following emission limits.

Unit	Pollutant	lb/MMBtu
Turbine #2	PM	0.01

Pollutant	Emission Limit T > 0 °F	Emission Limit 0 °F ≥ T > -20 °F	Emission Limit T ≤ -20 °F & Transient Events	Citation
PM	0.40 lb/hr	0.41 lb/hr	0.41 lb/hr	06-096 C.M.R. ch. 115, BPT
PM_{10}	0.40 lb/hr	0.41 lb/hr	0.41 lb/hr	06-096 C.M.R. ch. 115, BPT
$PM_{2.5}$	0.40 lb/hr	0.41 lb/hr	0.41 lb/hr	06-096 C.M.R. ch. 115, BPT
SO_2	0.34 lb/hr	0.35 lb/hr	0.35 lb/hr	06-096 C.M.R. ch. 115, BPT
NO_x	9 ppmdv @ 15% O_2	-	-	06-096 C.M.R. ch. 115, BPT
NO_x	-	150 ppmdv @ 15% O_2	150 ppmdv @ 15% O_2	40 C.F.R. Part 60, Subpart KKKK
NO_x	1.98 lb/hr	9.44 lb/hr	26.96 lb/hr	06-096 C.M.R. ch. 115, BPT
CO	3.35 lb/hr	13.68 lb/hr	20.52 lb/hr	06-096 C.M.R. ch. 115, BPT
VOC	0.42 lb/hr	0.86 lb/hr	1.28 lb/hr	06-096 C.M.R. ch. 115, BPT

7. Visible Emissions

   Visible emissions from Turbines #1 and #2 shall each not exceed 10% opacity on a six-minute block average basis.

8. Gas Releases: Turbine Case Venting

   When a turbine sits idle for some time, it is decompressed and vented to atmosphere to prevent damage to the equipment. The turbine is also decompressed and vented when maintenance work is done on the turbine. M&N shall keep records of the date and time of each turbine case venting as well as the amount (scf) of gas vented.

C. Boiler #1

M&N operates.Boiler #1 for heat. Boiler #1 is a Cleaver Brooks Model FLX-700-150, which is rated at 3.9 MMBtu/hr and fires natural gas. The boiler was installed in 2008 and exhausts through its own stack, Stack #BLR-1.

1. BPT Findings

The BPT emission limits for Boiler #1 were based on the following:

$PM/PM_{10}/PM_{2.5}$ – 7.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
SO_2 – 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
NO_x – 75 lb/MMscf based on manufacturer data
CO – 38 lb/MMscf based on manufacturer data
VOC – 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
Visible Emissions – 06-096 C.M.R. ch. 101

The BPT emission limits for Boiler #1 are the following:

Unit	Pollutant	lb/MMBtu
Boiler #1	PM	0.08

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)
Boiler #1	0.03	0.03	0.03	-	0.29	0.15	0.02

2. Visible Emissions

Visible emissions from Boiler #1 shall not exceed 10% opacity on a six-minute block average basis.

3. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

Due to its size, Boiler #1 is not 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]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJJ

   Boiler #1 is not subject to the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, 40 C.F.R. Part 63, Subpart JJJJJJ. Natural gas-fired units are exempt from the requirements of this regulation. [40 C.F.R. §§ 63.11195(e)]

D. Generator #1

M&N operates one emergency generator, Generator #1. Generator #1 is a Waukesha H24GL 4-stroke generator rated at 5.02 MMBtu/hr (395 kW) which fires natural gas and was manufactured in 2008.

1. BPT Findings

   The BPT emission limits for Generator #1 are based on the following:

   $PM/PM_{10}/PM_{2.5}$ – 0.12 lb/MMBtu, 06-096 C.M.R. ch. 103
   SO_2 – 5.88×10^{-4} lb/MMBtu from AP-42 dated 4/25
   NO_x – 524.30 lb/MMBtu from manufacturer data
   CO – 458.77 lb/MMBtu from manufacturer data
   VOC – 196.61 lb/MMBtu from manufacturer data
   Visible Emissions – 06-096 C.M.R. ch. 115, BPT

   The BPT emission limits for Generator #1 are the following:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	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)
Generator #1	0.60	0.60	0.60	-	2.58	2.26	0.97

   Visible emissions from Generator #1 shall not exceed 10% opacity on a six-minute block average basis.

   The Department has determined that the BPT visible emission limit is more stringent than the applicable limit in 06-096 C.M.R. ch. 101. Therefore, the visible emission limit for Generator #1 has been streamlined to the more stringent BPT

limit, and only this more stringent limit shall be included in the Order of this air emission license.

2. Chapter 169

   Generator #1 was installed prior to the effective date of Stationary.Generators, 06-096 C.M.R. ch. 169 and is therefore exempt from this rule pursuant to section 1.

3. New Source Performance Standards

   Due to the date of manufacture of the spark ignition emergency engine listed above, Generator #1 is not subject to the NSPS Standards.of.Performance.for. Spark.Ignition.Internal.Combustion.Engines.(SI.ICE)?40 C.F.R. Part 60, Subpart JJJJ since the unit was manufactured prior to January 1, 2009. [40 C.F.R. § 60.4230]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart ZZZZ

   National. Emission. Standards. for. Hazardous. Air. Pollutants. for. Stationary. Reciprocating. Internal. Combustion. Engines, 40 C.F.R. Part 63, Subpart ZZZZ (Subpart ZZZZ) is applicable to Generator #1. The unit is considered a new, emergency stationary reciprocating internal combustion engine at an area HAP source and is 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 requirement. [40 C.F.R. § 63.6585]

   Pursuant to 40 C.F.R. § 63.6590(c)(1), stationary spark ignition engines subject to regulations under 40 C.F.R. Part 60, Subpart JJJJ must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ. Since Generator #1 is not subject to 40 C.F.R. Part 60, Subpart JJJJ, no further requirements apply for such engines under Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

E. <u>NSPS for Crude Oil and Natural Gas Facilities</u>

M&N is subject to Standards.of.Performance.for.Crude.Oil.and.Natural.Gas.Facilities. for. which. Construction?. Modification?. or. Reconstruction. Commenced. After. September. 7❹?. 867❶. and. On. or. Before. December. ❷?. 8688, 40 C.F.R. Part 60, Subpart OOOOa (Subpart OOOOa), due to the installation of Turbine #2 in 2020. This

subpart establishes emission standards for the control of greenhouse gases (GHG) at a number of different types of facilities.

Following the installation of Turbine #2, the affected facility is the collection of fugitive emissions components at a compressor station per § 60.6365a(j). M&N has selected optical gas imaging (OGI) as their primary method of determining fugitive emissions; therefore, references to Method 21 of Appendix A-7 of 40 C.F.R. Part 60 will be excluded from further discussion in this document but is a valid alternative to OGI as described in Subpart OOOOa.

Any modifications made to facilities after December 6, 2022 will be subject to OOOOb and will be addressed in future licensing as they occur.

1. Quarterly Fugitive Emissions Survey

    a. M&N shall quarterly (but no closer than 60 days apart) conduct a survey of the fugitive emissions components, to inspect for leaks per § 60.5397a and Subpart OOOOa's specified fugitive monitoring plan. The fugitive emissions monitoring plan shall be made in accordance with § 60.5397a, which will cover testing procedures, ambient condition monitoring, and reporting requirements.
    b. Any leak should be attempted to be repaired during the course of the survey or during an initial 30-day period following the survey. Repair then should be completed within 30 days of the first attempt to repair. Delay of repair will be allowed under one of the following circumstances:

        (1) If the repair is technically infeasible, requires a vent blowdown, a compressor station shutdown, or would be unsafe during operation of the unit, the repair must be completed during the next scheduled compressor station shutdown for maintenance, after a scheduled vent blow down, or within 2 years of detecting the fugitive emission, which ever is earliest.

        (2) If the repair requires replacement of a fugitive emissions component or a part thereof, but the replacement cannot be acquired within the initial timeline laid out above due to valve assembly supplies being depleted for custom fabrication of a fugitive emissions component or part thereof, the replacement must be ordered no later than 10 calendar days from the first attempt at repair. The repair must be completed as soon as practicable, but no later than 30 calendar days after receiving the replacement component unless the repair require a compressor station shutdown. If a

compressor station shutdown is required, then the repair should be scheduled as stated in the previous paragraph.

c. After any repair is made, the source of the fugitive emissions needs to be resurveyed to complete the repair and ensure there are no fugitive emissions according to the standard per 40 C.F.R. § 60.5397a(h)(4). Alternatively, the repair can be verified by checking for a lack of bubbling using soapy solution according to the alternative method per 40 C.F.R. Part 60, Appendix A-7, Method 21, 8.3.3.

2. Recordkeeping and Reporting
   a. During each quarterly survey, records shall be kept documenting the following:

      (1) Date of the survey
      (2) Beginning and end times of the survey
      (3) Name of the operator(s), training, and experience
      (4) Monitoring instrument used
      (5) Ambient temperature, sky conditions, and maximum wind speed at the time of the survey
      (6) Operating mode of each compressor (i.e., operating, standby pressurized, and not operating/depressurized modes) at the time of the survey
      (7) Deviations for the monitoring plan or statement that there were no deviations from the monitoring plan
      (8) Records of calibrations for the instrument used during the monitoring survey
      (9) Documentation of each fugitive emission detected during the survey:
         (i) Location of each fugitive emission identified
         (ii) Type of fugitive emissions component, including designation as difficult-to-monitor or unsafe-to-monitor, if applicable
         (iii) For each repair that cannot be made during the monitoring survey when the fugitive emissions are initially found, a digital photograph or video must be taken of that component or the component must be tagged for identification purposes. The digital photograph must include the date that the photograph was taken and must clearly identify the component by location within the site. The digital photograph or identification may be removed after the repair is completed, which includes the verification of the repair with a resurvey.
         (iv) The date of first attempt at repair of the fugitive emissions component(s).

(v) The date of successful repair of the fugitive emissions component(s), which includes the resurvey to verify the repair.

(vi) Identification of each fugitive emission component placed on delay of repair and explanation for delay of repair.

(vii) For each fugitive emission component places on delay of repair for reason of replacement component unavailability, the operator must document: the date the component was added to the relay of repair list, the date the replacement fugitive component or part thereof was ordered, the anticipated component delivery date (including estimated shipment or delivery date provided by the vendor), and the actual arrival date of the component.

(viii) Date of planned shutdowns that occur while there are any components that have been placed on delay of repair.

b. M&N shall annually submit their report to CEDRI using EPA's template based on the information kept in the quarterly survey records. https://www.epa.gov/electronic-reporting-air-emissions/cedri/

c. M&N shall maintain their records, including the fugitive emissions monitoring plan, onsite or at the nearest field office for at least 5 years per § 60.5420a(b). Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart OOOOa is satisfied by compliance with the more stringent six-year requirement.

[40 C.F.R. Part 60, Subpart OOOOa]

F. Parts Washer

Currently there is no parts washer in service at the Eliot compressor station. However, M&N wishes to retain the option to operate a degreaser in accordance with Solvent. Cleaners, 06-096 C.M.R. ch. 130.

G. Gas Release and Fugitive Emissions

Operation of the facility's equipment and plant piping will result in fugitive emissions of natural gas. M&N shall calculate fugitive emissions on a calendar year basis using estimates for similar sized stations and a statistical analysis of available gas quality data.

These fugitive emissions (including VOC and methane) shall be reported to the Department annually as part of the facility's emissions inventory collected per Emission.Statements, 06-096 C.M.R. ch. 137.

Emergency shutdowns (ESD), ESD testing, and routine maintenance of station piping result in venting natural gas to the atmosphere. These activities are necessary for safety reasons, and no emission limit is imposed intending to restrict these activities. However, emissions from these activities shall be included in the annual emissions inventory submitted pursuant to 06-096 C.M.R. ch. 137.

M&N shall notify the Department in advance of any scheduled venting event that is expected to result in the release of more than 85,000 scf of natural gas. M&N shall notify the Department within two working days of any unscheduled venting event that results in the release of more than 85,000 scf of natural gas.

M&N shall maintain a log of all gas releases and ESD events that includes the following information:

1. Date of the event;
2. Estimated or actual event start time;
3. Estimated or actual event duration;
4. Release source;
5. Event type (shutdown, maintenance, testing, or malfunction);
6. Description of event;
7. Estimate of the amount of natural gas vented;
8. Estimate of VOC density of the released gas; and
9. Calculation of the tons of VOC emitted based on the VOC content of the gas released.

H. Annual Emission Limits

Total emissions from all sources at the facility addressed in their air emission license shall not exceed the following on a 12-month rolling total basis:

Pollutant	Tons/year
PM	4.3
PM_{10}	4.3
$PM_{2.5}$	4.3
SO_2	3.6
NO_x	31.5
CO	65.1

Pollutant	Tons/year
VOC	36.9
Single HAP	9.9
Total HAP	24.9

Compliance shall be demonstrated by record keeping and calculations of actual emissions performed at least once annually. Additional calculations of emissions to demonstrate compliance with these limits on a 12-month rolling basis shall be performed at the request of the Department.

I. Fugitive Emissions of Particulate Matter

M&N shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

M&N shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

J. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis.

K. Performance Test Protocol

For any performance testing required by this license, M&N shall submit to the Department a performance test protocol, as outlined in the Department's Performance Testing Guidance, at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BPT]

Performance Testing Guidance is available on the Department's Emissions Testing webpage; https://www.maine.gov/dep/air/emissions/testing.html.

L. Emissions Statements

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

1. The amount of natural gas fired in each unit on a monthly basis;
2. Calculations of emissions of all regulated pollutants from each emissions unit on a calendar year total basis;
3. Calculations of the VOC and/or HAP emissions from gas releases and fugitive emissions on a calendar year total basis; and
4. Hours of operation for each emission unit on a monthly basis.

Every third year, or as requested by the Department, M&N shall report to the Department emissions of hazardous air pollutants as required pursuant to 06-096 C.M.R. ch. 137, § (3)(C). The next report is due no later than May 15, 2027, for emissions occurring in calendar year 2026. The Department will use these reports to calculate and invoice for the applicable annual air quality surcharge for the subsequent three billing periods. M&N 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)]

M. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- Turbines #1 and #2 emission limits were calculated based on ambient temperature data indicating 120 hours per year of operation at ambient temperatures less than or equal to 0 °F and greater than -20 °F, 1 hour per year of operation at ambient temperatures less than -20 °F, and 20 hours per year of low load operation;
- 8,760 hours per year each of operation of Turbines #1 and #2 including 156 startup and shutdown events (each) per year;
- Operating Generator #1 for 100 hrs/yr of non-emergency operation; and

- Operating Boiler #1 for 8,760 hr/yr.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

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

	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC
Turbine #1	2.5	2.5	2.5	2.1	21.3	36.5	4.6
Turbine #2	1.7	1.7	1.7	1.4	8.8	27.9	2.6
Boiler #1	0.1	0.1	0.1	0.1 *	1.3	0.6	0.1
Generator #1	-	-	-	-	0.1	0.1	0.1
Gas Releases & Fugitives	-	-	-	-	-	-	29.5
Total TPY	**4.3**	**4.3**	**4.3**	**3.6**	**31.5**	**65.1**	**36.9**

* Because the estimated emission is small but not zero, this value is rounded to the nearest tenth of a ton.

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. Ambient Air Quality Analysis

M&N previously submitted an ambient air quality impact analysis outlined in air emission license A-855-71-J-A (dated April 3, 2019) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate Ambient Air Quality Standards (AAQS). An additional air quality impact analysis is not required for this renewal.

Order

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

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

The Department hereby grants Air Emission License A-855-71-K-R/M subject to the following conditions.

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 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 (38 M.R.S. § 347-C).

(2) The licensee shall acquire a new or amended air emission license prior to beginning actual construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]

(3) 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. 115]

(4) 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. 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115] Payment of the annual air emission license fee for M&N is due by the end of May of each year. [38 M.R.S. § 353-A(3)]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]

(7) The licensee shall maintain and operate all emission units and air pollution 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. 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. 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 a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]

(10) 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. 115]

(11) 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 to demonstrate compliance with the applicable emission standards 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; or

2. 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. 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, 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. 115]

(13) Notwithstanding any other provisions 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 license requirement. [06-096 C.M.R. ch. 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]

(15) Upon written request from 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 a 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. 115]

(16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605).

Specific Conditions

(17) **Turbines #1 and #2**

A. Turbines #1 and #2 shall only fire pipeline-quality natural gas. [06-096 C.M.R. ch. 115, BPT]

B. Except during periods of startup, shutdown, and low load, Turbine #1 shall not exceed the following emissions limits:

Unit	Pollutant	lb/MMBtu
Turbine #1	PM	0.01

Pollutant	Emission Limit T > 0 °F	Emission Limit 0 °F ≥ T > -20 °F	Emission Limit T ≤ -20 °F & Transient Events	Citation
PM	0.65 lb/hr	0.68 lb/hr	0.68 lb/hr	06-096 C.M.R. ch. 115, BPT
PM_{10}	0.65 lb/hr	0.68 lb/hr	0.68 lb/hr	06-096 C.M.R. ch. 115, BPT
$PM_{2.5}$	0.65 lb/hr	0.68 lb/hr	0.68 lb/hr	06-096 C.M.R. ch. 115, BPT

Pollutant	Emission Limit T > 0 °F	Emission Limit 0 °F ≥ T > -20 °F	Emission Limit T ≤ -20 °F & Transient Events	Citation
SO_2	0.55 lb/hr	0.58 lb/hr	0.58 lb/hr	06-096 C.M.R. ch. 115, BPT
NO_x	15 ppmdv @ 15% O_2	-	-	06-096 C.M.R. ch. 115, BPT
NO_x	-	150 ppmdv @ 15% O_2	150 ppmdv @ 15% O_2	40 C.F.R. Part 60, Subpart KKKK
NO_x	5.34 lb/hr	15.74 lb/hr	44.97 lb/hr	06-096 C.M.R. ch. 115, BPT
CO	5.42 lb/hr	22.81 lb/hr	34.22 lb/hr	06-096 C.M.R. ch. 115, BPT
VOC	0.68 lb/hr	1.43 lb/hr	2.14 lb/hr	06-096 C.M.R. ch. 115, BPT

C. Except during periods of startup, shutdown, and low load, Turbine #2 shall not exceed the following emissions limits:

Unit	Pollutant	lb/MMBtu
Turbine #1	PM	0.01

Pollutant	Emission Limit T > 0 °F	Emission Limit 0 °F ≥ T > -20 °F	Emission Limit T ≤ -20 °F & Transient Events	Citation
PM	0.40 lb/hr	0.41 lb/hr	0.41 lb/hr	06-096 C.M.R. ch. 115, BPT
PM_{10}	0.40 lb/hr	0.41 lb/hr	0.41 lb/hr	06-096 C.M.R. ch. 115, BPT
$PM_{2.5}$	0.40 lb/hr	0.41 lb/hr	0.41 lb/hr	06-096 C.M.R. ch. 115, BPT
SO_2	0.34 lb/hr	0.35 lb/hr	0.35 lb/hr	06-096 C.M.R. ch. 115, BPT
NO_x	9 ppmdv @ 15% O_2	-	-	06-096 C.M.R. ch. 115, BPT
NO_x	-	150 ppmdv @ 15% O_2	150 ppmdv @ 15% O_2	40 C.F.R. Part 60, Subpart KKKK
NO_x	1.98 lb/hr	9.44 lb/hr	26.96 lb/hr	06-096 C.M.R. ch. 115, BPT

CO	3.35 lb/hr	13.68 lb/hr	20.52 lb/hr	06-096 C.M.R. ch. 115, BPT
VOC	0.42 lb/hr	0.86 lb/hr	1.28 lb/hr	06-096 C.M.R. ch. 115, BPT

D. Visible emissions from Turbines #1 and #2 shall each not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(4)]

E. M&N shall keep records of the number of hours during the calendar year that the ambient temperature is at or below 0 °F and the number of hours during the calendar year that the ambient temperature is at or below -20 °F. Ambient temperature will be measured at the turbine inlet primarily, but meteorological data from an appropriate representative location may be used to fill and gaps in M&N's temperature data. [06-096 C.M.R. ch. 115, BPT]

F. M&N shall not operate Turbines #1 or #2 in SoLoNO$_x$™ Disabled mode except for periods of startup, shutdown, low temperature, and low load operation as recommended by the manufacturer. Compliance shall be demonstrated by continuously monitoring the SoLoNO$_x$™ system and whether it is Enabled/Disabled. [06-096 C.M.R. ch. 115, BPT]

G. M&N shall continuously monitor the SoLoNO$_x$™ system on Turbines #1 and #2 during all operation times, whether it is Enabled/Disabled and Active/Inactive, and use that information to determine the frequency and duration of transient events. M&N shall keep records of the date, time, and duration of all startups and shutdowns. This information shall be used in demonstrating compliance with the facility's annual emission limits. [06-096 C.M.R. ch. 115, BPT]

H. Turbines #1 and #2 are subject to and shall comply with the applicable requirements of 40 C.F.R. Part 60, Subparts KKKK and A. [06-096 C.M.R. ch. 115, BPT]

I. Performance Testing

1. M&N shall conduct performance testing on Turbines #1 and #2 for NO_x every two years with no more than 26 calendar months between tests. [40 C.F.R. § 60.4340(a)]

2. Performance testing for NO_x shall be conducted at any load condition within plus or minus 25% of 100% peak load. M&N shall conduct three separate test runs for each performance test. The minimum run time shall be 20 minutes.

The ambient temperature shall be greater than 0 °F during the performance test. [40 C.F.R. § 60.4400(b)]

3. M&N shall conduct a performance test on each Turbine #1 and #2 for SO_2 on an annual basis with no more than 14 calendar months between tests. [40 C.F.R. § 60.4415(a)]

   M&N may conduct the performance tests for SO_2 by collecting a representative sample of natural gas in accordance with ASTM D5287 and analyzing the sample for the total sulfur content of the fuel using ASTM D1072 or other procedures allowed by Subpart KKKK. The fuel analysis may be performed by M&N, a service contractor, the fuel vendor, or other qualified agency. [40 C.F.R. § 60.4415(a)(1)]

   Compliance with the performance test requirement for SO_2 may be achieved by producing a tariff sheet from the fuel vendor that contains documentation the method of sampling and analyzing the natural gas for total sulfur content of the fuel complies with the methods specified by 40 C.F.R. § 60.4415(a)(1).

J. M&N shall keep documentation of all maintenance and repairs (both planned and unplanned, including parts replacement) performed on either Turbine #1 or #2 and any associated control equipment. The documentation shall include the date maintenance occurred and a description of the action performed including which parts were replaced, if applicable. These records shall be made available to the Department upon request. [06-096 C.M.R. ch. 115, BPT]

K. M&N shall maintain a current FERC gas tariff sheet specifying gas quality, which documents the total sulfur content is 20.0 grains of sulfur or less per 100 scf of gas or otherwise comply with the specified methods for demonstrating compliance with the fuel sulfur content requirements of 40 C.F.R. § 60.4365(a).

L. M&N may install like-kind manufacturer-supplied replacement components for the turbines that occur either as part of scheduled maintenance of a turbine or in the event of a malfunction or outage and subsequent repair. M&N shall supply the Department written notification in advance of any replacement of turbine components and shall still be subject to and responsible for any applicable NSPS provisions with respect to replacement of the turbine or any components. [06-096 C.M.R. ch. 115, BPT]

M. Parameter Monitors

1. M&N shall monitor and record the following parameters.

Parameter	Monitor	Record Monitor Data	Total
Natural Gas Fuel Flow Rate to Each Turbine (actual cubic feet input)	Continuously [A]	Continuously [A]	Monthly
SoLoNOx™ Enabled/Disabled Status on Each Turbine	Continuously [B]	Continuously [B]	Monthly (minutes)
SoLoNOx™ Active/Inactive Status on Each Turbine	Continuously [B]	Continuously [B]	Monthly (minutes)

[A] For this parameter,.Continuously.means the total fuel flow will be recorded at least once per each 15-minute period during turbine operation.

[B] For this parameter, Continuously.means the total minutes for each status will be recorded at least once per 15-minute period during turbine operation.

2. If any parameter monitor is recording accurate and reliable data less than 98% of the source-operating time within any quarter of the calendar year, the Department may initiate enforcement action and may include in that enforcement action any period of time that the parameter monitor was not recording accurate and reliable data during that quarter unless the licensee can demonstrate to the satisfaction of the Department that the failure of the system to record accurate and reliable data was due to the performance of established quality assurance and quality control procedures or unavoidable malfunctions. [06-096 C.M.R. ch. 115, BPT]

(18) **Boiler #1**

A. Boiler #1 shall only fire pipeline quality natural gas [06-096 C.M.R. ch. 115, BPT]

B. The sulfur content of the fuel shall not exceed 20 grains per 100 scf of gas, as documented by a current FERC gas tariff sheet specifying gas quality. [06-096 C.M.R. ch. 115, BPT]

C. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Emission Unit	Pollutant	lb/MMBtu
Boiler #1	PM	0.08

Emission 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)
Boiler #1	0.03	0.03	0.03	-	0.29	0.15	0.02

D. Visible emissions from Boiler #1 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(3)]

(19) **Generator #1**

A. Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operation during emergency situations. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Unit	Pollutant	lb/MMBtu
Generator #1	PM	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)
Generator #1	0.60	0.60	0.60	-	2.58	2.26	0.97

C. Visible Emissions

Visible emissions from Generator #1 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

(20) **Parts Washer**

Parts washers at M&N.are subject to Solvent.Cleaners, 06-096 C.M.R. ch. 130.

A. M&N shall.keep records of the amount of solvent added to each parts washer. [06-096 C.M.R. ch. 115, BPT]

B. M&N must use a solvent with a vapor pressure of 1.00 mmHg, or less, at 20 °C (68 °F). [06-096 C.M.R. ch. 130 § (3)(E)]

C. The following are exempt from the requirements of 06-096 C.M.R. ch. 130. [06-096 C.M.R. ch. 130]

1. Solvent cleaners using less than two liters (68 oz.) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
2. Wipe cleaning; and,
3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

D. The following standards apply to cold cleaning machines that are applicable sources under 06-096 C.M.R. ch. 130.

1. M&N shall attach a permanent conspicuous label to each unit summarizing the following operational standards:
    a. Waste solvent shall be collected and stored in closed containers.
    b. Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
    c. Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
    d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
    e. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the parts washer.
    f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
    g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in closed containers.
    h. Work area fans shall not blow across the opening of the parts washer unit.
    i. The solvent level shall not exceed the fill line.
2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches.
3. Each parts washer shall be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent.

[06-096 C.M.R. ch. 130]

(21) **NSPS for Crude Oil and Natural Gas Facilities**

A. Quarterly Fugitive Emissions Survey

1. M&N shall quarterly (but no closer than 60 days apart) conduct a survey of the fugitive emissions components, to inspect for leaks per § 60.5397a and Subpart OOOOa's specified fugitive emissions monitoring plan. The fugitive emissions monitoring plan shall be made in accordance with § 60.5397a, which will cover testing procedures, ambient condition monitoring, and reporting requirements.

2. Any leak should be attempted to be repaired during the course of the survey or during an initial 30-day period following the survey. Repair then should be completed within 30 days of the first attempt to repair. Delay of repair will be allowed under one of the following circumstances:

    a. If the repair is technically infeasible, requires a vent blowdown, a compressor station shutdown, or would be unsafe during operation of the unit, the repair must be completed during the next scheduled compressor station shutdown for maintenance, after a scheduled vent blowdown, or within 2 years of detecting the fugitive emission, whichever is earliest.

    b. If the repair requires replacement of a fugitive emissions component or a part thereof, but the replacement cannot be acquired within the initial timeline laid out above due to valve assembly supplies being depleted or custom fabrication of a fugitive emissions component or part thereof. In this case, the replacement must be ordered no later than 10 calendar days from the first attempt at repair. The repair must be completed as soon as practicable, but no later than 30 calendar days after receiving the replacement component, unless the repair requires a compressor station shutdown. If a compressor station shutdown is required, then the repair should be scheduled as stated in the previous paragraph.

3. After any repair is made, the source of the fugitive emission needs to be resurveyed to complete the repair and ensure there are no fugitive emissions according to the standard per 40 C.F.R. § 60.5397a(h)(4). Alternatively, the repair can be verified by checking for a lack of bubbling using a soapy solution according to the alternative method per 40 C.F.R. Part 60, Appendix A-7, Method 21, 8.3.3.

B. Recordkeeping and Reporting

1. During each quarterly survey, records shall be kept documenting the following:
    a. Date of the survey
    b. Beginning and end times of the survey
    c. Name of the operator(s), training, and experience
    d. Monitoring instrument used
    e. Ambient temperature, sky conditions, and maximum wind speed at the time of the survey
    f. Operating mode of each compressor (i.e., operating, standby pressurized, and not operating/depressurized modes) at the time of the survey
    g. Deviations from the monitoring plan or statement that there were no deviations from the monitoring plan
    h. Records of calibrations for the instrument used during the monitoring survey
    i. Documentation of each fugitive emission detected during the survey:
        (1) Location of each fugitive emission identified.
        (2) Type of fugitive emissions component, including designation as difficult-to-monitor or unsafe-to-monitor, if applicable.
        (3) For each repair that cannot be made during the monitoring survey when the fugitive emissions are initially found, a digital photograph or video must be taken of that component or the component must be tagged for identification purposes. The digital photograph must include the date that the photograph was taken and must clearly identify the component by location within the site. The digital photograph or identification may be removed after the repair is completed, which includes the verification of the repair with a resurvey.
        (4) The date of first attempt at repair of the fugitive emissions component(s).
        (5) The date of successful repair of the fugitive emissions component(s), which includes the resurvey to verify the repair.
        (6) Identification of each fugitive emission component placed on delay of repair and explanation for delay of repair.
        (7) For each fugitive emission component placed on delay of repair for reason of replacement component unavailability, the operator must document: the date the component was added

to the delay of repair list, the date the replacement fugitive component or part thereof was ordered, the anticipated component delivery date (including any estimated shipment or delivery date provided by the vendor), and the actual arrival date of the component.

(8) Date of planned shutdowns that occur while there are any components that have been placed on delay of repair.

2. M&N shall annually submit their report to CEDRI using the EPA's template. https://www.epa.gov/electronic-reporting-air-emissions/cedri/

3. M&N shall maintain their records, including the fugitive emissions monitoring plan, onsite or at the nearest field office for at least 5 years per § 60.5420a(b). Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart OOOOa is satisfied by compliance with the more stringent six-year requirement.

[40 C.F.R. Part 60, Subpart OOOOa]

(22) **Gas Releases and Fugitive Emissions**

A. M&N shall maintain a log of all gas releases and ESD events that includes the following information:

1. Date of the event;
2. Estimated or actual event start time;
3. Estimated or actual event duration;
4. Release source;
5. Event type (shutdown, maintenance, testing or malfunction);
6. Description of event;
7. Estimate of the amount of natural gas vented;
8. Estimate of VOC density of the released gas; and
9. Calculation of the tons of VOC emitted based on VOC content of the gas released.

[06-096 C.M.R. ch. 115, BPT]

B. M&N shall notify the Department in advance of any scheduled venting event that is expected to result in the release of more than 85,000 scf of natural gas. M&N shall notify the Department within two working days of any unscheduled venting

event that results in the release of more than 85,000 scf of natural gas. [06-096 C.M.R. ch. 115, BPT]

(23) **Annual Emission Limits**

A. Total emissions from all sources at the facility addressed in this air emission license shall not exceed the following on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

Pollutant	Tons/year
PM	4.3
PM_{10}	4.3
$PM_{2.5}$	4.3
SO_2	3.6
NO_x	31.5
CO	65.1
VOC	36.9
Single HAP	9.9
Total HAP	24.9

B. As part of documenting compliance with the annual emission limits listed above, M&N shall include turbine emissions from startup, shutdown, normal operation, low-temperature operation, low load, and transient events and calculate turbine emissions based on the following:

Mode	Calculate Emissions Using Emission Factors Based On ...
Startup	Emission data supplied by the turbine manufacturer at the time of the most recent permit application.
Shutdown	Emission data supplied by the turbine manufacturer at the time of the most recent permit application.
Normal Operation	Licensed emission limits for temperatures above 0 °F.
Low Temperature	Licensed emission limits for appropriate temperature range.
Low Load Operation	Licensed emission limits for temperatures less than or equal to -20 °F.
Transient Event	Licensed emission limits for temperatures less than or equal to -20 °F.

[06-096 C.M.R. ch. 115, BPT]

C. M&N shall keep monthly records sufficient to document the facility's emissions on a 12-month rolling total basis and shall make these records available to the Department upon request. [06-096 C.M.R. ch. 115, BPT]

(24) **Fugitive Emissions of Particulate Matter**

A. M&N shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

B. M&N shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

[06-096 C.M.R. ch. 101, § 4(C)]

(25) **General Process Sources**

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

(26) **Performance Test Protocol**

For any performance testing required by this license, M&N shall submit to the Department a performance test protocol, as outlined in the Department's Performance Testing Guidance, at least 30 days prior to the scheduled date of the performance test. [06-096 C.M.R. ch. 115, BPT]

(27) **Annual Emissions Statements**

A. In accordance with Emission. Statements, 06-096 C.M.R. ch. 137, M&N 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. M&N shall keep the following records in order to comply with 06-096 C.M.R. ch. 137:

1. The amount of natural gas fired in each unit on a monthly bass;

2. Calculations of emissions of all regulated pollutants from each emissions unit on a calendar year total basis;
3. Calculations of the VOC and/or HAP emissions from gas releases and fugitive emissions on a calendar year total basis; and
4. Hours of operation for each emission unit on a monthly basis.

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

C. Every third year, or as requested by the Department, M&N shall report to the Department emissions of hazardous air pollutants as required pursuant to 06-096 C.M.R. ch. 137, § (3)(C). The next report is due no later than May 15, 2027, for emissions occurring in calendar year 2026. M&N 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)]

(28) **Additional Information**

If the Department determines that any parameter value pertaining to construction and operation of the emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, M&N may be required to submit additional information. Upon written request from the Department, M&N shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter. [06-096 C.M.R. ch. 115, § 2(O)]

Done and Dated in Augusta, Maine this 27th day of MAY, 2026.

Department of Environmental Protection

BY:_____
for Melanie Loyzim, Commissioner

The term of this license shall be ten (10) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

Please note attached sheet for guidance on appeal procedures.

Date of initial receipt of application: February 28, 2025
Date of application acceptance: February 28, 2025

This Order prepared by Zac Hicks, Bureau of Air Quality.