



DEPARTMENT ORDER

**Pioneer Plastics Corporation
Androscoggin County
Auburn, Maine
A-448-77-9-A**

**Departmental
Findings of Fact and Order
New Source Review
NSR #9**

FINDINGS OF FACT

After review of the air emission license 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 (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Pioneer Plastics Corporation (Pioneer)
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Modification
NAICS CODES	325211, 322222, 326130
NATURE OF BUSINESS	Manufacturer of decorative laminate, melamine coated paper, and specialty resins
FACILITY LOCATION	One Pionite Rd, Auburn, Maine

B. NSR License Description

Pioneer Plastics Corporation (Pioneer) has requested a New Source Review (NSR) license to construct and operate a new high-pressure laminate (HPL) double-belt press that will produce continuous pressed laminate (CPL). The new press is known as CPL Line #1. This project will also involve the installation of a thermal oil heater integral to the operation of CPL Line #1 as well as two new resin storage tanks.

This NSR license also seeks to amend an existing NSR license issued for the construction and operation of Impregnator P9, Press #1, and Feed Tank #67 (A-448-77-1-A issued June 5, 2007).

C. Process Description

Pioneer operates a manufacturing plant containing various fuel-burning devices and process equipment. The facility's principal products consist of the following:

1. Decorative laminate used for countertops and furniture;
2. Amino resin-coated paper used as decorative surface for particleboard and other substrates;
3. Polyester, phenolic, or amino resin-coated fiberglass mats; and
4. Specialty resins produced both for resale and for on-site use.

Pioneer's manufacturing process includes operation of the following equipment types:

Boilers – Pioneer operates several boilers for facility and process heat needs. Boiler #5/Thermal Oxidizer (Boiler #5/TO) is used to incinerate VOC/HAP-laden emission streams from the manufacturing process.

Reactors – Pioneer has eight reactor vessels in which resins are manufactured.

Impregnators – There are three impregnators used to produce phenolic-impregnated Kraft paper. This paper is then either used as a substrate to make finished laminate product or shipped out as is.

Treaters – There are four treaters which apply melamine and urea resins to decorative papers or fiberglass substrate. (Treaters M3 and M6 have been taken out of service.)

The addition of CPL Line #1 will affect some reactors, impregnators, and treaters which will be needed to produce additional raw material for use on CPL Line #1. This project will also affect Boiler #5/TO as there may be more VOC/HAP-laden material for incineration.

D. Emission Equipment

1. The following are new emission units addressed in this NSR license:

New 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

New Process Equipment

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	500 gallons	none
Tank #71 – Phenolic Resin	1,000 gallons	none

2. The following are existing emission units affected (but not modified) by this project:

Affected Fuel Burning Equipment

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

Affected Process Equipment

Equipment	Unit Capacity	Pollution Control Equipment
Urea Reactor K1	3,000 gallons	Boiler #5/TO
Melamine Reactor K2	1,200 gallons	
Urea Reactor K3 / Resin Blender	5,000 gallons	Boiler #5/TO (when methanol or other VOC/HAP is used in K3)
		Vapor Condenser (when acetone is used)
Impregnator P4	150 ft/min	Boiler #5/TO
Impregnator P5	600 ft/min	
Impregnator P9	400 ft/min*	
Treater M1	110 ft/min	No add-on pollution control (Coating limit of 2.9 pounds of VOC/gallon of coating.)
Treater M4	140 ft/min	
Treater M5	140 ft/min	
Treater M7	140 ft/min	

*Impregnator P9 was incorreccted listed at 800 ft/min in previous licenses.

None of the other licensed equipment at the facility is affected by this NSR license.

E. 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 Pioneer does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The modification of a major source is considered a major or minor modification based on whether or not expected emissions increases exceed the “Significant Emission Increase” levels as given in *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. For a major stationary source, the expected emissions increase from each modified or affected unit may be calculated as equal to the difference between the post-modification projected actual emissions and the baseline actual emissions for each NSR regulated pollutant.

1. Baseline Actual Emissions

Baseline actual emissions (BAE) are equal to the average annual emissions from any consecutive 24-month period within the ten years prior to submittal of a complete license application. The selected 24-month baseline period can differ on a pollutant-by-pollutant basis. Pioneer has proposed using calendar years 2015/2016 as the 24-month baseline period from which to determine baseline actual emissions for all pollutants for emission units affected as part of this project.

BAE for Boiler #5/TO were calculated based on the average number of hours the emissions unit operated in 2015/2016 and the licensed hourly emission limits for natural gas combustion. Although Pioneer did fire some #6 fuel oil in the baseline period, assuming all firing in the baseline period was natural gas is determined to be more conservative as it has the effect of lowering baseline emissions.

The results of this baseline analysis are presented in the table below.

Baseline Actual Emissions (2015/2016 Average)

Equipment	PM	PM10	PM2.5	SO2	NOx	CO	VOC
Reactor K1	–	–	–	–	–	–	0.24
Reactor K2	–	–	–	–	–	–	0.11
Reactor K3	–	–	–	–	–	–	0.00
Impregnator P4	–	–	–	–	–	–	1.07
Impregnator P5	–	–	–	–	–	–	5.83
Impregnator P9	–	–	–	–	–	–	0.00
Treater M1	–	–	–	–	–	–	13.05
Treater M4	–	–	–	–	–	–	14.68
Treater M5	–	–	–	–	–	–	4.55
Treater M7	–	–	–	–	–	–	44.70
Boiler #5/TO	9.01	9.01	9.01	0.36	18.01	276.82	–
Total	9.01	9.01	9.01	0.36	18.01	276.82	84.23

The basis for calculating BAE for each pollutant is as follows:

- PM – Based on Boiler #5/TO license limit for natural gas firing and the actual average hours of operation in 2015/2016. This methodology conservatively estimates a low BAE for these pollutants as it ignores the #6 fuel oil combusted in 2015.
- PM₁₀
- PM_{2.5}
- SO₂ – Based on Boiler #5/TO license limit for natural gas firing and the actual average hours of operation in 2015/2016. This methodology conservatively estimates a low BAE for these pollutants as it ignores the #6 fuel oil combusted in 2015.
- NO_x – Based on Boiler #5/TO license limit for natural gas firing and the actual average hours of operation in 2015/2016. This methodology conservatively estimates a low BAE for these pollutants as it ignores the #6 fuel oil combusted in 2015.
- CO – Based on emission factors in Pioneer’s license for different operating scenarios and records of actual operation.
- VOC – Emissions from reactors are based on site-specific emission factors for VOC per pound of resin produced and the actual average amount of resin produced. Emissions from impregnators and treaters are based on content in coating formulations and the amount of material used. Equipment controlled by Boiler #5/TO has had the control efficiency incorporated. Any emissions from Boiler #5/TO are included in the process emissions.

2. Projected Actual Emissions

Projected actual emissions (PAE) are the maximum actual annual emissions anticipated to occur in the ten-year period following completion of the proposed project.

New emission units must use potential to emit emissions for projected actual emissions.

Affected equipment includes upstream activities such as reactors, impregnators, and treaters. Projected actual emissions from this equipment were conservatively calculated assuming use of the new CPL Line #1 for 8,760 hours/year processing the maximum amount of treated kraft paper possible.

Affected equipment also includes Boiler #5/TO as it is used to control VOC emissions from the process equipment listed above. Projected actual emissions from Boiler #5/TO were conservatively calculated assuming increasing operation of this equipment to 8,760 hours/year.

In addition, 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 facility to an emission increase of 99.0 tpy of CO. Pioneer has proposed to keep the existing CO cap in place for Boiler #5/TO.

The results of this projected actual emissions analysis are presented in the table below.

Projected Actual Emissions

Equipment	PM	PM10	PM2.5	SO2	NOx	CO	VOC
CPL Line #1	18.73	0.94	0.94	–	–	–	2.39
Thermal Oil Heater #1	0.08	0.08	0.08	0.01	1.10	0.92	0.06
Tanks #70 & #71	–	–	–	–	–	–	0.22
Reactor K1	–	–	–	–	–	–	0.72
Reactor K2	–	–	–	–	–	–	
Reactor K3	–	–	–	–	–	–	0.20
Impregnator P4	–	–	–	–	–	–	25.75
Impregnator P5	–	–	–	–	–	–	
Impregnator P9	–	–	–	–	–	–	
Treater M1	–	–	–	–	–	–	103.08
Treater M4	–	–	–	–	–	–	
Treater M5	–	–	–	–	–	–	
Treater M7	–	–	–	–	–	–	
Boiler #5/TO	10.95	10.95	10.95	0.44	21.90	329.00	–
Total	29.76	11.97	11.97	0.45	23.00	329.92	132.42

The basis for calculating PAE for each pollutant is as follows:

New Equip – Maximum potential to emit for all pollutants.

Existing Equipment

PM – Based on Boiler #5/TO license limit for natural gas firing and hours per year of operation. Although Boiler #5/TO is still licensed to fire fuel oil, it is expected to operate primarily on natural gas. The hours of operation are conservatively estimated to be 8,760 hr/year.

SO₂ – Based on Boiler #5/TO license limit for natural gas firing and hours per year of operation. Although Boiler #5/TO is still licensed to fire fuel oil, it is expected to operate primarily on natural gas. The hours of operation are conservatively estimated to be 8,760 hr/year.

NO_x – Based on Boiler #5/TO license limit for natural gas firing and hours per year of operation. Although Boiler #5/TO is still licensed to fire fuel oil, it is expected to operate primarily on natural gas. The hours of operation are conservatively estimated to be 8,760 hr/year.

- CO – Conservatively assuming emissions at the existing emissions cap of 329 ton/year.
- VOC – Emissions from reactors are based on site-specific emission factors for VOC per pound of resin produced and the maximum resin demand of CPL Line #1 and then adding these emissions to the baseline. Emissions from impregnators and treaters are based on content in coating formulations and the maximum amount of material demand of CPL Line #1 and then adding these emissions to the baseline. Equipment controlled by Boiler #5/TO has had the control efficiency incorporated. Any emissions from Boiler #5/TO are included in the process emissions.

3. Emissions Increases

The differences between the baseline actual emissions and projected actual emissions are compared to the significant emissions increase levels.

Pollutant	Baseline Actual Emissions 2015-2016 (ton/year)	Projected Actual Emissions (ton/year)	Emissions Increase (ton/year)	Significant Emissions Increase Levels (ton/year)
PM	9.01	29.76	20.8	25
PM ₁₀	9.01	11.97	3.0	15
PM _{2.5}	9.01	11.97	3.0	10
SO ₂	0.36	0.45	0.1	40
NO _x	18.01	23.00	5.0	40
CO	276.82	329.92	53.1	100
VOC	84.23	132.42	48.2	40

Emissions increases of VOC from the installation of CPL Line #1 have the potential to exceed the Significant Emissions Increase thresholds. **Therefore, Pioneer has specifically requested a cap on the emission increase of VOC to 39 tpy for this project.**

4. Classification

With the inclusion of federally enforceable caps on emissions of CO (already licensed in NSR license A-448-77-6-A, 2/12/13) and VOC, this NSR license is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115. An application to incorporate the requirements of this NSR license into the Part 70 air emission license shall be submitted no later than 12 months from commencement of operation of CPL Line #1.

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

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. CPL Line #1

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

Heat for the press will be provided by Thermal Oil Heater #1 which is addressed separately in this license. No additional heat will be 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. Dust from the in-line sander will be captured and routed to the facility's existing Dust Transport System. In-line trimming and cutting is completed with a chopper that pneumatically collects the chopped pieces into a bag or drum. Air used to collect the pieces is vented back into the building.

1. BACT Findings

Pioneer submitted a BACT analysis for control of emissions from CPL Line #1.

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.

Thermal oxidizers are an available control strategy for control of VOC emissions. However, they have high capital, maintenance, and operational costs compared to the amount of VOC to be controlled. Therefore, the use of a thermal oxidizer was determined to not be economically feasible for this equipment.

BACT for VOC emissions from CPL Line #1 is determined to be operation of the equipment in accordance with the manufacturer's instructions.

b. Particulate Matter (PM/PM₁₀)

Particulate matter emissions from the press section of CPL Line #1 are expected to be insignificant. Emissions of PM/PM₁₀ from CPL Line #1 are attributed to the in-line sanding process downstream of the pressing operations.

Pioneer has proposed capturing the dust from the in-line sander with a cartridge dust collector that will vent outside the building. The cartridge dust collector is expected to achieve at least 99% control of PM/PM₁₀ emissions using paper or fabric filters to remove dust from the air stream. The collected dust will then be transported pneumatically using Pioneer's existing Dust Transport System to a truck loading area. Emissions from the Dust Transport System are controlled using a baghouse.

BACT for PM/PM₁₀ emissions from CPL Line #1 is determined to be the use of a cartridge dust collector that achieves at least 99% control. Visible emissions from the cartridge dust collector shall not exceed 10% opacity on a six minute block average basis.

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

2. VOC RACT

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 C.M.R. ch. 134 (VOC RACT) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year. CPL Line #1 is exempt from the requirements of VOC RACT per 06-096 C.M.R. ch. 134, Section 1(C)(2) because CPL Line #1 is subject to BACT requirements as established in this federally-enforceable license.

C. Thermal Oil Heater #1

Thermal Oil Heater #1 will heat 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 will exhaust through a 50-foot above ground level stack.

1. BACT Findings

The BACT emission limits for Thermal Oil Heater #1 were based on the following:

- PM/PM₁₀ – 7.6 lb/MMBtu based on 06-096 C.M.R. ch. 115, BACT
 - SO₂ – 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
 - NO_x – 100 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
 - CO – 84 lb/MMscf based on AP-42 Table 1.4-1 dated 7/98
 - VOC – 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 7/98
 - Visible – 06-096 C.M.R. ch. 115, BACT
- Emissions

The BACT emission limits for Thermal Oil Heater #1 are the following:

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

Visible emissions from Thermal Oil Heater #1 shall not exceed 10% opacity on a six-minute block average basis.

2. Periodic Monitoring

Periodic monitoring for Thermal Oil Heater #1 shall include recordkeeping to document fuel use both on a monthly and 12-month rolling total basis.

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

Due to the 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]

4. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Sources: 40 C.F.R. Part 63, Subpart DDDDD

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 shall become subject to the standard upon startup. [40 C.F.R. § 63.7495(a)]

(2) An Initial Notification submittal to EPA is due within 15 days of startup. [40 C.F.R. § 63.7545(c)]

(3) Pioneer is not required to submit a Notification of Compliance Status for Thermal Oil Heater #1. [40 C.F.R. § 63.7545]

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) Boiler Tune-Up Program

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

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted 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 of the boiler. [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 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.

D. Tanks #70 and #71

Two new tanks (Tanks #70 and #71) will be used to store phenolic resin for use in Impregnator P9 in support of the CPL Line #1 project. Tank #70 will have a maximum capacity of 500 gallons and Tank #71 will have a maximum capacity of 1,000 gallons.

1. BACT Findings

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.

Several control strategies exist for VOC emissions from tanks, including, thermal oxidation, vapor recovery, and floating roofs. However, the high capital, maintenance, and operational costs compared to the amount of VOC to be controlled from such small tanks make additional add-on controls economically infeasible for this equipment.

BACT for VOC emissions from Tanks #70 and #71 is determined to be monthly record keeping of VOC emissions from each tank and inclusion of these emissions in the 12-month rolling total VOC cap for this project.

2. VOC RACT

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 C.M.R. ch. 134 (VOC RACT) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year. Tanks #70 and #71 are exempt from the requirements of VOC RACT per 06-096 C.M.R. ch. 134, Section 1(C)(2). Tanks #70 and #71 are subject to BACT requirements as established in this federally-enforceable license.

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

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 will be 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)]

E. Emission 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 has specifically requested caps on emissions for CO and VOC such that this project remains a minor modification.

1. CO

The only equipment affected by this license which emits 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 has proposed 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 remains below the significant emissions threshold for CO.

2. VOC

In order for this project to remain a minor modification, Pioneer has proposed to limit the project emission increase in VOC to 39 tpy. The emission units which emit VOC and are affected by this license 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 is 84.2 tpy of VOC. Pioneer has 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 has proposed including Laminate Press #1 and Feed Tank #67 in the new VOC emission cap even though they are not affected by this project. The new 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. This NSR license amends A-448-77-1-A and replaces the previous VOC cap.

F. Incorporation Into the Part 70 Air Emission License

The requirements in this 06-096 C.M.R. ch. 115 New Source Review license shall apply to the facility upon issuance. Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5.

G. Annual Emissions

1. Emission Totals

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	PM₁₀	SO₂	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
Totals	116.1	116.1	894.5	311.5	511.1	161.5

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

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:

- the facility's fuel use;
- 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

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

The Department hereby grants New Source Review License A-448-77-9-A pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific conditions below.

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

Condition (5) of New Source Review Air Emission License A-448-77-1-A is Deleted.

Pioneer is subject to the following New Source Review Conditions.

(1) 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]
- B. Pioneer shall use a cartridge dust collector to control PM emissions from the in-line sanding operations on CPL Line #1. [06-096 C.M.R. ch. 115, BACT]
- C. Pioneer shall inspect the cartridge dust collector monthly for leaks and shall keep records of these inspections as well as any maintenance (planned or unplanned) performed on the cartridge dust collector including filter replacements. [06-096 C.M.R. ch. 115, BACT]
- D. Visible emissions from the cartridge dust collector shall not exceed 10% opacity on a six 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]

(2) 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]
- B. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

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]

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. An Initial Notification submittal to EPA is due within 15 days of startup.
[40 C.F.R. § 63.7545(c)]
2. Boiler Tune-Up Program
 - a. The facility shall implement a boiler 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 boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:
 - (1) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted 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 boiler tune-up; and
 - (2) A description of any corrective actions taken as part of the tune-up of the boiler.
- [40 C.F.R. § 63.7540(a)(10)(vi)]

3. 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)]

4. 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.

- (3) Within 180 days of startup of Impregnator P9, Pioneer shall perform stack testing to determine the effect of Impregnator P9 on CO emissions from Boiler #5/TO. If the results of this testing indicate a need to revise the equipment specific CO emission factors listed in Pioneer's Part 70 license and NSR license A-448-77-6-A (2/12/13), Pioneer shall submit applications to do so within 90 days of the date of the test report. [06-096 C.M.R. ch. 115, BACT]
- (4) 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)]
- (5) 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]
- (6) Pioneer shall submit an application to incorporate this NSR license into the facility's Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 C.M.R. ch. 140 § 1(C)(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 21 DAY OF July, 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core for
PAUL MERCER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 4/3/17

Date of application acceptance: 4/4/17

Date filed with the Board of Environmental Protection:

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

