



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

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Washburn & Doughty Associates, Inc.
Lincoln County
Boothbay, Maine
A-1050-71-D-R/A

Departmental
Findings of Fact and Order
Air Emission License
Renewal/Amendment

FINDINGS OF FACT

After review of the air emission license renewal and amendment 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

Washburn & Doughty Associates, Inc. (W&D) has applied to renew their Air Emission License for the operation of emission sources associated with their boat building facility. W&D has also requested an amendment to their license in order to make the following changes:

<u>Equipment/Process</u>	<u>Change</u>
Spray guns	Replace Sprayers #3 and #4 with Sprayers #5 and #6
Heaters	Adjust firing rate values to reflect actual performance
VOC and HAP tracking	Revert to calculation method used before license A-1050-71-B-M, dated 01/20/2012

The equipment addressed in this license is located at 7 Enterprise St, Boothbay, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

External Combustion Sources

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>	<u>Stack #</u>
Heater #1 (Bananza – West Bay)	2.5	27 gal/hr	Propane	2009	2009	1

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>	<u>Stack #</u>
Heater #2 (Banza - East Bay)	2.5	27 gal/hr	Propane	2009	2009	2
Furnace #1 (Cox - New Barge)	0.28	2 gal/hr	Distillate fuel, 0.05% by weight	2008	2008 ¹	3
Heater #3 (FrostFighter - Mobile)	0.50	3.6 gal/hr	Distillate fuel, 0.05% by weight	2008	2008	NA
Heater #4 (Banza - New Fab Shop)	0.40	4.3 gal/hr	Propane	2014	2014	5

Emergency Generator

<u>Equipment</u>	<u>Input Capacity (MMBtu/hr)</u>	<u>Output Capacity (KW)</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Install.</u>
Generator #1	0.39	40	Distillate fuel, 0.0015% by weight	2008 ¹

Airless Spray Guns

<u>Equipment</u>	<u>Maximum Working Pressure</u>	<u>Pollution Control Equipment</u>
Sprayer #1	7,250 psi	None
Sprayer #2	5,600 psi	None
Sprayer #5	4,500 psi	None
Sprayer #6	3,500 psi	None

C. Application Classification

The application for W&D does not include the licensing of increased emissions, but it does include the installation of new or modified equipment. The license is therefore considered to be a renewal of currently licensed emission units and a modification.

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission" levels as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (CMR) 100 (as amended). Because the installation of the new spray guns is paired with the removal of two other spray guns, there is no expected increase in spray guns use and thus no expected increase in resulting emissions. The adjustment of W&D's VOC and HAP tracking method also does not increase any emissions, nor does the correction of the Heaters' firing rates. This modification is therefore determined to be a minor modification, and has been processed through *Major and Minor Source Air Emission*

¹Installation dates for these pieces of equipment reflect facility rebuild date, as they were active prior to the fire that prompted reconstruction.

License Regulations, 06-096 Code of Maine Rules (CMR) 115 (as amended) as a renewal and minor modification. The facility is licensed below the major source thresholds for criteria pollutants and for hazardous air pollutants (HAP) and is considered a natural minor source for criteria pollutants and 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 new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

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. Process Description

W&D constructs steel and aluminum commercial marine vessels. The company began operating in 1977, serving the fishing industry. W&D has since diversified their products to include tugboats, commercial passenger vessels, ferries, and research boats. Located in East Boothbay, W&D employs 109 people.

A July 11, 2008 fire completely destroyed W&D's construction facility. W&D was non-operational for two months following the fire until temporary accommodations could be installed to continue shipbuilding. Shipbuilding resumed and reconstruction of the facility began in September of 2008. One year later, the company finished their new, 42,000 square foot facility and added several new employees. The new building features two construction bays, each designed to accommodate vessels up to 200' X 50'. Each bay is outfitted with three overhead cranes; additional shop space; and offices for production, management, engineering, and design.

In 2014, W&D opened a fabrication bay adjoining the main building. The new bay houses a CNC (Computer Numerical Control) burning machine, two overhead cranes, and a newly installed heater sized below minimum licensing thresholds.

The processes at the company's shipbuilding operation include:

- Propane fired furnaces for building heating,
- Emergency power generation during power outages,
- Welding,
- Metal cutting,
- Surface coating,
- Forklift and truck operating,
- Painting, and
- Grit and sponge-jet blasting.

C. External Combustion Sources

W&D operates Heaters #1 and #2 for building heat. The heaters are both rated at 2.5 MMBtu/hr and fire propane. The Heaters were installed in July of 2009, and they exhaust through their own stacks. In previous licenses, the firing rates of the heaters were both listed as 2.2 gal/hr; that has been adjusted to the more accurate values of 27 gal/hr for each heater. This adjustment results in no change to the BPT findings for Heaters #1 and #2 as their emissions limits were calculated based on their maximum input capacity values (2.5 MMBtu/hr).

In addition to the two heaters, W&D operates one furnace (Furnace #1), a mobile heater (Heater #3), and a stationary heater (Heater #4) for building heat. The devices are rated at 0.28 MMBtu/hr, 0.50 MMBtu/hr, and 0.40 MMBtu/hr, respectively, and Furnace #1 and Heater #3 fire distillate fuel; Heater #4 fires propane. The units are all below the licensing threshold of 1.0 lb/MMBtu established in 06-096 CMR 115 for external combustion sources and are listed here for inventory purposes only.

1. BPT Findings

The BPT emission limits for Heater #1 and Heater #2 were based on the following:

Propane

PM/PM ₁₀	- 0.7 lb/1000 gal based on AP-42, Table 1.5-1, dated 07/08 for Total PM, filterable and condensable
SO ₂	- 0.018 lb/1000 gal based on AP-42, Table 1.5-1, dated 07/08 and burning of propane with a maximum fuel sulfur content of 0.18 gr/100 ft ³ .
NO _x	- 13 lb/1000 gal based on AP-42, Table 1.5-1, dated 07/08
CO	- 7.5 lb/1000 gal based on AP-42, Table 1.5-1, dated 07/08
VOC	- 1 lb/1000 gal based on AP-42, Table 1.5-1, dated 07/08
Visible Emissions	- 06-096 CMR 101

The BPT emission limits for the Heaters are the following:

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Heater #1 propane	0.02	0.02	0.01	0.35	0.20	0.03
Heater #2 propane	0.02	0.02	0.01	0.35	0.20	0.03

Visible emissions from each heater shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a continuous three-hour period.

2. New Source Performance Standards (NSPS): 40 CFR Part 60, Subpart Dc

Due to the size of the heaters and the furnaces, none of them are 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. [40 CFR §60.40c]

3. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 CFR Part 63, Subpart JJJJJ

Heaters #1 and #2, and #4 are all only designed to fire gaseous fuel and are therefore not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJ). [40 CFR §63.11195(e)]

Furnace #1 and Heater #3 fire distillate fuel, but they are not subject to 40 CFR Part 63, Subpart JJJJJ because they are not steam or hot water generating units. [40 CFR §63.11237]

D. Generator #1

W&D operates one emergency generator. The emergency generator is a generator set consisting of an engine and an electrical generator. The emergency generator has an engine with an output capacity of 40kW, rated at 0.39 MMBtu/hr, and it fires distillate fuel. The emergency generator was active at the facility prior to the 2008 fire. While the manufacture date is unknown, it is known to have been manufactured before 2006. The unit is below the licensing threshold of 0.5 lb/MMBtu established in 06-096 CMR 115 for internal combustion engines; however it is still subject to applicable federal regulations.

1. New Source Performance Standards (NSPS)

Because Generator #1 was manufactured prior to April 1, 2006, it is not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)*. [40 CFR §60.4200]

2. National Emission Standards for Hazardous Air Pollutants (NESHAP):
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 to be 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. [40 CFR §63.6585]

a. Emergency Engine Designation and Operating Criteria

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

(1) Emergency Situation Operation (On-Site)

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

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

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for Maintenance Checks, Readiness Testing, and other non-emergency situations as described below.

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

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, 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:

- (a) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
- (b) 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.
- (c) The dispatch follows reliability, emergency operation or similar protocols that follow specific North American Electric Reliability Corporation (NERC), regional, state, public utility commission, or local standards or guidelines.
- (d) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (e) 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 40 CFR §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 40 CFR §63.6640(f) may cause this engine to not be considered an emergency engine and therefore subject to all applicable requirements for non-emergency engines.

b. 40 CFR Part 63, Subpart ZZZZ Requirements

(1) Operation and Maintenance Requirements

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

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or W&D 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

W&D 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, W&D 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 the engine. [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. [40 CFR §63.6625(h) and 40 CFR Part 63, Subpart ZZZZ Table 2d]

(5) Annual Time Limit for Maintenance and Testing

As an emergency engine, the unit 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

W&D shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency purposes. [40 CFR §63.6655(f)]

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

E. Coating Operation

Surface coating is applied to commercial marine vessels under construction at the facility. W&D uses the unit building concept, where modular components are constructed and then installed. On average, it takes W&D between 12 and 18 months to build a complete vessel, and typically, very little surface coating occurs during the first four to six months of construction. During this initial period, the only surface coating conducted occurs in small areas that will subsequently be closed off or inaccessible (e.g. wire ways and pipe runs). Most of the surface coating occurs during the latter six months of construction. The majority of painting is conducted in interior areas of the building.

License A-1050-71-A-N included a USEPA RACT/BACT/LAER Clearinghouse review for shipbuilding and miscellaneous and metal parts surface coating which outlined and analyzed low VOC paints, spray paint booths, HVLP sprayers, powdered coatings, and closed containers as potential BACT technologies. It was determined that low VOC paints and closed containers were most practical and effective for W&D's manufacturing process. Airless spray guns were also determined to be BACT for W&D. Airless sprayers allow W&D to coat both large and small parts with limited drying time, and they require less paint-thinning than HVLP sprayers, leading to lower VOC emissions.

Spray Guns

W&D operates four airless spray guns; Sprayers #1, #2, #5, and #6 for coating operations. Sprayers #1 and #2 were both in use by the facility since prior to 2008. Sprayers #5 and #6 replaced Sprayers #3 and #4 and were installed at the facility in 2012 and 2014. The current spray guns have maximum working pressures of 7,250 psi; 5,600 psi; 4,500 psi; and 3,500 psi, respectively.

1. BPT Findings

Based on the potential to emit analysis completed in license A-1050-71-B-M, dated 01/20/2012, and on the BACT determination in license A-1050-71-A-N, dated 06/21/2011, BPT for W&D's Coating Operation is the following:

- a. As appropriate, W&D shall purchase materials with low VOC and HAP contents;
- b. W&D shall keep containers closed when not in use;
- c. W&D shall operate coating processes as to limit total facility emissions to:
 - (1) 24.9 tons per year of VOCs,
 - (2) 9.9 tons per year of each individual HAP, and
 - (3) 24.9 tons per year of total HAPs;
- d. W&D shall determine VOC and HAP emissions using the method outlined in the "VOC and HAP Calculation Method" section of this license. These values shall be calculated and tracked on a monthly and 12-month rolling total basis; and
- e. W&D shall maintain records of VOC and HAP content for six years and make them available to the Department upon request.

2. VOC and HAP Calculation Method

In license A-1050-71-B-M, dated 01/20/2012, W&D changed their VOC and HAP tracking method to more accurately reflect product inventories. W&D tracked monthly facility product inventories, monthly facility purchases, and the quantity shipped offsite, and calculated total VOCs and HAPs for each material. The calculation method accounted for product inventories that were not used or shipped off-site, where the previous method did not. The method was changed by request of the facility to encourage facility-wide inventory maintenance and recording.

Because of an adjustment in the operational process map for the company, W&D has requested to revert to the original method of Monthly VOC emission tracking as outlined in A-1050-71-A-N, dated 06/21/2011. The Department has determined that this meets the requirements of BPT based on an analysis of results from the two tracking methods for the period from January 2013 to May 2016. Because W&D has

consistently reported emissions well below their annual limits and because of low variation in the calculated values between the two methods, the decrease in recording accuracy resulting from the change is considered inconsequential. The following tracking method shall therefore be used by W&D for each coating, paint, adhesive, and solvent pursuant to 06-096 CMR 115, BPT:

$$\text{Monthly VOC/HAP Emissions} = (A \times \text{VOC/HAP Content}) - (B \times \text{VOC/HAP Content})$$

A = Monthly Facility Purchases of material

B = Monthly Quantity of Material Shipped offsite

Total VOC/HAP Emissions from, all coatings, paints, adhesives, and solvents shall be tracked on both a monthly and 12-month rolling total basis

3. Potential to Emit Hazardous Air Pollutants and Status of Facility as a Natural Minor VOC and HAP Source

License A-1050-71-B-M, dated 01/21/2012, documents the Departmental determination that W&D is a natural minor source and not a synthetic minor source. It was concluded that the facility could not emit major source levels of VOCs by producing its estimated maximum volume of boats per year. With an airless spray gun (Sprayer #5) replacing a more powerful airless spray gun (Sprayer #3) and another airless spray gun (Sprayer #6) replacing an HVLP sprayer (Sprayer #4), the operational constraints still are such that they will limit W&D's maximum potential to emit VOC to quantities at less than the major source threshold. This allows W&D to maintain its status as a natural minor source.

In license A-1050-71-B-M, dated 01/21/2012, it was concluded that W&D had normal operation VOC emission levels that would allow them to be exempt from licensing requirements of 06-096 CMR 115. The section of the chapter cited was C(2)(d) which exempted facilities whose general process sources had emissions, without consideration of air pollution control apparatuses, and under normal operation, were less than 100 lb/day or 10 lb/hr of any regulated pollutant. 06-096 CMR 115 has since been revised to require facilities whose operations are greater than 100 lb/day or 10 lb/hr to have an air emissions license². W&D was able to prove that their normal operation produced VOC rates of less than 100 lb/day, but not 10 lb/hr, so because of the chapter's revision, W&D must maintain its air emission license as long as the facility remains above this licensing threshold.

² 06-096 CMR 115, Section (B)(2)(c-d)

F. Process Equipment

1. Plasma Arc Cutting System

W&D operates a plasma arc cutting system at the shipyard. This cutting system utilizes a water table for temperature and emissions control during cutting. The Plasma arc cutting system is fixed within the main manufacturing building, and emissions created by the cutting system are not directly emitted to the ambient air.

2. Welding and Grit Blasting

Typical assembly and maintenance activities include welding, grit and sponge-jet blasting, grinding, sanding, and buffing. Grinding equipment includes angle grinders and electric die grinders. Grit blasting includes the use of red garnet and sponge media, which is recycled to a practical extent. All of these activities typically occur indoors, and when they do occur outdoors, the activity is tented to minimize fugitive emissions subject to wind.

3. Particulate Filtration System

W&D typically utilizes all process equipment inside. To control particulate emissions, the facility operates a Donaldson Torit Downflo Oval model DFO-4-16 particulate filter system. This system collects internally exhausted particulate matter to be removed from the facility, and it is designed to achieve approximately 99% control efficiency. During colder months, the building stays closed, and this system works as designed. During the warmer months, however, the bays are opened for air circulation, reducing the collection efficiency of the Particulate Filtration System.

None of the process equipment is explicitly subject to federal or state regulations. BPT for all process equipment is therefore meeting the opacity limitations for General Process Emissions. W&D shall, when practicable, also continue to tent any blasting, spraying or related activities when conducted outdoors. [06-096 CMR 115, BPT]

G. Fugitive Emissions

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

H. General Process Emissions

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

I. Annual Emissions

1. Total Annual Emissions

W&D shall be restricted to the following annual emissions, on a 12-month rolling total basis. The tons per year limits were calculated based on 8,760 hours of operation of Heaters #1 and #2 and projected VOC and HAP emission potentials from the spray guns and other non-fuel burning process sources.

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

Pollutant	Tons/yr
PM	0.2
PM ₁₀	0.2
SO ₂	0.1
NO _x	3.1
CO	1.8
VOC	24.9
Single HAP	9.9
Total HAP	24.9

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 (CO₂e).

The quantity of CO₂e emissions from this facility is less than 100,000 tons per year, based on the following:

- 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 is 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:

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-1050-71-D-R/A 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.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) Heaters #1 and #2

A. W&D is licensed to fire propane in the two heaters.

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

<u>Unit</u>	<u>PM (lb/hr)</u>	<u>PM₁₀ (lb/hr)</u>	<u>SO₂ (lb/hr)</u>	<u>NO_x (lb/hr)</u>	<u>CO (lb/hr)</u>	<u>VOC (lb/hr)</u>
Heater #1 propane	0.02	0.02	0.01	0.35	0.20	0.03
Heater #2 propane	0.02	0.02	0.01	0.35	0.20	0.03

C. Visible emissions from each heater shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a continuous three-hour period. [06-096 CMR 101]

(17) **Generator #1**

A. The emergency generator shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. W&D 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.

Records 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**

W&D 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, W&D must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for each engine. The analysis program must be part of the maintenance plan for each engine. [40 CFR §63.6625(i)]

3. **Non-Resettable Hour Meter**

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

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

- a. As an emergency engine, 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 records (electronic or written logs) of all engine operating hours. [40 CFR §63.6640(f) and 06-096 CMR 115]
- b. W&D shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, including what classified the operation as emergency, and the number of hours the unit operated for non-emergency

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

5. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's emission-related written instructions, or W&D shall develop a maintenance plan which provides 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. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

(18) **Coating Operations**

A. As appropriate, W&D shall utilize materials with low VOC and HAP contents.

B. W&D shall keep containers holding chemicals with trackable levels of VOC and HAP emissions closed when not in use.

C. To ensure compliance with BPT for VOC and HAP, W&D shall record the quantity of coatings, paints, adhesives, and solvents used at the facility and also the VOC and HAP content of each, and any other applicable information for each of the following:

- *Monthly Purchases for use at the facility*
- *Quantity shipped off Site*

D. The following mass balance equation shall be used by W&D for each coating, paint, adhesive, and solvent to calculate monthly VOC and HAP emissions (utilizing the data collected from Condition (19) and any other applicable data):

$$\text{Monthly VOC/HAP Emissions} = (A \times \text{VOC/HAP Content}) - (B \times \text{VOC/HAP Content})$$

A = Monthly Facility Purchases of material

B = Monthly Quantity of Material Shipped off site

- E. Total VOC and HAP emission from all coatings, paints, adhesives, and solvents shall be tracked on both a monthly and 12-month rolling total basis.
- F. W&D shall keep VOC and HAP content records and calculations for six years and make them available upon request from the Department.
- G. W&D shall operate coating processes as to limit total facility emissions to:
 - 2. 24.9 tons per year of VOCs,
 - 3. 9.9 tons per year of each individual HAP, and
 - 4. 24.9 tons per year of total HAPs

[06-096 CMR 115, BPT]

- (19) To ensure compliance with BACT for VOC control, W&D shall continue to research pollution prevention technologies such as low VOC & HAP content materials and spray painting techniques/applications. W&D shall document changes and improvements made to reduce VOC and HAP emissions as they occur. [A-1050-71-A-N (dated 06/21/2011), BACT]

(20) **Process Equipment**

- A. W&D shall, when practicable, continue to tent any blasting, spraying or related activities when conducted outdoors. [06-096 CMR 115, BPT]
- B. Visible emissions from the Plasma Arc Cutting system, CNC machine, welding, grit and sponge-jet blasting, grinding, sanding, and buffing shall each not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period when emissions are vented outside. [06-096 CMR 115, BPT]

- (21) W&D shall properly maintain all dust collection equipment in the facility and make repairs as necessary to prevent system leakage. [A-1050-71-A-N (dated 06/21/2011), BACT]

- (22) Visible emissions from exhaust fan filters shall be limited to 10% opacity based on a 6-minute block average basis. [A-1050-71-A-N (dated 06/21/2011), BACT]

(23) **Fugitive Emissions**

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

(24) **General Process Sources**

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

- (25) W&D 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 28 DAY OF September, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Maia Allen Robert Cone for
PAUL MERCER, 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.A. §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: 06/17/2016

Date of application acceptance: 06/17/2016

Date filed with the Board of Environmental Protection:

This Order prepared by Colby Fortier-Brown, Bureau of Air Quality.

