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

DEPARTMENT ORDER

XNG(Maine) LLC **York County** **Eliot, Maine** **A-1142-71-A-N**	**Departmental** **Findings of Fact and Order** **Air Emission License**

FINDINGS OF FACT

After review of the air emission license 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

XNG(Maine) LLC (XNG) has applied for an Air Emission License for the operation of emission sources associated with their compressed natural gas dispensing facility.

The equipment addressed in this license is located at 525 Harold Dow Highway in Eliot, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Compressor Engine

Equipment	Maximum Design Heat Input Capacity (MMBtu/hr)	Maximum Output Capacity (kW)	Firing Rate (scfh)	Fuel Type (% sulfur)	Manufacture/ Installation Date
Compressor #1	9.9	1000	9,728	Natural Gas (negligible)	April, 2009

The non-emergency engine associated with Compressor #1 has a maximum heat input capacity of 9.9 MMBtu/hr. While this is less than the 10 MMBtu/hr threshold requiring licensing for natural gas fired engines, it is sufficiently close to the threshold such that XNG is conservatively applying for a 06-096 C.M.R. ch. 115 air emissions license.

XNG 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 at the following link:

http://www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf

Additionally, XNG 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.

C. Definitions

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 twelve 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.

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.

A new source is considered a major source based on whether or not total licensed annual emissions exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100.

Pollutant	Total Licensed Annual Emissions (TPY)	Significant Emission Levels (TPY)
PM	2.2	100
PM_{10}	2.2	100
SO_2	0.1	100
NO_x	6.5	100
CO	13.1	100
VOC	6.5	50

The Department has determined that XNG is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115.

E. Facility Classification

With a facility-wide annual natural gas fuel limit of 43,000,000 scf/year, XNG is licensed as follows:

- As a synthetic minor source of air emissions, because XNG is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants; 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 new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Process Description

XNG operates a Compressed Natural Gas (CNG) dispensing station which connects directly to the Maritimes and Northeast pipeline. The XNG facility will use Compressor #1 to compresses natural gas into tractor trailer trucks and transports CNG to end-users in the New England area. The compressor and filling station is currently comprised of an office/electrical building, two gas dryers, five electric motor-driven compressors, buffer tanks, an expansion tank, a heat exchanger, a transformer and eight filling stations.

CNG is made by compressing natural gas to pressures of 2,900 – 3,600 psi and storing the gas in cylindrical or spherical tanks. Following extraction from the pipeline, the natural gas is filtered for moisture and contaminants in one of two parallel gas dryers. The dryers use molecular sieve adsorbent desiccants to remove water at extremely low levels. The dried and filtered gas is then compressed in one of five parallel electric motor-driven compressors. The CNG is stored in buffer tanks which then dispense to tractor trailer trucks for distribution.

Fugitive releases of natural gas during vehicle filling are not expected to occur due to the vapor-tight design of the hoses and couplings involved in the fueling process.

Fugitive releases of natural gas to the atmosphere from the XNG facility itself would only occur due to emergency venting because of a malfunction.

C. Compressor #1

The non-emergency engine associated with Compressor #1 is comprised of a 1 megawatt (1,340HP) Caterpillar G3516LE engine with a maximum heat input capacity of 9.9MMBtu/hr at 100% load, firing natural gas exclusively at a rate of 9,728 scf/hour. Compressor #1 will operate primarily during winter months and will be equipped with an oxidation catalyst to control emissions of CO.

1. BACT Findings

a. Particulate Matter (PM and PM_{10})

PM emissions from natural gas-fired engines are generally controlled through the use of clean fuels, good combustion practices, proper operation and maintenance. Additionally, Compressor #1 is subject to 40 C.F.R. Part 60 Subpart JJJJ, which means it will be required to meet PM emission standards prescribed by USEPA for non-emergency stationary engines. Given the extremely low annual emissions allowed by the air license, the use of add-on controls for PM is not economically feasible.

PM and PM_{10} BACT Determination

The Department finds that firing clean fuels, good combustion practices, proper operation and maintenance of the unit and an emission limit of 0.05 lb/MMBtu and 0.5 lb/hr constitutes BACT for PM and PM_{10} emissions from Compressor #1.

b. Sulfur Dioxide (SO_2)

Compressor #1 will fire exclusively natural gas, which inherently has a low fuel sulfur content. Engines of this size that fire natural gas have a limited potential for generating SO_2 emissions, making the use of wet scrubbers or other additional SO_2 add-on control methods economically unfeasible. The most practical method for limiting SO_2 emissions from Compressor #1 is the use of a low sulfur fuel, such as natural gas.

SO_2 BACT Determination

The Department finds the use of natural gas and an emission limit of 0.1 lb/hr constitutes BACT for SO_2 emissions from Compressor #1.

c. Nitrogen Oxides (NO_x)

Potentially available control options for reducing emissions of NO_x from natural gas-fired engines include the combustion of clean fuels, combustion control techniques (i.e., lean burn technology, air/fuel ratio optimization, cooled-air intake), selective catalytic reduction (SCR), non-selective catalytic reduction (NSCR), lean NO_x catalysts and low emission engine retrofits.

Lean Burn Technology

Combustion controls are typically implemented through design features such as lean-burn technology, electronic ignition controls, combustion chamber geometry, and turbocharging/cooling systems. Lean burn engines operate with excess ambient air, often beyond a 16:1 stoichiometric air/fuel ratio, such that there is much more oxygen than is needed for fuel combustion. Having additional oxygen in the combustion chamber ensures that fuel molecules will have a better opportunity to combust more completely. Lean-burn engines have lower NO_x emissions primarily because of lower exhaust temperatures, which inhibits the formation of thermal NO_x. XNG is proposing to use an engine that employs lean-burn technology.

Selective Catalytic Reduction (SCR)

SCR is a post-combustion NO_x reduction technology that employs the reaction of NO_x with ammonia in the presence of a catalyst to produce nitrogen and water. The reduction is considered 'selective' because the catalyst selectively targets NO_x reduction in the presence of ammonia within a temperature range of approximately 480°F to 800°F.

SCR as applied to gas-fired internal combustion engines is a technically feasible option, however, it is typically only applied in areas designated as severe nonattainment for ozone or as required to meet the Lowest Achievable Emission Rate (LAER). According to the USEPA Air Pollution Control Technology Fact Sheet (EPA-452/F-03-032) for selective catalytic reduction, the average capital cost for an SCR system on a small gas turbine (defined as less than 5 MW) is between $17,000 and $35,000 per MMBtu which equates to a total capital cost range of $168,600 to $347,300 for Compressor #1. Assuming an uncontrolled NO_x emission rate of 1.0 g/hp-hr, uncontrolled NO_x emissions from the engine are estimated to be 12.94 TPY. According to engine and control technology vendors, post SCR controlled NO_x emissions could be as low as 0.05 g/hp-hr which would represent a 95% reduction in NO_x emissions from Compressor #1 and annual NOx emissions of 0.66 TPY. This results in a control technology cost of $13,700 to $28,300 per ton of NO_x removed. However, these values assume that Compressor #1 operates for 8,760 hours per year. Compressor #1 will at most operate for three to four winter months per year and will not operate continuously during this time.

Therefore, XNG proposes to limit annual fuel consumption to 43,000,000 scf/year which is equivalent to six months of full-time operation. Considering the proposed annual fuel cap of 43,000,000 scf/year, the control technology cost increases to a range of $27,200 to $56,000 per ton of NO_x removed. With this operating limit in place, the in installation of SCR on Compressor #1 is economically unjustifiable.

Non-Selective Catalytic Reduction (NSCR) Three-Way Catalyst

NSCR uses the residual hydrocarbons and CO in engine exhaust as a reducing agent for NO_x. In NSCR, hydrocarbons and CO are oxidized by O_2 and NO_x. The excess hydrocarbons, CO and NO_x pass over a catalyst (usually a noble metal such as platinum, rhodium or palladium) that oxidizes the excess hydrocarbons and CO to H_2O and CO_2, while reducing NO_x to N_2.

Because NSCR reduces hydrocarbons, CO and NO_x, this technology is also referred to as a three-way catalyst. NSCR catalyst efficiency is directly related to the air-to-fuel mixture and temperature of the exhaust. Efficient operation of the catalyst typically requires that the engine exhaust gases contain no more than 0.5% O_2. Precise air-to-fuel control is especially important for efficient NO_x control as NO_x conversion drops dramatically at lean fuel mixtures. Due to the rich fuel conditions required for effective use of NSCR to control NOx, this control technology is not technically feasible for lean-burn engines, such as Compressor #1.

Lean NOx Catalysts (LNC)

Lean NO_x Catalyst (LNC, also known as "Lean NO_x Trap" or "NO_x Adsorber") is a technology that has recently emerged with demonstrated NO_x reductions from stationary lean-burn gas engines. LNCs control NO_x by injecting a hydrocarbon reductant into the exhaust upstream of a catalyst which lowers the oxygen content to below stoichiometric conditions allowing for effective use of the catalyst. The hydrocarbon reductant acts as a reducing agent for the conversion of NO_x to N_2. LNCs operate in a cyclic fashion. During lean operation, the catalyst adsorbs NO_x onto catalyst storage sites until the catalyst is saturated. The catalyst must then be regenerated by creating rich fuel conditions that allow the release and reduction of NO_x into N_2. In order to perform regeneration in applications where lean operation is standard, excess fuel is introduced into the system and combusted to achieve the rich conditions. LNC has demonstrated NO_x reduction rates of 50-60%, however, this application does not have widespread use in industry due to the limited temperature range (450 – 550 °C) required for use. At low temperatures, methane oxidation is poor and limits NO_x reduction from methane-based fuels, such as natural gas. At higher temperatures, there is limited NO_x storage capacity in the catalyst. Because SCR achieves greater NO_x emissions control with demonstrated relative robustness in a range of operating conditions, it is the add-on control technology of choice for lean burn engines. Because LNC has yet to be

commercially demonstrated on a wide scale, it is not technically feasible for use with Compressor #1.

Low Emission Engine Retrofits

In response to regulations requiring lower emissions of NO_x from internal combustion engines, engine manufacturers have developed retrofit kits that allow most existing engines to meet NO_x emission limits of 0.5 – 1.0 g/bhp-hr. These kits address reducing NO_x emissions in two ways: 1) by converting the lean burn engine to an ultra-lean burn engine which requires a major engine overhaul and high capital costs, but results in increased engine horsepower, lower operating costs and improved efficiency; and 2) by completing in-the-field low emission upgrades by installing turbochargers and upgrading after-coolers, air cleaners and water/oil/turbo lines which requires lower capital costs, but higher operating costs. According to a study prepared by the Interstate Natural Gas Association of America a generic cost for a retrofit is approximately $100,000 with additional costs for installation and site/source specific modifications.

The application of a retrofit on Compressor #1 would reduce NO_x emissions from 1.0 g/bhp-hr to 0.5 g/bh-phr, at best. NOx reductions beyond 0.5 g/bhp-hr require the use of add-on control technology. Considering the proposed fuel cap of 43,000,000 scf/year and a retrofit cost of $100,000, the control cost for this type of retrofit is $30,600 per ton of NO_x removed. Because there is some uncertainty in the retrofit cost, conservatively considering even half of the assumed cost results in a control cost of $15,300 per ton of NO_x removed which is economically unjustifiable.

Advanced Combustion Controls

In lean burn engines, increasing the air to fuel ratio decreases the NO_x emissions. Extra air dilutes the combustion gases, thus lowering peak flame temperature and reducing thermal NO_x formation. In order to maintain an optimum air-to-fuel ratio that balances the minimization of NO_x emissions and engine performance, automatic air-to-fuel ratio controllers are required. Compressor #1 utilizes Caterpillar's Advanced Digital Engine Management control system (ADEM3) which integrates engine sensing and monitoring with air-to-fuel ratio control coupled with NO_x sensors. ADEM3 also controls ignition timing which moves the ignition event to later in the power stroke resulting in a greater combustion chamber volume and therefore lower peak temperature, reducing the formation of thermal NO_x. The use of advanced engine controls that integrate operation and NOx performance is a technically feasible control technology and allows Compressor #1 to achieve a NO_x emissions limit of 1.0 g/bhp-hr without the use of add-on controls.

NO_x BACT Determination

The Department finds the use of lean-burn technology, advanced combustion controls, proper operation and maintenance of the engine and emission limits of 1.0 g/bhp-hr and 3.0 lb/hr to constitute BACT for NO_x emissions from Compressor #1.

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

CO and VOC emissions from spark ignition reciprocating internal combustion engines are the result of incomplete combustion, caused by conditions such as insufficient residence time or the limited availability of oxygen. CO and VOC emissions from natural gas-fired engines are generally controlled through proper operation and maintenance. However, since Compressor #1 is subject to 40 C.F.R. Part 60 Subpart JJJJ, it is required to meet CO and VOC emission standards prescribed by USEPA for non-emergency stationary engines. To meet these emission standards, Compressor #1 will include the use of an oxidation catalyst to reduce CO and VOC emissions.

CO/VOC BACT Determination

The Department finds that the use of an oxidation catalyst, proper operation and maintenance of the engine and limits of 2.0 g/bhp-hr and 5.9 lb/hr for CO and 1.0 g/bhp-hr and 3.0 lb/hr for VOC constitutes BACT for Compressor #1.

e. Visible Emissions

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

The BACT emission limits for Compressor #1 are based on the following:

PM/PM_{10}	0.05 lb/MMBtu, based on 06-096 C.M.R. ch. 115, BACT
SO_2	0.000588 lb/MMBtu, from AP-42, Table 3.2-2, dated 7/2000
NO_x	1.0 g/bhp-hr, based on 06-096 C.M.R. ch. 115, BACT
CO	2.0 g/bhp-hr, from 40 C.F.R. Part 60, Subpart JJJJ, Table 1
VOC	1.0 g/bhp-hr, from 40 C.F.R. Part 60, Subpart JJJJ, Table 1
Visible Emissions	06-096 C.M.R. ch. 115, BACT

The BACT emission limits for Compressor #1 are the following:

Unit	Pollutant	lb/MMBtu
Compressor #1	PM	0.05

Unit	Pollutant	g/bhp-hr
Compressor #1	NOx	1.0
	CO	2.0
	VOC	1.0

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Compressor #1	0.5	0.5	0.1	3.0	5.9	3.0

The total natural gas use for XNG shall not exceed a total of 43,000,000 scf/year, on a calendar-year basis.

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

The Department has determined that the proposed BACT visible emission limit is more stringent than the applicable limit in 06-096 C.M.R. ch. 101. Therefore, the visible emission limit for Compressor #1 has been streamlined to the more stringent BACT limit, and only this more stringent limit shall be included in the air emission license.

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

Standards of Performance for Spark Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart JJJJ is applicable to Compressor #1 since the unit was ordered after June 12, 2006, and manufactured after January 1, 2009. [40 C.F.R. § 60.4230]

By meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ, Compressor #1 also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

A summary of the currently applicable federal 40 C.F.R. Part 60, Subpart JJJJ requirements is listed below:

a. 40 C.F.R. Part 60, Subpart JJJJ Requirements

(1) Compressor #1 shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines and shall comply with the emissions standards found in Table 1 to 40 C.F.R. Part 60, Subpart JJJJ, 1 as follows:

Engine Type and Fuel	Maximum Engine Power	Manufacture Date	Emission Standards (g/bhp-hr)		
			NOx	CO	VOC
Non-Emergency Spark Ignition Lean Burn - Natural Gas	500 ≥ HP ≤ 1350	After 1/1/2008, and before 7/1/2010	2.0*	4.0*	1.0

* BACT limits for Compressor #1 are more stringent than the NSPS limits.

[40 C.F.R. § 60.4233]

(2) XNG shall demonstrate that Compressor #1 complies with the emission standards specified in Table 1 to 40 C.F.R. Part 60, Subpart JJJJ by purchasing an engine that is certified according to the procedures specified in Subpart JJJJ, for the same model year. [40 C.F.R. § 60.4243(b)(1)]

(3) XNG shall operate and maintain Compressor #1 to achieve the emission standards that are specified in Table 1 to Subpart JJJJ over the entire lifespan of the engine. [40 C.F.R. § 60.4234]

(4) Compressor #1 shall be operated and maintained according to the manufacturer's written instructions or procedures developed by XNG that are approved by the engine manufacturer. XNG may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

(5) XNG shall keep records of conducted maintenance to demonstrate compliance with the manufacturer's emission-related written instructions for the operation and maintenance of Compressor #1. Any adjustments made to the engine settings shall be in accordance with the manufacturer's instructions. [40 C.F.R. § 60.4243(a)(1)]

(6) XNG shall keep records of the following information for Compressor #1:

(a) All notifications submitted to comply with Subpart JJJJ, along with all documentation supporting any notification;

(b) Maintenance conducted on the engine; and

(c) Documentation from the manufacturer that the engine is certified to meet the emission standards for non-emergency engines.

[40 C.F.R. § 60.4245]

D. Annual Emissions

XNG shall be restricted to the following annual emissions, on a calendar-year basis. The tons per year limits were calculated based on a facility-wide annual fuel limit of 43,000,000 scf/year:

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

Equipment	PM	PM_{10}	SO_2	NO_x	CO	VOC
Compressor #1	1.1	1.1	0.1	6.5	13.1	6.5
Total TPY	1.1	1.1	0.1	6.5	13.1	6.5

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM_{10}	25
SO_2	50
NO_x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

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-1142-71-A-N, 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 commencing 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]

(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 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. 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 Part 70 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]

SPECIFIC CONDITIONS

(16) Compressor #1

A. Compressor #1 shall fire natural gas exclusively. [06-096 C.M.R. ch. 115, BACT]

B. The total natural gas fired in Compressor #1 shall not exceed a total of 43,000,000 scf/year, on a calendar-year basis. Records of annual fuel use shall be kept on a monthly and a calendar-year basis. [06-096 C.M.R. ch. 115, BACT]

C. Emissions shall not exceed the following:

Unit	PM (lb/MMBtu)	Origin and Authority
Compressor #1	0.05	06-96 M.R. ch. 115, BACT

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

Unit	Pollutant	g/bhp-hr
Compressor #1	NOx	1.0
	CO	2.0
	VOC	1.0

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

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Compressor #1	0.5	0.5	0.1	3.0	5.9	3.0

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

G. Compressor #1 shall have an engine that is certified by the manufacturer to meet the required emission limits listed in Table 1 of 40 C.F.R. Part 60, Subpart JJJJ for non-emergency, natural gas-fired engines having a maximum engine power output of 500HP or more, but less than 1,350HP. [06-096 C.M.R. ch. 115, BACT]

H. An oxidation catalyst shall be installed and utilized on Compressor #1. [06 096 C.M.R. ch. 115, BACT]

I. The manufacturer's certification for Compressor #1 shall be performed in accordance with one of the methods specified in 40 C.F.R. § 60.4243(a) for the same model year, engine class and maximum engine power. [40 C.F.R. § 60.4243(b)(1)]

J. The engine for Compressor #1 shall comply with the applicable emission standards for new non-road spark ignition engines that are found in Table 1 of 40 C.F.R. Part 60, Subpart JJJJ and with the BACT-determined emission limits contained in this license. [40 C.F.R. § 60.4233(e) and 06 096 C.M.R. ch. 115, BACT]

K. XNG shall operate and maintain Compressor #1 and its emission controls in accordance with the manufacturer's emission-related written instructions. [06-096 C.M.R. ch. 115, BACT]

L. XNG shall keep records of conducted maintenance to demonstrate compliance with the manufacturer's emission-related written instructions for the operation and maintenance of the engine and control device. Any adjustments made to Compressor #1 shall be in accordance to and consistent with the manufacturer's instructions to remain in compliance. [40 C.F.R. § 60.4243(a)(1)]

M. XNG shall operate and maintain Compressor #1 to achieve the emission standards specified in Table 1 to 40 C.F.R. Part 60, Subpart JJJJ over the entire lifespan of the engine. [40 C.F.R. § 60.4234]

N. XNG shall keep records of the following information for Compressor #1:

1. All notifications submitted to comply with 40 C.F.R. Part 60, Subpart JJJJ, along with all documentation supporting any notification;

2. Any maintenance conducted on the engine; and

3. Documentation from the manufacturer that the certified engine is certified to meet the emission standards.

[40 C.F.R. § 60.4245]

(17) **Fugitive Emissions**

Visible emissions from any 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. 115, BACT]

(18) XNG 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).

DONE AND DATED IN AUGUSTA, MAINE THIS 11th DAY OF July , 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: for
GERALD D. REID, 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: March 25, 2019
Date of application acceptance: March 26, 2019

Date filed with the Board of Environmental Protection:

This Order prepared by Kevin J Ostrowski, Bureau of Air Quality.

Filed
JUL 11 2019
State of Maine
Board of Environmental Protection