



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

**Fisher Engineering)
Knox County)
Rockland, Maine)
A-727-71-I-R/A (SM))** **DEPARTMENTAL
FINDINGS OF FACT AND ORDER
AIR EMISSION LICENSE**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Fisher Engineering (Fisher) of Rockland, Maine has applied for a renewal Air Emission License, permitting the operation of emission sources associated with their steel fabrication and coating facility. Fisher is also seeking to include a preheat oven, new infrared oven, plasma cutting unit, and discontinue a spray booth. These changes are described in more detail in Section II of this license.

B. Emission Equipment

Fisher is authorized to operate the following air emission units:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Fuel Type, % Sulfur	Maximum Firing Rate (gal/hr)
Make-up Air Heater #1	1.5	Propane	13.7
Make-up Air Heater #2	1.5	Propane	13.7
Make-up Air Heater #3	1.5	Propane	13.7
Make-up Air Heater #4	1.5	Propane	13.7
Make-up Air Heater #5	1.5	Propane	13.7
Make-up Air Heater #6	1.5	Propane	13.7
Cure Oven	3.2	Propane	31.5
Washer #1 (with heater)	2.3	Propane	23.5
IR Oven	1.2	Propane	13.0

AUGUSTA
17 STATE HOUSE STATION
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(207) 287-7688 FAX: (207) 287-7826
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106 HOGAN ROAD
BANGOR, MAINE 04401
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Fisher operates several small propane-fired heating units of less than 1.0 MMBtu/hr each for building heat and hot water. Fisher has submitted a list of these units to the Department and they are considered insignificant according to 06-096 CMR 115 of the Department's rules.

Process Equipment

- Steel Shot Blast Unit with Dust Collector
- Powder Coating Spray Booths with Filters
- Safety-Kleen Degreasers (3)

C. Application Classification

The application for Fisher does not include the licensing of increased emissions; however, it does include a request for replacement and removal of licensed units and/or to modify equipment. Therefore, the license is considered to be a renewal of current licensed emission units along with an amendment. The amendment will not increase emissions from the facility, neither actual nor licensed allowed. With the fuel limit on make-up air heaters, cure oven, and washers, the facility is licensed below the major source thresholds and is considered a synthetic minor.

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 06-096 CMR 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas. Descriptions of the applicable requirements are provided below under the appropriate headings.

Fisher's minor modifications include the following:

- What used to be listed as the bake-off oven has been removed and will be replaced by a preheat oven. The bake-off oven that was removed was listed as a maximum capacity of 3.2 MMBtu/hr and a maximum firing rate of 31.5 gallons/hour. The preheat oven is much smaller and its maximum capacity will be 0.9 MMBtu/hr therefore it is considered an "insignificant" unit per 06-096 CMR 115.
- Fisher has requested to install a new IR oven which will fire propane and have a maximum total capacity of 1.23 MMBtu/hr.

- Fisher plans to install a new plasma laser cutting unit with particulate emissions controlled through a bank of pleated filters (ten total) with approximately 99% efficiency, similar to their existing plasma unit.
- Fisher had one remaining spray booth for parts that could not be powder coated, however, that spray booth was discontinued a number of years ago and will be removed in this renewal license.
- Fisher's facility-wide VOC emission limit will be reduced from 9.9 tons per year to 5.0 tons per year.

Before proceeding with the control requirements for each unit a general process description is provided to identify where the equipment fits into the process.

Process Description

Fisher Engineering is a manufacturer of steel snowplows and associated attachments for 4x4 vehicles as well as state and town owned vehicles. Finished plows range from 6.5 feet to 10 feet wide. Fisher processes 1/4" - 5/16" steel raw material in various forming machinery (cutting, bending, and stamping) to make the plow blade and its attachments. All scrap waste steel from this process is collected and sent for recycling. Torch plasma tables are used for cutting A36 carbon steel and use a downdraft table system. A dust collector is used to control particulates from the cutting process.

Once the steel is formed into the pieces, the individual pieces are welded together to form the plow. The plow is sent through an automated shot blast line to create a smooth surface for coating. Emissions from shot blasting vent to a dust collection unit, the dust collector vents indoors. After the plow is shot blasted, some parts are then coated. Fisher had previously operated spray booths, which were a source of process VOC emissions; however, all coating has now been converted from liquid to powder coating. The powder coating line is an automated conveyor system. The first step in the powder coating process is preheating. This heating aids in the powder curing process. Fisher operates propane fired preheat ovens. From the preheat process, the second step is to convey the plows into the coating booths. Powder coating is sprayed manually onto the plows using high-pressure air guns. The coating booths impart either a yellow, black, or sometimes red coating. The booths are enclosed and equipped with filters to control particulate emissions. Then, the coating is cured using propane fired powder coating cure ovens. There is a one-hour residence time in the cure oven. The parts are then allowed to cool, and Fisher logo stickers are affixed. The finished plows are stored until they are shipped to retail stores.

Fisher also operates a pre-heat oven used solely for two purposes; burning off powder coating on hooks used to hang product in preparation for coating and burning-off powder coating on defective plow parts in order to rework and recoat. This unit has a maximum heat input of 0.9 MMBtu/hr and is considered an insignificant unit.

B. New Emission Unit

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 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

Fisher has requested to install a new infrared oven (IR Oven). The oven has 36 propane fired IR burners, each rated at 34,000 Btu/hr for a total of 1.23 MMBtu/hr. The unit will be used for heating, drying, and/or curing requirements in its process of making plows. The regulated pollutants emitted from the new oven are particulate matter (PM), particulate matter with a diameter smaller than ten microns (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Based on the relatively small size of the oven and the quantity of pollutants that could potentially be emitted, it is determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified. BACT for this new oven will be the use of propane which emits fewer pollutants when compared to the combustion of other traditional fossil fuels. Overall propane use for the facility is limited to 435,000 gallons per year based on a 12 month rolling total.

- a. PM and PM₁₀
Fisher has proposed combustion of propane and good combustion practices as BACT for particulate matter. 06-096 CMR 103 of the Department's regulations is applicable to Fisher; however the BACT emission limit of 0.08 lb/MMBtu is more stringent than this regulation. Compliance with the BACT limit is compliance with 06-096 CMR 103.
- b. SO₂
Fisher has proposed combustion of propane, which inherently has a low sulfur fuel content associated with it, as BACT. Fisher shall keep fuel records for compliance with applicable fuel use limits.
- c. NO_x
Fisher has proposed combustion of propane and good combustion practices as BACT for NO_x.

- d. CO
Fisher has proposed combustion of propane and good combustion practices as BACT for CO.
- e. VOC
Fisher has proposed combustion of propane and good combustion practices as BACT for VOC.
- f. Opacity
06-096 CMR 101 of the Department's regulations (Visible Emissions) is applicable to Fisher. Visible Emissions shall not exceed 10% opacity on a six minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

C. Existing Emission Units

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 tpy of establishment involved.

1. Make-up Air Heaters and Cure Oven

Fisher operates six propane fired Make-up Air Heaters each with a maximum design capacity rating of 1.5 MMBtu/hr. Fisher also operates a 3.2 MMBtu/hr cure oven and a 2.3 MMBtu/hr oven in the wash system. The regulated pollutants emitted from the make-up air heaters, cure oven and wash oven, are particulate matter (PM), particulate matter with a diameter smaller than ten microns (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC). Based on the relatively small size of the Make-up Air Heaters, cure oven and wash oven, and the quantity of pollutants that could potentially be emitted, it is determined by the Bureau of Air Quality that any add on pollution control device would be economically unjustified. BPT for these units will be the use of propane and a facility limit of 435,000 gallons of propane per year based on a 12 month rolling total.

- a. PM and PM₁₀
Fisher has proposed combustion of propane and good combustion practices as BPT for particulate matter. 06-096 CMR 103 of the Department's regulations

is applicable to Fisher; however the BPT emission limit of 0.08 lb/MMBtu is more stringent than this regulation. Compliance with the BPT limit is compliance with 06-096 CMR 103.

- b. SO₂
Fisher has proposed combustion of propane, which inherently has a low sulfur fuel content associated with it, as BPT. Fisher shall keep fuel records for compliance with applicable fuel use limits.
- c. NO_x
Fisher has proposed combustion of propane and good combustion practices as BPT for NO_x.
- d. CO
Fisher has proposed combustion of propane and good combustion practices as BPT for CO.
- e. VOC
Fisher has proposed combustion of propane and good combustion practices as BPT for VOC.
- f. Opacity
06-096 CMR 101 of the Department's regulations (Visible Emissions) is applicable to Fisher. Visible Emissions shall not exceed 10% opacity on a six minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

Periodic Monitoring

Recordkeeping of propane use in the make-up air heaters and cure oven on a monthly basis.

2. Wash System

Fisher operates a pre-treatment wash system with 8 stages. The wash system is used to clean the metal parts in preparation for final paints and coating applications. Fisher has found that after the plows have been sandblasted, a dust film is usually present. The wash system is used to remove this dust and further clean the plow before it goes to the next stage of powder coating. The adhesion of the powder coating is enhanced if the wash system cleans the plows after the sandblasting. The wash system with 8 cleaning stages is equipped with a 2.3 MMBtu/hr heater. The cleaning solutions used in the wash system consist of low

concentrations, with chemical to water ratios less than 2%. Due to the amount of chemicals used, VOC emissions are small.

Currently Fisher has a VOC limit of 9.9 tons per year, however, that included a limit of 6 tons per year from spray booths. Fisher no longer operates any spray booths since all metal parts are now powder coated. Minimal VOC emissions are associated with powder coating. Therefore, the total VOC limit from the facility will now be 5 tons per year. BPT from the wash system is the use of low chemical concentration cleaners and complying with the facility VOC limit.

Periodic Monitoring

Periodic monitoring for the wash system includes maintaining records of fuel use in the propane heater on a monthly basis. Also Fisher will keep records of the quantity of chemical usage used in the wash system and keep track of VOC emissions on a monthly basis and 12-month rolling total, to ensure compliance with the 5.0 ton per year facility-wide VOC limit.

3. Shot Blast

Fisher operates a steel shot blast unit for surface preparation prior to coating. Fisher operates a dust collection system on this unit. The dust collection system vents indoors, therefore, there are no associated fugitive emissions for this process.

BPT for the steel shot blast unit is the continued operation and maintenance of the dust collection system.

4. Powder Coating Booths

Fisher operates enclosed powder coating booths with filters. There are no fugitive emissions associated with this process.

5. Safety - Kleen Degreasers

Fisher operates three safety- kleen degreasers. The capacities are two at 20 gallons each and one at 40 gallons. Fisher maintains covers and labels on the safety-kleen units and meets the requirements of 06-096 CMR 130 of the Department's regulations. Compliance with 06-096 CMR 130 for the degreasing units and meeting the facility-wide VOC emission limit of 5 tons per year shall be considered BPT.

D. Facility Emissions and Fuel Use Caps

Fisher shall not exceed the use of 435,000 gallons per year (12 month rolling total) of propane fuel to be used in make-up air heaters, the cure oven, and the wash system. Fisher shall maintain monthly fuel use records to document compliance with this limit.

Total Allowable Annual Emissions for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/year
PM	1.7
PM ₁₀	1.7
SO ₂	0.2
NO _x	4.1
CO	0.7
VOC	5.0

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the total facility licensed emissions, Fisher is below the emissions level required for modeling and monitoring.

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,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-727-71-I-R/A, 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 06-096 CMR 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. [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 emission 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) Emissions from each of the make-up air heaters shall not exceed the following:

Pollutant	lb/MMBtu	lb/hr
PM	0.08	0.2
PM ₁₀	-	0.2
SO ₂	-	0.1
NO _x	-	0.3
CO	-	0.1
VOC	-	0.1

- (17) Emissions from the Cure Oven and IR Oven shall each not exceed the following:

Pollutant	lb/MMBtu	lb/hr
PM	0.08	0.3
PM ₁₀	-	0.3
SO ₂	-	0.1
NO _x	-	0.7
CO	-	0.1
VOC	-	0.1

- (18) Emissions from the Washer #1 (with heater) shall not exceed the following:

Pollutant	lb/MMBtu	lb/hr
PM	0.08	0.2
PM ₁₀	-	0.2
SO ₂	-	0.1
NO _x	-	0.5
CO	-	0.1
VOC	-	0.1

(19) Visible emissions from each of the make-up air heaters, cure oven, washer, and 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]

(20) Process Source VOC Emissions:

The VOC emissions from the solvents, coatings, wash system, and degreasing units shall be calculated monthly and on a 12-month rolling total basis, to ensure compliance with the 5.0 ton per year facility-wide VOC emission limit.

(21) **Parts Washer**

Parts washers at Fisher are subject to Solvent Cleaners, 06-096 CMR 130 (last amended June 28, 2004).

A. Fisher 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 06-096 CMR 130.

1. Fisher 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 shall 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]
- (22) The 8 stage wash system with a 2.3 MMBtu/hr propane fired heater shall operate with low concentration chemical cleaning solutions. Fisher shall maintain monthly records of amount of chemicals used in the wash tanks and track any VOC emissions on a monthly basis, to ensure compliance with the 5.0 ton per year facility-wide VOC limit.
- (23) Facility Fuel Cap:
Fisher shall not exceed 435,000 gallons per year, based on a 12-month rolling total, of propane fuel to be used in the make-up air heaters, the preheat oven, wash system, and the cure oven. Fisher shall maintain monthly fuel use records to document compliance with this limit.
- (24) 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]

Fisher Engineering
Knox County
Rockland, Maine
A-727-71-I-R/A (SM)

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- (25) Fisher 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 *4th* DAY OF *May*, 2009.
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *James P. Little*

DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 22, 2008

Date of application acceptance: October 14, 2008

Date filed with the Board of Environmental Protection: _____

This Order prepared by Edwin Cousins, Bureau of Air Quality.

