



DEPARTMENT ORDER

**Pioneer Plastics Corporation
Androscoggin County
Auburn, Maine
A-448-70-E-A**

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #1**

FINDINGS OF FACT

After review of the Part 70 License 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 (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Pioneer Plastics Corporation (Pioneer)
LICENSE TYPE	Part 70 Significant License Modification
NAICS CODES	525211, 322222, 326130
NATURE OF BUSINESS	Manufacturer of decorative laminate, melamine coated paper, and specialty resins
FACILITY LOCATION	One Pionite Rd, Auburn, Maine

Pioneer Plastics Corporation (Pioneer) operates a manufacturing plant in Auburn, Maine. The facility produces various laminate products that are sold for use in table tops, counters, flooring, and furniture and produces specialty resins for sale.

The following New Source Review (NSR) licenses have been issued to Pioneer:

NSR License	Issued Date	Description
A-448-77-9-A	7/21/2017	Installation of CPL Line #1
A-448-77-10-M	3/16/2018	Modification of PM controls on CPL Line #1
A-448-77-11-A	11/19/2018	Installation of new Digital Printing System
A-448-77-12-M	5/28/2019	Revision of CO emission rates for Boiler #5/TO

Pioneer has requested that the provisions of these NSR license be incorporated into their Part 70 license.

B. Emission Equipment

The following emission units are addressed by this Part 70 License:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type
Thermal Oil Heater #1	2.55	2,601 scf/hr	Natural Gas
Boiler #5/TO	39.5	263.3 gal/hr	#4, #6 Fuel Oil
	50.0	48,550 scf/hr	Natural Gas

Process Equipment

Equipment	Unit Capacity	Primary Product	Pollution Control Equipment
Urea Reactor K1	3,000 gallons	Melamine resins, urea resins (occasionally)	Boiler #5/TO
Melamine Reactor K2	1,200 gallons		
Urea Reactor K3 / Resin Blender	5,000 gallons	Primary use: blending tank	Boiler #5/TO (when methanol or other VOC/ HAP is used in K3)
		Occasional use: urea resins production	Vapor Condenser (when acetone is used)
Polyester Reactor #1 K4	3,500 gallons	Polyester Resins	Boiler #5/TO
Polyester Reactor #2 K5	3,500 gallons		
Letdown Reactor K6	5,000 gallons		
Pilot Reactor K7	100 gallons		
Polyester Reactor #3 K8	3,500 gallons		
Impregnator P4	150 ft/min	Phenolic Impregnated Kraft Paper	
Impregnator P5	600 ft/min		
Impregnator P9 (including Press 1 and Feed Tank #67)	400 ft/min		
Coater C4	45 ft/min	Polyester Papers	

Equipment	Unit Capacity	Pollution Control Equipment
CPL Line #1	237.8 ft ² /min	Fabric Filter for in-line sanding equipment
Tank #70 – Phenolic Resin	600 gallons	none
Tank #71 – Phenolic Resin	600 gallons	none
Digital Printers (6)	N/A	none

Unit capacities for process equipment are listed for informational purposes only and are not intended as license restrictions.

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.

Pioneer has requested incorporation into the Part 70 Air License the relevant terms and conditions of New Source Review (NSR) licenses A-448-77-9-A issued July 21, 2017, A-448-77-10-M issued March 16, 2018, and A-448-77-11-A issued November 19, 2019, pursuant to *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115.

These licenses addressed and modified Best Available Control Technology analyses for new and existing equipment.

Therefore, this license application was considered a Part 70 Significant License Modification and processed under *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140.

Based on changes to the licensed emission levels, the application is not considered a Part 70 Administrative Revision or Part 70 Minor License Modification, and has therefore been processed as a Part 70 Significant License Modification under *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140.

II. BEST PRACTICAL TREATMENT (BPT) AND EMISSION STANDARDS

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 as well as for those sources located in designated non-attainment areas.

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. CPL Line #1

Pioneer has installed and begun operation of a new press (CPL Line #1) capable of continuously producing high-pressure laminate. CPL Line #1, manufactured by Hymmen, continuously unwinds rolls of melamine-formaldehyde treated décor paper and/or overlay, phenolic-treated kraft paper, and backing. It then applies heat and high pressure compression to promote cross-linking within the layers to continuously produce laminate product. CPL Line #1 has a maximum production capacity of 237.8 square feet per minute, although actual production varies depending on the product grade produced.

Heat for the press is provided by Thermal Oil Heater #1 which is addressed separately in this license. No additional heat is provided to CPL Line #1 by the facility's boilers. Emissions from the press section of CPL Line #1 are vented to atmosphere.

CPL Line #1 includes in-line sanding, trimming, and cutting equipment which formats the final product for length and width. The dust from the in-line sander is captured with an integrated cartridge dust collector (CPL Line #1 Collector) that vents outside the building. The CPL Line #1 Collector is rated to achieve at least 99% control of PM/PM₁₀ emissions using paper or fabric filters to remove dust from the air stream.

Pioneer pneumatically conveys the dust collected by the CPL Line #1 Collector to a dust collection unit, a Camfil Farr Dust Collector. The Camfil Farr Dust Collector is a cartridge filter system that uses pulses of air to clean the filter media, similar to a baghouse. The PM control efficiency of the Camfil Farr Dust Collector is rated above 99.9%.

The Camfil Farr Dust Collector is located outside the building and discharges into the existing dust collection bin along with the dust collected from the facility's Dust Transport System.

1. Control Equipment

As described above, Pioneer shall use CPL Line #1 Collector to control PM emissions from the in-line sanding operations on CPL Line #1. CPL Line #1 Collector shall meet a minimum control efficiency of 99%.

The CPL Line #1 Collector shall convey collected dust to the outside dust collection bin pneumatically. PM emissions from the dust collection system shall be controlled by the Camfil Farr Dust Collector. The Camfil Farr Dust Collector shall meet a minimum control efficiency of 99%.

2. Emission Limits

a. Volatile Organic Compounds (VOC)

Although most of the VOC in the laminate product has already been flashed off in the impregnators and treaters, the heat and pressure applied by CPL Line #1 may cause some additional VOC to be released.

Potential VOC emissions from CPL Line #1 are estimated to be 2.4 tpy based on a maximum pressing rate of 0.55 ft³/min and a VOC emission rate of 0.01655 lb/ft³ previously established based on information from the existing presses.

In NSR license A-448-77-9-A, BACT for VOC emissions from CPL Line #1 was determined to be operation of the equipment in accordance with the manufacturer's instructions.

b. Particulate Matter (PM)

Visible emissions from the press section of CPL Line #1 shall not exceed 20% opacity on a six-minute block average basis.

Visible emissions from the cartridge dust collector shall not exceed 10% opacity on a six-minute block average basis.

3. Compliance Methods

Compliance with the control efficiencies for CPL Line #1 Collector and Camfil Farr Dust Collector shall be demonstrated by the inspection and maintenance recordkeeping required by this license.

Compliance with the visible emission limits shall be demonstrated by observations performed by someone familiar with EPA Method 9 upon request by the Department.

4. Periodic Monitoring

Pioneer shall operate, record data, and maintain records from the following periodic monitors for CPL Line #1.

- a. Hours of operation on a monthly and calendar year basis. [06-096 C.M.R. ch. 137]
- b. Estimated emissions of VOC on a calendar year basis. [06-096 C.M.R. ch. 137]
- c. Records of any maintenance activities performed (planned or unplanned) on the CPL Line #1 Collector and Camfil Farr Dust Collector. [06-096 C.M.R. ch. 115, BACT (A-448-77-10-M)]

5. Parameter Monitoring

There are no parameter monitors required for CPL Line #1.

C. Thermal Oil Heater #1

Thermal Oil Heater #1 heats a thermal oil used to provide heat to the press section of CPL Line #1. The burner is rated at 2.55 MMBtu/hr and fires natural gas. Emissions from Thermal Oil Heater #1 exhaust through a 50-foot above ground level stack.

1. New Source Performance Standards

Due to its size, the Thermal Oil Heater #1 is 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]

2. National Emission Standards for Hazardous Air Pollutants

Thermal Oil Heater #1 is subject to the *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*, 40 C.F.R. Part 63, Subpart DDDDD. Thermal Oil Heater #1 does not meet the definition of “boiler” because it does not produce steam or hot water. However, this unit does meet the definition of “process heater” because it is an enclosed device using controlled flame with the primary purpose to heat a transfer material (thermal oil) for use in a process unit. Thermal Oil Heater #1 is considered a unit designed to burn gas 1 fuel. [40 C.F.R. §§ 63.7485 and 63.7575]

a. Compliance Dates and Notifications

- (1) Thermal Oil Heater #1 became subject to the standard upon startup. [40 C.F.R. § 63.7495(a)]
- (2) An Initial Notification submittal to EPA was due within 15 days of startup. [40 C.F.R. § 63.7545(c)] An initial notification dated March 20, 2018, was submitted stating the date of initial startup of Thermal Oil Heater #1 occurred on March 19, 2018.
- (3) Pioneer is not required to submit a Notification of Compliance Status for Thermal Oil Heater #1. [40 C.F.R. § 63.7545] However, a Notification of Compliance Status was submitted on January 30, 2019.

b. Emission Limits and Work Practice Requirements

- (1) New process heaters which burn only natural gas are exempt from the emission limits of Subpart DDDDD. [40 C.F.R. § 63.7500(e)]
- (2) Tune-Up Program
 - (i) A tune-up program shall be implemented. [40 C.F.R. § 63.7500(e)]
 - (ii) Pioneer shall conduct tune-ups on Thermal Oil Heater #1 every five years with no more than 61 months between tune-ups. The initial tune-up is due within 61 months of startup. [40 C.F.R. §§ 63.7500(e) and 63.7540(a)(12)]
 - (iii) The tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection. [40 C.F.R. §§ 63.7540(a)(10)(i) and (12)]
 2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.7540(a)(10)(ii)]
 3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. [40 C.F.R. § 63.7450(a)(10)(iii)]
 4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.7540(a)(10)(iv)]
 5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and

after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

[40 C.F.R. § 63.7540(a)(10)(v)]

6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up.

[40 C.F.R. § 63.7540(a)(13)]

(iv) Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:

1. The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before and after** the boiler tune-up; and
2. A description of any corrective actions taken as part of the tune-up.

[40 C.F.R. § 63.7540(a)(10)(vi)]

c. Reports

- (1) A compliance report shall be prepared and submitted to EPA by January 31st every five years which covers the previous five calendar years.

[40 C.F.R. § 63.7550(b)]

- (2) Compliance reports must be submitted to EPA through their electronic reporting system (CEDRI). [40 C.F.R. § 63.7550(h)(3)]

- (3) The report must include the items contained in §§ 63.7550(c)(5)(i) through (iii), (xiv), and (xvii), including the following:

(i) Company name and address;

(ii) Process unit information;

(iii) Date of the report and beginning and ending dates of the reporting period;

(iv) Date of the most recent tune-up, including the date of the most recent burner inspection if it was not done on a 5-year period and delayed until the next shutdown; and

(v) A statement certifying truth, accuracy, and completeness of the report and signed by a responsible official and containing the official's name, title, and signature.

[40 C.F.R. § 63.7550(c)(1)]

d. Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart DDDDD including the following [40 C.F.R. § 63.7555(a)]:

- (1) Copies of notifications and reports with supporting compliance documentation; and

(2) Identification of each unit, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the unit was tuned.

Records shall be in a form suitable and readily available for expeditious review.

3. Emission Limits

For Thermal Oil Heater #1, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested ("*" denotes a request for streamlining), and the applicable emission limits can be found below.

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.02 lb/hr	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	0.02 lb/hr
PM ₁₀	0.02 lb/hr	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	0.02 lb/hr
PM _{2.5}	0.02 lb/hr	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	0.02 lb/hr
SO ₂	negligible	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	negligible
NO _x	0.25 lb/hr	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	0.25 lb/hr
CO	0.21 lb/hr	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	0.25 lb/hr
VOC	0.01 lb/hr	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	0.01 lb/hr
Visible Emissions	20% opacity on a 6-minute block average basis, except for one 6-minute block average in a 3-hour period	06-096 C.M.R. ch. 101, §2(B)(2)	10% opacity on a 6-minute block average basis *
	10% opacity on a 6-minute block average basis	06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)	

4. Compliance Methods

Compliance with the emission limits associated with Thermal Oil Heater #1 shall be demonstrated in accordance with appropriate methods and procedures upon request of the Department.

5. Periodic Monitoring

Pioneer shall operate, record data, and maintain records from the following periodic monitors for Thermal Oil Heater #1.

- a. Hours of operation on a monthly and calendar year basis. [06-096 C.M.R ch. 137]
- b. Records of fuel use on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 137 and 06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)]

6. Parameter Monitoring

There are no parameter monitors required for Thermal Oil Heater #1.

D. Tanks #70 and #71

Two new tanks (Tanks #70 and #71) are used to store phenolic resin for use in Impregnator P9 in support of the CPL Line #1 project. The estimate at the time of the original licensing was that Tank #70 would have a capacity of 500 gallons and Tank #71 would have a capacity of 1,000 gallons. The actual maximum capacity of the tanks is 600 gallons each. (Unit capacities for process equipment are listed for informational purposes only and are not intended as license restrictions.)

1. National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), 40 C.F.R. Part 63, Subpart EEEE is applicable to organic liquid distribution (OLD) operations. Pioneer operates an OLD operation, and Tanks #70 and #71 are included in this operation.

However, since both tanks have capacities less than 5,000 gallons, the subpart contains no applicable control requirements. Pioneer is required to keep documentation that verifies that Tanks #70 and #71 are not required to be controlled (e.g. identification of each tank size and location). [40 C.F.R. § 63.2342(a)]

2. Emission Limits

Emissions of organic materials (VOC) from storage tanks occur due to evaporative loss of the liquid during storage (breathing losses) and due to changes in the liquid level during filling and emptying operations (working losses).

Potential VOC emissions from Tanks #70 and #71 are estimated to be less than 0.5 tpy for both tanks combined.

In NSR license A-448-77-9-A, BACT for VOC emissions from Tanks #70 and #71 was determined to be monthly recordkeeping of VOC emissions from each tank and inclusion of those emissions in the 12-month rolling total VOC cap for this project.

3. Compliance Methods

Compliance with the requirements for Tanks #70 and #71 shall be demonstrated by the recordkeeping required by this license.

4. Periodic Monitoring

Pioneer shall operate, record data, and maintain records from the following periodic monitors for Tanks #70 and #71.

- a. Estimated emissions of VOC on a monthly, 12-month rolling total, and calendar year basis.
[06-096 C.M.R. ch. 137 and 06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)]
- b. Records of the size and location of each tank. [40 C.F.R. § 63.2342(a)]

5. Parameter Monitoring

There are no parameter monitors required for Tanks #70 and #71.

E. Emissions Caps

Net emissions increases of CO and VOC from the installation of CPL Line #1 have the potential to exceed the Significant Emissions Increase thresholds. Therefore, Pioneer was licensed with caps on emissions for CO and VOC such that this project remained a minor modification.

1. CO

The only affected equipment associated with the installation of CPL Line #1 which emit CO are the Thermal Oil Heater #1 and Boiler #5/TO. Maximum potential CO emissions from Thermal Oil Heater #1 are 0.2 tpy.

Boiler #5/TO is subject to a federally-enforceable emissions cap of 329.0 tpy of CO (12-month rolling total basis). This cap was put in place in air emission license A-448-77-6-A (issued 2/12/13) to restrict the CO emissions increase resulting from using Boiler #5/TO as a control device to no greater than 99.0 tpy.

Pioneer elected to keep the existing CO cap in place for Boiler #5/TO. This limit, in addition to emissions from Thermal Oil Heater #1 being below 1.0 tpy, ensures that the emissions increase from this project remained below the significant emissions threshold for CO.

2. VOC

In order for the installation of CPL Line #1 to remain a minor modification, Pioneer proposed to limit the project emission increase in VOC to 39 tpy. The emission units which emit VOC and are affected by this project are CPL Line #1 and the associated Thermal Oil Heater #1, Tanks #70 and #71, Reactors K1, K2, and K3, Impregnators P4, P5, and P9, and Treaters M1, M4, M5, and M7.

The baseline average emissions (2015-2016) for all of the existing equipment combined was 84.2 tpy of VOC. Pioneer proposed a cap on VOC emissions from all affected equipment of 123.2 tpy (84.2 tpy + 39 tpy) based on a 12-month rolling total.

Impregnator P9, Laminate Press #1, and Feed Tank #67 were added with air emission license A-448-77-1-A (issued June 5, 2007). In order to keep that amendment minor, Pioneer accepted an annual emission limit of 39 tpy from these units.

To simplify record keeping, Pioneer proposed including Laminate Press #1 and Feed Tank #67 in the VOC emission cap even though they are not affected by the CPL Line #1 project. This cap is more stringent as it includes many more emission units than in the previous cap. In addition, this change is outside the contemporaneous look-back period and the previous annual limit is therefore obsolete.

F. Digital Printers

Pioneer previously operated five digital printers. This equipment was historically considered an insignificant activity per 06-096 C.M.R. ch. 140, Appendix B, § B.1 as the PTE from this equipment has been less than 1.0 tpy of volatile organic compounds (VOC) and less than the applicable quantity of hazardous air pollutant (HAP) as specified in Appendix B, § C.

In NSR license A-448-77-11-A, Pioneer proposed the installation of a new digital printing system to supplement the existing five digital printers. The new printer has a larger capacity which results in the PTE of all six printers combined exceeding the significance threshold.

Although it is unlikely the digital printers will be operated in this manner, PTE was conservatively estimated assuming maximum throughput and operating the printers 8,760 hours per year. Using this method, PTE for the digital printing operation was calculated to be 4.4 tpy for VOC and 4.4 tpy of HAP.

To minimize emissions, Pioneer uses mostly water-based inks. No add-on pollution control equipment is offered by the printer manufacturer. The printers are operated inside and exhausted through the room exhaust system.

In NSR license A-448-77-11-A, BACT for VOC and HAP emissions from the digital printing operations was determined to be an annual emission limit of 4.4 tpy on a 12-month rolling total basis.

Compliance shall be demonstrated by recordkeeping, including tracking the VOC and HAP content and volume of inks used on a monthly basis.

G. Revision of CO Emission Rates

Pioneer utilizes Boiler #5/TO to incinerate VOC- and HAP-laden emission streams from its manufacturing process, specifically from the impregnators (P4, P5, and P9), Coater C4, and the reactors in the specialty resins department (Specialty Resins). To maximize the benefit of firing fuel in this unit, Pioneer operates it both as a pollution control device and as a boiler by including heat recovery to produce steam for the facility.

Boiler #5/TO is subject to a federally-enforceable emissions cap of 329.0 tpy of CO on a 12-month rolling total basis. However, when firing natural gas, emissions of CO vary depending upon the combination of process equipment in operation.

Pioneer developed CO emission rates (lb/hr) based on extensive stack testing performed under various operating scenarios. Pioneer demonstrates compliance with the CO emissions cap by multiplying these emission rates, which are listed in their air emission license, by the number of hours of operation of each operating scenario.

Pioneer installed Impregnator P9 in 2018. Condition (3) of Air Emission License A-448-77-9-A (issued 7/21/2017) required Pioneer to perform stack testing to determine the effect of the addition of this emission unit to emissions of CO from Boiler #5/TO. Pioneer performed this testing in March 2019. Based on the results of this testing, in NSR license A-448-77-12-M Pioneer updated the emission rates used in their compliance demonstration to the following:

Emission Unit Combination	Average CO Emission Rate (lb/hr) while Burning Natural Gas
Specialty Resins only	0.60
Specialty Resins + P9	12.5
Impregnator P5 only	13.3
Specialty Resins + P5	15.7
Specialty Resins + P5 + P9	17.5
Specialty Resins + P4 + P5	32.9
Specialty Resins + C4 + P5	42.0
Specialty Resins + C4 + P4 + P5 + P9	78.4

H. Facility Annual Emissions

Pioneer shall be restricted to the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on licensed fuel limits, 100 hr/yr of operation for each engine, operation of process equipment 8,760 hr/yr, and applicable emission caps.

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

Equipment	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boiler #4	33.0	33.0	368.0	99.0	66.0	2.0
Boiler#5/TO & Process VOC	52.1	52.1	385.9	103.8	329.0	131.4
Boiler #6	27.7	27.7	135.3	86.6	98.3	6.9
Boilers #7 and #8	1.5	1.5	4.3	6.8	13.7	0.4
Fire Pump and Generators	0.3	0.3	0.7	9.9	2.2	0.8
RTO #1	1.4	1.4	0.3	4.3	1.0	17.5
CPL Line #1	*	*	–	–	–	2.4
Thermal Oil Heater #1	0.1	0.1	–	1.1	0.9	0.1
Digital Printers	–	–	–	–	–	4.4
Totals	116.1	116.1	894.5	311.5	511.1	165.9

* Particulate emissions from process equipment is not quantified for fee purposes.

III. AMBIENT AIR QUALITY ANALYSIS

Pioneer previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this Part 70 license.

ORDER

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

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

The Department hereby grants the Part 70 License Amendment A-448-70-E-A pursuant to 06-096 C.M.R. 140 and the preconstruction permitting requirements of *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115 and subject to the conditions found in Air Emission License A-448-70-D-R/A and the following conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in 06-096 C.M.R. ch. 115 for making such changes and pursuant to the applicable requirements in 06-096 C.M.R. ch. 140.

For each specific condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only.**

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.

SPECIFIC CONDITIONS

The following replaces Condition (19) of Air Emission License A-448-70-D-R/A. This change is only made to correct errors in numbering and removal of obsolete requirements. No other changes to license requirements have been made.

(19) Boiler #5/Thermal Oxidizer

Operating as a Boiler:

A. Allowable Fuels

1. Boiler #5 is licensed to fire #6 fuel oil, #4 fuel oil, and natural gas. [06-096 C.M.R. ch. 140, BPT and 06-096 C.M.R. ch. 860]
2. Pioneer shall maintain records of the quantity of fuel consumed on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 140, BPT]

B. Fuel Sulfur Content

The residual fuel oil fired shall not exceed a maximum sulfur content limit of 0.5% by weight. [38 M.R.S. §§ 603-A(2)(A)(1) and (2)]

C. Fuel Sulfur Content Compliance

Sulfur content compliance shall be demonstrated by fuel oil analysis of the bulk fuel oil storage tanks if the fuel is blended on-site or by fuel delivery receipts if the maximum sulfur content delivered is at or below the sulfur content limits listed above. [06-096 C.M.R. ch. 140, BPT]

D. Boiler #5/Thermal Oxidizer shall not exceed the following emission limitations, when combusting residual fuel:

Pollutant	Origin and Authority	Licensed Emission Limits
PM	06-096 C.M.R. ch. 103, § 2.A(1) A-448-70-A-A/I & 06-096 C.M.R. ch. 140, BPT	0.20 lb/MMBtu (oil)
	06-096 C.M.R. ch. 115, BACT A-448-77-5-M	0.05 lb/MMBtu (NG)
	A-448-72-K-A/R (8/23/95) and 06-096 C.M.R. ch. 140, BPT	11.9 lb/hr (fuel oil)
	06-096 C.M.R. ch. 115, BACT A-448-77-5-M	2.5 lb/hr (NG)

Pollutant	Origin and Authority	Licensed Emission Limits
PM ₁₀	A-448-72-K-A/R (8/23/95) and 06-096 C.M.R. ch. 140, BPT	11.9 lb/hr (fuel oil)
	06-096 C.M.R. ch. 115, BACT A-448-77-5-M	2.5 lb/hr (NG)
SO ₂	06-096 C.M.R. ch. 106, § 2(A)(2)	2.0 lb/MMBtu (consistent with fuel sulfur content limit of 2.0% by weight)
	06-096 C.M.R. ch. 106, §2.A.(2)	2.0% sulfur content limit, by weight until July 1, 2018.
	38 M.R.S. §§ 603-A(2)(A)(1) and (2)	After July 1, 2018, the sulfur limit is 0.5% by weight.
	A-448-70-A-A/I issued 4/20/04 06-096 C.M.R. ch. 140, BPT (If Boiler #6 fires #4 fuel oil instead of natural gas)	[#4 oil] 0.7% S limit, by weight (until July 2018 and then after that date limited to 0.5% by weight as required per state statute and license for residual oil).
	A-448-72-K-A/R (8/23/95) and 06-096 C.M.R. ch. 140, BPT	88.1 lb/hr (fuel oil)
	06-096 C.M.R. ch. 115, BACT A-448-77-5-M	0.1 lb/hr (NG)
NO _x	A-448-72-K-A/R (8/23/95) and 06-096 C.M.R. ch. 140, BPT	23.7 lb/hr (fuel oil)
	06-096 C.M.R. ch. 140, BPT	8.6 lb/hr (#4 fuel oil)
	06-096 C.M.R. ch. 115, BACT A-448-77-5-M	5.0 lb/hr (NG)
CO	A-448-77-6-A (February 12, 2013), BPT	135.3 lbs/hr CO - burning fuel oil and operating as a pollution control device for the control of VOC and HAP emissions from process sources
		15.7 lbs/hr CO - burning fuel oil and <i>not</i> operating P5.
	A-448-77-6-A (February 12, 2013), BPT	Other limits according to the emission rates and scenarios identified in the table below when firing natural gas. 329 tons per year, 12-month rolling total
VOC	A-448-72-K-A/R (8/23/95) and 06-096 C.M.R. ch. 140, BPT	30.0 lb/hr (fuel oil)
	06-096 C.M.R. ch. 115, BACT A-448-77-5-M	0.3 lb/hr (NG)

Pollutant	Origin and Authority	Licensed Emission Limits
Visible Emissions	A-448-70-A-A/I & 06-096 C.M.R. ch. 140, BPT	30% opacity on a 6-minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour block period.
	06-096 C.M.R. ch. 101 & 06-096 C.M.R. ch. 140, BPT	When all units through the combined stack (Boiler #4, #6, and Boiler #5/Thermal Oxidizer) are firing natural, visible emissions shall not exceed 10% opacity on a six (6) minute block average basis, for more than one (1) six (6) minute block average in a 3-hour period.

E. CO Emissions from Boiler #5/Thermal Oxidizer:

1. Pioneer shall monitor Impregnator P5 minutes of operation monthly, and calculate CO emissions on a monthly and 12-month rolling total using the test data of 135.3 lbs/hr CO when burning #6 fuel oil. Impregnator P5 minutes of operation shall be documented through both paper log sheets that the machine operators complete each day, and in minute-by-minute data recorded in the facility's computer database system.
2. When burning #6 fuel oil and not operating the Impregnator P5, Pioneer will calculate CO emissions on a monthly and 12-month rolling total using the CO emission rate of 15.7 lb/hr. Pioneer shall calculate CO emissions by multiplying the license lb/hr emission limit by the number of hours of operation.
3. When firing natural gas, Pioneer shall calculate CO emissions on a monthly and 12-month rolling total basis using the following emission rates for each operating scenario:

Emission Unit Combination	Average CO Emission Rate (lb/hr) while Burning Natural Gas
Specialty Resins only	0.60
Specialty Resins + P9	12.5
Impregnator P5 only	13.3
Specialty Resins + P5	15.7
Specialty Resins + P5 + P9	17.5
Specialty Resins + P4 + P5	32.9
Specialty Resins + C4 + P5	42.0
Specialty Resins + C4 + P4 + P5 + P9	78.4

4. Pioneer shall calculate the CO emissions from Boiler #5/TO by multiplying the above lb/hr emission rate by the number of hours of operation, depending on the operating scenario. The minutes of operation for Impregnators P4, P5, and P9 as well as Coater C4 shall be documented through both paper log sheets that the machine operators complete each day, and in minute-by-minute data recorded in the facility's computer database system. Operations of the Specialty Resins operations (K1 – K8) shall be recorded in paper batch logs that are written by the reactor operators, and the Specialty Resins Department's diverter damper position (vented to Thermal Oxidizer or vented to atmosphere) shall be recorded every 15 minutes in the Citect computer database system.
 5. Pioneer shall limit total CO emissions from the Boiler #5/Thermal Oxidizer to less than 329 tons per year. Records shall be kept on a monthly and 12-month rolling total basis.
- F. Compliance with the emission limits associated with Boiler #5/Thermal Oxidizer shall be demonstrated in accordance with the methods and frequencies indicated in the table below or other methods or frequencies as approved by the Department.

Pollutant	Unit Basis of Emission Limit	Compliance Method	Frequency
PM	lb/MMBtu and lb/hr	40 C.F.R. Part 60, App. A, Method 5	Compliance with the particulate matter emission limit shall be based on a stack test conducted in accordance with the appropriate EPA test method by July 31st every year, if the unit is operated for more than 30% capacity on oil.
PM ₁₀	lb/hr	40 C.F.R. Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO ₂	lb/hr	40 C.F.R. Part 60, App. A, Method 6	As requested
NO _x	lb/MMBtu and lb/hr	40 C.F.R. Part 60, App. A, Method 7E	Compliance with the NO _x emission limit shall be based on a stack test conducted in accordance with the appropriate EPA test method by July 31st every year, if the unit is operated for more than 30% of its capacity on oil.
CO	lb/hr	40 C.F.R. Part 60, App. A, Method 10	As requested

Pollutant	Unit Basis of Emission Limit	Compliance Method	Frequency
VOC	lb/hr	40 C.F.R. Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 C.F.R. Part 60, App. A, Method 9	As requested

G. Pioneer shall perform annual internal inspections of the ductwork that delivers emissions to the Thermal Oxidizer, as well as the burner components in the Thermal Oxidizer in order to maintain good combustion efficiency. Records of these inspections shall be maintained for at least six (6) years and be made available to the Department upon request. [06-096 C.M.R. ch. 138]

H. If Boiler #5/Thermal Oxidizer combusts the distillate liquid waste, after the applicability date, it will be considered an existing CISWI unit subject to 40 C.F.R. Part 60 Subpart DDDD and the following emission limits that apply to Energy Recovery Units:

Pollutant	Performance Standard (Identify lb/MMBtu, PPM, gr/dscf, etc.)	Averaging Period	Regulatory Reference
PM	120 mg/DSCM	3-hr average	NESHAP 40 C.F.R. Part 63, Subpart DDDD
SO ₂	720 ppm _{dv} @ 7% O ₂	3-hr average	
NO _x	76 ppm _{dv} @ 7% O ₂	3-hr average	
CO	35 ppm _{dv} @ 7% O ₂	3-hr average	
VOC	--	--	--
Cd	0.023 mg/DSCM	3-hr average	NESHAP 40 C.F.R. Part 63, Subpart DDDD
Pb	0.096 mg/DSCM	3-hr average	
Hg	0.0024 mg/DSCM	3-hr average	
Dioxin / Furan (TEQ)	0.32 ng/DSCM	3-hr average	
Hydrogen chloride	14 ppm _{dv} @ 7% O ₂	3-hr average	

Operating as a Pollution Control Device for the Control of VOCs and HAPs:

- I. At all times that P4, P5, and C4 are operating as coaters, impregnators, or treaters, Pioneer shall vent VOC emissions to Boiler #5/Thermal Oxidizer by means of a certified Permanent and Total Enclosure (PTE) Capture System [06-096 C.M.R. chs. 123 and 126] and shall:
 1. Maintain a minimum incinerator combustion temperature of 1250°F in the Thermal Oxidizer combustion chamber on a 1-hr average basis. [06-096 C.M.R. ch. 140,

- BPT] A streamlined limit that is higher than this may be established based on the performance testing required by the MACT standards also applicable to this unit;
2. Periodically monitor the exhaust gas temperature in the Thermal Oxidizer and record at least one reading every 15 minutes. Four equally spaced readings are required to constitute a valid hour of data. Valid data must be collected from at least 90% of the hours during which the process operates. [40 C.F.R. § 60.4364(a)(2)];
 3. Limit VOC emissions after destruction in Boiler #5/Thermal Oxidizer to a rate of 4.8 pounds of VOC emitted per gallon of solids applied to the substrate verified using EPA test methods 24 and 25A (40 C.F.R. Part 60, Appendix A, Methods 24 and 25A) [06-096 C.M.R. ch. 123]; or
 4. Limit VOC emissions such that total VOC emissions from P4, P5, and C4 are controlled by 95%. Compliance with the 95% overall reduction of total VOC emissions shall be based on a demonstration that the PTE Capture System meets the appropriate specifications (Chapter 126, Appendix A, Procedure T) in conjunction with a destruction efficiency test on the Thermal Oxidizer once every two years using EPA test methods 25 or 25A (40 C.F.R., Part 60, Appendix A, Methods 25, 25A) [06-096 C.M.R. ch. 123 and 06-096 C.M.R. ch. 140 BPT].
- J. Boiler #5/Thermal Oxidizer is subject to the Amino/Phenolic Resin Production National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements 40 C.F.R. Part 63, Subpart OOO.
1. Boiler #5/Thermal Oxidizer must meet the control devices requirements specified in 40 CFR Part 63 Subpart OOO per 40 C.F.R. § 63.1415(b).
 2. Pioneer shall comply with 40 C.F.R. 63 Subpart UU (Generic MACT equipment leak rule), control level 2 for all equipment (defined in 40 C.F.R. § 63.1402) that contains or contacts $\geq 5\%$ HAPs and operates at ≥ 300 hours a year.
 3. Closed vent systems, control devices, and fuel gas systems must also meet the requirements of 40 C.F.R. Part 63, Subpart SS (National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process).
- K. Boiler #5/Thermal Oxidizer is subject to the Streamlined Requirements of the *National Emission Standards for Hazardous Air Pollutants (NESHAPs): Paper and Other Web Coating Requirements* 40 C.F.R. Part 63, Subpart JJJJ and the *National Emission Standards for Hazardous Air Pollutants (NESHAPs): Printing, Coating and Dyeing of Fabrics and Other Textiles Requirements* 40 C.F.R. Part 63, Subpart FFFF.

Boiler #5/Thermal Oxidizer must meet the performance testing and operation limits specified in 40 C.F.R. § 63.4363 and the installation, operation, and maintenance requirements specified in 40 C.F.R. § 63.4364.

The following are New Conditions.

(46) CPL Line #1

- A. Visible emissions from the press section of CPL Line #1 shall not exceed 20% opacity on a six-minute block average basis.
[06-096 C.M.R. ch. 115, BACT (A-448-77-10-M)]
- B. Pioneer shall use CPL Line #1 Collector to control PM emissions from the in-line sanding operations on CPL Line #1. CPL Line #1 Collector shall meet a minimum control efficiency of 99%. Compliance shall be demonstrated by the recordkeeping requirements outlined below and emissions testing performed on request by the Department. [06-096 C.M.R. ch. 115, BACT (A-448-77-10-M)]
- C. Pioneer shall convey the dust from the CPL Line #1 Collector to the outside dust collection bin pneumatically. PM emissions from this dust collection system shall be controlled by the Camfil Farr Dust Collector. The Camfil Farr Dust Collector shall meet a minimum control efficiency of 99%. Compliance shall be demonstrated by the recordkeeping requirements outlined below and emissions testing performed on request by the Department. [06-096 C.M.R. ch. 115, BACT (A-448-77-10-M)]
- D. Pioneer shall inspect the CPL Line #1 Collector and Camfil Farr Dust Collector monthly for leaks and shall keep records of these inspections as well as any maintenance (planned or unplanned) performed including filter replacements.
[06-096 C.M.R. ch. 115, BACT (A-448-77-10-M)]
- E. Visible emissions from the CPL Line #1 Collector and Camfil Farr Dust Collector shall each not exceed 10% opacity on a 6-minute block average basis. Upon request by the Department, Pioneer shall demonstrate compliance with observations performed by someone familiar with EPA Method 9.
[06-096 C.M.R. ch. 115, BACT (A-448-77-10-M)]

(47) **Thermal Oil Heater #1**

- A. Thermal Oil Heater #1 is licensed to fire natural gas. Pioneer shall keep records of fuel use on a monthly and 12-month rolling total basis.
[06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)]
- B. Emissions shall not exceed the following:
[06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)]

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Thermal Oil Heater #1	0.02	0.02	0.02	—	0.25	0.21	0.01

- C. Visible emissions from Thermal Oil Heater #1 shall not exceed 10% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)]
- D. Pioneer shall comply with all requirements of 40 C.F.R. Part 63, Subpart DDDDD applicable to Thermal Oil Heater #1 including, but not limited to, the following:
1. Tune-Up Program
 - a. The facility shall implement a tune-up program.
[40 C.F.R. § 63.7500(e)]
 - b. Pioneer shall conduct tune-ups on Thermal Oil Heater #1 every five years with no more than 61 months between tune-ups. The initial tune-up is due within 61 months of startup. [40 C.F.R. §§ 63.7500(e) and 63.7540(a)(12)]
 - c. The tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 - (1) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted for up to 72 months from the previous inspection. [40 C.F.R. §§ 63.7540(a)(10)(i) and (12)]
 - (2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 C.F.R. § 63.7540(a)(10)(ii)]
 - (3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly.
[40 C.F.R. § 63.7450(a)(10)(iii)]
 - (4) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 C.F.R. § 63.7540(a)(10)(iv)]

- (5) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
[40 C.F.R. § 63.7540(a)(10)(v)]
 - (6) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up.
[40 C.F.R. § 63.7540(a)(13)]
- d. Tune-Up Report: A tune-up report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the following information:
- (1) The concentration of CO in the effluent stream (ppmv) and oxygen (volume percent) measured at high fire or typical operating load both **before** and **after** the tune-up; and
 - (2) A description of any corrective actions taken as part of the tune-up.
[40 C.F.R. § 63.7540(a)(10)(vi)]
2. Reports
- a. A compliance report shall be prepared and submitted to EPA by January 31st every five years which covers the previous five calendar years.
[40 C.F.R. § 63.7550(b)]
 - b. Compliance reports must be submitted to EPA through their electronic reporting system (CEDRI). [40 C.F.R. § 63.7550(h)(3)]
 - c. The report must include the items contained in §§ 63.7550(c)(5)(i) through (iii), (xiv), and (xvii), including the following:
 - (1) Company name and address;
 - (2) Process unit information;
 - (3) Date of the report and beginning and ending dates of the reporting period;
 - (4) Date of the most recent tune-up, including the date of the most recent burner inspection if it was not done on a 5-year period and delayed until the next shutdown; and
 - (5) A statement certifying truth, accuracy, and completeness of the report and signed by a responsible official and containing the official's name, title, and signature.
[40 C.F.R. § 63.7550(c)(1)]

3. Recordkeeping

Records shall be maintained consistent with the requirements of 40 C.F.R. Part 63, Subpart DDDDD including the following [40 C.F.R. § 63.7555(a)]:

- a. Copies of notifications and reports with supporting compliance documentation; and
- b. Identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

Records shall be in a form suitable and readily available for expeditious review.

- (48) Pioneer shall keep documentation that verifies that Tanks #70 and #71 are not required to be controlled (e.g. identification of each tank size and location). [40 C.F.R. § 63.2342(a)]

The following New Condition shall replace Condition (25)(D) of Air Emission License A-448-70-D-R/A. (No other parts of Condition (25) are affected by this change.)

- (49) Total VOC emissions from the following equipment (combined) shall not exceed 123.2 tpy on a 12-month rolling total basis: CPL Line #1, Tanks #70 and #71, Thermal Oil Heater #1, Reactors K1, K2, and K3, Impregnators P4, P5, and P9, Treaters M1, M4, M5, and M7, Laminate Press #1, and Feed Tank #67. Pioneer shall calculate and keep records of VOC emissions from this equipment on a monthly and 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT (A-448-77-9-A)]

The following are New Conditions:

(50) **Digital Printers**

- A. Emissions from the Digital Printers shall not exceed 4.4 tpy of VOC and 4.4 tpy of HAP on a 12-month rolling total basis. Compliance shall be demonstrated by the recordkeeping requirements of this license. [06-096 C.M.R. ch. 115, BACT (A-448-77-11-A)]

B. Pioneer shall maintain the following records:

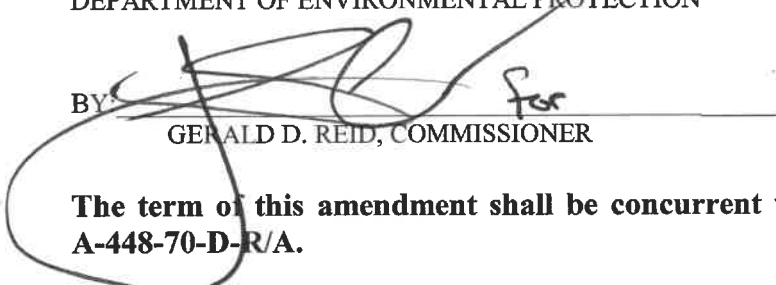
1. Monthly records of the amount of each VOC/HAP-containing ink used in the Digital Printers.
2. Records of the VOC and HAP content for each ink used.
3. Monthly calculations demonstrating compliance with the VOC and HAP emission limits.

[06-096 C.M.R. ch. 115, BACT (A-448-77-11-A)]

DONE AND DATED IN AUGUSTA, MAINE THIS 5th DAY OF August, 2019.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY

 for
GERALD D. REID, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-448-70-D-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 2/19/19

Date of application acceptance: 2/20/19

Date filed with the Board of Environmental Protection:

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

