



DEPARTMENT ORDER

Parker-Hannifin Corporation
York County
Kittery, Maine
A-1067-71-B-R/A

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

FINDINGS OF FACT

After review of the air emission license renewal application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Parker-Hannifin Corporation (PHC) has applied to renew their Air Emission License for the operation of emission sources associated with their Kittery facility where they manufacture pneumatic filters, regulators, lubricators and valves.

In addition to the license renewal, PHC has also requested an amendment to remove Boiler #4 from their license. Boiler #4 has been shut down and subsequently removed from the facility.

The equipment addressed in this license is located at 9 Cutts Road, Kittery, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers, Heaters and Ovens

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type</u>	<u>Date of Manuf.</u>	<u>Date of Install.</u>	<u>Stack #</u>
Boiler #1	2.9	30.9	Propane	1968	1968	1
Boiler #2	2.9	30.9	Propane	1968	1968	1
Boiler #3	2.9	30.9	Propane	1974	1974	1
Burn Off Oven	1.6	17.0	Propane	1995	1995	6
Cure Oven	2.4	25.5	Propane	1995	1995	7
Degas Oven	2.0	21.3	Propane	1995	1995	8

PHC also operates additional smaller propane-fired heating units at their facility that are used to heat water, and for some HVAC units. Due to their sizes, these units are all considered insignificant in accordance with the Department's rule *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115. These insignificant units will not be addressed in the license.

C. Application Classification

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

The application for PHC 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 and has been processed through 06-096 C.M.R. ch. 115.

PHC is licensed below the major source thresholds for criteria air pollutants (CAP) and is considered a natural minor source of CAP.

PHC is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP, based on the equipment utilized at their facility, their sizes and their maximum potential to emit pollutants.

Removal of Boiler #4 from the air license will not increase emissions of any pollutant. Therefore, this amendment is determined to be a minor modification and has been processed as such.

II. **BEST PRACTICAL TREATMENT (BPT)**

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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

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

B. Process Description

PHC manufactures pneumatic filters, regulators, lubricators and valves at their Kittery facility, utilizing a variety of machining operations and assembly processes.

PHC purchases castings from suppliers that are used in the assemblies that are being manufactured in their Kittery facility. The castings are prepared for powder coating through a combination of metal shot blasting and cleaning, and are then placed in the degas oven to remove air from them prior to curing. Next, the castings are electrically charged and sprayed with a powder coating to provide the desired color and appearance, and then cured in the oven to produce a hardened, durable finish. In the last stage, the powder coated aluminum and zinc castings are machined to the proper specifications and then sent through a five stage (tank) system to remove any water soluble coolant remaining from the machining processes from their surfaces. Once the castings are washed, they are complete and ready for assembly.

PHC also performs injection molding at their facility, but this process is categorically exempted from inclusion in the license by 06-096 C.M.R. ch. 115 Appendix B, Section A, #47. It is being mentioned here for purposes of completeness only, and will not be addressed any further in the license.

To support the facility, PHC operates three boilers and three process ovens. The boilers provide steam that is used to heat the entire facility building and also to heat the water used in the machine shop wash system tanks. The ovens consist of a burn off oven, a degas oven and a cure oven. The burn off oven is used to burn off residual powder coatings that accumulate on the racks over time during the powder coating process. The excess coatings need to be removed from the racks to ensure that they retain their ability to statically conduct electrical charges to the castings they are in contact with. The degas oven is used to eliminate trapped air from the castings prior to them curing, and the cure oven heats (cures) the powdered coatings after they have been sprayed on the parts.

C. Fuel Burning Equipment

1. Boilers #1, #2 and #3

PHC operates Boilers #1, #2 and #3 for steam heating of the facility. Each boiler is rated with a maximum heat input of 2.9 MMBtu/hr and fires propane. Boilers #1 and #2 were installed in 1968, and Boiler #3 was installed in 1974. The three boilers exhaust through a common stack.

2. Burn-Off Oven, Degas Oven and Cure Oven

PHC uses three propane-fired process ovens at their facility. The burn-off oven has a maximum heat input capacity of 1.6 MMBtu per hour, the degas oven is rated at 2.0 MMBtu per hour, and the cure oven is rated at 2.4 MMBtu per hour. The three ovens were each installed in 1995, and each oven exhausts through its own stack.

3. BPT Findings for Boilers and Process Ovens

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

Propane

- PM/PM₁₀ – 0.05 lb/MMBtu based on license A-1067-71-A-N (dated April 6, 2012), BPT
- SO₂ – 1.5 lb/1000 gal, based on AP-42, Table 1.5-1 (dated 07/08) and assumes 15 grains sulfur/100 ft³ commercial propane
- 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 – 0.8 lb/1000 gal, based on AP-42 Table 1.5-1 (dated 07/08)
- Visible Emissions – 06-096 C.M.R. ch. 115, BPT

The BPT emission limits for the boilers and process ovens are the following:

Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.15	0.15	0.05	0.40	0.23	0.03
Boiler #2	0.15	0.15	0.05	0.40	0.23	0.03
Boiler #3	0.15	0.15	0.05	0.40	0.23	0.03
Burn-Off Oven	0.08	0.08	0.03	0.22	0.13	0.01
Degas Oven	0.12	0.12	0.04	0.33	0.19	0.02
Cure Oven	0.10	0.10	0.03	0.28	0.16	0.02

Visible emissions from the boilers' common stack shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 103 (2)(B)(c)]

Visible emissions from each of the ovens' stacks shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 103 (2)(B)(c)]

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

Because the three boilers and the three ovens were all installed prior to 1989, and because they each have maximum heat input capacities of less than 10 MMBtu per hour, they are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

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

Because boilers #1, #2 and #3 and each of the three ovens all fire solely on propane, they are classified as gas-fired boilers and ovens respectively, and are therefore not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJ. [40 C.F.R. §§ 63.11193 and 63.11195]

D. Process Equipment

1. Shot Blast Station

PHC operates a steel shot blast unit for surface preparation of the castings prior to the coating process. The shot blast unit utilizes a dust collection system that is vented indoors. No associated fugitive emissions are generated by this process or equipment.

2. Wash Systems

Before powder coating is applied to the metal parts, the parts must be cleaned of any residue from the shot blast station to ensure proper adhesion of the powder coating to the parts' surfaces. To accomplish this, PHC operates a pre-treatment wash system that uses various dip tank stages to clean the parts. The wash system water for the cleaning process is heated by electric coils. After cleaning, the washed parts are allowed to air dry to evaporate any remaining wash water from them.

[06-096 C.M.R. ch. 115 (1)(B)(2)(a)]

3. Powder Coating Booths

PHC operates an enclosed powder coating booth with filters, where they apply a finish to the castings that are to be used in the products that they manufacture. Because PHC exclusively utilizes powder coatings at their facility, they are exempt from the requirements of 06-096 C.M.R. ch. 129 – *Surface Coating Facilities*. There are no VOC's associated with the powder coating operation, and no fugitive emissions are generated by this process or equipment. [06-096 C.M.R. ch. 129 (1)(E)(2)]

E. Annual Emissions

1. Total Annual Emissions

PHC shall be restricted to the following annual emissions, based on a calendar year. The tons per year limits were calculated based on 8,760 operating hours per year for each of the boilers and process ovens.

Total Licensed Annual Emissions for the Facility

Tons/year

(used to calculate the annual license fee)

	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Boilers #1, 2 and 3	1.91	1.91	0.57	5.27	3.04	0.32
Process Ovens	1.31	1.31	0.39	3.63	2.10	0.22
Total TPY	3.2	3.2	1.0	8.9	5.1	0.5

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 C.F.R. Part 52, Subpart A, § 52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. ch. 100, 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 *Mandatory Greenhouse Gas Reporting*, 40 C.F.R. Part 98; and
- global warming potentials contained in 40 C.F.R. 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 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

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

ORDER

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

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

The Department hereby grants Air Emission License A-1067-71-B-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. § 347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
[06-096 C.M.R. ch. 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
[06-096 C.M.R. ch. 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:
- A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. Pursuant to any other requirement of this license to perform stack testing.
 - B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. Submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 C.M.R. ch. 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. Within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

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

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 C.M.R. ch. 115]

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

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

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

SPECIFIC CONDITIONS

(16) Boilers and Process Ovens

A. Fuel

PHC shall fire propane in all of the boilers and process ovens utilized at their facility which are addressed in this air emission license. [06-096 C.M.R. ch. 115, BPT]

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

Emission Unit	PM (lb/hr)	PM₁₀ (lb/hr)	SO₂ (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.15	0.15	0.05	0.40	0.23	0.03
Boiler #2	0.15	0.15	0.05	0.40	0.23	0.03
Boiler #3	0.15	0.15	0.05	0.40	0.23	0.03
Burn-Off Oven	0.08	0.08	0.03	0.22	0.13	0.01
Degas Oven	0.12	0.12	0.04	0.33	0.19	0.02
Cure Oven	0.10	0.10	0.03	0.28	0.16	0.02

C. Visible Emissions

1. Visible emissions from the boilers' common stack shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]
2. Visible emissions from each of the process ovens' individual stacks shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

(17) General Process Sources

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

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A-1067-71-B-R/A

12

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

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

DONE AND DATED IN AUGUSTA, MAINE THIS 13 DAY OF July, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Mauro Robert Robert Come 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. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 27, 2017

Date of application acceptance: March 3, 2017

Date filed with the Board of Environmental Protection:

This Order prepared by Patric J. Sherman, Bureau of Air Quality.

