



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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**General Alum New England Corp.  
Waldo County  
Searsport, Maine  
A-171-71-R-R**

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

**FINDINGS OF FACT**

After review of the air emissions 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 Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

General Alum New England Corp., also known as GAC Chemical Corporation (GAC), has applied to renew their Air Emission License permitting the operation of emission sources associated with their chemical manufacturing facility.

The equipment addressed in this license is located at 34 Kidder Point Road, Searsport, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**Boilers**

<b>Equipment</b>	<b>Maximum Heat Input (MMBtu/hr)</b>	<b>Maximum Firing Rate</b>	<b>Fuel Type, % sulfur</b>	<b>Install. Date</b>	<b>Stack #</b>
Boiler #1	25.9*	179 gal/hr 25,110 scf/hr	distillate fuel, 0.5% natural gas, neg	1988	1
Boiler #2	8.6*	59.7 gal/hr 8,370 scf/hr	distillate fuel, 0.5% natural gas, neg	1989	1

\*The maximum heat input values for Boilers #1 and #2 have been revised to reflect actual ratings of the burners installed.

**Process Equipment**

<u>Equipment</u>	<u>Production Rate</u>	<u>Pollution Control Equipment</u>	<u>Date Installed</u>	<u>Stack #</u>
Alum Digester	9 ton/hr	none	1998	3
Ammonium Sulfate Reactor	4 ton/hr	demister & cyclone	1992	5
Ammonium Sulfate Dryer	4 ton/hr	venturi scrubber	1992	6
Sodium Aluminate Reactor	6.25 ton/hr	none	1982	7
Pneumatic Aluminum Trihydrate Conveyor	15 ton/hr	4 baghouses w/only 1 outside vent	1982	8
Aqueous Ammonia Production System	10 ton/hr	venturi scrubber & bubble tank	1995	9
Fish Oil Processing System	20 ton/day	scrubber	1999	10
Parts Washers (2)	16 gallon capacity (each)	none	N/A	N/A
Gasoline Storage Tank	350 gallon capacity	none	N/A	N/A
HSPP System	12,000 gal/day	condenser	2013	N/A

**Generators**

<u>Equipment</u>	<u>KW</u>	<u>Maximum Heat Input (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Install. Date</u>
Generator #1	115	1.12	8.2	distillate fuel, 0.0015%	1977

GAC has additional equipment classified as insignificant activities. This equipment includes, but is not limited to, Urea Production, Polyvinyl Alcohol Production, Optical Brighteners Production, and an Ammonium Sulfate Solution System. These systems are discussed further in the Findings section of this license.

**C. Application Classification**

The application for GAC does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended). With the fuel limits on the boilers, the operating hours restriction on the generator, and the control requirements on the production equipment,

the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of 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 CMR 100 (as amended). 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. Boilers #1 and #2

GAC operates Boilers #1 and #2 for process steam and facility heating needs. Boiler #1 is rated at 20.7 MMBtu/hr and was installed in 1988. Boiler #2 is rated at 6.9 MMBtu/hr and was installed in 1989. Both boilers exhaust through a combined stack (Stack #1).

Both boilers were previously licensed to fire #2, #5, and #6 fuel oil as well as waste oil from the facility's maintenance shop and purchased bio fuel. In 2013 GAC converted the boilers to be dual-fuel capable of firing either distillate fuel or natural gas. GAC no longer combusts #5 or #6 oil but maintains the ability to fire waste oil and biofuel. Winterization of the distillate fuel by adding a percentage of kerosene (K-1) to the fuel is allowed.

#### 1. 40 CFR Part 60, Subpart Dc

Due to the year of installation of Boiler #1 and the size of Boiler #2, both boilers are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

2. BPT Findings

The BPT emission limits for the boilers were based on the following:

Distillate Fuel

- PM/PM<sub>10</sub> – 0.08 lb/MMBtu based on 06-096 CMR 115, BACT
- SO<sub>2</sub> – based on firing ASTM D396 compliant #2 fuel oil (0.5% sulfur); 0.5 lb/MMBtu
- NO<sub>x</sub> – 0.3 lb/MMBtu based on 06-096 CMR 115, BACT
- CO – 5 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
- VOC – 0.34 lb/1000 gal for boilers < 10 MMBtu/hr  
 0.20 lb/1000 gal for boilers > 10 MMBtu/hr  
 Based on AP-42, Table 1.3-3, dated 5/10

Natural Gas

- PM/PM<sub>10</sub> – 0.05 lb/MMBtu based on 06-096 CMR 115, BACT
- SO<sub>2</sub> – 0.6 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98
- NO<sub>x</sub> – 100 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- CO – 84 lb/MMscf based on AP-42, Table 1.4-1, dated 7/98
- VOC – 5.5 lb/MMscf based on AP-42, Table 1.4-2, dated 7/98

The BPT emission limits for the boilers are the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>
Boiler #1 distillate fuel	PM	0.08
Boiler #1 natural gas	PM	0.05
Boiler #2 distillate fuel	PM	0.08
Boiler #2 natural gas	PM	0.05

<u>Unit</u>	<u>PM</u> <u>(lb/hr)</u>	<u>PM<sub>10</sub></u> <u>(lb/hr)</u>	<u>SO<sub>2</sub></u> <u>(lb/hr)</u>	<u>NO<sub>x</sub></u> <u>(lb/hr)</u>	<u>CO</u> <u>(lb/hr)</u>	<u>VOC</u> <u>(lb/hr)</u>
Boiler #1 distillate fuel	2.01	2.01	12.64	7.53	0.90	0.04
Boiler #1 natural gas	1.29	1.29	0.02	2.51	2.11	0.14
Boiler #2 distillate fuel	0.67	0.67	4.23	2.52	0.30	0.02
Boiler #2 natural gas	0.43	0.43	0.01	0.84	0.70	0.05

Visible emissions from Stack #1 not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

GAC shall be limited to 84,000 MMBtu/year (on a calendar year basis) from the combustion of distillate fuel and natural gas combined. Compliance shall be based on records of fuel use and a heating value of 0.14 MMBtu/gal for distillate fuel, waste oil, and biofuel and 1,030 MMBtu per million scf of natural gas.

Prior to July 1, 2016, or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired at the facility shall be ASTM D396 compliant #2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning July 1, 2016, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018, or on the date specified in the statute, the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

### 3. Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the type of fuel used and sulfur content of any distillate fuel fired.

### 4. 40 CFR Part 63 Subpart JJJJJ

Gas-fired boilers are exempt from 40 CFR Part 63, Subpart JJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. However, boilers which fire fuel oil are not. A “gas-fired boiler” is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 CFR Part 63.11237]

Boilers #1 and #2 shall be considered subject to 40 CFR Part 63 Subpart JJJJJ as existing oil boilers if they are unable to meet the definition of “gas-fired boiler” listed above.

A boiler which currently fires gaseous fuels, but converts back to firing another fuel (such as distillate fuel) in the future would become subject as an existing boiler at the time it is converted back to oil.

A summary of the currently applicable federal 40 CFR Part 63 Subpart JJJJJ requirements is listed below. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA, however GAC is still subject to the requirements. Notification forms and additional rule information can be found on the following website:  
<http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA was due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program shall be implemented. [40 CFR Part 63.11223]

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

<b>Boiler Category</b>	<b>Tune-Up Frequency</b>
Existing Oil fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
<b><i>Boilers with less frequent tune up requirements</i></b>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before

and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

(b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 CFR Part 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]

(c) After conducting the initial boiler tune-up, a Notification of Compliance Status was to be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

iii. Energy Assessment

Boiler #1 is subject to the energy assessment requirement as follows:

- (a) A one-time energy assessment was required to be performed by a qualified energy assessor on the applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(3)]
- (b) The energy assessment was required to include a visual inspection of the boiler system; an evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator; a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures that are within the facility's control; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. [40 CFR Part 63, Table 2(4)]
- (c) A Notification of Compliance Status was required to be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(c)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

EPA requires submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [63.1125(a)(4)(vi)]



C. Generator #1

GAC operates one emergency generator (Generator #1). Generator #1 is rated at 1.12 MMBtu/hr and fires distillate fuel with a maximum sulfur content of 0.0015%. Generator #1 was manufactured in 1977.

1. BPT Findings

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

- PM/PM<sub>10</sub> - 0.12 lb/MMBtu 06-096 CMR 115 BACT
- SO<sub>2</sub> - combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur)
- NO<sub>x</sub> - 4.41 lb/MMBtu from AP-42 dated 10/96
- CO - 0.95 lb/MMBtu from AP-42 dated 10/96
- VOC - 0.35 lb/MMBtu from AP-42 dated 10/96
- Opacity - 06-096 CMR 101

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

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Generator #1	0.13	0.13	neg	4.94	1.06	0.39

Visible emissions from Generator #1 shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

2. 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is applicable to Generator #1. The unit is considered an existing, 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 requirements.

a. Emergency Definition:

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

- (1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary RICE in emergency situations.
- (2) Paragraph (1) above notwithstanding, the emergency stationary RICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:
  - (i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
  - (ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
  - (iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Paragraphs (1) and (2) above notwithstanding, emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity, unless all of the following conditions are met:

- (i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
- (iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (iv) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

Generator #1 shall be limited to the usage outlined in §63.6640(f) and therefore may be classified as an existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in §63.6640(f) may cause these engines to not be considered emergency engines and therefore subject to all the requirements for non-emergency engines.

b. 40 CFR Part 63, Subpart ZZZZ Requirements:

(1) Operation and Maintenance Requirements

	<b>Operating Limitations* (40 CFR §63.6603(a) and Table 2(d))</b>
Compression ignition (distillate fuel) units: Generator #1	<ul style="list-style-type: none"> <li>- Change oil and filter every 500 hours of operation or annually, whichever comes first;</li> <li>- Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and</li> <li>- Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.</li> </ul>

Generator #1 shall be operated and maintained according to the manufacturer's emission-related written instructions or facility shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(2) Optional Oil Analysis Program

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

(3) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on Generator #1. [40 CFR §63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements

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

(5) Annual Time Limit for Maintenance and Testing

Generator #1 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §63.6640(f)(4)(ii) are met). [40 CFR §63.6640(f)]

(6) Recordkeeping

GAC shall keep records that include maintenance conducted on Generator #1 and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If Generator #1 is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), GAC shall

keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §63.6655(e) and (f)]

(7) Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If GAC operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

D. Alum Production

The alum production operation was installed in 1952. In 1980 the process was converted from use of bauxite as one of the raw materials to aluminum trihydrate (ATH). However the equipment itself remained unchanged.

Alum is produced by reacting ATH with sulfuric acid. The reaction is conducted in atmospheric batches of approximately 27 tons each. The emissions from this exothermic reaction are steam and a condensing vapor plume. The exhaust steam is vented through stack #3 extending above the production building.

E. Ammonium Sulfate Production

The original ammonium sulfate production operation was installed in 1949. An amendment to the air emission license was issued on August 28, 1992 to relocate the ammonium sulfate production operation in addition to reconstructing the original

reactor/crystallizer. An identical unit was constructed with minor modifications due to product quality concerns. The dryer was relocated without any modifications, only maintenance activities were performed (i.e., cleaning, adjustment, and painting). The ammonium sulfate production operation consists of an ammonia sulfate reactor followed by a cyclonic separator and an ammonia sulfate dryer followed by a venturi scrubber.

Ammonium sulfate is produced from the reaction between anhydrous ammonia and sulfuric acid. The reactor is fitted with an internal demister and an external cyclonic separator for particulate matter control prior to exiting the stack. GAC has proposed that the particulate emissions from the mist eliminator followed by the cyclonic separator are expected to be de minimus, based on EPA studies (EPA-450/3-79-034a, Ammonium Sulfate Manufacture—Background Information for Proposed Emission Standards). Solids that are collected from the cyclonic separator are returned to the reactor vessel.

The ammonium sulfate exits the reactor and enters the ammonium sulfate dryer via a product centrifuge. The product centrifuge separates the product from the filtrate. The filtrate is then returned to the reactor/crystallizer for continued processing.

According to the New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart PP, the ammonium sulfate dryer is the only applicable designated unit of an ammonium sulfate facility. NSPS applies to dryers which commenced construction or modifications after February 4, 1980. Reactor vessels are not identified nor are they defined to be a component of ammonium sulfate dryers. Since the dryer was originally installed prior to 1980 and no modification occurred when it was relocated, the dryer was determined not to be subject to NSPS.

The emission control device on the air discharge of the dryer is a MS Super Scrubber Package System manufactured by Fisher-Klosterman, Inc. to remove particulates from the exhaust which exits to stack #6. The MS Super Scrubber Package System utilizes a venturi scrubber followed by a cyclonic separator to remove mist from the vent air stream. GAC states that the control system is better than 99.5% effective in removing particles 4 microns or greater in diameter, based on tests by the manufacturer. The expected emissions from the dryer scrubber should be well below the EPA NSPS limit for new ammonium sulfate dryers of 0.3 lb PM/ton product.

In February 1994 the dryer emissions were tested and found to be 0.044 lb PM/ton product and is therefore considered by the Department to be meeting BPT.

F. Sodium Aluminate Production

The sodium aluminate production operation was installed in 1982. This process is not currently utilized. However, GAC maintains the equipment in working order and may operate it as described here. Sodium aluminate is produced in 4,000 gallon batches in an atmospheric reactor by reacting aluminum trihydrate with sodium hydroxide. The reaction has an insignificant exotherm and therefore indirect heat must be added

throughout the reaction via steam coils. The reactor stack is essentially an atmospheric vent to permit the release of water vapor from the reactor head space to the building exterior instead of releasing the vapor into the operator work space.

G. Aluminum Trihydrate Handling Systems

Currently GAC uses wet (6-10% moisture) aluminum trihydrate (ATH) which is transferred to GAC by dump truck once or twice per week and fed into the process via an inclined belt conveyor.

GAC also has a pneumatic conveyor system to handle dry ATH which is not being used. While a change back to using dry ATH is not anticipated in the foreseeable future, it is the intention of GAC to maintain the pneumatic system in operational condition in the event of a wet ATH supply problem.

The pneumatic conveyor system components include a storage silo, a weigh hopper, a product filter receiver, a vacuum filter receiver, two blowers, and associated piping and controls. The storage silo, weigh hopper, product filter receiver, and vacuum filter receiver all have baghouses (4 total) on the exhausts for particulate control. However, the storage silo baghouse vent is the only stack which vents directly outside. The other three vent inside existing buildings. Visible emissions from the storage silo baghouse shall be limited to 5% opacity on a six minute block average basis.

H. Aqueous Ammonia Production

The aqueous ammonia production operation was installed in 1995. Aqueous ammonia is produced by the mixing of anhydrous ammonia with water. Approximately 90 Btu/lb of 30% aqueous ammonia is generated as a result of the dilution of ammonia with water. Therefore, heat is removed by a refrigeration system in order to keep the ammonia in solution and thus prevent any air emissions at atmospheric pressures. The entire mixing process of the aqueous ammonia is enclosed and emissions are collected by the Ammonia Wet Scrubber System.

After a batch of the solution is mixed, the product is transferred to storage or to vehicles transporting the aqueous ammonia from the facility. As the batch of solution is transferred the displaced air is collected and controlled by the Ammonia Wet Scrubber System.

The Ammonia Wet Scrubber System is a two stage scrubbing configuration composed of a venturi scrubber followed by a passive scrubber. The first scrubber stage is a venturi scrubber that recirculates the vapor in the system. Fresh water is used in the scrubber for each new production batch. The weak aqueous ammonia solution that is produced in the scrubber is used for production startup on the next batch. The second stage scrubber is a passive bubble tank partially filled with weak (5%) sulfuric acid. Any air that is displaced from the production system bubbles through the weak acid and reacts to form ammonium

sulfate. This small quantity of ammonium sulfate is later processed in the ammonium sulfate system.

The storage of aqueous ammonia is comprised of two closed vessels with concrete containment and all vapor spaces for the tanks are collected and controlled by the Ammonia Wet Scrubber System. All displaced air as a result of product transfer to a transportation vehicle shall also be collected and controlled by the Ammonia Wet Scrubber System.

Based on the above, the Department finds that the use of the Ammonia Wet Scrubber System meets BPT.

I. Fish Oil Processing

The fish oil processing operation was installed in 1999. GAC plans to discontinue this process by the end of 2015.

Two basic types of processed oil are produced, oxidized or "blown oil" and bisulfited blown oil. Oxidized oil is produced by pumping air into the agitated and heated oil. A slight exotherm is produced and must be removed via indirect cooling using a closed loop water system. Bisulfited blown oil is produced by further processing in the same vessel.

The discharge air is scrubbed in a Vanaire Model VT-550 Scrubber. The gas stream contains oil mist/particulates and a small fraction of byproduct formic acid vapor. The gas stream is hot (240°F) and dilution air is added to reduce the temperature of the stream.

The scrubber liquid is maintained at a neutral pH by addition of sodium hydroxide by an automatic pH control system. The sodium hydroxide combines with the oil particulates to form a crude soap (solid) and facilitates the complete absorption and neutralization of formic acid vapor.

The bisulfiting process does not have any forced or process generated emissions. However, the bisulfiting chemicals may produce sulfur dioxide vapors in the vessel vapor space. Since the operators need to occasionally open the vessel door to observe the process, a negative pressure is maintained in the vessel by the scrubbing system. Dilution air is not used during this process. Any sulfur dioxide carried to the scrubber is absorbed by the scrubber liquid.

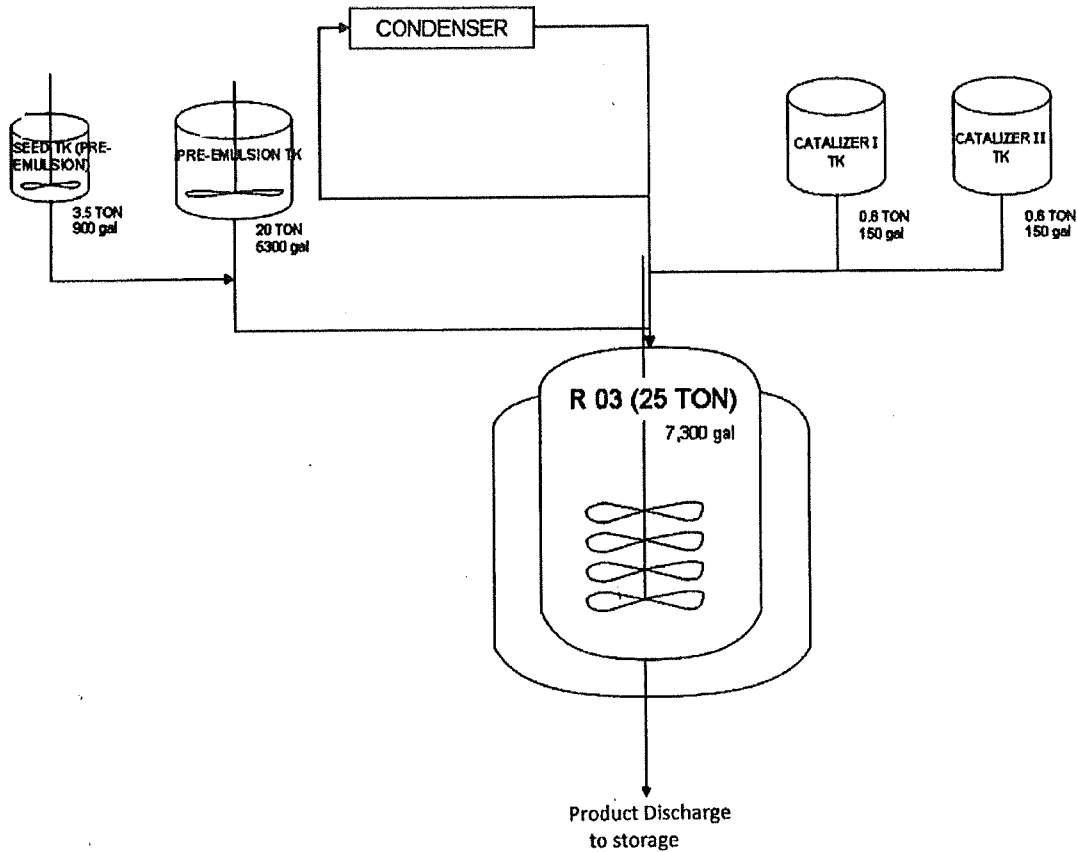
At the end of each batch the scrubber liquid is pumped out, bulked with sawdust and shipped to Penobscot Energy Recovery Company.

Based on the above the Department finds that the use of the Vanaire Scrubber System for the collection and control of all emissions from the production of oxidized and bisulfited blown oil by GAC to be BPT.



J. HSPP System

GAC produces a water-based, non-hazardous Hollow Sphere Plastic Pigment (HSPP) polymer for use in paper mills and paint manufacturing. Below is a basic flowchart of the process.



The HSPP process involves a proprietary blend of raw materials in water with an emulsion polymerization technique of styrene to form a non-hazardous product. The condenser redirects particulate back into the reactor. The process equipment does include a 1" vent which allows for small emissions of styrene estimated to be less than 0.1 tpy. Emissions are primarily from product displacement. Operation of the condenser while the HSPP process is in operation is considered BPT for this equipment.

Visible emissions from the HSPP process shall not exceed 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

K. Parts Washers

GAC operates two parts washers as part of their maintenance activities. The parts washers are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended) and records shall be kept documenting compliance.

L. Gasoline Storage

GAC has a 350 gallon gasoline storage tank. The fill pipe shall extend within 6 inches of the bottom of the tank and GAC shall keep monthly and annual records of gasoline throughput.

M. Urea Production

GAC operates a system involving producing liquid urea by dissolving dry urea crystals in water to form an aqueous solution. This process has been determined to be an insignificant activity and is mentioned for completeness purposes only.

N. Polyvinyl Alcohol Production

GAC produces polyvinyl alcohol (PVOH). This process is a hydration of dry powder PVOH in water and heated. This process has been determined to be an insignificant activity and is mentioned for completeness purposes only.

O. Optical Brighteners

GAC operates a system to produce optical brighteners for the paper industry. This process is a hydration of dry non-hazardous components in water. This process has been determined to be an insignificant activity and is mentioned for completeness purposes only.

P. Ammonium Sulfate Solution System

GAC produces solutions of ammonium sulfate using either the Ammonium Sulfate Production equipment or a separate system in the Solution Building consisting of a mixing tank, filters, pumps, and storage tanks. Dry crystals are transferred into the mixing tank and diluted with water. The solution is then transferred to settling and storage tanks. This process has been determined to be an insignificant activity and is mentioned for completeness purposes only.

Q. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-

hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

R. General Process Emissions

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

S. Annual Emissions

1. Total Annual Emissions

GAC shall be restricted to the following annual emissions, based on a calendar year total. The tons per year limits were calculated based on:

- A limit of 84,000 MMBtu/year for the boilers and the most conservative emission factor (either for natural gas or fuel oil) for each pollutant;
- 100 hours/year for Generator #1; and
- The maximum production rate for ammonium sulfate production and HSPP production.

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

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Total HAP
Boilers	3.4	3.4	21.2	12.6	3.4	0.2	neg
Generator #1	neg	neg	neg	0.3	0.1	neg	neg
Ammonium Sulfate Production	1.2	1.2	neg	neg	neg	neg	neg
HSPP Production	neg	neg	neg	neg	neg	0.1	0.1
<b>Total TPY</b>	<b>4.6</b>	<b>4.6</b>	<b>21.2</b>	<b>12.9</b>	<b>3.5</b>	<b>0.3</b>	<b>0.1</b>

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through ‘Tailoring’ revisions made to EPA’s *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO<sub>2</sub>e).

The quantity of CO<sub>2</sub>e emissions from this facility is less than 100,000 tons per year, based on the following:

- the facility's fuel use limit(s);
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

No additional licensing actions to address GHG emissions are required at this time.

### III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 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:

<u>Pollutant</u>	<u>Tons/Year</u>
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	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-171-71-R-R subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be

construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

### **STANDARD 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.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 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 CMR 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 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 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 CMR 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 CMR 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 CMR 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 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing 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 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. submit a written report to the Department within thirty (30) days from date of test completion.  
[06-096 CMR 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 CFR Part 60 or other method approved or required by the Department; and
  - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.  
[06-096 CMR 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 CMR 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 CMR 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 CMR 115]

#### **SPECIFIC CONDITIONS**

(16) **Boilers #1 and #2**

A. Fuel

1. Boilers #1 and #2 shall each fire only natural gas, distillate fuel, kerosene, biofuel, and waste oil. [06-096 CMR 115, BPT]
2. GAC shall not exceed 84,000 MMBtu/year (on a calendar year basis) from the combustion of distillate fuel, kerosene, natural gas, biofuel, and waste oil combined. Compliance shall be based on records of fuel use and a heating value of 0.14 MMBtu/gal for distillate fuel, waste oil, and biofuel and 1,030 MMBtu per million scf of natural gas. [06-096 CMR 115, BPT]
3. GAC shall not exceed the firing of 600 gal/year of waste oil, based on a calendar year total, demonstrated by records of waste oil collected and transferred to the fuel oil storage tank. [06-096 CMR 115, BPT]
4. Prior to July 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), the distillate fuel fired in the boilers shall be ASTM D396 compliant #2 fuel oil (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
5. Beginning July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]

6. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire distillate fuel with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
7. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

<u>Unit</u>	<u>Pollutant</u>	<u>lb/MMBtu</u>	<u>Origin and Authority</u>
Boiler #1 distillate fuel	PM	0.08	06-096 CMR 115, BPT
Boiler #1 natural gas	PM	0.05	06-096 CMR 115, BPT
Boiler #2 distillate fuel	PM	0.08	06-096 CMR 115, BPT
Boiler #2 natural gas	PM	0.05	06-096 CMR 115, BPT

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

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM<sub>10</sub> (lb/hr)</u>	<u>SO<sub>2</sub> (lb/hr)</u>	<u>NO<sub>x</sub> (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Boiler #1 distillate fuel	2.01	2.01	12.64	7.53	0.90	0.04
Boiler #1 natural gas	1.29	1.29	0.02	2.51	2.11	0.14
Boiler #2 distillate fuel	0.67	0.67	4.23	2.52	0.30	0.02
Boiler #2 natural gas	0.43	0.43	0.01	0.84	0.70	0.05

- D. Visible emissions from the combined stack (Stack #1) shall not exceed 10% opacity on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 3 hour period. [06-096 CMR 115, BPT]
- E. Boiler MACT (40 CFR Part 63, Subpart JJJJJ) Requirements for Boilers #1 and #2 [incorporated under 06-096 CMR 115, BPT]

The following Conditions apply to Boilers #1 or #2 if the boiler is not able to meet the definition of "gas-fired boiler".



1. An Initial Notification submittal to EPA was due no later than January 20, 2014. [40 CFR Part 63.11225(a)(2)]
2. The facility shall implement a boiler tune-up program. [40 CFR Part 63.11223]
  - (a) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

<b>Boiler Category</b>	<b>Tune-Up Frequency</b>
Existing Oil fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
<b><i>Boilers with less frequent tune up requirements</i></b>	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

- (b) The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]
3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
  - (a) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous

- inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
- (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
  - (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim systems, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]
  - (d) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
  - (e) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 CFR Part 63.11223(b)(5)]
  - (f) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]
4. After conducting the initial boiler tune-up, a Notification of Compliance Status was to be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]
5. Energy Assessment (applies to Boiler #1 only)
- (a) A one-time energy assessment was required to be performed by a qualified energy assessor on the applicable boilers no later than March 21, 2014. [40 CFR Part 63.11196(a)(3)]
  - (b) The energy assessment was required to include a visual inspection of the boiler system; an evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator; a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures that are within the facility's control; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. [40 CFR 63, Table 2(4)]

(c) A Notification of Compliance Status was required to be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(c)]

6. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

(17) **Generator #1**

- A. Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]
- B. The fuel sulfur content for Generator #1 shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]
- C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.13	0.13	4.94	1.06	0.39

- D. Visible emissions from Generator #1 shall not exceed 20% opacity on a 6 minute block average, except for no more than two (2) six (6) minute block averages in a 3 hour period. [06-096 CMR 101]
- E. Generator #1 shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:
1. As of May 3, 2013, GAC shall meet the following operational limitations for Generator #1:
    - a. Change the oil and filter annually,
    - b. Inspect the air cleaner annually and replace as necessary, and
    - c. Inspect the hoses and belts annually and replace as necessary.

A log shall be maintained documenting compliance with the operational limitations.

[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]

2. Oil Analysis Program Option

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

3. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on Generator #1. [40 CFR §63.6625(f)]

4. Maintenance, Testing, and Non-Emergency Operating Situations

a. Generator #1 shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise to supply power as part of a financial arrangement with another entity unless the conditions in §63.6640(f)(4)(ii) are met). These limits are based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §63.6640(f) and 06-096 CMR 115]

b. GAC shall keep records that include maintenance conducted on Generator #1 and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generators are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the GAC shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §63.6655(e) and (f)]

5. Operation and Maintenance

Generator #1 shall be operated and maintained according to the manufacturer's emission-related written instructions or GAC shall develop a maintenance plan

which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

6. Startup Idle and Startup Time Minimization

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

7. Requirements For Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)

If GAC operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

(18) **Ammonium Sulfate Production**

- A. Particulate emissions from the ammonium sulfate dryer shall not exceed 0.3 lb/ton of ammonium sulfate produced. [40 CFR Part 60, Subpart PP]
- B. GAC shall operate a demister and cyclonic separator on the ammonium sulfate reactor/crystallizer when this process is in operation. [06-096 CMR 115, BPT]

C. GAC shall operate the MS Super Scrubber Package System on the ammonium sulfate dryer discharge when this process is in operation. [06-096 CMR 115, BPT]

(19) **Aqueous Ammonia Production**

A. GAC shall operate the Ammonia Wet Scrubber System when this process is in operation. [06-096 CMR 115, BPT]

(20) **Fish Oil Processing System**

A. GAC shall operate the Vanaire Scrubber on the Fish Oil Processing System when this process is in operation. [06-096 CMR 115, BPT]

B. The scrubbing system shall maintain a negative pressure on the processing vessel to control SO<sub>2</sub> emissions when the bisulfiting process is operating. [06-096 CMR 115, BPT]

(21) **Pneumatic Aluminum Trihydrate Conveyor System**

A. GAC shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance for all baghouses associated with the pneumatic conveyor system to handle dry aluminum trihydrate. [06-096 CMR 115, BPT]

B. Visible emissions from the aluminum trihydrate storage silo baghouse shall not exceed 5% opacity on a six minute block average basis. [06-096 CMR 115, BPT]

(22) **HSPP Process**

A. GAC shall operate the condenser at all times while the HSPP process is in operation. [06-096 CMR 115, BACT]

B. Visible emissions from the HSPP process shall not exceed 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 115, BACT]

(23) **Gasoline Storage Tank**

A. The fill pipe shall extend to within 6 inches of the bottom of the gasoline storage tank. [06-096 CMR 118]

B. GAC shall maintain records of the monthly and annual throughput of gasoline. [06-096 CMR 118]

(24) **Parts Washers**

Parts washers at GAC are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended).

- A. GAC shall keep records of the amount of solvent added to each parts washer.  
[06-096 CMR 115, BPT]
- B. The following are exempt from the requirements of 06-096 CMR 130  
[06-096 CMR 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.
- C. The following standards apply to cold cleaning machines that are applicable sources under Chapter 130.
1. GAC shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
    - (i) Waste solvent shall be collected and stored in closed containers.
    - (ii) 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.
    - (iii) 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.
    - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
    - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
    - (vi) 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.
    - (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
    - (viii) Work area fans shall not blow across the opening of the degreaser unit.
    - (ix) 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. [06-096 CMR 130]

(25) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.  
[06-096 CMR 101]

(26) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(27) GAC is subject to and shall comply with applicable requirements of 40 CFR Part 68, *Chemical Accident Prevention Provisions*. [40 CFR Part 68]

(28) GAC 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.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 6 DAY OF January, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Patricia W. Aho  
PATRICIA W. AHO, COMMISSIONER

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

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

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/12/14

Date of application acceptance: 11/12/14

Date filed with the Board of Environmental Protection:

This Order prepared by Lynn Muzzey, Bureau of Air Quality.

