Pioneer Plastics Corporation
Androscoggin County
Auburn, Maine
A-448-70-D-R/A

Departmental
Findings of Fact and Order
Part 70 Air Emission License
Renewal/Amendment

FINDINGS OF FACT

After review of the Part 70 License renewal and amendment application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Pioneer Plastics Corporation (Pioneer)
LICENSE TYPE	Part 70 License Renewal and Part 70 Significant License Modification (to include subsequent New Source Review requirements)
NAICS CODES	325211, 322222, 326130
NATURE OF BUSINESS	Manufacturer of decorative laminate, melamine coated paper, and specialty resins
FACILITY LOCATION	One Pionite Road, 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.

Pioneer has the potential to emit more than 100 tons per year (TPY) of particulate matter (PM), Particulate Matter under 10 micrometers (PM_{10}), particulate matter under 2.5 micrometers ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen oxides (NO_X), and carbon monoxide (CO) and 50 TPY of volatile organic compounds (VOC) and 100,000 tons of carbon dioxide equivalent (CO_2e); therefore, the source is a major source for criteria pollutants. Pioneer has the potential to emit more than 10 TPY of a single hazardous air pollutant (HAP) and more than 25 TPY of combined HAP; therefore, the source is a major source for HAP.

B. Emission Equipment

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

1. Boilers/Fuel Burning Units

Equipment	Maximum Heat Input Capacity (MMBtu/hr)	Max. Firing Rate	Unit Type	Fuel Type	Date of Manuf.	Date of Install.
Boiler #4	55.5 MMBtu/hr	370 gal/hr	Fuel Burning Equipment	#4, #6 fuel oil, Natural gas	1975	1977
Boiler #6	96.6 MMBtu/hr (fuel oil) 96.8 MMBtu/hr (natural gas)	644 gal/hr 93,980 scf/hr		#4, #6 fuel oil, Natural gas	1981	1995
Process Heater #7	2.8 MMBtu/hr	2,745 scf/hr		Natural gas	1985	1985
Process Heater #8	5.0 MMBtu/hr	4,854 scf/hr		Natural gas	1994	1994
Boiler#5/ Thermal Oxidizer	39.5 MMBtu/hr 50.0 MMBtu/hr	263.3 gal/hr 48,550 scf/hr	Fuel Burning Equipment/ Pollution Control	#4, #6 fuel oil, Natural gas	1982	1983
RTO #1	1.5 MMBtu/hr	1500 scf/hr		Natural gas	2000	2014

2. Engines

Equipment	Max. Heat Input Capacity (MMBtu/hr)	Max. Firing Rate	Output	Fuel Type	Manufacture Date
Generator #1 (Onan Back-up Generator)	1.13 MMBtu/hr	1097 scf/hr	120 kW	Natural Gas	1982
Generator #2 (Cummins Back-up Generator)	1.2 MMBtu/hr	8.8 gal/hr	120 kW	distillate	1982
Fire Pump	2.1 MMBtu/hr	15.3 gal/hr	210 kW	distillate	1970

3. Process Units

Equipment	Unit Capacity	Primary Product	Pollution Control Equipment
Urea Reactor K1	3,000 gallons	Melamine resins, urea resins (occasionally)	Boiler #5 / Thermal Oxidizer or RTO #1
Melamine Reactor K2	1,200 gallons		

Equipment	Unit Capacity	Primary Product	Pollution Control Equipment
Urea Reactor K3 / Resin Blender	5,000 gallons	Primary use: blending tank Occasional use: urea resins production	Boiler #5 / Thermal Oxidizer (when methanol or other VOC/ HAP is used in K3) or RTO #1
			Vapor Condenser (when acetone is used)

Equipment	Unit Capacity	Primary Product	Pollution Control Equipment
Polyester Reactor #1 K4	3,500 gallons	Polyester Resins	Boiler #5 / Thermal Oxidizer or RTO #1
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)	800 ft/min*		
Coater C4	45 ft/min*	Polyester papers	
Treater M1	110 ft/min*	Decorative papers or fiberglass substrate treated with melamine and/or urea resins	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 M6	140 ft/min*		
Treater M7	140 ft/min*		
Pilot Treater	20 ft/min*		

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

Equipment	Unit Capacity	Pollution Control Equipment
Pressroom	N/A	N/A
Routers	N/A	Fabric Filters
Table Saws		
Sanders		
Dust Transport System		
Central Vacuum		
Storage silos		
Resin Crusher/Grinder		
Drillboard Press Plate	2.5 gallons	N/A

Equipment	Unit Capacity
Terephthalic Acid Silo	318,000 lbs
Melamine Silo	303,000 lbs
Terephthalic Acid Weigh Hopper - Poly 1	4,300 lbs
Terephthalic Acid Weigh Hopper - Poly 2,3	4,300 lbs
Melamine Weigh Hopper	4,000 lbs
Solvent Cleaner	20 gallons
Solvent Cleaner (dibasic ester)	220 gallons
Tank #29 - Methanol	20,000 gallons
Tank #30 - Formaldehyde	20,000 gallons
Tank #45 - Phenolic Resin Blend	10,000 gallons
Tank #46 - Phenolic Resin Blend	10,000 gallons
Tank #47 - Phenolic Resin Blend	10,000 gallons
Tank #48 - Phenolic Fast Cure	10,000 gallons
Tank #49 - Urea Resin	10,000 gallons
Tank #60 - Phenolic Resin	12,500 gallons
Tank #66 - 1,6 Hexanediol	15,000 gallons
Chemical Loading/Unloading Operations	N/A

The following emission units are considered to be insignificant per 06-096 CMR 140, Appendix B.

Emission Unit	Unit Capacity	Unit Type	Regulatory Citation
Environmental Control Booth	N/A	Ventilation Equipment	06-096 CMR 140, Appendix B §A.58
Screen Print *	N/A	Process Equipment	06-096 CMR 140, Appendix B §B.1.
Laboratory Laminate Presses	N/A	Process Equipment	06-096 CMR 140, Appendix B §A.102

* The screen print operation listed in the Table above is classified as an insignificant source based on Chapter 140 Appendix B "Size or Production Rate" criteria. This license will include a restriction on the usage of VOCs to maintain the Potential to Emit to less than one (1) ton of VOC emissions per year. Records will be maintained of VOC usage in the screen print operation to verify compliance.

Pioneer has additional insignificant activities which do not need to be listed in the emission equipment table above. The list of insignificant activities can be found in the Part 70 license application and in Appendix B of *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended).

C. Application Classification

The application for Pioneer is for the renewal of their existing Part 70 Air License and subsequent Part 70 amendments. Pursuant to Section 2(A) of 06-096 Code of Maine Rules (CMR) 140, the facility has also requested incorporation into the Part 70 Air License the relevant terms and conditions of the 06-096 CMR 115 New Source Review (NSR) licenses issued to Pioneer since issuance of the facility's initial Part 70 license. Therefore, the license is considered to be a Part 70 License renewal with the incorporation of NSR requirements.

D. Facility Description

Pioneer Plastics Corporation (Pioneer) operates a manufacturing plant in Auburn. The plant contains various fuel-burning devices and process equipment that emit air pollutants. The facility's principal products consist of the following:

1) Decorative laminate used for countertops and furniture;
2) Amino resin-coated paper used as a 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.

The manufacturing process starts with the preparation of resins, including but not limited to amino, phenolic, and polyester resins. Some resins are purchased and then processed on-site, while other resins are produced on-site in reactors. Initially, resins created in the reactors are in liquid or solution form. Some liquid resins are allowed to cool and solidify in containers designed for that purpose. Some of the solid resins are ground into a granular or powder-like consistency, as required by the specific customer. After production and/or further processing, resins are either stored for resale or conveyed to coating lines to be applied to paper or other substrates.

There are four general types of coating operations performed at the plant:

1) Impregnation of paper using phenolic resins;
2) Impregnation/coating of various other substrates using polyester resins;
3) Impregnation/coating of paper using melamine and urea resins; and
4) Coating of fiberglass mats using polyester, phenolic, and/or melamine resins.

Each coating line consists of at least one application area, where the resins are continuously applied to the substrate, and an oven, where the coated or impregnated substrate is dried and/or the resin is cross-linked.

Treated papers are either stored for sale or further processed into laminates. Laminates are made by assembling layers of treated papers and fusing them together with pressure and heat. Finished laminates are then routed, cut, and sanded in the fabrication/inspection area.

In addition to the equipment used in the manufacturing processes described above, Pioneer conducts various supporting activities, including but not limited to raw material and finished product handling and storage, steam production using gas- and oil-fired boilers, solvent degreasing, and wastewater treatment operations.

E. General Facility Requirements

Pioneer is subject to the following state and federal regulations listed below, in addition to the regulations listed for specific units as described later in this license.

CITATION	TITLE
06-096 CMR 100	Definitions Regulation
06-096 CMR 101	Visible Emissions Regulation
06-096 CMR 102	Open Burning
06-096 CMR 103	Fuel Burning Equipment Particulate Emission Standard
06-096 CMR 105	General Process Source Particulate Emission Standard
06-096 CMR 106	Low Sulfur Fuel Regulation
06-096 CMR 109	Emergency Episode Regulations
06-096 CMR 110	Ambient Air Quality Standards
06-096 CMR 115	Major and Minor Source Air Emission License Regulations
06-096 CMR 116	Prohibited Dispersion Techniques
06-096 CMR 123	Control of Volatile Organic Compounds from Paper, Film and Foil Coating Operations
06-096 CMR 126	Capture Efficiency Test Procedures
06-096 CMR 129	Surface Coating Facilities
06-096 CMR 130	Solvent Cleaners
06-096 CMR 134	Reasonable Available Control Technology for Facilities that Emit Volatile Organic Compounds (VOC RACT)
06-096 CMR 137	Emission Statements
06-096 CMR 138	Reasonable Available Control Technology for Facilities that Emit Nitrogen Oxides (NOx RACT)
06-096 CMR 140	Part 70 Air Emission License Regulations

CITATION	TITLE
40 CFR Part 60, Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984
40 CFR Part 60, Subpart VVV	Standards of Performance for Polymeric Coating of Supporting Substrates Facilities
40 CFR Part 61, Subpart M	National Emission Standard for Asbestos
40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR Part 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR Part 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
40 CFR Part 60, Subpart DDDD	Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units
40 CFR Part 63, Subpart H	National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks
40 CFR 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
40 CFR Part 63, Subpart TT	National Emission Standards for Equipment Leaks
40 CFR Part 63, Subpart UU	National Emission Standards for Equipment Leaks – Control Level 2 Standards
40 CFR Part 63, Subpart OOO	NESHAP Emissions: Manufacture of Amino/Phenolic Resins
40 CFR Part 63, Subpart EEEE	NESHAP: Organic Liquids Distribution (Non-Gasoline)
40 CFR Part 63, Subpart FFFF	NESHAP: Miscellaneous Organic Chemical Manufacturing
40 CFR Part 63, Subpart JJJJ	NESHAP: Paper and Other Web Coating
40 CFR Part 63, Subpart OOOO	NESHAP: Printing, Coating, and Dyeing of Fabrics and Other Textiles
40 CFR Part 63, Subpart ZZZZ	NESHAP for Stationary Reciprocating Internal Combustion Engines
40 CFR Part 63, Subpart DDDDD	NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters
40 CFR Part 64	Compliance Assurance Monitoring

CITATION	TITLE
40 CFR Part 68, Subpart G	Risk Management Plan (RMP)
40 CFR Part 82 Subpart F	Recycling and Emissions Reduction
40 CFR Part 70	State Operating Permit Programs

F. Units of Measurement

The following units of measurement are used in this license:

g/s	grams per second
gr/dscf	grains per dry standard cubic feet
lb/hr	pounds per hour
lb/MMBtu	pounds per million British Thermal Units
lb/ton	pounds per ton
µg/dscf	micrograms per dry standard cubic foot
m	meters
Mg	megagrams
mg/DSCM	milligrams per dry standard cubic meter
m/s	meters per second
MMBtu/hr	million British Thermal Units per hour
MW	megawatt
ng/DSCM	Nanograms per dry standard cubic meter
ppm	parts per million
ppmdv	parts per million dry volume
scfm	standard cubic feet per minute
tons/day	tons per day
tpy	tons per year
$\mu g/m^3$	micrograms per cubic meter

II. APPLICABLE REGULATIONS

A. NO_x RACT (Reasonably Available Control Technology): 06-096 CMR 138

Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides, 06-096 CMR 138 (as amended) is applicable to sources that have the potential to emit quantities of NO_x equal to or greater than 100 tons/year. Amendment A-448-72-K-A/R, issued to the facility on August 23, 1995, addressed NO_x RACT requirements. Boiler #4, Boiler #5/Thermal Oxidizer, and Boiler #6 were determined to be subject to applicable NO_x RACT requirements.

1. Boiler #4 was limited in annual fuel firing to 2,200,000 gallons which results in potential NO_x emissions less than 100 tons per year and meets the definition of an "auxiliary/standby boiler".

2. Boiler #5/Thermal Oxidizer, determined to be a "miscellaneous source", was subject to an alternative RACT determination due to the unit acting as a VOC/HAP incinerator. Pioneer performs annual internal inspections of the duct work and adjusts the burner components to maintain good combustion efficiency.

3. Boiler #6 meets the definition of a "mid-size" boiler and meets a NO_x RACT emission limit of 0.47 lb/MMBtu (firing oil). The 12-month rolling total of NO_x emissions from the firing of natural gas, #6 fuel oil, and #4 fuel oil in Boiler #6 shall not exceed 86.6 tons per year. The emissions calculations to document compliance with this limit shall be based on purchase records and AP-42 emission factors or on prior NO_x stack testing data, if available, and will be maintained on a monthly basis.

These NO_x RACT requirements are incorporated in this license renewal.

B. VOC RACT (Reasonably Available Control Technology): 06-096 CMR 134

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds, 06-096 CMR 134 (as amended) is applicable to sources that have the potential to emit quantities of VOC equal to or greater than 40 tons/year. VOCs are emitted from Pioneer's paper coating lines. Because Pioneer was located in a non-attainment area for ozone, VOC emissions from the paper coating lines were subject to Reasonably Available Control Technology (RACT) requirements.

Air Emission License Amendment A-448-72-D-A (August 4, 1989) required Pioneer to control VOC emissions from the paper coating lines by applying low solvent coatings and/or by destroying VOC emissions in a Thermal Oxidizer. VOC emissions were limited to 2.9 lbs of VOC per gallon of coatings applied by the melamine Treaters.

In 1997, as part of the non-CTG VOC RACT analysis conducted pursuant to 06-096 CMR 134, a new RACT determination was made by the Department and approved by EPA on April 18, 2000, at 40 CFR §52.1020(c)(45); (65 Federal Register 20749). This RACT determination was incorporated into the license via Amendment A-448-71-P-A (June 13, 1997) and included VOC controls for both polyester resin production and polyester resin blending operations. The RACT determination also included the letdown process

(extraction of resins from the reactors) and determined that the current operating practice represented RACT.

The VOC RACT requirements resulting from the alternative RACT determination for the following non-exempt categories of VOC sources are incorporated in this renewal.

1. Tank Truck Activities	10. Treated Paper and Waste Materials
2. Storage Tanks	11. Resin Blend Tanks, Holding Tanks, and Transfer Pots
3. Weigh Tanks and Blend Tanks Located in Specialty Resins Department	12. Equipment Leaks
4. Polyester Reactors	13. Cleanup Activities
5. Reactor "K3"	14. Handling of Various Raw Materials in Specialty Resins Department
6. Melamine and Urea Reactors	15.Laboratory Activities
7. Letdown and Cooling of Polyester Resin	16. Emissions from Fabrication of Laminate
8. Wastewater Streams	17. Handling of Hazardous Waste
9. Pressroom	18. Miscellaneous Activities Not Related to Manufacturing

C. Control of VOC from Paper, Film, and Foil Coating Operations: 06-096 CMR 123

Control of Volatile Organic Compounds from Paper, Film and Foil Coating Operations, 06-096 CMR 123 (as amended), requires either the reduction of overall VOC emissions by 95% or to a rate equal to 4.8 lbs of VOC emitted per gallon of solids as applied to the substrate on a continuous basis. The applicable standards and recordkeeping requirements of 06-096 CMR 123 are incorporated into this Part 70 license renewal.

D. NESHAP 40 CFR Part 63, Subpart DDDDD: Boiler MACT

Pioneer is a major source of HAP emissions, and some of the emissions units at the facility are subject to the requirements of the federal regulation 40 CFR Part 63, Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*. This regulation establishes emissions limitations and work practice standards governing HAP emissions for each unit which falls into

one of the subcategories listed under "*What are the subcategories of Boilers & Process Heaters?"* in 40 CFR §63.7499. This section addresses general requirements applicable to a source subject to Subpart DDDDD. Pioneer's boilers shall comply with subpart DDDDD no later than January 31, 2016.

Tune-ups

Pioneer must conduct an initial tune-up by January 31, 2016 following the procedures described in §63.7540 (a)(10)(i)-(vi). Pioneer's Boiler #6 is equipped with an oxygen trim system thus Pioneer shall conduct tune-ups every 5 years thereafter, as specified in §63.7540. [63.7540 a (12) and Table 3]. Pioneer's Boiler #4 is already required to conduct annual tune-ups, if these tune ups meet the requirements of this subpart; these tune-ups can be used to meet this requirement for this boiler.

Energy Assessment

The facility shall have a one-time energy assessment performed by a qualified energy assessor no later than January 31, 2016, and/or comply with any amended requirements of the rule. The energy assessment must include the elements specified in Part 4 of Table 3 of Subpart DDDDD, as applicable. [40 CFR §63.7510(e)]

Note: An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the aforementioned energy assessment requirements shall be considered valid. A facility that operates under an energy management program compatible with ISO 50001 that includes applicable boilers and process heaters satisfies the energy assessment requirements.

Recordkeeping

The facility shall maintain records in accordance with 40 CFR §63.7555 that contain information necessary to document compliance with all applicable requirements, including but not limited to the following:

1. A copy of each notification and report submitted to comply with this Subpart, along with any supporting documentation.
2. Records of energy assessments and tune-ups, as applicable.

The facility shall also maintain records in accordance with 40 CFR §63.10(b).

Reporting

Pioneer shall submit a compliance report for the one-time energy assessment, as applicable, and for each tune-up required by this Subpart in accordance with 40 CFR §63.7550.

Pioneer submitted their Boiler MACT Initial Notification on April 18, 2013, to both the Department and to U.S. EPA Region I and in accordance with 40 CFR §63.9(b) and §63.7545(a).

Pioneer's Boilers #4, #5, and #6 may burn either natural gas (a gas 1 fuel) or residual fuel (liquid fuel). Below is an overview of the requirements for boilers designated as units designed to burn gas 1 and units designed to burn a liquid fuel.

Units designed to burn gas 1 subcategory

The *units designed to burn gas 1 subcategory* include any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition. If Pioneer determines its boilers are "gas 1 boilers" the following requirements shall apply:

Boilers in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 in subpart DDDDD or the operating limit in Table 4 of this subpart. [40 CFR §63.7500 (e)]

Start-ups and Shutdowns

1. During periods of boiler startup and shutdown Pioneer shall comply with Table 3 in Subpart DDDDD. [40 CFR §63.7500 (f)]
2. Pioneer must maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. [40 CFR §63.7555(i)]
3. Pioneer must maintain records of the types and amounts of fuels used during each startup and shutdown. [40 CFR §63.7555(j)]

If Pioneer intends to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of this part, part 60, 61, or 65, or other gas 1 fuel to fire the boilers during a period of natural gas curtailment or supply interruption, as defined in 40 CFR §63.7575, Pioneer must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in 40 CFR §63.7575. The notification must include the information specified in (1) through (5) of below:

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.
(4) Type of alternative fuel that you intend to use.
(5) Dates when the alternative fuel use is expected to begin and end.
[40 CFR §63.7545 (f)]

In addition Pioneer must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.
[40 CFR §63.7555(h)]

Unit designed to burn liquid subcategory
The *unit designed to burn liquid subcategory* includes any boiler or process heater that burns any liquid fuel, but less than 10 percent coal/solid fossil fuel and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, either alone or in combination with gaseous fuels. Units in the *unit designed to burn gas 1* or *unit designed to burn gas 2 (other)* subcategories that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year are not included in this definition. Units in the *unit design to burn gas 1* or *unit designed to burn gas 2 (other)* subcategories during periods of gas curtailment or gas supply interruption of any duration are also not included in this definition.

If Pioneer's boilers are considered to be in the liquid fuel subcategory they shall be subject to the following emission limits:

- HCl emission limit of 0.0011 lb/MMBtu or 0.0014 lb/MMBtu of steam output
- Mercury emission limit of 0.000002 lb/MMBtu or 0.0000025 lb/MMBtu of steam output
- CO emission limit of 130 ppm by volume on a dry basis corrected to 3 percent oxygen or 0.13 lb per MMBTU/hr of steam output
- Filterable PM emission limit of 0.0079 lb/MMBtu of heat input (TSM 0.000065 lb/MMBtu) or 0.0096 lb/MMBtu of steam output [Subpart DDDDD, Table 2]

Conduct performance testing per the requirements in Table 5 of subpart DDDDD as applicable. Pioneer must comply with the requirements listed in Table 6 of subpart DDDDD if fuel analyses are utilized to calculate and determine HCl and Hg emissions.

If Pioneer combusts ultra-low sulfur liquid fuel in its boilers, Pioneer will not need to conduct further performance tests if the pollutants measured during the initial compliance performance tests meet the PM emission limits providing Pioneer demonstrates ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. If Pioneer intends to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, Pioneer must conduct new performance tests within 60 days of burning the new fuel type. [40 CFR §63.7540 (a), 40 CFR §63.7510 (h)]

Pioneer must demonstrate compliance with all applicable emission limits using performance stack testing, fuel analysis or continuous monitoring systems. Pioneer may demonstrate compliance with applicable emission limits for hydrogen chloride, mercury or total selected metals using fuel analysis if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit. Otherwise Pioneer must demonstrate compliance for HCl, mercury or TSM using performance testing.

Pioneer shall meet the applicable initial compliance requirements listed in 40 CFR §63.7510.

Pioneer shall conduct applicable performance tests annually and follow the applicable requirements of 40 CFR §63.7515.

Pioneer shall develop a site specific stack test plan according to the requirements in 40 CFR 63.7(c), (d), (f), and (h).

Pioneer shall report the results of performance tests and the associated fuel analyses within 60 days after completion of the performance tests. This report must also verify that the operating limits for each boiler have not changed or provide documentation of revised operating limits according to §63.7550 and Table 7. The reports for all subsequent performance tests must include all applicable information required in §63. 7550.

Pioneer shall complete the initial compliance demonstration (if applicable) no later than 180 days after the January 31, 2016. The initial tune-up and one-time energy assessment must be completed by January 31, 2016. [63.7510 (e)]

Pioneer shall install, operate, and maintain an oxygen analyzer system as defined in 40 CFR §63.7575 or install, certify, operate and maintain continuous emissions monitoring systems for CO and oxygen according to the procedure described in 40 CFR 63.7525 (a)(1) through (7).

E. Compliance Assurance Monitoring (CAM)

Federal regulation 40 CFR Part 64, *Compliance Assurance Monitoring*, is applicable to any unit at a major source if the unit has (1) emission limits, (2) a control device to meet the limits, and (3) pre-control emissions greater than 100 tons/year for any applicable pollutant.

The units identified in the following table as subject to CAM requirements meet all three criteria for the identified pollutants.

Table of Units Subject to CAM Requirements

Emissions Unit	Regulated Pollutant	CAM Applicability Criteria			Subject to CAM?
		Emission Limits	Control Device	Pre-Control Emissions > 100 TPY	
Melamine Reactors K1 and K2	VOC	√	RTO #1 or Boiler #5/Thermal Oxidizer	√	Yes
Urea Reactor K3/Resin Blender		√		√	Yes
Polyester Reactors #1 K4 and #2 K5		√		√	Yes
Letdown Reactor K6		√		√	Yes
Pilot Reactor K7		√		√	Yes
Polyester Reactor #3 K8		√		√	Yes
Impregnators P4, P5, and P9	VOC	√	Boiler #5/Thermal Oxidizer	√	Yes
Coater C4		√		√	Yes
Routers, Table Saws, and Sanders	PM	√	Fabric Filters	√	Yes

In accordance with the requirements of 40 CFR Part 64, Pioneer has submitted a CAM Plan for VOC and PM emissions as part of this Part 70 Air License Renewal application. The plan includes CAM for the units and pollutants as identified above.

F. Stack Testing Requirements

- A stack test for Boiler #4 is required for NOx and PM if Pioneer combusts more than 350,000 gallons of fuel oil in any calendar year.

- Boiler #5/Thermal Oxidizer is required to have both NOx and PM stack tests every other year, if the unit fires oil greater than 30% of its annual capacity factor, to determine compliance with applicable limits.

- Pioneer is required to stack test Boiler #6 for particulate matter once every two years if the unit has fired oil greater than 30% of its annual capacity factor. Compliance with the NOx emission limits from Boiler #6 shall be

based on an annual stack test if the unit fires oil greater than 30% of its annual capacity factor.

- A VOC/HAP destruction efficiency test on the Thermal Oxidizer is required once every other year.

III. BEST PRACTICAL TREATMENT (BPT) AND EMISSION STANDARDS

A. Best Practical Treatment

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 (as amended). 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 emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. NSR Review

Since the initial Part 70 license issuance April 20, 2004, the Department has issued several New Source Review licenses under 06-096 CMR 115 and amendments to the Part 70 license to incorporate these NSR changes under 06-096 CMR 140 requirements. This Part 70 air license renewal incorporates the following NSR licenses.

NSR License Number	Date of Issuance	Description
A-448-77-1-A	June 5, 2007	Installation of a new impregnator and laminate press.
A-448-77-2-M	April 30, 2007	Process modification associated with the K8 reactor and the installation of a tile saw controlled with a dust collector.
A-448-77-3-M	September 2, 2009	Installation of a temporary installation of a pollution control VOC incinerator to replace their existing Thermal Oxidizer until repaired.
A-448-77-4-M	October 7, 2009	Minor revision to correct the maximum design

NSR License Number	Date of Issuance	Description
		heat input capacity of the temporary portable VOC incinerator.
A-448-77-5-M	March 21, 2011	Modification to include the ability to burn natural gas in the Boiler #5/Thermal Oxidizer as an alternative fuel.
A-448-77-6-A	February 13, 2013	Address CO emissions from the Thermal Oxidizer/Boiler #5 when the unit is operated as a control device.
A-448-77-7-M	May 8, 2012	Modification to include the ability to burn natural gas in Boiler #4.
A-448-77-8-A	May 1, 2014	Pioneer's recent Regenerative Thermal Oxidizer (RTO #1) installation, addressed in NSR #8 issued 5/1/14, includes the combustion of a liquid distillate by-product stream.

C. Boiler #4

Boiler #4 is a 55.5 MMBtu/hr boiler manufactured in 1975 by Trane. Boiler #4 was first licensed on December 21, 1977, in Air Emission license #1233. Boiler #4 is licensed to fire #6 fuel oil with a sulfur content no greater than 2.0% by weight, #4 fuel oil and natural gas. The unit is used to produce steam for the manufacturing process and space heating needs. Emissions exit through a 114 foot stack. Pioneer operates Boiler #4 primarily in the winter months to produce auxiliary steam to meet peak steam demands. Boiler #4 is also operated as a standby boiler in the event that Boiler #6 is not available. If fuel oil use in Boiler #4 exceeds 350,000 gallons in any calendar year, then Pioneer shall perform a NOx and a PM stack test by July 1 of the following year to demonstrate compliance with the respective emission limits.

In July 2003, Pioneer requested a minor permit modification to burn #4 oil in place of natural gas in Boiler #6 during the period of May 1 through September 30. This modification will require that while Boiler #6 is burning #4 oil in place of natural gas, Boiler #4 will be required to burn #4 fuel oil with a sulfur content not to exceed 0.7% instead of #6 fuel oil with a sulfur content not to exceed 2.0% by weight. Per NSR amendment #7 issued May 3, 2012, Pioneer is also licensed to burn natural gas in Boiler #4 in addition to the other licensed fuels.

Prior to January 1, 2018, or by the date otherwise stated in 38 MRSA §603-A(2)(A)(1) and (2), the #6 fuel oil fired in Boiler #4 shall have a maximum sulfur content of 2.0% by weight. Per 38 MRSA §603-A(2)(A)(1) and (2),

beginning January 1, 2018, or on the date specified in the statute, the facility shall fire residual oil (#6 or #4 fuel oil) with a maximum sulfur content limit of 0.5% by weight. The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

1. New Source Performance Standards (NSPS)

   Boiler #4 (manufactured in 1975) is not subject to the New Source Performance Standards (NSPS) titled *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc. These standards apply to steam generating units with a heat input capacity of 10 MMBtu/hr or more that are constructed after June 9, 1989.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

   Boiler #4 is subject to *NESHAP Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* contained in 40 CFR Part 63, Subpart DDDDD. Boiler #4 is subject to this subpart because it is an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAPs.

3. Emission Limits and Streamlining

   For Boiler #4, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM	0.20 lb/MMBtu	06-096 CMR 103, §2.A.(1) and 06-096 CMR 140, BPT	0.20 lb/MMBtu
	11.1 lb/hr (oil)	A-448-72-K-A/R (issued 8/23/95) and 06-096 CMR 140, BPT	11.1 lb/hr (oil)
	2.5 lb/hr (NG)	A-448-77-7-M (issued 5/3/12)	2.5 lb/hr (NG)
PM_{10}	11.1 lb/hr (oil)	06-096 CMR 140, BPT	11.1 lb/hr (oil)
	2.5 lb/hr (NG)	06-096 CMR 140, BPT	2.5 lb/hr (NG)

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
SO_2	[#6 or #4 fuel oil] 2.1 lb/MMBtu (based on 2% S limit, by weight)	06-096 CMR 106, §2.A.(2)	2.0% sulfur content limit, by weight until July 1, 2018 After July 1, 2018 the sulfur limit is 0.5% by weight.
	[#6 or #4 fuel oil] 0.5% S #6 fuel oil beginning Jan. 1, 2018 or the date specified in the statute.	38 MRSA §603-A(2)(A)(1) and (2)	
	[#4 oil] 0.7% S limit, by weight	A-448-70-A-A/I issued 5/20/2004 06-096 CMR 140, BPT (If Boiler #6 fires #4 fuel oil instead of natural gas)	[#4 oil] 0.7% S limit, by weight, residual fuel oil compliant with sulfur content limit of state statute and license.
	123.8 lb/hr (based on 2.0% S limit, by weight firing fuel oil)	A-448-72-K-A/R issued 8/23/95 06-096 CMR 140, BPT	123.8 lb/hr (oil)
	0.1 lb/hr (NG)	A-448-77-7-M (issued 5/3/12) and 06-096 CMR 140, BPT	0.1 lb/hr (NG)
NO_x	100 tons/year	A-448-72-K-A/R issued 8/23/95 and 06-096 CMR 138, §3.M.(1) (12-month rolling total)	100 tons/year
	33.3 lb/hr (#6 fuel oil)	A-448-72-K-A/R issued 8/23/95 06-096 CMR 140, BPT	33.1 lb/hr (#6 fuel oil)
	12.1 lb/hr (#4 fuel oil)	A-448-70-A-A/I issued 5/20/2004 & 06-096 CMR 140, BPT	12.1 lb/hr (#4 fuel oil)
	5.2 lb/hr (NG)	A-448-77-7-M (issued 5/3/12)	5.2 lb/hr (NG)
CO	22.2 lb/hr (oil)	A-448-72-K-A/R issued 8/23/95	22.2 lb/hr (oil)
	4.4 lb/hr (NG)	A-448-77-7-M (issued 5/3/12) and 06-096 CMR 140, BPT	4.4 lb/hr (NG)
VOC	0.6 lb/hr (oil)	A-448-72-K-A/R issued 8/23/95	0.6 lb/hr (oil)
	0.3 lb/hr (NG)	A-448-77-7-M (issued 5/3/12) and 06-096 CMR 140, BPT	0.3 lb/hr (NG)

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
Visible * Emissions (Opacity)	The common stack opacity shall not exceed an opacity of 30 percent recorded as six (6) minute block averages, except for no more than three (3) six (6) minute block averages in a 3 hour block period	Combined stack 06-096 CMR 101, §2(B)(3)(5)	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.
	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 CMR 140, BPT	
	When all units through the combined stack (Boiler #4, #6, and Boiler #5/Thermal Oxidizer) are firing natural gas, 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.	06-096 CMR 101 & 06-096 CMR 140, BPT	When all units through the combined stack (Boiler #4, #6, and Boiler #5/Thermal Oxidizer) are firing natural gas, 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.
	As of the effective date of 40 CFR Part 63, Subpart DDDDD applicability for these boilers, visible emissions shall not exceed the applicable standard as specified in Subpart DDDDD, demonstrated according to the applicable compliance demonstration method as specified in Subpart DDDDD.	40 CFR Part 63, Subpart DDDDD	As of the effective date of 40 CFR Part 63, Subpart DDDDD applicability for these boilers, visible emissions shall not exceed the applicable standard as specified in Subpart DDDDD, demonstrated according to the applicable compliance demonstration method as specified in Subpart DDDDD.

Table Notes: * streamlining requested
% S = percent fuel sulfur, by weight

4. Emission Limit Compliance Methods

Compliance with the emission limits associated with Boiler #4 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 CFR Part 60, App. A, Method 5	If Pioneer combusts more than 350,000 gallons of fuel oil in any calendar year, then a PM emission stack test shall be performed by July 1 of the following year. Otherwise stack tests required upon request.
PM_{10}	lb/hr	40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO_2	lb/hr	40 CFR Part 60, App. A, Method 6	As requested
NO_x	lb/hr	40 CFR Part 60, App. A, Method 7E	If Pioneer combusts more than 350,000 gallons of fuel oil in any calendar year, then a NO_x emission stack test shall be performed by July 1 of the following year. Otherwise stack tests required upon request.
CO	lb/hr	40 CFR Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 CFR Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 CFR Part 60, App. A, Method 9	As requested

5. Compliance Assurance Monitoring (CAM)

   CAM is not applicable to Boiler #4 because there are no add-on pollution control devices on this unit and emissions are less than 100 tons per year for all criteria pollutants.

6. Periodic Monitoring

   The periodic monitoring shall include record keeping including records of fuel use through purchase receipts indicating amounts (gallons) and percent sulfur

by weight. The fuel records shall be kept on a monthly and a 12-month rolling total basis. Periodic monitoring shall also consist of recordkeeping which shall include records of annual tune-ups required under 06-096 CMR 138.

D. Boiler # 6

Boiler #6 is a Combustion Engineering model 24-VP-12WR package boiler with "D" type tube arrangement. The boiler contains a single Cohen DAZ burner which fires both gas and oil. The boiler's combustion control system is a Taylor Instruments MOD-30 with oxygen trim. The rated heat input capacity of the boiler is 96.8 MMBtu/hr. The nominal steam generating capacity is 80,000 pounds per hour at 450 psig. Pioneer purchases an "interruptible" natural gas supply and burns gas in Boiler #6 for approximately five months per year (May 1 through September 30). For the remaining portion of the year Pioneer burns No. 6 fuel oil with a sulfur content no greater than 0.7% by weight. Pioneer uses Boiler #6 to produce a majority of the steam required by the facility for the manufacturing process and space heating needs. Emissions exit through a 115-foot stack. Boiler #6 was constructed in 1981 and installed as a replacement for Boiler #3. The BACT determination on Boiler #6 was made by the Department in the August 23, 1995, Air Emission License, #A-448-72-A/R.

In July of 2003 Pioneer submitted a request for a minor permit revision to allow for the flexibility to burn #4 fuel with a sulfur content not to exceed 0.7% in place of natural gas during the period of May 1 through September 30. This modification assumes that the other oil fired boilers at the facility will also burn the #4 oil (instead of #6 fuel oil with a maximum fuel sulfur content of 2.0% by weight) when Boiler #6 is burning #4 oil in place of natural gas. Based on emission factor calculations using the average fuel usages for a five-year period, emissions were relatively unchanged when compared to the use of natural gas. Pioneer has submitted sufficient data that shows the use of #4 fuel oil in lieu of natural gas in #6 Boiler, with the condition that all boilers switch from #6 fuel oil (2.0% sulfur content) to #4 fuel oil (0.7% sulfur content), does not increase overall criteria pollutant emissions.

1. New Source Performance Standards (NSPS)

Boiler #6 (manufactured in 1981) is not subject to the New Source Performance Standards (NSPS) titled *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc. These standards apply to steam generating units with a heat input capacity of 10 MMBtu/hr or more that are constructed after June 9, 1989. Boiler #6 is not subject to *NSPS for Industrial Steam Generating*

Units, 40 CFR Part 60 Subpart Db because the boiler has a maximum heat input capacity of less than 100 MMBtu/hr and the unit was constructed prior to June 9, 1989.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

   Boiler #6 is subject to *NESHAP Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* contained in 40 CFR Part 63, Subpart DDDDD. Boiler #6 is subject to this subpart because it is an industrial boiler as defined in §63.7575 and located at a major HAPs source.

3. Emission Limits and Streamlining

   For Boiler #6, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
PM *	0.20 lb/MMBtu (oil)	06-096 CMR 103, §4	0.15 lb/MMBtu
	0.15 lb/MMBtu (oil)	A-448-72-K-A/R and 06-096 CMR 140, BPT	
	0.02 lb/MMBtu (NG)	A-448-72-K-A/R and 06-096 CMR 140, BPT	0.02 lb/MMBtu
	14.5 lb/hr (oil)	06-096 CMR 103 and 06-096 CMR 140, BPT	14.5 lb/hr (oil)
	1.9 lb/hr (NG)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.9 lb/hr (NG)
PM_{10}	14.5 lb/hr (oil)	06-096 CMR 140, BPT	14.5 lb/hr (oil)
	1.9 lb/hr (NG)	06-096 CMR 140, BPT	1.9 lb/hr (NG)
SO_{2*}	[#6 and #4 fuel oil] 2.1 lb/MMBtu (based on 2% S limit, by weight)	06-096 CMR 106, §2.A.(2)	2.0% sulfur content limit, by weight until July 1, 2018.
	[#6 and #4 fuel oil] 0.5% S #6 fuel oil beginning Jan. 1, 2018 or the date specified in the statute	38 MRSA §603-A(2)(A)(1) and (2)	After July 1, 2018, the sulfur limit is 0.5% by weight.

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
	[#4 oil] 0.7% S limit, by weight	A-448-70-A-A/I issued 4/20/04 06-096 CMR 140, BPT (If Boiler #6 fires #4 fuel oil instead of natural gas)	0.7% S limit, by weight Residual fuel oil compliant with sulfur content limit of state statute and license.
	70.7 lb/hr (based on 0.7% S limit, by weight) firing fuel oil	06-096 CMR 140, BPT	70.7 lb/hr (oil)
	1.0 lb/hr (NG)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.0 lb/hr (NG)
NO_{x} *	86.6 tons/year	06-096 CMR 140, BPT (12-month rolling total)	86.6 tons/year
	0.47 lb/MMBtu	A-448-72-K-A/R (8/23/95) & 06-096 CMR 140, BPT	0.47 lb/MMBtu
	45.5 lb/hr (#6 fuel oil)	A-448-72-K-A/R (8/23/95) & 06-096 CMR 140, BPT	45.5 lb/hr (#6 fuel oil)
	16.5 lb/hr (#4 fuel oil)	A-448-72-K-A/R (8/23/95) & 06-096 CMR 140, BPT	16.5 lb/hr (#4 fuel oil)
	14.5 lb/hr (NG)	A-448-72-K-A/R and 06-096 CMR 140, BPT	14.5 lb/hr (NG)
CO	16.5 lb/hr (fuel oil or NG)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	16.5 lb/hr (fuel oil or NG)
VOC	1.0 lb/hr (fuel oil or NG)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.0 lb/hr (fuel oil or NG)
Visible * Emissions	The common stack opacity shall not exceed an opacity of 30 percent recorded as six (6) minute block averages, except for no more than three (3) six (6) minute block averages in a 3 hour block period	Combined stack 06-096 CMR 101, §2(B)(3)(5)	Streamlined with BPT requirement
	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 CMR 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.

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
	As of the effective date of 40 CFR Part 63, Subpart DDDDD applicability for these boilers, visible emissions shall not exceed the applicable standard as specified in Subpart DDDDD, demonstrated according to the applicable compliance demonstration method as specified in Subpart DDDDD.	40 CFR Part 63, Subpart DDDDD	As of the effective date of 40 CFR Part 63, Subpart DDDDD applicability for these boilers, visible emissions shall not exceed the applicable standard as specified in Subpart DDDDD, demonstrated according to the applicable compliance demonstration method as specified in Subpart DDDDD.

Table Notes: * streamlining requested
% S = percent fuel sulfur, by weight

4. Emission Limit Compliance Methods

Compliance with the emission limits associated with Boiler #6 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 CFR Part 60, App. A, Method 5	If Pioneer combusts more than 1,690,000 gallons of fuel oil in any calendar year (30% capacity factor), then a PM emission stack test shall be performed by July 1 of the following year. Otherwise as requested.
PM_{10}	lb/hr	40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO_2	lb/hr	40 CFR Part 60, App. A, Method 6	As requested

Pollutant	Unit Basis of Emission Limit	Compliance Method	Frequency
NO_x	lb/MMBtu and lb/hr	40 CFR Part 60, App. A, Method 7E	If Pioneer combusts more than 1,690,000 gallons of fuel oil in any calendar year (30% capacity factor), then a NOx emission stack test shall be performed by July 1 of the following year. Otherwise as requested.
CO	lb/hr	40 CFR Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 CFR Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 CFR Part 60, App. A, Method 9	As requested

5. Compliance Assurance Monitoring (CAM)

   CAM is not applicable to Boiler #6 because there are no add-on pollution control devices on this unit and emissions from the unit are less than 100 tons per year for all criteria pollutants.

6. Periodic Monitoring

   The periodic monitoring shall include record keeping including records of fuel use through purchase receipts indicating amounts (gallons) and percent sulfur by weight. The fuel records shall be kept on a monthly and a 12-month rolling total basis. In addition, the periodic monitoring shall also include records of when gas is available at the interruptible rate during specified months. Pioneer shall also keep records of when Boiler #6 is firing #4 fuel oil in place of natural gas.

E. Process Heaters # 7 and #8

Process Heater #7 is a 2.8 MMBtu/hr natural gas fired boiler and was originally included in the air emission licenses of the 1990's however, it was dropped from the initial Part 70 Air License (A-448-70-A-A/I issued April 20, 2004) because of the Department rules for Major Part 70 Air License Sources 06-096 CMR 140 at that time. The unit at that time was considered an "insignificant activity" unit based on size under the previous Department 06-096 CMR 140 rule. However, due to a federal regulation on boilers and heaters, 06-096 CMR 140 has revised/updated its basis for units considered to be insignificant and therefore Process Heater #7 needs to be included in the air license. Process

Heater #8 is a 5.0 MMBtu/hr natural gas fired boiler manufactured by Geka and installed by Pioneer in 1994. Process Heater #8 was licensed on September 17, 1993 in Amendment 3 to Air Emission License #2472. Process Heater #8 is used to heat oil which in turn heats resins and/or raw materials. Emissions from both Process Heaters #7 and #8 exit through a combined 50 foot stack. Both process heaters are licensed to fire only natural gas.

1. New Source Performance Standards (NSPS)

   Process Heaters #7 and #8 (maximum design capacity of 2.8 and 5.0 MMBtu/hr respectively) are not subject to the New Source Performance Standards (NSPS) titled *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc. These standards apply to steam generating units with a heat input capacity of 10 MMBtu/hr or more that are constructed after June 9, 1989.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

   Process Heaters #7 and #8 fire only natural gas and therefore are not subject to *NESHAP Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* contained in 40 CFR Part 63, Subpart DDDDD.

3. Emission Limits and Streamlining

   For Process Heater #7, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
PM	0.06 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.06 lb/hr
PM_{10}	0.06 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.06 lb/hr
SO_2	0.03 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.03 lb/hr
NOx	0.56 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.56 lb/hr
CO	1.12 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.12 lb/hr
VOC	0.03 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.03 lb/hr

Visible Emissions	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.

For Process Heater #8, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
PM	0.02 lb/MMBtu	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.02 lb/MMBtu
	0.10 lb/hr		0.10 lb/hr
PM_{10}	0.10 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.10 lb/hr
SO_2	0.05 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.05 lb/hr
NOx	1.0 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.0 lb/hr
CO	2.0 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	2.0 lb/hr
VOC	0.05 lb/hr	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.05 lb/hr
Visible Emissions	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.

4. Compliance Assurance Monitoring (CAM)

CAM is not applicable to Process Heaters #7 and #8 because there are no add-on pollution control devices on these units, and emissions from these units are less than 100 tons per year for all criteria pollutants.

5. Periodic Monitoring

   The periodic monitoring shall include record keeping including records of fuel use through purchase receipts indicating amounts (standard cubic feet). The fuel records shall be kept on a monthly and a 12-month rolling total basis.

F. Fire Pump and Generators #1 and #2

Pioneer operates two emergency generators and one emergency fire pump. The emergency generators are each rated at 1.2 MMBtu/hr and the Fire Pump is rated at 2.1 MMBtu/hr. The Fire Pump and Generator #2 (Cummins unit) both fire distillate fuel, however, Generator #1 (Onan unit) fires natural gas only. The units were all manufactured prior to 2006.

The Fire Pump was installed in 1970 and is driven by a Cummins NT280 diesel engine which supplies water to the facility's sprinkler system in the event of a fire. Pioneer agreed to limit operation of the engines to 2,292 hours per year in order to limit the NOx emissions from the engines to less than 10 tons per year. By doing so, the engines are exempt from NOx RACT requirements pursuant to Section 1.B.1 of 06-096 CMR 138. However, new federal regulations further limit the hours of operation which is described later in this license.

Opacity

Requirements in 06-096 CMR 101 §2(A) are applicable, however, the BPT opacity requirement for each of the back-up generators is more stringent and therefore will be streamlined into this Part 70 license renewal. Visible emissions from each back-up generator and fire pump shall not exceed an opacity of 30 percent on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a 3-hour period.

Fuel Use

The NOx RACT 06-096 CMR 138 requires a limit on the hours of operation for the engines of 2292 hours/year. The sulfur content of the distillate fuel shall not exceed the ultra-low sulfur limit of 0.0015% by weight.

Periodic Monitoring

Periodic monitoring shall consist of record keeping to document that the engines are not operated more than 2,292 hours per year in any calendar year.

Also periodic monitoring shall include meeting the applicable state and federal regulations as outlined below.

1. New Source Performance Standards (NSPS)

   The federal regulation 40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) is applicable to emergency generators. Since the units were manufactured prior to April 1, 2006, the emergency generators and Fire Pump are not subject to the requirements of Subpart IIII.

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

   The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is applicable to emergency generators and the Fire Pump. The units are considered existing, emergency stationary reciprocating internal combustion engines at a major HAP source and are not subject to New Source Performance Standards regulations.

   a. Emergency Definition:

      Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

      (1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.

      (2) Paragraph (1) above notwithstanding, the emergency stationary RICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:

         (i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or

the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Paragraphs (1) and (2) above notwithstanding, emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except provided in the following paragraphs:

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution center.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(a) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
(b) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
(c) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
(d) The power is provided only to the facility itself or to support the local transmission and distribution system.
(e) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

Generators #1, #2, and the Fire Pump shall be limited to the usage outlined in §63.6640(f) and therefore may be classified as existing emergency stationary RICE as defined in 40 CFR Part 63, Subpart ZZZZ. Failure to comply with all of the requirements listed in §63.6640(f) may cause these engines to not be considered emergency engines and therefore subject to all the requirements for non-emergency engines.

b. 40 CFR Part 63, Subpart ZZZZ Requirements:

(1) Operation and Maintenance Requirements

	Operating Limitations **40 CFR §63.6602 and Table 2(c)**
Compression ignition (distillate fuel) units: **Generator #2 and Fire Pump**	- Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

	Operating Limitations **40 CFR §63.6602 and Table 2(c)**
Spark ignition (natural gas) unit: **Generator #1**	- Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect spark plugs every 1000 hours of operation or annually, whichever comes first, and replace as necessary; and - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The generators and the Fire Pump shall be operated and maintained according to the manufacturer's emission-related written instructions or Pioneer shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(2) Optional Oil Analysis Program
Pioneer has the option of utilizing an oil analysis program which complies with the requirements of §63.6625(i) in order to extend the specified oil change requirement. If this option is used, Pioneer must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR§63.6625(i)]

(3) Non-Resettable Hour Meter Requirement
A non-resettable hour meter shall be installed and operated on each engine. [40 CFR §63.6625(f)]

(4) Startup Idle and Startup Time Minimization Requirements
During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

(5) Annual Time Limit For Maintenance and Testing
The engines shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency

situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §63.6640(f)(4)(ii) are met). [40 CFR §63.6640(f)]

(6) Recordkeeping

Pioneer shall keep records that include maintenance conducted on the engines and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the engines are operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), Pioneer shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §63.6655(e) and (f)]

(7) Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake HP).

If Pioneer operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

3. Emission Limits and Streamlining

For Generators #1, #2, and the Fire Pump, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

Generator #1 (natural gas fired)

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limits
PM	0.06 lb/hr	Based on 0.05 lb/MMBtu 06-096 CMR 140, BPT	0.06 lb/hr
PM_{10}	0.06 lb/hr	Based on 0.05 lb/MMBtu, 06-096 CMR 140, BPT	0.06 lb/hr
SO_2	0.01 lb/hr	Based on 0.0015% S limit, by weight, 06-096 CMR 140, BPT	0.01 lb/hr
NO_X	2.57 lb/hr	AP-42 Table 3.2-2 dated 07/00 (2.27 lb/MMBtu) and 06-096 CMR 140, BPT	2.57 lb/hr
CO	3.97 lb/hr	AP-42 Table 3.2-2 dated 07/00 (3.51 lb/MMBtu) and 06-096 CMR 140, BPT	3.97 lb/hr
VOC	0.03 lb/hr	AP-42 Table 3.2-2 dated 07/00 (0.03 lb/MMBtu) and 06-096 CMR 140, BPT	0.03 lb/hr
Visible Emissions	No greater than 20% opacity on a 6-min block avg, except for no more than two 6-min block avg in a 3-hr period	06-096 CMR 101	No greater than 20% opacity on a 6-min block avg, except for no more than two 6-min block avg in a 3-hr period

Generator #2 (distillate fuel fired)

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limits
PM	0.14 lb/hr	Based on 0.12 lb/MMBtu, 06-096 CMR 140, BPT	0.14 lb/hr
PM_{10}	0.14 lb/hr	Based on 0.12 lb/MMBtu, 06-096 CMR 140, BPT	0.14 lb/hr
SO_2	0.01 lb/hr	Based on 0.0015% S limit, by weight, 06-096 CMR 140, BPT	0.01 lb/hr

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limits
NO_X	5.29 lb/hr	AP-42 Table 3.3-1 dated 10/96 (4.41 lb/MMBtu) and 06-096 CMR 140, BPT	5.29 lb/hr
CO	1.02 lb/hr	AP-42 Table 3.3-1 dated 10/96 (0.95 lb/MMBtu) and 06-096 CMR 140, BPT	1.02 lb/hr
VOC	0.42 lb/hr	AP-42 Table 3.3-1 dated 10/96 (0.36 lb/MMBtu) and 06-096 CMR 140, BPT	0.42 lb/hr
Visible Emissions	No greater than 20% opacity on a 6-min block avg, except for no more than two 6-min block avg in a 3-hr period	06-096 CMR 101	No greater than 20% opacity on a 6-min block avg, except for no more than two 6-min block avg in a 3-hr period

Fire Pump

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
PM	0.25 lb/hr	Based on 0.12 lb/MMBtu, 06-096 CMR 140, BPT	0.25 lb/hr
PM_{10}	0.25 lb/hr	Based on 0.12 lb/MMBtu, 06-096 CMR 140, BPT	0.25 lb/hr
SO_2	0.01 lb/hr	Based on 0.0015% S limit, by weight, 06-096 CMR 140, BPT	0.01 lb/hr
NO_X	9.26 lb/hr	AP-42 Table 3.3-1 dated 10/96 (4.41 lb/MMBtu) and 06-096 CMR 140, BPT	9.26 lb/hr
CO	1.79 lb/hr	AP-42 Table 3.3-1 dated 10/96 (0.95 lb/MMBtu) and 06-096 CMR 140, BPT	1.79 lb/hr
VOC	0.73 lb/hr	AP-42 Table 3.3-1 dated 10/96 (0.36 lb/MMBtu) and 06-096 CMR 140, BPT	0.73 lb/hr
Visible Emissions	No greater than 20% opacity on a 6-min block avg, except for no more than two 6-min block avg in a 3-hr period	06-096 CMR 101	No greater than 20% opacity on a 6-min block avg, except for no more than two 6-min block avg in a 3-hr period

Table Notes: % S = percent fuel sulfur, by weight

4. Emission Limit Compliance Methods

   Compliance with the emission limits associated with Generator #1, #2, and Fire Pump shall be demonstrated in accordance with the appropriate test methods upon request of the Department.

5. Compliance Assurance Monitoring

   CAM is not applicable to Generator #1, Generator #2, or the Fire Pump since these units do not operate a pollution control device and do not have potential emission greater than 100 tons per year for any criteria pollutant.

6. Periodic Monitoring

   Pioneer shall monitor and record parameters for Generator #1, #2, and the Fire Pump as indicated in the following table whenever the equipment is operating.

Parameter	Units of Measure	Monitoring Tool/Method	Frequency
distillate fuel sulfur content	Percent, by weight	Fuel receipts from supplier	As fuel is purchased
Operating time	Hours	Hour Meter	Calendar year basis
Type of Operation (emergency, maintenance, etc.)	N/A	Logbook	As occurs

7. Parameter Monitors

   There are no Parameter Monitors required for Generator #1, #2, or the Fire Pump.

8. CEMS and COMS

   There are no CEMS or COMS required for Generator #1, #2, or the Fire Pump.

F. Boiler #5/Thermal Oxidizer

Pioneer utilizes Boiler #5/Thermal Oxidizer to incinerate VOC- and HAP-laden emission streams from its manufacturing processes. 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/Thermal Oxidizer was manufactured by Hirt in 1982. The unit was installed

at the facility in 1983 and fires #4 fuel oil, #6 fuel oil, and natural gas. The unit was subject to an alternative NO_x RACT determination under 06-096 CMR 138 as a "miscellaneous source". The Department has determined that Boiler #5/Thermal Oxidizer unit meets NO_x RACT requirements as currently configured and operated.

1. New Source Performance Standards (NSPS): 40 CFR Part 60

   a. Subpart Db, *NSPS for Industrial Steam Generating Units*
   Boiler #5/Thermal Oxidizer is not subject to 40 CFR Part 60, Subpart Db because it has a maximum heat input capacity of less than 100 MMBtu/hr.

   b. Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*
   Due to its date of manufacture, Boiler #5/Thermal Oxidizer is not subject to 40 CFR Part 60, Subpart Dc which applies to steam generating units with a heat input capacity of 10 MMBtu/hr or more and that are constructed after June 9, 1989.

   c. Subpart DDDD, *Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999*.
   Boiler #5/Thermal Oxidizer currently burns a non-hazardous liquid distillate waste that could make this unit subject to 40 CFR Part 60, Subpart DDDD. If Pioneer continues to use this unit to burn the distillate liquid waste, then the final compliance date can be no later than 3 years after the effective date of approval of a revised state plan or February 7, 2018, for CISWI units that commenced construction on or before June 4, 2010.

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

Pollutant	Performance Standard	Averaging Period	Regulatory Reference
PM	120 mg/DSCM	3-hr average	NESHAP 40 CFR Part 63, Subpart DDDD
SO_2	720 ppmdv@ 7% O_2	3-hr average	
NO_x	76 ppmdv@ 7% O_2	3-hr average	
CO	35 ppmdv@ 7% O_2	3-hr average	
VOC	--	--	--
Cd	0.023 mg/DSCM	3-hr average	NESHAP 40 CFR Part 63, Subpart DDDD
Pb	0.096 mg/DSCM	3-hr average	
Hg	0.0024 mg/DSCM	3-hr average	

Pollutant	Performance Standard	Averaging Period	Regulatory Reference
Dioxin / Furan (TEQ)	0.32 ng/DSCM	3-hr average	NESHAP 40 CFR Part 63, Subpart DDDD
Hydrogen chloride	14 ppmdv@ 7% O_2	3-hr average	

2. NESHAP: 40 CFR Part 63

Because Boiler #5/Thermal Oxidizer is the control equipment for VOC/HAP from parts of Pioneer's manufacturing processes, the unit is subject to applicable control device requirements of the following NESHAP standards:

a. Subpart OOO, *NESHAP: Manufacture of Amino/Phenolic Resins*
In accordance with 40 CFR §63.1400 (a)(3), because Boiler #5/Thermal Oxidizer is a control device used as a method of compliance with this Subpart, the unit is subject to applicable requirements of this Subpart.

b. Subpart EEEE, *NESHAP: Organic Liquids Distribution (Non-Gasoline)*
This unit is subject to applicable requirements of 40 CFR Part 63, Subpart EEEE, because it serves as a control device for organic liquid distribution operations that are located at a major source of HAPs.

c. Subpart FFFF, *NESHAP: Miscellaneous Organic Chemical Manufacturing*
Boiler #5/Thermal Oxidizer is subject to the control device requirements of 40 CFR Part 63, Subpart FFFF.

d. Subpart JJJJ, *NESHAP: Paper and Other Web Coating* and Subpart OOOO, *NESHAP: Printing, Coating, and Dyeing of Fabrics and Other Textiles*
Boiler #5/Thermal Oxidizer is subject to the streamlined requirements of 40 CFR Part 63, Subparts JJJJ and OOOO.

Applicable requirements of these regulations are addressed in this license in the section addressing Reactors (Findings of Fact, Section G) and the section addressing Paper Treaters, Impregnators, and Coaters (Findings of Fact, Section H).

e. Subpart DDDDD, *NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters*
Because Boiler #5/Thermal Oxidizer is used as a control device for process sources, it is part of the affected source subject to one or more

other subparts of 40 CFR Part 63; thus, in accordance with 40 CFR §63.7491 (h), it is not subject to Subpart DDDDD.

3. Emission Limits and Streamlining

For Boiler #5/Thermal Oxidizer, a listing of potentially applicable emission standards, the origin and authority of the standards, notation if streamlining of the standards has been requested, and the applicable emission limits can be found below.

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
PM *	0.20 lb/MMBtu (oil)	06-096 CMR 103 2.A(1)	0.20 lb/MMBtu (oil)
	0.20 lb/MMBtu (oil)	A-448-70-A-A/I & 06-096 CMR 140, BPT	
	0.05 lb/MMBtu (NG)	06-096 CMR 115, BACT A-448-77-5-M	0.05 lb/MMBtu (NG)
	11.9 lb/hr (fuel oil)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	11.9 lb/hr (fuel oil)
	2.5 lb/hr (Natural Gas)	06-096 CMR 115, BACT A-448-77-5-M	2.5 lb/hr (NG)
PM_{10}	11.9 lb/hr (fuel oil)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	11.9 lb/hr (fuel oil)
	2.5 lb/hr (Natural Gas)	06-096 CMR 115, BACT A-448-77-5-M	2.5 lb/hr (NG)
SO_2	2.0 lb/MMBtu (consistent with fuel sulfur content limit of 2.0% by weight)	06-096 CMR 106, Section 2(A)(2)	2.0 lb/MMBtu (consistent with fuel sulfur content limit of 2.0% by weight)
	88.1 lb/hr (fuel oil)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	88.1 lb/hr (fuel oil)
	0.1 lb/hr (Natural Gas)	06-096 CMR 115, BACT A-448-77-5-M	0.1 lb/hr (NG)
NO_x	23.7 lb/hr (fuel oil)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	23.7 lb/hr (fuel oil)
	8.6 lb/hr (#4 fuel oil)	06-096 CMR 140, BPT	8.6 lb/hr (#4 fuel oil)
	5.0 lb/hr (Natural Gas)	06-096 CMR 115, BACT A-448-77-5-M	5.0 lb/hr (NG)
CO	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	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

Pollutant	Applicable Emission Standards	Origin and Authority	Licensed Emission Limits
CO, continued	15.7 lbs/hr CO - burning fuel oil and *not* operating P5.		15.7 lbs/hr CO - burning fuel oil and *not* operating P5.
	Other limits according to the emission rates and scenarios identified in the table below when firing natural gas. **	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 tpy, 12-month rolling total		329 tpy, 12-month rolling total
VOC	30.0 lb/hr (fuel oil)	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	30.0 lb/hr (fuel oil)
	0.3 lb/hr (Natural Gas)	06-096 CMR 115, BACT A-448-77-5-M	0.3 lb/hr (NG)
Visible Emissions	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.	A-448-70-A-A/I & 06-096 CMR 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.
	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.	06-096 CMR 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.

* Streamlining requested

** As a result of extensive testing in 2010, Pioneer found that the highest CO emissions from Boiler #5/Thermal Oxidizer are when the Impregnator P5 is in operation. Pioneer shall monitor and record the minutes of Impregnator P5 operation on a monthly basis and calculate emissions on a both a monthly and a 12-month rolling total basis, according to the following emission rates and scenarios below when firing natural gas:

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

Note: Impregnator P5 minutes of operation shall be documented both manually and electronically through paper log sheets completed daily by the machine operators, and in minute-by-minute data recorded in the facility's computer database system.

P4 and C4 durations of operations are recorded both manually and electronically. K1 – K8 durations of operations are recorded manually, and the Specialty Resins Department's diverter damper position (vented to Boiler #5/Thermal Oxidizer or vented to atmosphere) is recorded every 15 minutes in the facility's electronic system.

If CO emissions from Boiler #5/Thermal Oxidizer approach the 329 TPY limit specified in this license, there are two options available by which the facility may remain in compliance, as follows:

- Increase the unit's operating temperature to 1450^{o}F while Impregnator P5 is in operation to decrease CO emissions to 61.0 lbs/hr; continue documentation of combustion temperature as currently required, but at this higher temperature; or
- Decrease the hours of operation of Impregnator P5.

4. Emission Limit Compliance Methods

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 CFR 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 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested

Pollutant	Unit Basis of Emission Limit	Compliance Method	Frequency
SO_2	lb/hr	40 CFR Part 60, App. A, Method 6	As requested
NO_x	lb/MMBtu and lb/hr	40 CFR Part 60, App. A, Method 7E	Compliance with the NOx 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 CFR Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 CFR Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 CFR Part 60, App. A, Method 9	As requested

5. Compliance Assurance Monitoring (CAM): 40 CFR Part 64

   CAM is not applicable to Boiler #5/Thermal Oxidizer because there are no add-on pollution control devices on this unit. CAM requirements for the process units whose VOC and HAP emissions are controlled through use of Boiler #5/Thermal Oxidizer are addressed in subsequent sections of this license.

6. Fuel Usage

   During normal operation, Boiler #5/Thermal Oxidizer burns #6 fuel oil with a sulfur content not to exceed 2%. During the period of May 1 through September 30, if Boiler #6 switches to burning #4 fuel oil in place of natural gas, Boiler # 5/Thermal Oxidizer is restricted to burning #4 fuel oil with a sulfur content not to exceed 0.7%. [A 448 70 A-A/I (April 20, 2004), BPT]

7. Periodic Monitoring

   Periodic monitoring for Boiler #5/Thermal Oxidizer shall include the following:
   a. Recordkeeping associated with stack testing to demonstrate compliance with NO_x and particulate matter emission limits;
   b. Records documenting annual ductwork inspections and tune-ups required per NO_x RACT [06-096 CMR 138];

c. Recordkeeping associated with the destruction efficiency test to demonstrate compliance with requirements under 06-096 CMR 123 and 06-096 CMR 126; and
d. Records demonstrating compliance with the required minimum temperature in Boiler #5/Thermal Oxidizer combustion chamber.

H. RTO #1

Through NSR #8, license A-448-77-8-A issued May 1, 2014, Pioneer was licensed to install and operate a Regenerative Thermal Oxidizer, RTO #1, to control VOC and HAP emissions from process sources. The RTO was manufactured in 2000 by GEOENERGY of Seattle, Washington. Upon completion of installation and start-up, RTO #1, rated at 3,500 scfm firing natural gas and with a maximum heat input capacity of 1.5 MMBtu/hour, will be used to control emissions from Reactors K1-K8.

The unit was also purchased, installed, and licensed to incinerate the non-hazardous distillate by-product liquid stream from polyester resin production in these reactors which is currently being incinerated in Boiler #5/Thermal Oxidizer. RTO #1 was licensed through A-448-77-8-A as an "existing" unit and subject to the corresponding emission standards and limits established for existing CISWI units under 40 CFR Part 60, Subpart DDDD - *Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units*. However, it was determined after the issuance of the NSR air license that Pioneer modified the unit's burner and therefore RTO #1 should be considered a new unit and subject to 40 CFR Part 60, Subpart CCCC - *Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After Modification or Reconstruction Is Commenced on or After June 1, 2001*. Pioneer has currently not burned the liquid distillate by-product in RTO #1. The CISWI rule only applies to the RTO if the unit burns the liquid distillate waste and therefore this Part 70 air license will include the emission limits and requirements of 40 CFR Part 60 Subpart CCCC if Pioneer does move forward with burning the liquid distillate in RTO #1.

The existing Boiler #5/Thermal Oxidizer will continue to operate as a control device for emissions from Treaters P4, P5, and P9 and Coater C4, and as a potential back-up control device for emissions from Reactors K1-K8.

1. New Source Performance Standards (NSPS): 40 CFR Part 60

   Subpart DDDD, *Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units* (the CISWI rule)
   The RTO was originally licensed through NSR #8, A-448-77-8-A, as subject to 40 CFR Part 60, Subpart DDDD. However, after further discussions with USEPA Region I and Pioneer, the unit had undergone a modification of its burner which therefore designates the unit to be considered a "new" unit instead of an "existing" unit.

   Subpart CCCC, *Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After Modification or Reconstruction Is Commenced on or After June 1, 2001*
   The RTO would be subject to Subpart CCCC if the unit begins combusting the distillate liquid waste stream. Applicable requirements of the CISWI rule include operator training and qualification requirements (§60.2070 through §60.2100); emission limitations (§60.2105); initial and annual performance testing requirements (§60.2125); continuous compliance demonstration requirements (§60.2145); and recordkeeping and reporting requirements (§60.2175 through §60.2240).

2. National Emissions Standards for Hazardous Air Pollutants (NESHAP): 40 CFR Part 63

   a. Subpart OOO, *NESHAP: Manufacture of Amino/Phenolic Resins*
      In accordance with 40 CFR §63.1400 (a)(3), because RTO #1 is a control device used as a method of compliance with this Subpart, the unit is subject to applicable requirements of this Subpart.

   b. Subpart EEEE, *NESHAP: Organic Liquids Distribution*
      This unit is subject to applicable requirements of 40 CFR Part 63, Subpart EEEE, because it serves as a control device for organic liquid distribution operations located at a major source of HAPs.

   c. Subpart FFFF, *NESHAP: Miscellaneous Organic Chemical Manufacturing*
      RTO #1 is subject to the control device requirements of 40 CFR Part 63, Subpart FFFF.

   Applicable requirements of these regulations are addressed in this license in the section addressing Reactors (Findings of Fact, Section I) and the section addressing Paper Treaters, Impregnators, and Coaters (Findings of Fact, Section J).

Pollutant	Emission Limitation[a]	Averaging Period	Compliance Method
Particulate matter (filterable)	18 mg/DSCM	3-run average (collect a minimum volume of 2 DSCM per run)	Performance test (Method 5 or 29 at 40 CFR Part 60, appendix A-3 or appendix A-8).
Sulfur dioxide	11 ppmdv	3-run average (1 hour minimum sample time per run)	Performance test (Method 6 or 6C at 40 CFR Part 60, appendix A-4).
Nitrogen Oxides	23 ppmdv	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at 40 CFR Part 60, appendix A-4).
Cadmium	0.0023 mg/DSCM	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 29 at 40 CFR Part 60, appendix A-8).
Carbon monoxide	17 ppmdv	3-run average (1 hour minimum sample time/ run)	Performance test (Method 10 at 40 CFR Part 60, appendix A-4).
Dioxin/furan (Total Mass Basis)	0.58 ng/DSCM	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 23 at 40 CFR Part 60, appendix A-7).
Dioxin/furan (toxic equivalency basis)	0.13 ng/DSCM[b]	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 23 at 40 CFR Part 60, appendix A-7).
Fugitive ash	Visible emissions for no more than 5% of the hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR Part 60, appendix A-7).
Hydrogen chloride	0.091 parts per million by dry volume	3-run average (For Method 26, collect a minimum vol. of 360 liters per run. For Meth. 26A, collect a minimum volume of 3 DSCM per run)	Performance test (Method 26 or 26A at 40 CFR Part 60, appendix A-8).
Lead	0.015 milligrams per dry standard cubic meter [b]	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 29 of appendix A-8 at 40 CFR Part 60). Use ICPMS for the analytical finish.
Mercury	0.00084 mg/DSCM[b]	3-run avg. (collect enough volume to meet a detection limit data quality objective of 0.03 ug/DSCM)	Performance test (Method 29 or 30B at 40 CFR Part 60, appendix A-8) or ASTM D6784-02 (Reapproved 2008).

[a] All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Limit or the toxic equivalency basis limit.

b If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that emissions are at or below this limit, testing can be skipped according to § 60.2155 if all of the other provisions of § 60.2155 are met. For all other pollutants that do not contain a footnote "b", performance tests for this pollutant for at least two consecutive years must show that emissions are at or below 75% of this limit in order to qualify for skip testing.

3. Emission Limits and Streamlining

Pioneer shall combust natural gas in RTO #1 and operate the unit according to manufacturer's recommendations and will employ good combustion practices to minimize PM, CO, and VOC emissions.

If RTO #1 does not combust the distillate liquid waste by-product, then this unit is not subject to 40 CFR Part 60 Subpart CCCC (CISWI Rule) and will meet the following emission limits:

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
PM	0.08 lb/hr	06-096 CMR 140, BPT	0.08 lb/hr
PM_{10}	0.08 lb/hr	06-096 CMR 140, BPT	0.08 lb/hr
SO_2	0.01 lb/hr	06-096 CMR 140, BPT	0.01 lb/hr
NOx	0.22 lb/hr	06-096 CMR 140, BPT	0.22 lb/hr
CO	0.12 lb/hr	06-096 CMR 140, BPT	0.12 lb/hr
VOC	0.02 lb/hr	06-096 CMR 140, BPT	0.02 lb/hr
Visible Emissions	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.	06-096 CMR 140, BPT	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.

If RTO #1 does combust the distillate liquid waste by-product then the unit is subject to 40 CFR Part 60 Subpart CCCC (CISWI Rule). Compliance with the requirements of CISWI is considered BPT for RTO #1.

If RTO #1 is considered a CISWI unit, then the emission limitations specified in the following table (Table 1 of Subpart CCCC) must be met within 60 days after the CISWI unit reaches the charge rate at which it will operate, but no later than 180 days after its initial startup: [40 CFR Part 60, Subpart CCCC]

All performance tests must comply with the requirements of 40 CFR §60.2125 and must consist of a minimum of three test runs conducted under conditions representative of normal operations.

I. Reactors

Pioneer has eight reactor vessels in which resins are manufactured. The capacities of and specific products from these reactors are as follows:

Reactor	Capacity	Primary Product	But is Sometimes Used to Make…
K1	3,000 gal	Melamine Resins	Urea Resins
K2	1,200 gal		
K3	5,000 gal	Used as Blending Tank to combine phenolic resins and resin extenders with methanol and/or acetone	Urea Resins
K4	3,500 gal	Polyester Resins	N.A.
K5	3,500 gal		
K6	5,000 gal		
K7	100 gal		
K8	3,500 gal	Polyester Resins	Melamine Resin

Generally, powdered raw materials are added (charged) to liquid raw materials in the reactors through a charging hatch or a direct line. Charging operations last approximately one to three hours for Reactors K4 - K8, during which time minimal amounts of powder are vented to the atmosphere. For all reactors, the charging hatch is closed while the chemical reaction takes place. Process testing occurs as samples are collected during each cook cycle.

After completion, the resulting melamine and urea resins are pumped into storage tanks to be used in production or for shipment off-site. Polyester resins are discharged, or letdown, from the reactors into drums as a liquid or into pans to cool and solidify. The solidified resins are then crushed into specified particle sizes**.**

1. Emissions Control Equipment, Operating Scenarios

   In the following paragraphs, the thermal oxidizer control device identified to minimize emissions from Pioneer's reactors is the unit referred to previously in this license as Boiler #5/Thermal Oxidizer. Because the thermal oxidizer function of the unit is relevant to this section, the name of Boiler #5/Thermal Oxidizer in this section is shortened to Thermal Oxidizer, for simplicity.

Control of emissions from the Reactors shall be accomplished through the use of RTO #1, with the Thermal Oxidizer available as a back-up control device.

a. Reactors K1 and K2: Melamine and Urea (Amino) Resin Production

During the manufacture of melamine and urea resin in Reactors K1 and K2, the reactor vessels are closed, and the emissions are captured and conveyed to RTO #1 or the Thermal Oxidizer for destruction.

b. Reactor K3: Resin Blender / Urea Resin Production

VOC emissions from Reactor K3 are controlled by either a vapor condenser or RTO #1 or the Thermal Oxidizer, in accordance with the Department's VOC RACT determination pursuant to 06-096 CMR 134 and as approved by EPA.

Some of the production from Reactor K3 results from the blending of acetone with phenolic extender, then blending that mix with the phenolic resin. In such cases, a vapor condenser is utilized for emissions control. The temperature of the coolant on the inlet side of Reactor K3 vapor condenser shall be maintained below 100 degrees Fahrenheit while the reactor is in operation and using this control method. At all times that Reactor K3 is not venting through RTO #1 or the Thermal Oxidizer, Pioneer shall monitor and record the temperature of the coolant on the inlet side of the vapor condenser every six hours. Pioneer shall maintain such records for a minimum of six years, and they shall be submitted to the Department upon request. [06-096 CMR 134]

Other production from Reactor K3 uses methanol or another VOC/HAP to blend the phenolic extender, rather than acetone. In such cases, emissions are vented to RTO #1 or the Thermal Oxidizer. The control device shall be operated to achieve a minimum VOC/HAP destruction efficiency of 95%.

(1) Operating Scenarios [A 448 70 A-A/I (April 20, 2004), BPT]

Pioneer is licensed to operate Reactor K3 and the associated paper impregnating and treating operations down-stream of Reactor K3 under the following four operating scenarios to maintain operational flexibility:

Operating Scenario 1: Blend the phenolic extender material with acetone and resins, on-site, in Reactor K3.

Operating Scenario 2: Blend the phenolic extender with methanol and resins, on-site, in Reactor K3.

Operating Scenario 3: Purchase from an external supplier a phenolic extender/phenolic resin blend and a UF resin/phenolic extender that includes methanol in the phenolic extender blend.

Operating Scenario 4: Use phenolic resins that will not require addition of the phenolic extender/solvent solution.

Pioneer shall maintain chemical use records documenting compliance with these flexible operating scenarios.

(2) Pioneer shall calculate and document VOC emissions on a monthly basis for this process to demonstrate that the VOC emissions (of methanol) from Operating Scenarios 2 and 3 above do not exceed 30 tons per year. Calculations shall be based on the following assumptions:

- Zero change in VOC emissions under Operating Scenario 1 (because acetone is not a VOC or HAP).
- Operating Scenarios 2 and 3 calculations will track VOC emissions of only methanol (because the scenarios are the blending of phenolic extender material with methanol).
- Operating Scenario 4 represents an activity addressed elsewhere in the license (coating with phenolic resins).
- 100% volatilization of methanol
- 100% capture of methanol emissions from both Reactor K3 and from the permanent total enclosures (PTE) around the paper Impregnators P1, P4, P5, and Coater C4 where the phenolic coating will be applied.
- 95% destruction of VOC/HAP in the Thermal Oxidizer (based on results from previous performance tests).

(3) Pioneer shall maintain records of the following for each specified operating scenario to document compliance with the 30 tpy VOC emission limit from Operating Scenarios 2 and 3.

Operating Scenario 2 (blend phenolic extender with methanol on-site):

- Monthly records of the amount of methanol used (in lb);
- 12-month rolling total of the amount of methanol used (lb);
- Monthly and 12-month rolling total of VOC emission calculations using the following formula:

$$VOC2 = \frac{\text{(pounds methanol)} * 5\%}{2000 \text{ lb/ton}} = \text{tons VOC}$$

Operating Scenario 3 (purchased phenolic extender/phenolic resin blend):

- Monthly records of the amount of purchased phenolic extender/phenolic resin blend purchased (lb)and the percent methanol by weight of the resin blend;
- 12-month rolling total of the amount of phenolic extender/phenolic resin blend purchased (pounds);
- Monthly and 12-month rolling total of VOC emission calculations using the following formula:

$$VOC3 = \frac{(\text{pounds phenolic extender blend}) * \%\ \text{methanol}) * 5\%}{2000\ \text{lb/ton}} = \text{tons VOC}$$

Operating Scenarios 2 and 3: Total VOC Emissions

The monthly and 12-month rolling total of VOC emissions in TPY for Operating Scenarios 2 and 3 shall be calculated using the following equation:

VOC flexible operating scenarios (tons) = VOC2 +VOC3 $\leq$ 30 tons VOC per year

c. Reactors K4, K5, K6, K7, and K8: Polyester Resins Production

During the manufacture of polyester resin in Reactors K4, K5, K6, K7, and/or K8, the reactor vessels are closed, and emissions are captured and conveyed to RTO #1 or the Thermal Oxidizer for destruction. Per A-448-70-A, Pioneer has the operational flexibility to produce either melamine resin or polyester resin in the K8.

At all times that K4, K5, K6, K7, and/or K8 are blending polyester resins, Pioneer shall vent the emissions from the main outlet vent on each reactor through the separating column and vapor condenser, which shall be operated to maximize the condensation of any emissions. The temperature of the coolant on the inlet side of the vapor condensers to K4, K5, K6, K7, and K8 shall be maintained below 100 degrees Fahrenheit while the reactors are blending polyester resins. Pioneer shall record the date and length of time in minutes when each reactor is blending polyester resins.

At all times that K4, K5, K6, K7, and K8 are blending polyester resins, Pioneer shall monitor and record every six hours the temperature of the coolant on the inlet side of the vapor condensers to K4, K5, K6, K7, and K8. Pioneer shall maintain such records for a minimum of six years, and they shall be submitted to the Department upon request.

The above VOC controls for both polyester resin production and polyester resin blending operations meet RACT requirements for Reactors K4 – K8. [A-448-71-P-A (June 16, 1997), VOC RACT]

2. Particulate Emissions

Requirements in 06-096 CMR 105, *General Process Source Particulate Emission Standard*, are applicable to Pioneer's reactors. This rule defines the PM emission limit from these units on the basis of the size and rate at which the process operates.

3. Visible Emissions

Visible emissions from any of the Reactors K1, K2, K3, K4, K5, K6, K7, and K8 shall not exceed 20% opacity on a six-minute block average basis except for no more than one six-minute block average in a one-hour period. [A-448-71-P-A (June 16, 1997), BPT] Although requirements of 06-096 CMR 101 are applicable to these reactors, this BPT opacity limit is more stringent and is the standard set forth in this license.

4. VOC and HAP Emissions

a. <u>Reactors K1 and K2: Melamine and Urea (Amino) Resin Production</u>
HAP emissions (primarily formaldehyde) from the production of melamine and urea resins in K1 and K2 are subject to the requirements of 40 CFR Part 63, Subpart OOO. Reactor K8 is subject to Subpart OOO during production of melamine resins when operating time from melamine production is at least five percent of the total production time in a five-year time period.

40 CFR Part 63, Subpart OOO requirements include the following:

(1) Emission Standards: The batch reactor and non-reactor emissions shall be collected into a common closed vent system meeting the requirements of 40 CFR 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*, and therefore are subject to the requirements of 40 CFR §63.1408 for Aggregate Batch Vent Streams on Reactors K2 and K2. Pioneer shall control emissions from the Aggregate Batch Vent Stream on Reactors K1 and K2 to at least 83% reduction over the batch cycle using a control device. [40 CFR §63.1408(a)(2)(ii)]

(2) Heat Exchange System: The heat exchange system is operated with the minimum pressure on the cooling water side of at least 35 kilopascals greater than the maximum pressure on the process side; therefore, the requirements of 40 CFR § 63.1409 do not apply.

(3) Equipment Leaks: Because the equipment contains or contacts organic HAP in concentrations greater than 5% by weight and operates more than 300 hours per year, the affected equipment associated with Reactors K1 and K2, as defined in Subpart OOO §63.1402, shall comply with applicable requirements of 40 CFR Part 63, Subpart UU, *National Emission Standards for Equipment Leaks – Control Level 2 Standards*. [40 CFR §63.1410]

(4) Pioneer shall comply with the minimum parameter monitoring level established during the most recent performance test conducted on RTO #1 or the Thermal Oxidizer per 40 CFR §63.1413(a)(1)(i).

(5) Pioneer shall follow the Start-up, Shutdown, and Malfunction Plan in accordance with 40 CFR §63.6(e)(3) and Table 1 of 40 CFR Part 63, Subpart OOO.

(6) Pioneer shall file Periodic Reports semiannually, no later than 60 days after the end of each six-month period, per 40 CFR §63.1417(f). Pioneer shall keep records as indicated in 40 CFR §63.1416.

b. Urea Reactor K3 / Resin Blender

HAP emissions from the blending of phenolic resins and production of urea resin in Reactor K3 are not subject to 40 CFR Part 63, Subpart OOO, *NESHAP Emissions: Manufacture of Amino/Phenolic Resins*, since the production of an amino/phenolic resin does not account for the greatest percent of the annual design capacity of the unit on a mass basis. [40 CFR §63.1400 (g)]

Since Reactor K3 is used for mixing resins and additives prior to being used in the coating process, these operations are part of the source category but are not part of the affected source; Reactor K3 is considered *affiliated equipment* as in 40 CFR Part 63, Subpart JJJJ, *NESHAP: Paper and Other Web Coating*, and not part of the affected source under this Subpart. [Preamble to the Final Rule and 40 CFR §63.3300 and §63.3310]

Reactor K3 is subject to applicable requirements of 40 CFR Part 63, Subpart EEEE, *NESHAP: Organic Liquids Distribution (Non-Gasoline)*. According to Subpart EEEE, Reactor K3 is part of the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major HAP source. [40 CFR §63.2338]

Pioneer shall comply with the requirements of 40 CFR Part 63, Subpart EEEE applicable to Reactor K3, including the following:

(1) The equipment shall meet the applicable emission limitations for storage tanks, transfer racks, equipment leak components, transfer vehicles, and operating limits as specified in 40 CFR §63.2346.

(2) The facility shall develop a work practice plan in accordance with 40 CFR §63.2346.

(3) The facility shall develop and maintain a Start-up, Shut-down, and Malfunction Plan in accordance with 40 CFR §63.2350 (c).

(4) The facility shall comply with the continuous compliance and monitoring requirements of 40 CFR §63.2366, §63.2374, and §63.2378.

(5) The facility shall comply with the reporting requirements of 40 CFR §63.2386 and 06-096 CMR 140.

(6) Recordkeeping shall include documents specified in 40 CFR §63.2390 and shall be kept in accordance with 40 CFR §63.2394.

c. <u>Reactors K4, K5, K6, K7, and K8</u>

Polyester resins production is a HAP source subcategory identified in 40 CFR Part 63, Subpart FFFF*: Miscellaneous Organic NESHAP*. Reactors K4, K5, K6, K7, and K8 are subject to applicable requirements of Subpart FFFF if polyester resins are the primary product for greater than 95% of the total operating time in a five-year period. Through air license amendment NSR #2, A-448-77-2-M, Pioneer has the flexibility to produce either melamine resin or polyester resin in K8. The primary product determination must be re-evaluated every five years. [40 CFR §63.2535 (l)(2)]

Pioneer shall comply with the following requirements, as applicable:

- Compliance Dates: §63.2445
- Emission Limits, Work Practice Standards, and Compliance Requirements: §63.2450 - §63.2490
- Notification, Reports, and Records: §63.2515 - §63.2525
- Other Requirements and Information: §63.2535 - §63.2550
- Table 2 to Subpart FFFF of Part 63—Emission Limits and Work Practice Standards for Batch Process Vents

J. Paper Treaters, Impregnators, and Coaters:
(Paper Treaters M1, M4, M5, M6, M7, and the Pilot Treater)
(Paper Impregnators P4, P5, and P9)
(Paper Coater C4)

Pioneer operates nine treater, impregnator, and coater lines for applying resins to a web substrate. Each line is used to apply resins to paper or other substrates by either impregnating and/or coating the substrate at the application area(s) of the line. Each line has an oven after the application area, within which the coated or impregnated substrate is dried and/or the resin is cross-linked.

1. Treaters

There are six Treaters: M1, M4, M5, M6, M7, and the Pilot Treater; each of which has either one or two application areas for applying melamine and urea resins to decorative papers or fiberglass substrate. The melamine/urea resins applied by these Treaters are low-solvent coatings with a VOC content less than 2.9 lbs of VOC per gallon.

The VOC content of cleaning solutions used in clean-up activities on Treaters M1, M4, M5, M6, M7, and the Pilot Treater shall not exceed 50% by volume, except for the use of up to 500 pounds of cleaning solutions per year which may contain greater than 50% VOC by volume. [06-096 CMR 134, VOC RACT]

Pioneer shall keep records of VOC emissions per year from clean-up activities on Treaters M1, M4, M5, M6, M7, and the Pilot Treater, and records of the quantity, in pounds, of cleaning solutions used in these activities with a VOC content greater than 50% by volume. [06-096 CMR 134, VOC RACT]

2. Impregnators

There are three Impregnators: P4, P5, and P9; used to produce phenolic-impregnated Kraft paper. This paper is then either used as the substrate to make finished laminate product or shipped as is. Impregnators P4, P5, and P9 have only one coating application area each. Impregnator P9 and the associated Laminate Press 1 and Feed Tank #67 were installed per NSR license A-448-77-1-A (June 5, 2007). While a portion of VOC present in the resins remains in the final product, this license conservatively assumes all VOC in the resins is released and conveyed to the control unit. VOC emissions from these processes (application areas and associated ovens) are captured by means of a permanent total enclosure and are vented to the Thermal Oxidizer for destruction.

The permanent total enclosures on Impregnators P4, P5, and P9 shall have documented inspections semiannually. These inspection reports shall be submitted with the semiannual report as required by this license.

An evaluation of the permanent total enclosure capture system shall also be conducted every two calendar years, in conjunction with destruction efficiency testing of the Thermal Oxidizer, to ensure the system meets the applicable specifications (06-096 CMR 126, Appendix A, Procedure T).

VOC emissions from Impregnator P9, Laminate Press 1, and Feed Tank #67 are limited to 39 tons/year. Compliance with this emission limit shall be demonstrated through the following calculations and recordkeeping: [A-448-77-1-A (June 5, 2007), BACT]

a. Pioneer shall maintain chemical use records for Impregnator P9 and Laminate Press 1.

b. Pioneer shall calculate and maintain records of VOC emissions on a monthly basis to demonstrate that VOC emissions from the operation of Impregnator P9, Laminate Press 1, and Feed Tank #67 do not exceed 39 tons per year on a 12-month rolling total basis.

c. Emissions calculations shall be based the following assumptions:
   · 100% volatilization of HAP/VOC in resin from either Impregnator P9 or Laminate Press 1.
   · 100% capture of emissions by the permanent total enclosures (PTE) around Impregnator P9, where the phenolic coating will be applied; and

· 98% destruction of VOC/HAP in the Thermal Oxidizer (based on previous performance tests).

d. Impregnator P9 Emissions: Required Calculations and Records

· Monthly records of the amount (pounds) of resin used and VOC content; and 98% destruction efficiency of the thermal oxidizer;
· 12-month rolling total of resin used (pounds) and VOC content;
· Monthly and 12-month rolling total VOC emission calculations using the following formula:

$$VOC_1 = \frac{(\text{pounds resin} * \text{VOC content}) * 0.02}{2000 \text{ lb/ton}} = \text{tons VOC per year}$$

e. Laminate Press 1 Emissions: Required Calculations and Records

· Monthly records of laminate press rate and 12-month rolling total,
· Testing conducted on Pioneer's other presses determined VOC emissions from the laminate press at the rate of 6.6×10^{-5} pounds per square foot of laminate.
· Monthly and 12-month rolling total VOC emission calculations using the following formula:

$$VOC_2 = \frac{\text{laminate press rate } (ft^2/day) * 6.6 \times 10^{-5} \text{ } (lb/ft^2) * (\text{operating days/yr})}{2000 \text{ lb/ton}} = \text{tons VOC per year}$$

f. Feed Tank #67 Emissions: Required Calculations and Records

· Pioneer shall calculate VOC emissions from the impregnator Feed Tank #67 using material through put data and approved calculation methods (e.g., EPA TANKS software).
· VOC emissions shall be calculated using the annual resin throughput for Feed Tank #67 for Phenolic Impregnator P9 multiplied by a VOC emission factor from working and breathing losses using EPA TANKS software:

VOC_3 = (annual throughput (tons/year)) * EPA tanks factor = tons VOC per year

VOC_{total} (tons per year) = $VOC_1 + VOC_2 + VOC_3 \leq 39$ tons VOC per year

3. NESHAP Applicability for Treaters and Impregnators

HAPs emitted from these lines are subject to either one or two of the following NESHAP (40 CFR Part 63) coating standards, depending on the particular web substrate used and the percentage of time that the substrate is used on an individual line.

- 40 CFR Part 63, Subpart JJJJ, *NESHAP: Paper and Other Web Coating*; and
- 40 CFR Part 63, Subpart OOOO, *NESHAP: Printing, Coating, and Dyeing of Fabrics and Other Textiles*.

Due to the flexibility inherent in the processes to coat either a fabric or a paper web on any process line, this Part 70 license incorporates streamlining of standards from these two NESHAP Subparts to be uniform for all coating lines. The streamlined requirements from these two NESHAP Subparts incorporate the applicable standards of Subpart OOOO which were implemented following the timelines in Subpart JJJJ. These standards are included in the following sections and the following overarching standards:

<u>40 CFR Part 63, Subpart OOOO Requirements</u>

1. The facility shall meet the applicable general requirements specified in 40 CFR §63.4300 (a)(1) though (4).

2. Pioneer shall develop and maintain a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of regulated materials used in, and waste materials generated by, applicable processes, in accordance with 40 CFR §63.4293 and including but not limited to the following:
   a. All organic-HAP-containing regulated materials and waste materials must be stored in closed containers.
   b. Spills of organic-HAP-containing regulated materials and waste materials must be minimized.
   c. Organic-HAP-containing regulated materials and waste materials must be conveyed from one location to another in closed containers or pipes.
   d. Mixing vessels which contain organic-HAP-containing regulated materials must be closed except when adding to, removing, or mixing the contents.
   e. Emissions of organic HAP must be minimized during cleaning of web coating/printing or dyeing/finishing storage, mixing, and conveying equipment.

3. The facility shall maintain a written Start-up, Shut-down, and Malfunction Plan in accordance with 40 CFR §63.4300(c).

4. The facility shall comply with the applicable continuous compliance requirements of 40 CFR §63.4352 and the applicable continuous monitoring requirements of 40 CFR §63.4364.

5. Recordkeeping shall be in accordance with applicable requirements of 40 CFR §63.4312.

4. Coater C4

There is one Coater, Coater C4, which has two coating application areas and is primarily used to produce polyester-coated decorative products. These products are sold for use by others who apply them to the surfaces of various other products. Coater C4 is also used to apply polymeric coatings to a fiberglass web substrate. VOC emissions from Coater C4 (including application areas and ovens) are captured by means of a permanent total enclosure and are vented to the Thermal Oxidizer for destruction.

5. Emission Standards and Requirements

a. VOC Emissions

VOCs emitted from the Treaters, Impregnators, and Coaters are subject to VOC RACT requirements. RACT includes control of VOC emissions from the paper coating lines by applying low-solvent coatings (VOC content of coatings applied shall not exceed 2.9 lb of VOC per gallon of coating as applied) and/or by destroying VOC emissions in the Thermal Oxidizer. [06-096 CMR 134 and A-448-72-K-A/R (August 23, 1995), VOC RACT]

Compliance with this limit shall be verified using EPA Method 24 from 40 CFR Part 60, Appendix A or a method acceptable to the Department. Any averaging of emission limits to meet this emission limit must comply with EPA's *Emission Trading Policy Statement* published 12/4/86 in the Federal Register and must be approved by the Department and by EPA. [06-096 CMR 123]

The overall efficiency of the VOC control system is determined as the product of the capture system efficiency and the control device efficiency. Because this source installed a permanent total enclosure (PTE) capture system meeting EPA and Department specifications (06-096 CMR 126, Appendix A), **capture** efficiency is determined to be 100% and does not need to be measured. The source, however, must still measure **destruction** efficiency using appropriate test methods.

The use of the Thermal Oxidizer for control of VOC emissions from the Paper Treaters, Impregnators, and Coaters and associated process equipment shall achieve an overall VOC emissions reduction of 95%

(95% destruction efficiency) or to a rate equal to 4.8 lb VOC emitted per gallon of solids as applied to the substrate on a continuous basis. Compliance shall be demonstrated using EPA Reference Method 25 or alternate method as approved by the Department. [06-096 CMR 123(3)(B)]

b. HAP Emissions

HAPs emitted from Treaters, Impregnators, and Coaters vary depending on the resin formulation used on each line but consist primarily of formaldehyde, phenol, methanol, and ethylene glycol. Federal regulation 40 CFR Part 63, Subpart OOOO includes an exemption if an individual production line was coating a substrate other than a fabric for more than 90% of the time; under such circumstances, Subpart JJJJ is applicable.

Pioneer has requested streamlining of applicable requirements from both Subpart OOOO and Subpart JJJJ in order to maintain flexibility in uses and applications of the affected emissions units. Since standards of 40 CFR Part 63, Subpart OOOO are the more stringent of the two regulations, with an emission reduction requirement of 97% versus 95% emission reduction requirement of 40 CFR Part 63, Subpart JJJJ, Subpart OOOO standards have been included in this license.

Affiliated Operations

These process lines also contain "affiliated operations" identified per Subpart JJJJ as including the following:

- mixing or dissolving of coating ingredients prior to application;
- mixing for viscosity adjustment, color tint or additive blending, or pH adjustment;
- cleaning of coating lines and coating line parts;
- handling and storage of coatings and solvents; and
- conveyance and treatment of wastewater.

The Preamble to the Final Rule for Subpart JJJJ indicates that although these operations are part of the source category, they are not part of the affected source. As such, these operations may be subject to 40 CFR Part 63, Subpart EEEE, *NESHAP: Organic Liquid Distribution (Non-Gasoline)*. The operations on Treaters *not* within a permanent total enclosure (PTE) are exempt because the coatings used do not meet the definition of an organic liquid as specified in Subpart EEEE. The operations feeding the PTE Treaters potentially meet the applicability requirements of Subpart EEEE but may not have any control

requirements due to tank volume or vapor pressure of the HAPs in the coatings. A leak detection program is required for pumps, valves, and sampling connections containing organic liquids which are part of Subpart JJJJ source category operations. Requirements specific to storage tanks and loading/unloading operations are addressed in subsequent sections of this license.

The Treaters, Impregnators, and Coater lines are also subject to individual standards depending on their operation, as described below:

c. Treaters M5, M6, and M7 and Paper Coater C4

Treaters M5, M6, and M7 and Paper Coater C4 are used to apply resin coatings to paper and to apply a polymeric coating to fiberglass web substrate.

NSPS 40 CFR Part 60, Subpart VVV, *Standard of Performance for Polymeric Coating of Supporting Substrates Facilities*
Recordkeeping and reporting requirements of NSPS 40 CFR Part 60, Subpart VVV applicable to Pioneer's fiberglass coating operations are incorporated into this license. Subpart VVV regulates coating processes which apply polymeric coatings to a supporting web substrate other than paper, plastic film, metallic foil, or metal coil. Because the VOC used in Pioneer's fiberglass coating process is less than 95 Mg (megagrams) per 12-month period, Pioneer's Treaters M5, M6, and M7 and Paper Coater C4 are subject to only the recordkeeping and reporting requirements of 40 CFR §§60.744(b) and 60.747(b) and (c), detailed as follows:

(1) 40 CFR §60.747(b) required the submittal of a notification of anticipated startup required under 40 CFR §60.7(a)(2), and a material flow chart indicating projected VOC use; and the submittal of actual VOC use records at the end of the initial year. Because the initial year was several years ago, this requirement is not addressed further in this license.

(2) 40 CFR §60.744(b) and (c) require the following:
   (a) Pioneer shall make and record semiannual estimates of the projected annual amount of VOC to be used for the manufacture of polymeric coated substrate at the affected coating operation in that year and shall maintain records of actual 12-month VOC use.
   (b) Pioneer shall report the first semiannual estimate in which projected annual VOC use exceeds the applicable cutoff; and report the first 12-month period in which the actual VOC use exceeds the applicable cutoff.

6. Streamlining

   Pioneer accepts streamlining for VOC/HAP emission limits on the Treaters, Impregnators, and Coater lines. The Department has determined that by meeting applicable requirements of 06-096 CMR 134 (VOC RACT) and 40 CFR Part 63, Subpart OOOO (*NESHAP: Printing, Coating, and Dyeing of Fabrics and Other Textiles*), requirements of 06-096 CMR 129 (*Surface Coating Facilities*) are met. Therefore, only the 06-096 CMR 134 and 40 CFR Part 63, Subpart OOOO standards are included in this license.

7. Control Equipment

   Emissions of VOC and HAP are controlled through the use of a Thermal Oxidizer, operated in compliance with the following standards and requirements:

   a. Use of the Thermal Oxidizer shall result in at least a 97% HAP destruction efficiency. [40 CFR Part 63, Subpart OOOO, Table 1] Compliance shall be demonstrated by a Thermal Oxidizer destruction efficiency test once every two calendar years using EPA test method 25 or 25A. [06-096 CMR 123; and 40 CFR Part 63, Subpart OOOO §63.4352]

   b. Pioneer shall maintain a minimum combustion chamber temperature of 1250^{o}F in the Thermal Oxidizer, with compliance based on stack testing. Residence time of combusted gases in the combustion chamber shall be at least 0.7 second. Ongoing compliance shall be demonstrated through the use of thermocouples located at the inlet of the combustion chamber.

   c. Pioneer shall monitor the Thermal Oxidizer combustion chamber exhaust gas temperature and record a data point every 15 minutes. Four consecutive, recorded data points constitute a valid hour of data. Valid data must be collected for at least 90% of the hours during which the Thermal Oxidizer is used as a control device for VOC/HAP process emissions.

      Accuracy of the thermocouples for the Thermal Oxidizer shall be verified in accordance with manufacturer specifications. A validation check of each thermocouple's accuracy shall be conducted at least once per calendar quarter.

   [06-096 CMR 123; also meets combustion temperature requirements of 40 CFR Part 63, Subparts JJJJ and OOOO]

8. Recordkeeping [06-096 CMR 123(6)]

   a. Pioneer shall maintain records of the following information for each coating and for all diluents and solvents used for clean-up operations, as applicable, and make such information available to the Department upon request:
      · Supplier name;
      · Name of coating;
      · Identification number for coating;
      · Coating density (lb/gal);
      · Total volatiles content of coating as supplied (wt %);
      · Water content of coating as supplied (wt %);
      · Exempt solvent content* of coating as supplied (wt %);
      · Solids content of coating as supplied (vol %);
      · Name of diluent, if any;
      · Identification number of diluent;
      · Diluent solvent density (lb/gal);
      · VOC content of diluent (wt %);
      · Exempt solvent content* of diluent (wt %); and
      · Diluent/solvent ratio (gal diluent solvent/gal coating).

      * (Exempt solvents are those solvents considered negligibly reactive as contained in the definition of VOC in *Definitions Regulation*, 06-096 CMR 100.)

   b. Pioneer shall keep the following records on site for each coating line on a daily basis:
      · Coating line number;
      · Time period of use;
      · Coating identification number;
      · Amount of coating used;
      · Diluent identification number; and
      · Amount of diluent used.

   c. To certify that all of the coatings used at the source comply with the specified VOC content limits, Pioneer shall keep the following records on site for all coatings used at the facility on a monthly basis:
      · Time period;
      · Coating identification number and amount of VOC containing constituents used;
      · Diluent identification number and amount of diluent used (excluding water and exempt compounds);
      · Mass of VOC per volume of each coating, excluding water and exempt compounds, as applied;

- Total VOC emitted; and
- Certification stating all compounds used at the source comply with the applicable VOC emission limits.

d. Copies of required records and reports shall be kept at the source for a minimum of two years and shall be available for inspection during normal business hours; copies shall be provided to the Department upon request.

K. Miscellaneous Equipment

1. Pressroom

After the paper has been impregnated or coated, layers are cured and pressed into their final laminate form by applying heat and pressure in one of eight individual presses, each of which vents separately to the atmosphere. The pressure and heat supplied in each press promotes cross-linking within the layers to form the laminate and may also release small amounts of VOC not driven from the paper in the dryer section of the coating line.

As part of the 1997 non-CTG VOC RACT analysis conducted pursuant to 06-096 CMR 134, a RACT determination was made by the Department and approved by EPA. The operation of the presses was determined to be meet VOC RACT requirements.

Periodic monitoring for the presses shall consist of record keeping including monthly records of the name of each coating and the mass of VOC used each month on the surface coating units.

Visible Emissions
Visible emissions shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. (06-096 CMR 101, Section 2.B.3.d)

Particulate Matter Emissions
Pioneer shall comply with the applicable particulate matter emission standards of 06-096 CMR 105, *General Process Source Particulate Emission Standard*.

2. Routers, Table Saws, Sanders

   Finished laminates are cut and shaped by the routers, table saws, and sanders. This emissions group includes three sanders, four saws, five routers, and one shear.

   Visible Emissions
   Visible emissions from any fabric filter controlling emissions from Routers, Table Saws, or Sanders shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [06-096 CMR 101 §2(C)]

   Particulate Matter Emissions
   Pioneer shall comply with the applicable particulate matter emission standards of 06-096 CMR 105, *General Process Source Particulate Emission Standard*.

   Periodic Monitoring
   In order to document maintenance of the baghouses, Pioneer shall keep a maintenance log recording the date and location of all bag replacements and all bag failures. The log shall be maintained for at least six years and available to the Department upon request. Periodic monitoring shall include recordkeeping to include maintenance of the inspection logs of the baghouses.

3. Dust Transport System

   Sander dust is transported pneumatically across the roof to a pelletizer and/or a truck loading area. Particulate emissions are controlled by a fabric filter baghouse.

   Visible Emissions
   Visible emissions from the Dust Transport System shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [06-096 CMR 101 §2(C)]

Particulate Matter Emissions
Pioneer shall comply with the applicable particulate matter emission standards of 06-096 CMR 105, *General Process Source Particulate Emission Standard*.

Periodic Monitoring
In order to document maintenance of the baghouses, Pioneer shall keep a maintenance log recording the date and location of all bag replacements and all bag failures. The log shall be maintained for at least six years and available to the Department upon request. Periodic monitoring shall include recordkeeping to include maintenance of the inspection logs of the baghouses.

L. Compliance Assurance Monitoring (CAM) for Process Units

Pioneer's CAM Plan addresses monitoring of control devices to assure compliance with the applicable limits for emissions sources subject to CAM requirements. In accordance with federal regulations, Pioneer's CAM Plan includes the following:

- The monitoring of data for at least one indicator of emission control performance for the control device;
- establishing ranges and/or conditions for the selected indicators;
- ensuring that data obtained are representative of parameters being monitored;
- quality assurance and control practices to ensure the validity of the data;
- specifications for the frequency of conducting the monitoring; and
- a description of the data collection procedure.

Justification is given for the rationale for selecting indicators and indicator ranges.

1. Reactors K1, K2, K3, K4, K5, K6, K7, and K8
   Impregnators P4, P5, and P9
   Coater C4

   a. Rationale for Selection of Performance Indicator

      Each of these units in combination with other emission units at Pioneer are required to meet the facility wide VOC limit of 131.4 TPY. Compliance with this limit is based on recordkeeping which incorporates an assumed VOC capture and destruction efficiency for the Thermal Oxidizer or RTO#1. If uncontrolled, VOC emissions from any of these units could potentially exceed the major source threshold of 50 TPY.

Pioneer is also subject to a control efficiency requirement of 95% for the Thermal Oxidizer or RTO#1. These destruction efficiencies are used in calculations to document compliance with the 131.4 TPY VOC emission limit as stated above. As such, the focus of Pioneer's CAM plan is to ensure that the Thermal Oxidizer or RTO#1 is achieving performance levels to maintain compliance with the applicable standards.

There are two elements that determine the ultimate effectiveness of VOC control equipment: capture efficiency and control efficiency. Capture efficiency for VOCs generated from these emission units is assumed to be 100% since Pioneer has installed several certified permanent total enclosure systems.

Control efficiency is based on the destruction in the Thermal Oxidizer or RTO#1 of VOCs from each of these sources. The CAM plan provides reasonable assurance that the control device achieves at least 95% destruction efficiency on an ongoing basis.

Temperature is indicative of the combustion occurring within the combustion chamber of the Thermal Oxidizer or RTO#1. Accordingly, the Thermal Oxidizer or RTO#1 chamber temperature was selected as the performance indicator. By maintaining the operating temperature at or above the applicable minimum temperature, a corresponding level of control efficiency is expected to be achieved.

b. Rationale for Selection of Performance Indicator Level

Pioneer has included temperature monitoring parameters for the Thermal Oxidizer or RTO#1 to ensure 95% destruction efficiency and compliance with the annual facility wide VOC limit of 131.4 TPY. Based on previous test data, Pioneer's proposed minimum combustion temperature, as indicated by compliance testing, ensures that 98% destruction efficiency is maintained and is more stringent than the Department's past VOC RACT findings.

2. Routers, Table Saws, and Sanders

Because it is difficult to determine the specific PM contribution from each of the Routers, Table Saws, and Sanders, Pioneer assumes that each source has the potential to emit greater than 100 TPY pre-controlled PM emissions, thus making the units subject to CAM requirements. PM emissions from this source group are controlled by three roof-mounted fabric filters (baghouses).

Visible emissions from each baghouse are limited to 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity.

Particulate emissions from the Routers, Table Saws, and Sanders are limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105, *General Process Source Particulate Emission Standard*.

a. Rationale for Selection of Performance Indicator

Pioneer uses baghouse pressure drop, visual inspections, and maintenance as baghouse performance indicators. Pressure drop across each baghouse is measured using a differential pressure gauge and documented weekly. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, or the bags are becoming blinded. Decreases in pressure drop may indicate significant holes and tears or missing bags.

Pioneer's baghouse inspection and maintenance program provides assurance that each baghouse is in good repair and operating properly. Several times each day, the dust collection system is purged: The hopper on the roof is opened and visually checked for blockages/built up material, and any observed blockage is removed. Damper valves are visually monitored daily for proper operation, and visible emissions are evaluated. When a problem with the baghouse is detected during an inspection, the problem is reported and maintenance is performed by qualified personnel as needed. Pioneer keeps records of all baghouse maintenance and the dates and locations of all bag failures.

Weekly, pressure monitors are attached to each baghouse and the differential pressure is documented. If the differential pressure is outside the normal operating range, maintenance is scheduled to change the bags. Bags are typically scheduled to be changed twice annually. The pressure gauges are calibrated quarterly.

b. Rationale for Selection of Performance Indicator Level

The indicator range for baghouse pressure drop was selected based on historical data obtained during normal operation.

M. Drillboard Press Plate Preparation

Pioneer uses aluminum Drillboard Press Plates in the production of a laminate. To prepare the aluminum plates for use, they are first heated, and then a VOC-containing release aid is applied by pneumatic air spray gun to the aluminum surface to prevent the plates from sticking to the laminate product. Reapplication is done when the release properties of the plate begin to diminish. VOC emissions from this process are less than 2,000 pounds per year.

The release aid used does not contain HAPs, so NESHAP requirements of 40 CFR Part 63 are not applicable. Also, requirements of 06-096 CMR 129, *Surface Coating Facilities*, pertaining to coating of miscellaneous metal parts are not applicable to the Drillboard Press Plate preparation because Pioneer does not coat the aluminum or any other metal substrate for product sale.

N. Storage Tanks

Pioneer owns and operates several storage tanks which are used for various purposes, including blending resins at the front end of the paper coating lines and in the Specialty Resins area of the plant; raw material/finished product unloading, loading, weighing, and storage; and wastewater pretreatment. Nine storage tanks have conservation vents (vent which combines a low pressure relief device and a vacuum breaker valve in a single housing, designed to minimize losses of stored material by reducing the release of vapors to the atmosphere) and are subject to VOC RACT requirements as outlined in A-448-71-P-A (June 16, 1997). The RACT determination requires Pioneer to maintain conservation vents on the following tanks and to conduct semi-annual inspections:

Tank ID	Capacity (gallons)	Material of Construction	Heating/Cooling	Year Installed
Tank #29 – Methanol	20,000	Mild Steel	N/A	1965 (new bottom 9/93)
Tank #30 – Formaldehyde	20,000	Stainless	Heat - panel	1965
Tank #45 – Phenolic Resin Blend	10,000	Mild Steel	N/A	1973
Tank #46 – Phenolic Resin Blend	10,000	Mild Steel	N/A	1973
Tank #47 – Phenolic Resin Blend	10,000	Mild Steel	N/A	1973
Tank #48 – Phenolic Fast Cure	10,000	Mild Steel	N/A	1973
Tank #49 – Urea Resin	10,000	Mild Steel	N/A	1973
Tank #60 – Phenolic Resin	12,500	Mild Steel	N/A	1988
Tank #66 – 1,6 Hexanediol	15,000	Stainless	Heat - 2 coils	1993

Periodic Monitoring
Periodic monitoring shall consist of recordkeeping including records of the semi-annual inspections.

HAP Emissions
Pioneer has several tanks that meet the applicability requirements of 40 CFR Part 63, Subpart EEEE, *NESHAP: Organic Liquids Distribution (Non-Gasoline)* because they are not included as part of the affected source of another 40 CFR Part 63 NESHAP regulation. This primarily affects the tanks and equipment that are part of the 40 CFR Part 63, Subpart JJJJ, *NESHAP: Paper and Other Web Coating* source category but are classified as Ancillary operations and therefore not included as part of the affected source. However, these tanks do not require control under this Subpart because they do not meet the tank volume or organic HAP vapor pressure criteria specified in the regulation.

Pioneer shall comply with the equipment leak component requirements and the recordkeeping and reporting requirements of 40 CFR Part 63, Subpart EEEE for the following tanks: Storage Tanks 29, 45, 46, 47, 48, 49 and 60.

O. Storage Silos and Associated Equipment

1. Visible emissions from each of the baghouses associated with storage silos and associated equipment shall be limited to 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in any one-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [06-096 CMR 101]

2. Particulate emissions from the storage silos and associated equipment shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105. [06-096 CMR 105]

3. Pioneer shall keep records of all maintenance conducted on the storage silos baghouses and the dates and locations of all bag failures. These records shall be maintained for at least six years and available to the Department upon request. [A-448-70-A-A/I (April 20, 2004), BPT]

P. Resin Crusher/Grinder and Associated Equipment

A Resin Crusher/Grinder is used to make solid resins into smaller particles. Emissions from this process are controlled via fabric filters (baghouse) associated with the process. Visible emissions from baghouses controlling emissions from the Resin Crusher/Grinder and associated equipment shall be

limited to 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in any one-hour period. [06-096 CMR 101]

Particulate emissions from the Resin Crusher/Grinder and associated equipment shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105. [06-096 CMR 105]

Pioneer shall keep records of all maintenance conducted on the storage silos baghouses and the dates and locations of all bag failures. These records shall be maintained for at least six years and available to the Department upon request. [A-448-70-A-A/I (April 20, 2004), BPT]

Q. Chemical Loading/Unloading Operations

Pioneer receives various raw materials in tank trucks and rail cars, and loads various products into tank trucks for shipment to customers. Fugitive VOC and/or HAP emissions can occur as samples are taken prior to unloading or as a result of vapor displacement during product loading.

1. VOC Emissions
   Fugitive VOC emissions can occur from the manway hatch as samples are taken prior to unloading or as a result of vapor displacement during product loading. The Department has determined that current operating practices during the unloading process, which includes routine equipment inspections, represents RACT for VOC emissions from Chemical Loading and Unloading Operations. [A-448-71-P-A (June 16, 1997), VOC RACT]

2. HAP Emissions
   a. 40 CFR Part 63, Subpart EEEE, *NESHAP: Organic Liquids Distribution (Non-Gasoline)*
      Chemical loading/unloading operations, including Pioneer's unloading operations for methanol, formaldehyde, and purchased phenolic resins, are potentially subject to 40 CFR Part 63, Subpart EEEE, depending on the concentration of HAP in the material being transferred, its vapor pressure, and its annual throughput. At the present time, the facility does not meet the throughput requirements that would trigger add-on control requirements under this Subpart. However, there are notification, recordkeeping, and reporting requirements applicable to parts of Pioneer's chemical loading and unloading operations.

      (1) The <u>unloading operations for methanol and phenolic resins</u> are subject to the requirements of the rule, as follows:

(a) For each pump, valve, and sampling connection that operates in organic liquids service at least 300 hours/year, Pioneer shall comply with the requirements for pumps, valves, and sampling connections in 40 CFR Part 63, Subpart TT (control level 1), Subpart UU (control level 2), or Subpart H. [40 CFR §63.2382 (d)(2)(vi)]

(b) Pioneer shall comply with the applicable monitoring and recordkeeping requirements of this Subpart, including carrying out a leak detection and repair program in accordance with 40 CFR Part 63, Subpart TT, UU, or H, consistent with the subpart selected in (a) above.

(2) The unloading operations for formaldehyde are subject to the recordkeeping, and reporting requirements in 40 CFR §63.2386(d).

b. 40 CFR Part 63, Subpart FFFF, *NESHAP: Miscellaneous Organic Chemical Manufacturing*
The portion of the chemical loading/unloading involving the polyester resin production operation is subject to the applicable requirements of 40 CFR Part 63, Subpart FFFF.

R. Screen Print Operation

Pioneer operates Screen Print equipment which is classified as an insignificant source based on the "Size or Production Rate" criteria of 06-096 CMR 140, Appendix B. This license includes a restriction on the usage of VOCs in the Screen Print Operation to maintain the potential to emit to less than one ton VOC per year. Records of VOC usage in the Screen Print Operation shall be maintained documenting compliance with this limit and made available to the Department upon request.

S. Parts Washers

Pioneer operates cold cleaning parts washers which are serviced by an outside contractor. The units are subject to the requirements in 06-096 CMR 130, *Solvent Cleaner Regulation*.

Periodic Monitoring
Periodic monitoring for the parts washers shall consist of record keeping including records of solvent added and removed.

T. Facility Annual Emissions

1. Total Annual Emissions

Pioneer is licensed for the following annual emissions, based on a 12-month rolling total. The tons per year limits were calculated based on fuel limits, 100 hrs/yr of operation for engines, 8760 hr/yr for process sources, etc.:

Total Licensed Annual Emissions for the Facility
(used to calculate emission fee)

Equipment	PM	PM_{10}	SO_2	NOx	CO	VOC
Boiler #4	33.0	33.0	368.0	99.0	66.0	2.0
Boiler#5/Thermal Oxidizer	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
Totals	**116**	**116**	**894.5**	**310.4**	**510.2**	**159**

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO_2e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, the quantity of CO_2e emissions from Pioneer is below 100,000 tons per year.

IV. AMBIENT AIR QUALITY ANALYSIS

Pioneer Plastics Corporation previously submitted an ambient air quality analysis (as part of a Chapter 115 License Application process submitted on October 26, 1996) 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 Air Emission 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 A-448-70-D-R/A pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and specific conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to Pioneer pursuant to the Department's preconstruction permitting requirements in 06-096 CMR 108 or 115 have been incorporated into this Part 70 license, except for such conditions that the Department has determined are obsolete, extraneous or otherwise environmentally insignificant, as explained in the findings of fact accompanying this permit. As such, the conditions in this license supersede all previously issued air license conditions.

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

For each standard and 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.

STANDARD STATEMENTS

(1) 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 140]

(2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege; [06-096 CMR 140]

(3) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable. [06-096 CMR 140]

(4) 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 140]

(5) Notwithstanding any other provision 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 140]

(6) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:

A. Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or

B. The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or affect the provisions of Section 303 of the CAA (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to Section 114 of the CAA.

The following requirements have been specifically identified as not applicable based upon information submitted by the licensee in an application dated September 2008.

SOURCE	CITATION	DESCRIPTION	BASIS FOR DETERMINATION
Boiler #6	40 CFR Part 60 Subpart Db	Standards of Performance Industrial-Commercial-Institutional Steam Generating Units	Applicable to steam generating units that commenced construction, modification, or reconstruction after June 19, 1984 with a maximum heat input rate greater than 100 MMBtu/hr. Boiler #6 was constructed prior to this date and has a maximum heat input capacity of 96.8 MMBtu/hr.
Process Heater #7 and #8	40 CFR Part 60 Subpart Dc	Standards of Performance Small Industrial-Commercial-Institutional Steam Generating Units	Process Heaters #7 and #8 are not a steam generating units.
Storage Tanks #27-LE4060, #29-Methanol, #30-Formaldehyde and #32 and #34	40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid (VOL) Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.	Applicable to volatile organic liquid storage tanks with a capacity > 75 cubic meters (19,813 gallons) that were constructed, modified, or reconstructed after July 23, 1984. The VOL storage tanks that exceed the regulated volume were not constructed, reconstructed or modified after 7/23/84.
Wastewater storage Tanks	40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid (VOL) Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.	Not liquid stored in these tanks is not considered volatile, therefore this regulation is not applicable to these tanks. The wastewater tanks do not store a liquid with a true vapor pressure greater than 15 kPa.
Reactors K1 through K8	40 CFR Part 60 Subpart VV	Standards of Performance for Equipment Leaks of VOC in the SOCMI	Pioneer's resin production process units do not produce, as intermediates or final products, any of the chemicals listed in 40 C.F.R. §60.489.
Reactors K1 through K8	40 CFR Part 60 Subpart DDD	Standards for Performance for VOC Emissions from the Polymer Manufacturing Industry	Pioneer's resin production process units do not produce polypropylene, polyethylene, polystyrene, or poly (ethylene terephthalate) resins as defined in 40 C.F.R. §60.561.
Reactors K1 through K8	40 CFR Part 60 Subpart RRR	Standards of Performance for VOC Emissions from SOCMI Reactor Processes.	Pioneer's reactor processes are operated on a batch operation basis, and none of the reactors produce any of the chemicals listed in 40 C.F.R. §60.707 as either a product, co-product, by-product, or intermediate.

SOURCE	CITATION	DESCRIPTION	BASIS FOR DETERMINATION
Reactors K1 through K8	40 CFR Part 63 Subparts F, G, H, and I	NESHAP for Source Categories (MACT Standards) Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry	Pioneer's manufacturing process units do not produce as a primary product any of the chemicals listed in Table 1 in 40 C.F.R. Part 63, Subpart F.
Reactors K1 through K8	40 CFR Part 63 Subpart U	NESHAP for Source Categories (MACT Standards Group I Polymers and Resins)	Pioneer's resin production reactors do not manufacture any of the designated "elastomer" resins designated in 40 C.F.R. §63.482.
Reactors K1 through K8	40 CFR Part 63 Subpart W	NESHAP for Source Categories (MACT Standards Group II Polymers and Resins Epoxy Resins Production and Non-Nylon Polyamides Production)	Pioneer's resin production reactors do not manufacture "basic liquid epoxy resins" (BLR) or "wet strength resins" (WSR) as defined in 40 C.F.R. §63.522.
Reactors K1 through K8	40 CFR Part 63 Subpart YY	NESHAP for Source Categories (Generic MACT Standards for Acetal Resins Production)	Pioneer's resin production reactors do not manufacture acetal resins as defined in 40 C.F.R. §63.1103(a)(2).
Reactors K1 through K8	40 CFR Part 63 Subpart JJJ	NESHAPs for Source Categories (MACT Standards Group IV Polymers and Resins)	Pioneer's resin production reactors do not manufacture "thermoplastic products" or resins as defined in 40 C.F.R. §63.1312.
Reactor K1 and K2	40 C.F.R. Part 63, Subpart OOO	Portions of the NESHAP for Source Categories (MACT Standards Group III Polymers and Resins) Amino/Phenolic Resins Production: 1. New Source Provisions	Pioneer's Amino/Phenolic Resin Process Units are not classified as a new source.
Reactor K3	40 C.F.R. Part 63, Subpart OOO	NESHAP for Source Categories (MACT Standards Group III Polymers and Resins) Amino/Phenolic Resins Production:	Since the production of an amino/phenolic resin does not account for the greatest percent of the annual design capacity of the unit on a mass basis the Amino/Phenolic MACT does not apply.
Reactors K1 through K8	40 CFR Part 63 Subpart PPP	NESHAP for Source Categories (MACT Standards for Polyether Polyols Production)	Pioneer's resin production reactors do not manufacture "polyether polyols" per 40 C.F.R. §63.1423.

SOURCE	CITATION	DESCRIPTION	BASIS FOR DETERMINATION
Miscellaneous Coating Operations	Proposed as 40 CFR Part 63 Subpart HHHHH	NESHAP for Miscellaneous Coating Manufacturing Processes	Pioneer does not meet the applicability criteria or is exempt due to being subject to other MACTs
Boiler #5/ Thermal Oxidizer	06-096 CMR 104	Incinerator Particulate Emission Standard	The thermal oxidizer, used for VOC control, does not meet the definition of incinerator per Chapter 100.

[06-096 CMR 140]

(7) The Part 70 license shall be reopened for cause by the Department or EPA, prior to the expiration of the Part 70 license, if:

A. Additional Applicable requirements under the CAA become applicable to a Part 70 major source with a remaining Part 70 license term of 3 or more years. However, no opening is required if the effective date of the requirement is later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions has been extended pursuant to 06-096 CMR 140;

B. Additional requirements (including excess emissions requirements) become applicable to a Title IV source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;

C. The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Part 70 license; or

D. The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

The licensee shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license or to determine compliance with the Part 70 license.

[06-096 CMR 140]

(8) No license revision or amendment shall be required, under any approved economic incentives, marketable licenses, emissions trading and other similar programs or processes for changes that are provided for in the Part 70 license. [06-096 CMR 140]

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 and this license (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 140. [06-096 CMR 140]

(3) 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 140] **Enforceable by State-only**

(4) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to 38 M.R.S.A. §353-A.

(5) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 140] **Enforceable by State-only**

(6) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Part 70 license. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license. [06-096 CMR 140]

(7) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, 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 the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license. [06-096 CMR 140]

(8) 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 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;
2. to demonstrate compliance with the applicable emission standards; or
3. 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 140] **Enforceable by State-only**

(9) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates 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 140] **Enforceable by State-only**

(10) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license.

A. The licensee shall notify the Commissioner within 48 hours of a violation of any emission standard and/or a malfunction or breakdown in any component part that causes a violation of any emission standard, and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;

B. The licensee shall submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component part causes a violation of any emission standard, together with any exemption requests.

Pursuant to 38 M.R.S.A. § 349(9), the Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection.

C. All other deviations shall be reported to the Department in the facility's semiannual report.

[06-096 CMR 140]

(11) Upon the written request of 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 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 140]

(12) The licensee shall submit semiannual reports of any required periodic monitoring. All instances of deviations from Part 70 license requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. [06-096 CMR 140]

(13) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequently if specified in the applicable requirement or by the Department. The compliance certification shall include the following:

A. The identification of each term or condition of the Part 70 license that is the basis of the certification;
B. The compliance status;
C. Whether compliance was continuous or intermittent;
D. The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
E. Such other facts as the Department may require in order to determine the compliance status of the source.

[06-096 CMR 140]

SPECIFIC CONDITIONS

(14) **Boiler #4**

A. Allowable Fuels

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

B. Fuel Sulfur Content

1. Residual Fuel
Per the current dates and requirements of 38 M.R.S.A §603-A(2)(A)(1), the facility shall comply with the following statements; however, if the statute is revised, the facility shall comply with the revised dates and requirements upon promulgation of the statute revision.
   a. Prior to January 1, 2018, or the date specified in 38 M.R.S.A. §603-A(2)(A)(1), the residual fuel fired at the facility shall have a maximum sulfur content of 2.0% by weight. [38 M.R.S.A. §603-A(2)(A)(1)]
   b. Beginning January 1, 2018, or the date specified in 38 M.R.S.A. §603-A(2)(A)(1), the residual fuel fired at the facility shall have a

maximum sulfur content limit of 0.5% by weight. [38 M.R.S.A. §603-A(2)(A)(1)and (2)]

2. The sulfur content of the fuel oil fired in Boiler #4 shall not exceed 2.0% by weight, during normal operation. When Boiler #6 is burning #4 fuel oil in place of natural gas during the period of May 1 through September 30, Boiler #4 is required to burn #4 fuel oil with a sulfur content not to exceed 0.7% by weight. Records shall be kept demonstrating when this occurs. [06-096 CMR 106 and 06-096 CMR 140, BPT]

3. 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 CMR 140, BPT]

C. Boiler #4 shall not exceed a NO_x limit of 100 tons/year (12 month rolling total) and shall record fuel fired and NOx emissions on a monthly basis. The ton per year NOx emission limit shall be based on fuel use and EPA's Compilation of Air Pollutant Emission Factors (AP-42) and/or stack test data if available. If Pioneer combusts more than 350,000 gallons of fuel oil in any calendar year, then a NO_x and PM emission stack test shall be performed by July 1 of the following year. [06-096 CMR 138]

D. Pioneer shall perform an annual tune-up on Boiler #4, which includes the following:
   1. A tune-up procedure file must be kept on-site and made available to the Department upon request;
   2. An oxygen/carbon monoxide curve or an oxygen/smoke curve must be kept on file;
   3. Once the optimum excess oxygen setting has been determined, the owner or operator of a source must periodically verify that the setting remains at that value; and
   4. If the minimum oxygen level found is substantially higher than the value provided by the combustion unit manufacturer, the owner or operator must improve the fuel and air mixing, thereby allowing operation with less air. [06-096 CMR 138]

E. Boiler #4 shall not exceed the following emission limitations:

Pollutant	Origin and Authority	Licensed Emission Limits
PM	06-096 CMR 103, §2.A.(1) and 06-096 CMR 140, BPT	0.20 lb/MMBtu
	A-448-72-K-A/R (issued 8/23/95) and 06-096 CMR 140, BPT	11.1 lb/hr (oil)
	A-448-77-7-M (issued 5/3/12)	2.5 lb/hr (NG)
PM_{10}	06-096 CMR 140, BPT	11.1 lb/hr (oil)
	06-096 CMR 140, BPT	2.5 lb/hr (NG)
SO_2	06-096 CMR 106, §2.A.(2)	2.0% sulfur content limit, by weight until Jan 1, 2018
	38 MRSA §603-A(2)(A)(1) and (2)	After Jan 1, 2018 the sulfur limit is 0.5% by weight
	A-448-70-A-A/I issued 5/20/2004 06-096 CMR 140, BPT (If Boiler #6 fires #4 fuel oil instead of natural gas)	[#4 oil] 0.7% S limit, by weight (until Jan 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 issued 8/23/95 & 06-096 CMR 140, BPT	123.8 lb/hr (oil)
	A-448-77-7-M (issued 5/3/12) & 06-096 CMR 140, BPT	0.1 lb/hr (NG)
NO_x	A-448-72-K-A/R issued 8/23/95 and 06-096 CMR 138, §3.M.(1) (12-month rolling total)	100 tons/year
	A-448-72-K-A/R issued 8/23/95 06-096 CMR 140, BPT	33.1 lb/hr (#6 fuel oil)
	A-448-70-A-A/I issued 5/20/2004 and 06-096 CMR 140, BPT	12.1 lb/hr (#4 fuel oil)
	A-448-77-7-M (issued 5/3/12)	5.2 lb/hr (NG)
CO	A-448-72-K-A/R issued 8/23/95	22.2 lb/hr (oil)
	A-448-77-7-M (issued 5/3/12) and 06-096 CMR 140, BPT	4.4 lb/hr (NG)
VOC	A-448-72-K-A/R issued 8/23/95	0.6 lb/hr (oil)
	A-448-77-7-M (issued 5/3/12) and 06-096 CMR 140, BPT	0.3 lb/hr (NG)

Pollutant	Origin and Authority	Licensed Emission Limits
Visible Emissions (opacity)	Combined stack 06-096 CMR 101, §2(B)(3)(5) 06-096 CMR 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 CMR 101 & 06-096 CMR 140, BPT	When all units through the combined stack (Boiler #4, #6, and Boiler #5/Thermal Oxidizer) are firing natural gas, 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.
	40 CFR Part 63, Subpart DDDDD	As of the effective date of 40 CFR Part 63, Subpart DDDDD applicability for these boilers, visible emissions shall not exceed the applicable standard as specified in Subpart DDDDD, demonstrated according to the applicable compliance demonstration method as specified in Subpart DDDDD.

F. Compliance with the emission limits associated with Boiler #4 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 CFR Part 60, App. A, Method 5	If Pioneer combusts more than 350,000 gallons of fuel oil in any calendar year, then a PM emission stack test shall be performed by July 1 of the following year. Otherwise stack tests required upon request.
PM_{10}	lb/hr	40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested

Pollutant	Unit Basis of Emission Limit	Compliance Method	Frequency
SO_2	lb/hr	40 CFR Part 60, App. A, Method 6	As requested
NO_x	lb/hr	40 CFR Part 60, App. A, Method 7E	If Pioneer combusts more than 350,000 gallons of fuel oil in any calendar year, then a NO_x emission stack test shall be performed by July 1 of the following year. Otherwise stack tests required upon request.
CO	lb/hr	40 CFR Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 CFR Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 CFR Part 60, App. A, Method 9	As requested

G. Boiler #4 is subject to and shall meet all applicable requirements of the Industrial/Commercial/Institutional Boilers, and Process Heaters National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements 40 CFR Part 63, Subpart DDDDD as outlined below:

Pioneer must comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016 as applicable to Boilers #4. [40 CFR §63.7495(b)] Note that if the status of the Final Rule (Boiler MACT Final Rule of January 31, 2013) should change, the compliance date may also change.

1. Work Practice Standards [40 CFR Part 63, Subpart DDDDD, Table 3]

   - Pioneer shall conduct an initial tune-up of each boiler according to the procedures specified in §63.7540(a)(10)(i) through (vi) no later than the initial tune-up due date established per 40 CFR §63.7495.
   - Subsequent tune-ups for each boiler must be conducted every 5 years as specified in §63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. Delay of the burner inspection specified in 40 CFR §63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown is permitted; however, an inspection of each burner must occur at least once every 72 months. [40 CFR §63.7540(a)(12)]

- Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. [40 CFR §63.7515(d)]
- If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR §63.7540(a)(13)]
- A one-time energy assessment must be performed on the Boiler by a qualified energy assessor as specified in 40 CFR Part 63, Subpart DDDDD, Table 3(4). [40 CFR Part 63, Subpart DDDDD, Table 3(4)]

2. Notifications
   - Pioneer shall submit a signed statement a Notification of Compliance Status (NOCS) report containing the results of the initial compliance demonstration according to the requirements in 40 CFR §63.7545(e). The NOCS shall indicate that the facility conducted an initial tune-up for Boiler #4 and shall include a signed certification that the energy assessment was completed for each boiler according to 40 CFR Part 63, Subpart DDDDD, Table 3 and is an accurate depiction of the facility at the time of the assessment. [40 CFR §63.7530(d),(e), and (f) and §63.7545(e)]
   - Pioneer must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. This notification must include the company name and address, identification of the affected unit the reason for not being able to use natural gas (or equivalent fuel), including the date when the natural gas curtailment was declared or the natural gas supply interruption began, the type of alternative fuel to be used, and the dates when the alternative fuel use is expected to begin and end. [40 CFR §63.7545(f)]
3. Reporting requirements shall be in accordance with the applicable requirements in Table 9 of 40 CFR Part 63, Subpart DDDDD and 40 CFR §63.7550.
4. Records
   - Pioneer shall maintain records of the following:
   - A copy of each notification and report submitted to comply with Subpart DDDDD, including all documentation supporting any Initial Notification, Notification of Compliance Status or compliance report. [40 CFR §63.7555(a)(1)]
   - Records of compliance demonstrations and performance evaluations. [40 CFR §63.7555(a)(2)]

- The total hours per calendar year that alternative fuel is burned and the total hours per calendar year the unit operated during periods of gas curtailment or gas supply emergencies. [40 CFR §63.7555(h)]
- The calendar date, time, occurrence and duration of each startup and shutdown. [40 CFR §63.7555(i)]
- The type(s) and amount(s) of fuels used during each startup and shutdown. [40 CFR §63.7555(j)]

(15) **Boiler #6**

A. Allowable Fuels

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

B. Fuel Sulfur Content

1. Residual fuel oil

   a. Prior to Jan 1, 2018, the sulfur content of the residual fuel oil fired in Boiler #6 shall not exceed 0.7% by weight. [06-096 CMR 140, BPT]
   b. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(1) and (2), the residual fuel oil fired shall not exceed a maximum sulfur content limit of 0.5% by weight. [38 MRSA §603-A(2)(A)(1) and (2)]

2. Prior to January 2018, Pioneer shall have the flexibility to burn #4 fuel oil with a sulfur content not to exceed 0.7% by weight in place of natural gas. Under this scenario, all other boilers are required to burn #4 fuel oil with a maximum sulfur content of 0.7% by weight.

3. 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 CMR 140, BPT]

C. Boiler #6 shall not exceed the following federally emission limitations:

Pollutant	Origin and Authority	Licensed Emission Limit(s)
PM	A-448-72-K-A/R and 06-096 CMR 140, BPT	0.15 lb/MMBtu
	A-448-72-K-A/R and 06-096 CMR 140, BPT	0.02 lb/MMBtu
	06-096 CMR 103 and 06-096 CMR 140, BPT	14.5 lb/hr (oil)
	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.9 lb/hr (NG)
PM_{10}	06-096 CMR 140, BPT	14.5 lb/hr (oil)
	06-096 CMR 140, BPT	1.9 lb/hr (NG)
SO_2	06-096 CMR 106, §2.A.(2)	2.0% sulfur content limit, by weight until July 1, 2018
	38 MRSA §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 (4/20/04) 06-096 CMR 140, BPT (If Boiler #6 fires #4 fuel oil instead of natural gas)	[#4 oil] 0.7% S limit, by weight (until July 1, 2018 and then after that date limited to 0.5% by weight as required per state statute and license for residual oil.
	06-096 CMR 140, BPT	70.7 lb/hr (oil)
	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.0 lb/hr (NG)
NO_x	06-096 CMR 140, BPT (12-month rolling total)	86.6 tons/year
	A-448-72-K-A/R (8/23/95) & 06-096 CMR 140, BPT	0.47 lb/MMBtu
	A-448-72-K-A/R (8/23/95) & 06-096 CMR 140, BPT	45.5 lb/hr (#6 fuel oil)
	A-448-72-K-A/R (8/23/95) & 06-096 CMR 140, BPT	16.5 lb/hr (#4 fuel oil)
	A-448-72-K-A/R and 06-096 CMR 140, BPT	14.5 lb/hr (NG)
CO	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	16.5 lb/hr (fuel oil or NG)
VOC	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.0 lb/hr (fuel oil or NG)

Pollutant	Origin and Authority	Licensed Emission Limit(s)
Visible Emissions	Combined stack 06-096 CMR 101, §2(B)(3)(5) 06-096 CMR 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 CMR 140, BPT	When all units through the combined stack (Boiler #4, #6, and Boiler #5/Thermal Oxidizer) are firing natural gas, 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.
	40 CFR Part 63, Subpart DDDDD	As of the effective date of 40 CFR Part 63, Subpart DDDDD applicability for these boilers, visible emissions shall not exceed the applicable standard as specified in Subpart DDDDD, demonstrated according to the applicable compliance demonstration method as specified in Subpart DDDDD.

D. Emission Limit Compliance Methods

Compliance with the emission limits associated with Boiler #6 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 CFR Part 60, App. A, Method 5	If Pioneer combusts more than 1,690,000 gallons of fuel oil in any calendar year (30% capacity factor), then a PM emission stack test shall be performed by July 1 of the following year. Otherwise as requested.

Pollutant	Unit Basis of Emission Limit	Compliance Method	Frequency
PM_{10}	lb/hr	40 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO_2	lb/hr	40 CFR Part 60, App. A, Method 6	As requested
NO_x	lb/MMBtu and lb/hr	40 CFR Part 60, App. A, Method 7E	If Pioneer combusts more than 1,690,000 gallons of fuel oil in any calendar year (30% capacity factor), then a NOx emission stack test shall be performed by July 1 of the following year. Otherwise as requested.
CO	lb/hr	40 CFR Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 CFR Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 CFR Part 60, App. A, Method 9	As requested

E. Pioneer shall burn natural gas within three (3) days when gas is available at the interruptible gas rate from May 1 through September 30, except where gas cannot be used due to maintenance or construction activities or during operations in accordance with Condition (15) C. Pioneer shall provide written notice to the Department when maintenance or construction activities interfere with the burning of natural gas.

F. Pioneer shall monitor the gas prices monthly and document the dates upon which gas is available at the interruptible rate for the months of March through June and no longer available at the interruptible rate for the months of September through December. Pioneer shall keep sufficient records to document compliance with this condition. These records shall be maintained for at least six (6) years and be made available to the Department and EPA upon request. [06-096 CMR 138]

G. Consumption of natural gas, #6 fuel oil, and #4 fuel oil in Boiler #6 during any 12 month rolling total shall not result in a NOx emission exceeding a limit of 86.6 tons per year. This emission calculation shall be determined by purchase records and AP-42 emission factors or prior NOx stack testing data if available and shall be maintained on a monthly and 12 month rolling total basis. [06-096 CMR 140, BPT]

H. Boiler #6 is subject to and shall meet all applicable requirements of the Industrial/Commercial/Institutional Boilers, and Process Heaters National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements 40 CFR Part 63, Subpart DDDDD.

Pioneer must comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016 as applicable to Boilers #6. [40 CFR §63.7495(b)] Note that if the status of the Final Rule (Boiler MACT Final Rule of January 31, 2013) should change, the compliance date may also change.

1. Work Practice Standards [40 CFR Part 63, Subpart DDDDD, Table 3]

   - Pioneer shall conduct an initial tune-up of each boiler according to the procedures specified in §63.7540(a)(10)(i) through (vi) no later than the initial tune-up due date established per 40 CFR §63.7495.
   - Subsequent tune-ups for each boiler must be conducted every 5 years as specified in §63.7540(a)(10)(i) through (vi) to demonstrate continuous compliance. Delay of the burner inspection specified in 40 CFR §63.7540(a)(10)(i) until the next scheduled or unscheduled unit shutdown is permitted; however, an inspection of each burner must occur at least once every 72 months. [40 CFR §63.7540(a)(12)]
   - Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. [40 CFR §63.7515(d)]
   - If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR §63.7540(a)(13)]
   - A one-time energy assessment must be performed on the Boiler by a qualified energy assessor as specified in 40 CFR Part 63, Subpart DDDDD, Table 3(4). [40 CFR Part 63, Subpart DDDDD, Table 3(4)]

2. Notifications

   - Pioneer shall submit a signed statement a Notification of Compliance Status (NOCS) report containing the results of the initial compliance demonstration according to the requirements in 40 CFR §63.7545(e). The NOCS shall indicate that the facility conducted an initial tune-up for Boiler #6 and shall include a signed certification that the energy assessment was completed for each boiler according to 40 CFR Part 63, Subpart DDDDD, Table 3 and

is an accurate depiction of the facility at the time of the assessment. [40 CFR §63.7530(d),(e), and (f) and §63.7545(e)]

- Pioneer must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. This notification must include the company name and address, identification of the affected unit the reason for not being able to use natural gas (or equivalent fuel), including the date when the natural gas curtailment was declared or the natural gas supply interruption began, the type of alternative fuel to be used, and the dates when the alternative fuel use is expected to begin and end. [40 CFR §63.7545(f)]

3. Reporting requirements shall be in accordance with the applicable requirements in Table 9 of 40 CFR Part 63, Subpart DDDDD and 40 CFR §63.7550.

4. Records

- Pioneer shall maintain records of the following:
- A copy of each notification and report submitted to comply with Subpart DDDDD, including all documentation supporting any Initial Notification, Notification of Compliance Status or compliance report. [40 CFR §63.7555(a)(1)]
- Records of compliance demonstrations and performance evaluations. [40 CFR §63.7555(a)(2)]
- The total hours per calendar year that alternative fuel is burned and the total hours per calendar year the unit operated during periods of gas curtailment or gas supply emergencies. [40 CFR §63.7555(h)]
- The calendar date, time, occurrence and duration of each startup and shutdown. [40 CFR §63.7555(i)]
- The type(s) and amount(s) of fuels used during each startup and shutdown. [40 CFR §63.7555(j)]

(16) **Process Heater #7**

A. Allowable Fuels

1. Process Heater #7 is licensed to fire natural gas. [06-096 CMR 140, BPT]
2. Pioneer shall maintain records of the quantity of fuel consumed on a monthly and 12-month rolling total basis. [06-096 CMR 140, BPT]

B. Process Heater #7 shall not exceed the following emission limitations:

Pollutant	Origin and Authority	Licensed Emission Limits
PM	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.06 lb/hr
PM_{10}	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.06 lb/hr
SO_2	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.03 lb/hr
NOx	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.56 lb/hr
CO	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	1.12 lb/hr
VOC	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.03 lb/hr
Visible Emissions	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.

(17) **Process Heater #8**

A. Process Heater #8 shall fire natural gas only, except for any related pilot light which may fire propane gas. [06-096 CMR 140, BPT]

B. Process Heater #8 shall not exceed the following emission limitations:

Pollutant	Origin and Authority	Licensed Emission Limits
PM	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	0.10 lb/hr
PM_{10}		0.10 lb/hr
SO_2		0.05 lb/hr
NOx		1.0 lb/hr
CO		2.0 lb/hr
VOC		0.05 lb/hr
Visible Emissions	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.

(18) **Fire Pump and Generators #1 and #2**

A. Allowable Operation and Fuels

1. The Fire Pump and Generator #2 are licensed to fire distillate fuel. Generator #1 is licensed to fire natural gas. [06-096 CMR 140, BPT]

2. The engines are each limited to 100 hours per year total operation, based on a 12-month rolling total, except for emergency situations which is unlimited. A log of the hours of operation must be maintained. [06-096 CMR 115]

B. Fuel Sulfur Content

1. The fuel oil sulfur content for the Fire Pump and Generator #2 shall be limited to 0.0015% sulfur by weight. [06-096 CMR 140, BPT]

2. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 140, BPT]

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

Emission Unit	**PM (lb/hr)**	**PM_{10} (lb/hr)**	**SO_2 (lb/hr)**	**NO_x (lb/hr)**	**CO (lb/hr)**	**VOC (lb/hr)**
Generator #1 (1.13 MMBtu/hr)	0.06	0.06	0.01	2.57	3.97	0.03
Generator #2 (1.2 MMBtu/hr)	0.14	0.14	0.01	5.29	1.02	0.42
Fire Pump (2.1 MMBtu/hr)	0.25	0.25	0.01	9.26	1.79	0.73

D. Visible Emissions

Visible emissions from each of the engines shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period. [06-096 CMR 101]

E. Generators #1 and #2 and the Fire Pump shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following:

1. Pioneer shall meet the following operational limitations for each of the compression ignition emergency engines: (Fire Pump and Generator #2):
    a. Change the oil and filter every 500 hours of operation or annually whichever comes first,

b. Inspect the air cleaner every 1000 hours or annually whichever comes first, and
c. Inspect the hoses and belts every 500 hours or annually whichever comes first and replace as necessary.

A log shall be maintained documenting compliance with the operational limitations.

[40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]

2. Pioneer shall meet the following operational limitations for the spark ignition emergency engine. (Generators #1):
   a. Change the oil and filter annually,
   b. Inspect the air cleaner annually and replace as necessary, and
   c. Inspect the hoses and belts annually and replace as necessary.

   Records shall be maintained documenting compliance with the operational limitations.
   [40 CFR §63.6602 and Table 2(c); and 06-096 CMR 115]
3. Oil Analysis Program Option
   Pioneer has the option of utilizing an oil analysis program which complies with the requirements of §63.6625(i) in order to extend the specified oil change requirement. If this option is used, Pioneer must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR§63.6625(i)]

4. Non-Resettable Hour Meter
   A non-resettable hour meter shall be installed and operated on each engine/generator. [40 CFR §63.6625(f)]

5. Maintenance, Testing, and Non-Emergency Operating Situations

   a. The engines/generators shall each be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §63.6640(f)(4)(ii) are met). These limits are based on a calendar

year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §63.6640(f) and 06-096 CMR 140]

b. Pioneer shall keep records that include maintenance conducted on the engines/generators and the hours of operation of each engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generators are operated during a period of demand response or deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility must keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §63.6655(e) and (f)]

6. Operation and Maintenance
The engines/generators shall be operated and maintained according to the manufacturer's emission-related written instructions, or Pioneer shall develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

7. Startup Idle and Startup Time Minimization
During periods of startup the facility must minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR §63.6625(h) & 40 CFR Part 63, Subpart ZZZZ Table 2d]

8. Requirements for Demand Response Availability Over 15 Hours Per Year (and greater than 100 brake hp)
If Pioneer operates or is contractually obligated to be available for more than 15 hours per calendar year in a demand response program, during a period of deviation from standard voltage or frequency, or supplying power during a non-emergency situation as part of a financial arrangement with another entity as specified in §63.6640(f)(4)(ii), the facility shall submit an annual report containing the information in §63.6650(h)(1)(i) through (ix). The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no

later than March 31 of the following calendar year. The annual report must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form is not available in CEDRI at the time that the report is due, the written report must be submitted to the following address:

Director, Office of Ecosystem Protection
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, MA 02109-3912

[40 CFR §63.6650(h)]

Fuel Burning/Pollution Control Equipment

(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 CMR 140, BPT and 06-096 CMR 860]

2. Pioneer shall maintain records of the quantity of fuel consumed on a monthly and 12-month rolling total basis. [06-096 CMR 140, BPT]

B. Fuel Sulfur Content

1. Residual fuel oil
   a. Prior to July 1, 2018, the sulfur content of the residual fuel oil fired in Boiler #5 shall not exceed 0.7% by weight. [06-096 CMR 140, BPT]
   b. Beginning July 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(1) and (2), the residual fuel oil fired shall not exceed a maximum sulfur content limit of 0.5% by weight. [38 MRSA §603-A(2)(A)(1) and (2)]

2. Until July 2018, Pioneer shall have the flexibility to burn #4 fuel oil with a sulfur content not to exceed 0.7% by weight in place of natural gas. Under this scenario, all other boilers are required to burn either natural gas or #4 fuel oil with a maximum sulfur content of 0.7% by weight.

3. 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 CMR 140, BPT]

C. 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 CMR 103 2.A(1)	0.20 lb/MMBtu (oil)
	A-448-70-A-A/I & 06-096 CMR 140, BPT	
	06-096 CMR 115, BACT A-448-77-5-M	0.05 lb/MMBtu (NG)
	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	11.9 lb/hr (fuel oil)
	06-096 CMR 115, BACT A-448-77-5-M	2.5 lb/hr (NG)
PM_{10}	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	11.9 lb/hr (fuel oil)
	06-096 CMR 115, BACT A-448-77-5-M	2.5 lb/hr (NG)
SO_2	06-096 CMR 106, Section 2(A)(2)	2.0 lb/MMBtu (consistent with fuel sulfur content limit of 2.0% by weight)
	06-096 CMR 106, §2.A.(2)	2.0% sulfur content limit, by weight until Jan1, 2018.
	38 MRSA §603-A(2)(A)(1) and (2)	After Jan 1, 2018, the sulfur limit is 0.5% by weight.
	A-448-70-A-A/I issued 4/20/04 06-096 CMR 140, BPT (If Boiler #6 fires #4 fuel oil instead of natural gas)	[#4 oil] 0.7% S limit, by weight (until Jan 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 CMR 140, BPT	88.1 lb/hr (fuel oil)
	06-096 CMR 115, BACT A-448-77-5-M	0.1 lb/hr (NG)

Pollutant	Origin and Authority	Licensed Emission Limits
NO_x	A-448-72-K-A/R (8/23/95) and 06-096 CMR 140, BPT	23.7 lb/hr (fuel oil)
	06-096 CMR 140, BPT	8.6 lb/hr (#4 fuel oil)
	06-096 CMR 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 *not* 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 CMR 140, BPT	30.0 lb/hr (fuel oil)
	06-096 CMR 115, BACT A-448-77-5-M	0.3 lb/hr (NG)
Visible Emissions	A-448-70-A-A/I & 06-096 CMR 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 CMR 101 & 06-096 CMR 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.

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

- Pioneer shall monitor P5 impregnator 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. P5 Treater

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.

- When burning #6 fuel oil and not operating the P5 treater, 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.

- When firing natural gas, Pioneer shall calculate CO emissions on a monthly and 12- month rolling total using the following emission rates from each operating scenario:

Emission Unit combination:	Average CO emission rate (lb/hr) while burning natural gas:
Specialty Resins only	0.60
P5 impregnator only	13.3
Specialty Resins + P5	15.7
Specialty Resins + P4 + P5	32.9
Specialty Resins + C4 + P5	42.0
Specialty Resins + C4 + P4 + P5	78.4

Pioneer shall calculate the CO emissions by multiplying the above lb/hr emission rate by the number of hours of operation, depending on the operating scenario. The P5 Treater 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. P4 and C4 operations shall be recorded in paper log sheets that the machine operators complete each day and through minute-by-minute data in the facility's computer database system. K1 – K8 operations 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) is recorded every 15 minutes in the Citect computer database system.

- 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.

D. 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 CFR 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 CFR Part 60, App. A, Method 5 or EPA Test Method 201 or 201A	As requested
SO_2	lb/hr	40 CFR Part 60, App. A, Method 6	As requested
NO_x	lb/MMBtu and lb/hr	40 CFR Part 60, App. A, Method 7E	Compliance with the NOx 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 CFR Part 60, App. A, Method 10	As requested
VOC	lb/hr	40 CFR Part 60, App. A, Method 25 or 25A	As requested
Visible Emissions	Percent (%) opacity	40 CFR Part 60, App. A, Method 9	As requested

E. 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 CMR 138]

F. 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 CFR 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 CFR Part 63, Subpart DDDD
SO_2	720 ppmdv@ 7% O_2	3-hr average	
NO_x	76 ppmdv@ 7% O_2	3-hr average	
CO	35 ppmdv@ 7% O_2	3-hr average	
VOC	--	--	--
Cd	0.023 mg/DSCM	3-hr average	NESHAP 40 CFR 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 ppmdv@ 7% O_2	3-hr average	

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

G. 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 CMR 123 and 126] and shall:

1. Maintain a minimum incinerator combustion temperature of 1250^{o}F in the Thermal Oxidizer combustion chamber on a 1-hr average basis. [06-096 CMR 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 CFR 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 CFR, Part 60, Appendix A, Methods 24 and 25A) [06-096 CMR 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 CFR, Part 60, Appendix A, Methods 25, 25A) [06-096 CMR 123 and Chapter 140 BPT].

H. Boiler #5/Thermal Oxidizer is subject to the Amino/Phenolic Resin Production National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements 40 CFR 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 CFR §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 CFR §63.1402) that contains or contacts $\geq$5% HAPs and operates at $\geq$300 hours a year.

3. Closed vent systems, control devices, and fuel gas systems must also meet the requirements of 40 CFR 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).

I. 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 CFR 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 CFR Part 63, Subpart FFFF.

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

(20) **RTO #1**

A. If RTO #1 does not combust the distillate liquid waste by-product, then this unit is not subject to 40 CFR Part 60 Subpart CCCC (CISWI Rule) and will meet the following emission limits:

Pollutant	Applicable Emission Standard(s)	Origin and Authority	Licensed Emission Limit(s)
PM	0.08 lb/hr	06-096 CMR 140, BPT	0.08 lb/hr
PM_{10}	0.08 lb/hr	06-096 CMR 140, BPT	0.08 lb/hr
SO_2	0.01 lb/hr	06-096 CMR 140, BPT	0.01 lb/hr
NOx	0.22 lb/hr	06-096 CMR 140, BPT	0.22 lb/hr
CO	0.12 lb/hr	06-096 CMR 140, BPT	0.12 lb/hr
VOC	0.02 lb/hr	06-096 CMR 140, BPT	0.02 lb/hr
Visible Emissions	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.	06-096 CMR 140, BPT	10% opacity on a 6-minute block average basis, except for no more than two (2) 6-minute block averages in a 3-hour period.

B. If RTO #1 does combust the liquid distillate waste by-product and is considered a CISWI unit, then the emission limitations specified in the following table (Table 1 of Subpart CCCC) must be met within 60 days after the CISWI unit reaches the charge rate at which it will operate, but no later than 180 days after its initial startup: [40 CFR Part 60, Subpart CCCC]

1. Emissions shall not exceed the following [40 CFR Part 60, Subpart CCCC]:

Pollutant	Emission Limitation [a]	Averaging Period	Compliance Method
Particulate matter (filterable)	18 mg/DSCM	3-run average (collect a minimum volume of 2 DSCM per run)	Performance test (Method 5 or 29 at 40 CFR Part 60, appendix A-3 or appendix A-8).
Sulfur dioxide	11 ppmdv	3-run average (1 hour minimum sample time per run)	Performance test (Method 6 or 6C at 40 CFR Part 60, appendix A-4).
Nitrogen Oxides	23 ppmdv	3-run average (for Method 7E, 1 hour minimum sample time per run)	Performance test (Method 7 or 7E at 40 CFR Part 60, appendix A-4).
Cadmium	0.0023 mg/DSCM	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 29 at 40 CFR Part 60, appendix A-8).

Pollutant	Emission Limitation [a]	Averaging Period	Compliance Method
Carbon monoxide	17 ppmdv	3-run average (1 hour minimum sample time/ run)	Performance test (Method 10 at 40 CFR Part 60, appendix A-4).
Dioxin/furan (Total Mass Basis)	0.58 ng/DSCM	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 23 at 40 CFR Part 60, appendix A-7).
Dioxin/furan (toxic equivalency basis)	0.13 ng/DSCM[b]	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 23 at 40 CFR Part 60, appendix A-7).
Fugitive ash	Visible emissions for no more than 5% of the hourly observation period	Three 1-hour observation periods	Visible emission test (Method 22 at 40 CFR Part 60, appendix A-7).
Hydrogen chloride	0.091 parts per million by dry volume	3-run average (For Method 26, collect a minimum vol. of 360 liters per run. For Meth. 26A, collect a minimum volume of 3 DSCM per run)	Performance test (Method 26 or 26A at 40 CFR Part 60, appendix A-8).
Lead	0.015 milligrams per dry standard cubic meter [b]	3-run average (collect a minimum volume of 4 DSCM per run)	Performance test (Method 29 of appendix A-8 at 40 CFR Part 60). Use ICPMS for the analytical finish.
Mercury	0.00084 mg/DSCM[b]	3-run avg. (collect enough volume to meet a detection limit data quality objective of 0.03 ug/DSCM)	Performance test (Method 29 or 30B at 40 CFR Part 60, appendix A-8) or ASTM D6784-02 (Reapproved 2008).

[a] All emission limitations are measured at 7 percent oxygen, dry basis at standard conditions. For dioxins/furans, you must meet either the Total Mass Limit or the toxic equivalency basis limit.

b If you are conducting stack tests to demonstrate compliance and your performance tests for this pollutant for at least 2 consecutive years show that emissions are at or below this limit, testing can be skipped according to § 60.2155 if all of the other provisions of § 60.2155 are met. For all other pollutants that do not contain a footnote "b", performance tests for this pollutant for at least two consecutive years must show that emissions are at or below 75% of this limit in order to qualify for skip testing.

All performance tests must comply with the requirements of 40 CFR §60.2125 and must consist of a minimum of three test runs conducted under conditions representative of normal operations.

2. Visible Emissions

Visible emissions from RTO #1 firing natural gas shall not exceed 10% opacity on a 6 minute block average basis. [06-096 CMR 115, BACT]

C. If RTO #1 combusts the distillate liquid waste, the unit shall meet the New Source Performance Standard (NSPS) requirements of 40 CFR Part 60, Subpart CCCC, *Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units*, including but not limited to the following requirements:

- The facility must be in compliance with the emission limits (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.
- The facility must always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in § 60.6(e)(1)(i).
- The facility can demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to § 60.7530(d) is less than the applicable emission limit. Otherwise, the facility must demonstrate compliance using performance testing.
- If the facility demonstrates compliance with any applicable emission limit through performance testing, the facility must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of section § 60.7530(d). This requirement also applies to the facility if it petitions the EPA Administrator for alternative monitoring parameters under § 60.8(f).
- For new sources, the initial performance test must be conducted within 60 days after the CISWI unit reaches the charge rate at which it will operate, but no later than 180 days after its initial startup per §60.

[40 CFR Part 60, Subpart CCCC]

D. RTO #1 shall meet the applicable requirements of the following regulations:

- National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart FFFF, *National Emission Standard for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing*;

- Subpart EEEE, *National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)*; and
- Subpart OOO, *National Emission Standards for Hazardous Air Pollutant Emissions: Manufacture of Amino/Phenolic Resins*.

Process Equipment

(21) **All Reactors: K1, K2, K3, K4, K5, K6, K7, and K8**

A. Visible emissions from each of Reactors K1, K2, K3, K4, K5, K6, K7, and K8 shall be limited to 20% opacity 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 [A-448-70-A-A/I (April 20, 2004), BPT]

B. Particulate emissions from each of Reactors K1, K2, K3, K4, K5, K6, K7, and K8 shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of Chapter 105. [06-096 CMR 105]

(22) **Melamine and Urea (Amino) Resin Production: Reactors K1 and K2**

In addition to the applicable requirements of Specific Condition (21), the following requirements are applicable to Reactors K1 and K2.

Pioneer shall comply with following requirements of 40 CFR Part 63, Subpart OOO, as applicable:

1. Pioneer shall control emissions from the Aggregate Batch Vent Stream on Reactors K1 and K2 to at least 83% reduction over the batch cycle using a control device. [40 CFR §63.1408(a)(2)(ii)]

2. Equipment Leaks
   Because the equipment contains or contacts organic HAP in concentrations greater than 5% by weight and operates more than 300 hours per year, the affected equipment associated with Reactors K1 and K2, as defined in 40 CFR §63.1402, shall comply with applicable requirements of 40 CFR Part 63, Subpart UU, *National Emission Standards for Equipment Leaks – Control Level 2 Standards*. [40 CFR §63.1410]

3. Pioneer shall comply with the minimum parameter monitoring level established during the most recent performance test conducted on the Thermal Oxidizer per 40 CFR §63.1413(a)(1)(i).

4. Pioneer shall follow the Start-up, Shutdown, and Malfunction Plan in accordance with 40 CFR §63.6(e)(3) and Table 1 of 40 CFR Part 63, Subpart OOO.

5. Pioneer shall file Periodic Reports semiannually, no later than 60 days after the end of the six-month period, per 40 CFR §63.1417(f). Pioneer shall keep records as indicated in 40 CFR §63.1416.

(23) **Phenolic Resin Blending: Reactor K3**

In addition to the applicable requirements of Specific Condition (21), the following requirements are applicable to Reactor K3.

A. VOC RACT Requirements

1. At all times that Reactor K3 is producing urea resins, blending phenolic resins, or blending LE-4060 with acetone, Pioneer shall vent the emissions from the main outlet vent on Reactor K3 through the vapor condenser. The temperature of the coolant on the inlet side of Reactor K3 vapor condenser shall be maintained below 100 degrees Fahrenheit while the reactor is in operation. [06-096 CMR 134]

2. At all times that Reactor K3 is not venting through the Thermal Oxidizer, Pioneer shall monitor and record every six hours the temperature of the coolant on the inlet side of the vapor condenser. Pioneer shall maintain such records for a minimum of six years, and they shall be submitted to the Department upon request. [06-096 CMR 134]

3. When blending phenolic resins with a methanol/VOC/phenolic extender blend and when hot cutting products with a VOC/HAP based solvent in Reactor K3, Pioneer shall capture and duct VOC/HAP emissions from Reactor K3 to the Thermal Oxidizer. The Thermal Oxidizer shall be operated to achieve a minimum VOC/HAP destruction efficiency of 95 percent. [06-096 CMR 134]

B. Operating Scenarios

Pioneer is licensed to operate Reactor K3 and the associated paper impregnating and treating operations down-stream of Reactor K3 under the following four operating scenarios to maintain operational flexibility: [A-448-70-A-A/I (April 20, 2004), BPT & A-448-71-T-A]

1. Blend the phenolic extender material with acetone and resins, on-site, in Reactor K3.

2. Blend the phenolic extender with methanol and resins, on-site, in Reactor K3.

3. Purchase from an external supplier a phenolic extender/phenolic resin blend and a UF resin/phenolic extender that includes methanol in the phenolic extender blend.

4. Use phenolic resins that will not require the addition of the phenolic extender/solvent solution.

C. Recordkeeping [A 448 70 A-A/I (April 20, 2004), BPT]

1. Pioneer shall maintain chemical use records documenting compliance with these flexible operating scenarios.

2. Pioneer shall calculate and document VOC emissions on a monthly basis for this process to demonstrate that the VOC emissions (of methanol) from Operating Scenarios 2 and 3 above do not exceed 30 tons per year.
3. Calculations shall be based on the following assumptions:

    a. Zero change in VOC emissions under Operating Scenario 1 (because acetone is not a VOC or HAP).
    b. Operating Scenarios 2 and 3 calculations will track VOC emissions of only methanol (because the scenarios are the blending of phenolic extender material with methanol).
    c. Operating Scenario 4 represents an activity addressed elsewhere in the license (coating with phenolic resins).
    d. 100% volatilization of methanol
    e. 100% capture of methanol emissions from both Reactor K3 and from the permanent total enclosures (PTE) around the paper Impregnators P1, P4, P5, and Coater C4 where the phenolic coating will be applied.
    f. 95% destruction of VOC/HAP in the Thermal Oxidizer (based on results from previous performance tests).

4. Pioneer shall maintain records of the following for each specified operating scenario to document compliance with the 30 tpy VOC emission limit from Operating Scenarios 2 and 3.

a. Operating Scenario 2 (blend phenolic extender with methanol on-site):

(1) Monthly records of the amount of methanol used (in lb);
(2) 12-month rolling total of the amount of methanol used (lb);
(3) Monthly and 12-month rolling total of VOC emission calculations using the following formula:

$$VOC2 = \frac{(\text{pounds methanol}) * 5\%}{2000 \text{ lb/ton}} = \text{tons VOC}$$

b. Operating Scenario 3 (purchased phenolic extender/phenolic resin blend):

(1) Monthly records of the amount of purchased phenolic extender/phenolic resin blend purchased (lb)and the percent methanol by weight of the resin blend;
(2) 12-month rolling total of the amount of phenolic extender/phenolic resin blend purchased (pounds);
(3) Monthly and 12-month rolling total of VOC emission calculations using the following formula:

$$VOC3 = \frac{(\text{pounds phenolic extender blend}) * \%\ \text{methanol}) * 5\%}{2000 \text{ lb/ton}} = \text{tons VOC}$$

c. Operating Scenarios 2 and 3: Total VOC Emissions

The monthly and 12-month rolling total of VOC emissions in TPY for Operating Scenarios 2 and 3 shall be calculated using the following equation:

VOC flexible operating scenarios (tons) = VOC2 +VOC3 $\leq$ 30 tons VOC per year

D. HAP Requirements: 40 CFR Part 63, Subpart EEEE, *NESHAP: Organic Liquids Distribution (Non-Gasoline)*

Reactor K3 shall meet the requirements of 40 CFR Part 63, Subpart EEEE specified below.

1. The equipment shall meet the emission limitations as specified in 40 CFR §63.2346.

2. The facility shall develop a work practice plan in accordance with 40 CFR §63.2346.

3. The facility shall develop and maintain a Start-up, Shut-down, and Malfunction Plan in accordance with 40 CFR §63.2350 (c).

4. The facility shall comply with the continuous compliance and monitoring requirements of 40 CFR §63.2366, §63.2374, and §63.2378.

5. The facility shall comply with the reporting requirements of 40 CFR §63.2386 and 06-096 CMR 140.

6. Recordkeeping shall include documents specified in 40 CFR §63.2390 and shall be kept in accordance with 40 CFR §63.2394.

(24) **Polyester Resin Production: Reactors K4, K5, K6, and K7**
Polyester/Melamine Resin Production: Reactor K8

In addition to the applicable requirements of Specific Condition (21), the following requirements are applicable to Reactors K4, K5, K6, K7, and K8.

A. VOC RACT Requirements [A-448-71-P-A (June 16, 1997), VOC RACT]

At all times that K4, K5, K6, K7, and K8 are producing polyester resins, Pioneer shall vent the emissions from the main outlet vent on each reactor to the Thermal Oxidizer or RTO #1 for destruction.

At all times that K4, K5, K6, K7, and K8 are blending polyester resins, Pioneer shall vent the emissions from the main outlet vent on each reactor through the separating column and vapor condenser which shall be operated to maximize the condensation of any emissions. The temperature of the coolant on the inlet side of the vapor condensers to K4, K5, K6, K7, and K8 shall be maintained below 100 degrees Fahrenheit while the reactors are blending polyester resins. Pioneer shall record the date and length of time in minutes when each reactor is blending polyester resins.

At all times that K4, K5, K6, K7, and K8 are blending polyester resins, Pioneer shall monitor and record every six hours the temperature of the coolant on the inlet side of the vapor condensers to K4, K5, K6, K7, and K8. Pioneer shall maintain such records for a minimum of six years, and they shall be submitted to the Department upon request.

B. HAP Requirements

1. 40 CFR Part 63, Subpart OOO, *NESHAP Emissions: Manufacture of Amino/Phenolic Resins*

   The NESHAP 40 CFR Part 63, Subpart OOO applies to Pioneer's melamine and urea resin production operations. Reactor K8 shall comply with applicable requirements of Subpart OOO during production of melamine or polyester resins, when operating time from melamine production is at least five percent of the total production time in a five-year time period. [A 448 70 A-A/I (April 20, 2004), BPT]

   Pioneer shall comply with the following requirements, as applicable:

   a. Emissions from the Aggregate Batch Vent Stream on Reactor K8 shall be controlled to at least 83% reduction over the batch cycle using a control device. [40 CFR §63.1408(a)(2)(ii)]
   b. Equipment Leaks
      Because the equipment contains or contacts organic HAP in concentrations greater than 5% by weight and operates more than 300 hours per year, the affected equipment associated with Reactor K8, as defined in 40 CFR §63.1402, shall comply with applicable requirements of 40 CFR Part 63, Subpart UU, *National Emission Standards for Equipment Leaks – Control Level 2 Standards*. [40 CFR §63.1410]
   c. Pioneer shall follow the Start-up, Shutdown, Malfunction Plan in accordance with 40 CFR §63.6(e)(3) and Table 1 of 40 CFR Part 63, Subpart OOO.

   d. Pioneer shall file Periodic Reports semiannually, no later than 60 days after the end of the six-month period, per 40 CFR §63.1417(f).

2. 40 CFR Part 63, Subpart FFFF, *NESHAP: Miscellaneous Organic Chemical Manufacturing*

   Pioneer's polyester reactors K4, K5, K6, K7, and K8 shall comply with applicable requirements of Subpart FFFF if polyester resins are the primary product for greater than 95% of the total operating time in a five-year period. The primary product determination shall be re-evaluated every five years in accordance with Subpart FFFF. [40 CFR §63.2535 (l)(2)]

(25) **Paper Treaters, Impregnators, and Coaters:**
(Paper Treaters M1, M4, M5, M6, M7, and the Pilot Treater)
(Paper Impregnators P4, P5, and P9)
(Paper Coater C4)

A. The VOC content of all melamine/urea resins applied by Treaters M1M4, M5, M6, M7, and the Pilot Treater shall not exceed 2.9 pounds VOC per gallon of coating (excluding water and negligibly reactive VOCs as defined in 06-096 CMR 100), verified using EPA Method 24 from 40 CFR Part 60, Appendix A or a method acceptable to the Department. Any averaging of emission limits to meet this emission limit shall comply with EPA's Emission Trading Policy Statement published on 12/4/1986 in the Federal Register and must be approved by DEP and EPA. [06-096 CMR 123; 06-096 CMR 134 and A-448-72-K-A/R (August 23, 1995), VOC RACT]

B. The VOC content of cleaning solutions used in clean-up activities on Treaters M1, M4, M5, M6, M7, or the Pilot Treater shall not exceed 50% by volume, except for the use of up to 500 pounds of cleaning solutions per year which may contain greater than 50% VOC by volume.

Pioneer shall keep records of VOC emissions per year from clean-up activities on Treaters M1M4, M5, M6, M7, or the Pilot Treater, and records of the quantity, in pounds, of cleaning solutions used in these activities with a VOC content greater than 50% by volume.

[06-096 CMR 134, VOC RACT]

C. Treaters: Recordkeeping and Reporting Requirements of NSPS, Subpart VVV

Pioneer shall comply with the following requirements applicable to the fiberglass coating operations: [40 CFR §60.744(b) and (c)]

1. Pioneer shall make and record semiannual estimates of the projected annual amount of VOC to be used for the manufacture of polymeric coated substrate at the affected coating operation in that year and shall maintain records of actual 12-month VOC use.

2. Pioneer shall report the first semiannual estimate in which projected annual VOC use exceeds the applicable cutoff; and report the first 12-month period in which the actual VOC use exceeds the applicable cutoff.

D. VOC emissions from Impregnator P9, Laminate Press 1, and Feed Tank #67 shall not exceed 39 tons/year. Compliance shall be documented through the following calculations and recordkeeping: [A-448-77-1-A (June 5, 2007), BACT]

1. Pioneer shall maintain chemical use records for Impregnator P9 and Laminate Press 1.

2. Pioneer shall calculate and maintain records of VOC emissions on a monthly basis to demonstrate that VOC emissions from the operation of Impregnator P9, Laminate Press 1, and Feed Tank #67 do not exceed 39 tons per year on a 12-month rolling total basis.

3. Emissions calculations shall be based the following assumptions:
   · 100% volatilization of HAP/VOC in resin from either Impregnator P9 or Laminate Press 1.
   · 100% capture of emissions by the permanent total enclosures (PTE) around Impregnator P9, where the phenolic coating will be applied; and
   · 98% destruction of VOC/HAP in the Thermal Oxidizer (based on previous performance tests).

4. Impregnator P9 Emissions: Required Calculations and Records
   · Monthly records of the amount (pounds) of resin used and VOC content; and 98% destruction efficiency of the thermal oxidizer;
   · 12-month rolling total of resin used (pounds) and VOC content;
   · Monthly and 12-month rolling total VOC emission calculations using the following formula:

$$VOC_1 = \frac{(\text{pounds resin} * \text{VOC content}) * 0.02}{2000 \text{ lb/ton}} = \text{tons VOC per year}$$

5. Laminate Press 1 Emissions: Required Calculations and Records
   · Monthly records of laminate press rate and 12-month rolling total,
   · Testing conducted on Pioneer's other presses determined VOC emissions from the laminate press at the rate of 6.6×10^{-5} pounds per square foot of laminate.
   · Monthly and 12-month rolling total VOC emission calculations using the following formula:

$$VOC_2 = \frac{\text{laminate press rate (ft}^2\text{/day)} * 6.6 \times 10^{-5} \text{ (lb/ft}^2\text{)} * \text{(operating days/yr)}}{2000 \text{ lb/ton}} = \text{tons VOC per year}$$

6. Feed Tank #67 Emissions: Required Calculations and Records
   - Pioneer shall calculate VOC emissions from the impregnator Feed Tank #67 using material through put data and approved calculation methods (e.g., EPA TANKS software).
   - VOC emissions shall be calculated using the annual resin throughput for Feed Tank #67 for Phenolic Impregnator P9 multiplied by a VOC emission factor from working and breathing losses using EPA TANKS software:

VOC_3 = (annual throughput (tons/year)) * EPA tanks factor = tons VOC per year

VOC_{total} (tons per year) = $VOC_1 + VOC_2 + VOC_3 \leq 39$ tons VOC per year

E. At all times the units are operating, emissions from Impregnators P4, P5, and P9 and from Coater C4, including application areas and ovens for each process line, shall be captured by means of a permanent total enclosure and vented to the Thermal Oxidizer for destruction.

The permanent total enclosures on Impregnators P4, P5, and P9 shall have documented semiannual inspections. Inspection reports shall be submitted with the semiannual report as required by this license.

An evaluation of the permanent total enclosure capture system shall be conducted every two calendar years, in conjunction with destruction efficiency testing of the Thermal Oxidizer, confirming that the system meets the applicable specifications (06-096 CMR 126, Appendix A, Procedure T).

[06 096 CMR 134 and A-448-72-K-A/R (August 23, 1995), VOC RACT]

F. The use of the Thermal Oxidizer for control of VOC emissions from the Paper Treaters, Impregnators, and Coaters and associated process equipment shall achieve an overall VOC emissions reduction of 95% (95% destruction efficiency) or to a rate equal to 4.8 lb VOC emitted per gallon of solids as applied to the substrate on a continuous basis. Compliance shall be demonstrated using EPA Reference Method 25 or alternate method as approved by the Department. [06-096 CMR 123(3)(B)]

G. Use of the Thermal Oxidizer shall result in at least a 97% HAP destruction efficiency. [40 CFR Part 63, Subpart OOOO, Table 1] Compliance shall be demonstrated by a Thermal Oxidizer destruction efficiency test once every two calendar years using EPA test method 25 or 25A. [06-096 CMR 123; and 40 CFR Part 63, Subpart OOOO §63.4352]

H. Pioneer shall maintain a minimum Thermal Oxidizer combustion chamber temperature of 1250 ºF. Compliance shall be demonstrated through the use of thermocouples located at the inlet and at the outlet of the combustion chamber. Residence time of combusted gases in the combustion chamber shall be at least 0.7 second. Documentation of compliance shall be maintained onsite an provided upon request. [06-096 CMR 123; also meets combustion temperature requirements of 40 CFR Part 63, Subparts JJJJ and OOOO]

I. Thermal Oxidizer combustion chamber exhaust gas temperature shall be monitored and a data point recorded every 15 minutes. Four consecutive recorded data points constitute a valid hour of data. Valid data must be collected for at least 90% of the hours during which the Thermal Oxidizer is used as a control device for VOC/HAP process emissions. [06-096 CMR 123]

J. Accuracy of the thermocouples for the Thermal Oxidizer shall be verified in accordance with manufacturer specifications. A validation check of each thermocouple's accuracy shall be conducted and documented at least once per calendar quarter. [06-096 CMR 123]

K. Recordkeeping [06-096 CMR 123(6)]

1. Pioneer shall maintain records of the following information for each coating and for all diluents and solvents used for clean-up operations, as applicable, and make such information available to the Department upon request:
   a. Supplier name;
   b. Name of coating;
   c. Identification number for coating;
   d. Coating density (lb/gal);
   e. Total volatiles content of coating as supplied (wt %);
   f. Water content of coating as supplied (wt %);
   g. Exempt solvent content** of coating as supplied (wt %);
   h. Solids content of coating as supplied (vol %);
   i. Name of diluent, if any;
   j. Identification number of diluent;
   k. Diluent solvent density (lb/gal);
   l. VOC content of diluent (wt %);
   m. Exempt solvent content** of diluent (wt %); and
   n. Diluent/solvent ratio (gal diluent solvent/gal coating).

** (Exempt solvents are those solvents considered negligibly reactive as contained in the definition of VOC in *Definitions Regulation*, 06-096 CMR 100.)

2. Pioneer shall keep the following records on site for each coating line on a daily basis:
   a. Coating line number;
   b. Time period of use;
   c. Coating identification number;
   d. Amount of coating used;
   e. Diluent identification number; and
   f. Amount of diluent used.

3. Pioneer shall keep the following records on a monthly basis for those of Treaters M1, M4, M5, M6, M7 and the Pilot Treater for which the facility certifies that all of the coatings used have an as applied VOC content less than 2.9 pounds per gallon of coating (excluding water and exempt compounds:
   a. Time period (hours of operation);
   b. Coating identification number and amount of VOC-containing constituents used;
   c. Diluent identification number and amount of diluent used (excluding water and exempt compounds);
   d. Mass of VOC per volume of each coating, excluding water and exempt compounds, as applied;
   e. Total VOCs emitted; and
   f. Certification stating all compounds used have an as applied VOC content less than 2.9 pounds of VOC per gallon of coating, excluding water and exempt compounds. [06-096 CMR 123]

4. Copies of required records and reports shall be kept at the source for a minimum of two years and shall be available for inspection during normal business hours; copies shall be provided to the Department upon request.

L. 40 CFR Part 63, Subpart OOOO, *NESHAP for Printing, Coating, and Dyeing of Fabrics and Other Textiles,* Requirements

1. The facility shall meet the applicable general requirements specified in 40 CFR §63.4300 (a)(1) though (4).

2. Pioneer shall develop and maintain a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of regulated materials used in, and waste materials generated by, applicable processes, in accordance with 40 CFR §63.4293 and including but not limited to the following:

a. All organic-HAP-containing regulated materials and waste materials must be stored in closed containers.
b. Spills of organic-HAP-containing regulated materials and waste materials must be minimized.
c. Organic-HAP-containing regulated materials and waste materials must be conveyed from one location to another in closed containers or pipes.
d. Mixing vessels which contain organic-HAP-containing regulated materials must be closed except when adding to, removing, or mixing the contents.
e. Emissions of organic HAP must be minimized during cleaning of web coating/printing or dyeing/finishing storage, mixing, and conveying equipment.

3. The facility shall maintain a written Start-up, Shut-down, and Malfunction Plan in accordance with 40 CFR §63.4300(c).

4. The facility shall comply with the applicable continuous compliance requirements of 40 CFR §63.4352 and the applicable continuous monitoring requirements of 40 CFR §63.4364.
5. Recordkeeping shall be in accordance with applicable requirements of 40 CFR §63.4312.

(26) **Pressroom**

Visible emissions from the laminate presses shall not exceed 20% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. [06-096 CMR 101 (2)(B)(3)(d)]

(27) **Routers, Table Saws, and Sanders**

A. Visible emissions from any fabric filter controls of emissions from Routers, Table Saws, or Sanders shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [06-096 CMR 101 §2(C)]

B. Particulate emissions from the Routers, Table Saws, and Sanders shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105. [06-096 CMR 105]

C. Pioneer shall keep maintenance records of all baghouse inspections and the dates and locations of all bag failures and bag replacements. These records

shall be maintained for at least six years and available to the Department upon request. [06-096 CMR 140, BPT]

(28) **Dust Transporter System**

A. Visible emissions from the Dust Transport System shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [06-096 CMR 101 §2(C)]

B. Particulate emissions from the Dust Transport System shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105. [06-096 CMR 105]

C. Pioneer shall keep maintenance records of all baghouse inspections and the dates and locations of all bag failures and bag replacements. These records shall be maintained for at least six years and available to the Department upon request. [06-096 CMR 140, BPT]

(29) **Drillboard Press Plate Preparation [06-096 CMR 140]**

A. Emissions of VOC from the Drillboard Press Plate Preparation process shall not exceed 2,000 pounds in any calendar year.

B. Pioneer shall maintain monthly records to document the volume of release aid used in the plate preparation and the mass of VOC emitted from the process each month and each calendar year.

(30) **Storage Tanks**

A. Pioneer shall maintain conservation vents on the following tanks:

Tank ID
Tank #29 – Methanol
Tank #30 – Formaldehyde
Tank #45 – Phenolic Resin Blend
Tank #46 – Phenolic Resin Blend
Tank #47 – Phenolic Resin Blend
Tank #48 – Phenolic Fast Cure
Tank #49 – Urea Resin
Tank #60 – Phenolic Resin
Tank #66 – 1,6 Hexanediol

Pioneer shall maintain records of maintenance of the conservation vents, including the date of conservation vent inspections and all routine maintenance when performed. Conservation vent inspections shall be performed at least once every six months. [A-448-71-P-A (June 16, 1997), VOC RACT]

B. Pioneer shall comply with the equipment leak component requirements and the recordkeeping and reporting requirements of 40 CFR Part 63, Subpart EEEE '*Organic Liquids Distribution (Non-Gasoline)'* for the following tanks: Storage Tanks 29, 45, 46, 47, 48, 49 and 60.

(31) **Storage Silos and Associated Equipment**

A. Visible emissions from each of the baghouses associated with storage silos and associated equipment shall be limited to 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in any one-hour period. The facility shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [06-096 CMR 101]

B. Particulate emissions from the storage silos and associated equipment shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105. [06-096 CMR 105]

C. Pioneer shall keep records of all maintenance conducted on the storage silos baghouses and the dates and locations of all bag failures. These records shall be maintained for at least six years and available to the Department upon request. [A-448-70-A-A/I (April 20, 2004), BPT]

(32) **Resin Crusher/Grinder and Associated Equipment**

A. Emissions from the Resin Crusher/Grinder and associated equipment shall be controlled via fabric filters (baghouses).

B. Emissions from the control devices shall not exceed 10% opacity on a six-minute block average basis, except for no more than one six-minute block average in a one-hour period. [06-096 CMR 101]

C. Particulate emissions from the Resin Crusher/Grinder and associated equipment shall be limited to the applicable limitation from Table 105A or the formula in Section 4 of 06-096 CMR 105. [06-096 CMR 105]

D. Pioneer shall keep records of all maintenance conducted on the storage silos baghouses and the dates and locations of all bag failures. These records

shall be maintained for at least six years and available to the Department upon request. [A-448-70-A-A/I (April 20, 2004), BPT]

(33) **Chemical Loading/Unloading Operations**

A. The unloading operations for methanol and phenolic resins shall comply with the following:

1. For each pump, valve, and sampling connection that operates in organic liquids service at least 300 hours/year, Pioneer shall comply with the requirements for pumps, valves, and sampling connections in 40 CFR Part 63, Subpart TT (control level 1), Subpart UU (control level 2), or Subpart H. [40 CFR Part 63, Subpart EEEE, §63.2382 (d)(2)(vi)]

2. Pioneer shall comply with the applicable monitoring and recordkeeping requirements of 40 CFR Part 63, Subpart EEEE, including carrying out a leak detection and repair program in accordance with 40 CFR Part 63, Subpart TT, UU, or H, consistent with the subpart selected in A above.

B. The unloading operations for formaldehyde shall comply with the recordkeeping and reporting requirements in 40 CFR §63.2386(d).

C. The loading/unloading operations involving polyester resin production shall comply with applicable requirements in 40 CFR Part 63, Subpart FFFF.

(34) **Screen Print Operation**

Pioneer shall limit emissions of VOCs in the Screen Print Operation to less than 2000 pounds per year. Records of VOC usage in the Screen Print Operation shall be maintained documenting compliance with this limit and made available to the Department upon request. [A-448-70-A-A/I (April 20, 2004)]

(35) **Parts Washers** [06-096 CMR 130]

Parts washers at Pioneer are subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended).

A. Pioneer 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:

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. Pioneer shall attach a permanent conspicuous label to each unit summarizing the following operational standards:
   a. Waste solvent shall be collected and stored in closed containers.
   b. 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.
   c. 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.
   d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
   e. Sponges, fabric, wood, leather, paper products, and other absorbent materials shall not be cleaned in the parts washer.
   f. 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.
   g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
   h. Work area fans shall not blow across the opening of the parts washer.
   i. 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.

(36) **Compliance Assurance Monitoring (CAM)–General Requirements**
[40 CFR Part 64]

A. The licensee shall operate and monitor all emission units and their associated control equipment in accordance with the approved CAM Plan.

B. Any excursion shall be reported in semiannual reports. If excursions occur, the licensee must also certify intermittent compliance with the emission limits for the control device monitored in the annual compliance certification.

C. Upon detecting an excursion, the licensee shall restore normal operation of the control equipment as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR §64.7(d)]

D. Prior to making any changes to the approved CAM plan, the licensee shall notify the Department and, if necessary, submit a proposed license modification application to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR §64.7(e)]

E. Any change of the target level shall be submitted in a letter to the Department for written approval. [06-096 CMR 140, BPT]

(37) **Semiannual Reporting [06-096 CMR 140]**

A. The licensee shall submit to the Bureau of Air Quality semiannual reports which are due on **January 31st** and **July 31st** of each year. The facility's designated responsible official must sign this report.

B. The semiannual report shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date.

C. Each semiannual report shall include a summary of the periodic monitoring required by this license.

D. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.

(38) **Annual Compliance Certification**

Pioneer shall submit an annual compliance certification to the Department in accordance with Standard Condition (13) of this license. The annual compliance certification is due January 31 of each year. The facility's designated responsible official must sign this report.

The annual compliance certification shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the Department within seven calendar days of the due date. Certification of compliance is to be based on the stack testing or monitoring data required by this license. Where the license does not require such data, or the license requires such data upon request of the Department and the Department has not requested the testing or monitoring, compliance may be certified based upon other reasonably available information such as the design of the equipment or applicable emission factors. [06-096 CMR 140]

(39) **Annual Emission Statement** [06-096 CMR 137]

In accordance with *Emission Statements*, 06-096 CMR 137 (as amended), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of either:

A. A computer program and accompanying instructions supplied by the Department; or

B. A written emission statement containing the information required in 06-096 CMR 137. The emission statement must be submitted by the date as specified in 06-096 CMR 137.

(40) **General Applicable State Regulations**

The licensee is subject to the State regulations listed below.

Origin and Authority	Requirement Summary	Enforceability
06-096 CMR 102	Open Burning	-
06-096 CMR 109	Emergency Episode Regulations	-
06-096 CMR 110	Ambient Air Quality Standards	-
06-096 CMR 116	Prohibited Dispersion Techniques	-
38 M.R.S.A. §585-B, §§5	Mercury Emission Limit	Enforceable by State-only

(41) **Units Containing Ozone Depleting Substances**

When repairing or disposing of units containing ozone depleting substances, the licensee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. Examples of such units include refrigerators and any size air conditioners that contain CFCs. [40 CFR, Part 82, Subpart F]

(42) **Asbestos Abatement**

When undertaking Asbestos abatement activities, Pioneer shall comply with the Standard for Asbestos Demolition and Renovation 40 CFR Part 61, Subpart M.

(43) **Risk Management Plan**

The licensee is subject to all applicable requirements of 40 CFR Part 68, *Risk Management Plan*.

(44) **Expiration of a Part 70 License**

A. Pioneer shall submit a complete Part 70 renewal application at least six months but no more than 18 months prior to the expiration of this license.

B. Pursuant to Title 5 MRSA §10002, and 06-096 CMR 140, the Part 70 license shall not expire and all terms and conditions shall remain in effect until the Department takes final action on the renewal application of the Part 70 license. An existing source submitting a complete renewal application under 06-096 CMR 140 prior to the expiration of the Part 70 license will not be in violation of operating without a Part 70 license. **Enforceable by State-only**

(45) **New Source Review**

Pioneer is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emissions license and the NSR requirements remain in effect even if this 06-096 CMR 140 Air Emissions License, A-448-70-D-R/A, expires.

DONE AND DATED IN AUGUSTA, MAINE THIS 30 DAY OF December , 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
AVERY T. DAY, ACTING COMMISSIONER

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

[Note: If a complete renewal application as determined by the Department, is submitted at least 6 months prior to expiration but no earlier than 18 months, then pursuant to Title 5 M.R.S.A. §10002, all terms and conditions of the Part 70 license shall remain in effect until the Department takes final action on the renewal of the Part 70 license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 30, 2008
Date of application acceptance: October 16, 2008

Date filed with the Board of Environmental Protection:

This Order prepared by Edwin Cousins, Bureau of Air Quality

Filed
JAN 04 2016
State of Maine
Board of Environmental Protection