



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

PIONEER PLASTICS CORPORATION )  
ANDROSCOGGIN COUNTY )  
AUBURN, MAINE )  
A-448-77-7-M )

DEPARTMENTAL  
FINDING OF FACT AND ORDER  
NEW SOURCE REVIEW  
NSR #7

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

**I. REGISTRATION**

**A. Introduction**

Pioneer Plastics Corporation (Pioneer) operates a manufacturing plant in Auburn, Maine. Pioneer has requested a minor revision to modify their air emissions license to include the ability to burn natural gas in the Boiler #4 as an alternative fuel.

<b>FACILITY</b>	<b>Pioneer Plastics Corporation (Pioneer)</b>
LICENSE NUMBER	A-448-77-7-M
LICENSE TYPE	Chapter 115 Minor Revision
NAICS CODES	325211, 322222, 326130
NATURE OF BUSINESS	Manufacturer of decorative laminate, melamine coated paper, and specialty resins
FACILITY LOCATION	Auburn, Maine

**B. Application Classification**

Pioneer's application was submitted pursuant to the minor revision procedures in 06-096 CMR 115. The application for Pioneer does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing or record keeping. This modification is determined to be a minor revision (emission increase of less than four tons/year for each single pollutant and less than eight tons/per year for all pollutants combined) under 06-096 CMR 115 (as amended) and has been processed as such.

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**C. Federal Regulations**

1. New Source Performance Standards (NSPS) - Project Applicability

Pioneer proposes that the addition of natural gas in Boiler #4 does not constitute a modification of the boiler, as defined by the NSPS regulations.

New units or modifications to existing units are subject to the requirements of 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 10 MMBtu/hr - 100 MMBtu/hr. The NSPS definition of 'modification' is, in part, any physical or operation change that results in an increase in the emissions rate to the atmosphere of any pollutant to which a standard applies (§60.14(a)). In addition, §60.14(b) states that the emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable and EPA's AP-42 Compilation of Air Pollutant Emission Factors may be used to demonstrate that the emission level resulting from the physical or operational change will either clearly increase or clearly not increase.

The standards addressed in 40 CFR Part 60, Subpart Dc are for PM, SO<sub>2</sub> and NO<sub>x</sub>. All three pollutants, both on an AP-42 factor lb/MMBtu basis and a calculated mass emission (lb/hr), are lower for natural gas than for oil.

The Department has determined that adding natural gas firing capability to Boilers #4 is not considered a modification for NSPS purposes based on the following: the addition of natural gas as an alternative fuel will not cause emissions increases of any pollutants regulated by 40 CFR Subpart Dc; the project does not result in an increase in the facility's steam demand; and the gas (when fired) will replace oil, decreasing actual PM, SO<sub>2</sub>, and NO<sub>x</sub> emissions.

2. National Emission Standards for Hazardous Air Pollutants (NESHAPS)

The allowance to fire natural gas in Boilers #4 does not change the status of the boiler as an existing source for the purposes of the current applicable regulations under 40 CFR Part 63. The additional fuel is not considered a change which would make the unit either a new or reconstructed source.

3. Compliance Assurance Monitoring (CAM)

When firing natural gas, Boilers #4 do not trigger the applicability criteria in the CAM rule under 40 CFR Part 64.

**D. Incorporation into the Part 70 Air Emission License**

The requirements in this 06-096 CMR 115 New Source Review (NSR) amendment shall apply to the facility upon amendment issuance. Per *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended), Section 2(J)(2)(c), for a modification that has undergone NSR requirements or been processed through 06-096 CMR 115, the source must then apply for an amendment to the Part 70 license within one year of commencing the proposed operations as provided in 40 CFR Part 70.5.

**II. REVISION DESCRIPTION**

**Boiler #4 fuels fired**

Boiler #4 is a 55.5 MMBtu/hr boiler manufactured in 1975 by Trane. Boiler #4 burns No. 6 fuel oil with a sulfur content no greater than 2.0% by weight, and is used to produce steam for the manufacturing process and space heating needs. Emissions exit through a 35.05 m stack. Pioneer operates Boiler #4 primarily in the winter months to produce auxiliary steam to meet peak steam demands. Boiler #4 is also a standby boiler in the event that Boiler #6 is not available. Boiler #4 is also licensed to burn #4 fuel oil under certain scenarios.

Pioneer has requested to include the ability to burn natural gas in Boiler #4 as an alternative fuel. The facility has proposed to install a gas burner assembly capable of burning 53.2 MMBtu/hr of natural gas. The existing 55.5 MMBtu/hr #6 fuel oil system will be kept and maintained to have the flexibility to combust either fuel which will allow the unit to operate on either natural gas or #6 oil depending on availability.

There will be no increase in steam demand or increase in production at the plant as a result of this project. Although there will be physical changes in the burner of the boiler to allow for the combustion of natural gas, there will be no increase in emissions, and in fact, air emissions will be lower with the combustion of natural gas than with the combustion of fuel oil. BACT for natural gas fired in Boiler #4 is considered to be good combustion practices. The BACT emission limits when firing solely natural gas are based on the following emission factors:

PM/PM<sub>10</sub> – 0.05 lb/MMBtu, from DEP Best Practical Treatment guidance dated 3/8/2002  
SO<sub>2</sub> – 0.6 lb/MMscf, AP-42, Table 1.4-2, dated 7/98;  
NO<sub>x</sub> – 32 lb/MMscf, AP-42, Table 1.4-1, dated 7/98;

CO – 84 lb/MMscf, AP-42, Table 1.4-1, dated 7/98;  
VOC – 5.5 lb/MMscf, AP-42, Table 1.4-2, dated 7/98;  
Opacity – Visible emissions from Boiler #4 when firing natural gas shall not exceed 10% opacity on a 6 minute block average, except for no more than one (1) six (6) minute block average in a 3 hour period.

The following emission estimates have been provided to show the emissions difference when the unit combusts natural gas and when the unit combusts #6 fuel oil:

Pollutant	Lb/hr (natural gas)	Lb/hr (existing license on #6 oil)	Tons/yr ** (natural gas)	Tons/yr (existing license on #6 oil)
PM	2.5	11.1	1.8	33.0
PM <sub>10</sub>	2.5	11.1	1.8	33.0
SO <sub>2</sub>	0.1	123.8	0.1	368.0
NO <sub>x</sub>	5.2	33.3 *	22.8	99.0
CO	4.4	22.2	19.3	66.0
VOC	0.3	0.6	1.3	2.0

\* NOx emissions when firing #4 fuel oil shall not exceed 12.1 lb/hr based on a ratio of AP-42 emission factors.

\*\* Assumes 53.2 MMBtu/hr, 24 hours/day and 365 days/year operation.

Pioneer shall keep records of the natural gas usage in Boiler #4 on a monthly and 12-month rolling total basis.

### ORDER

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

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

The Department hereby grants Air Emission License A-448-77-7-M pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the conditions below.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

(1) **Boiler #4**

- A. Natural gas may be fired in Boiler #4. [06-096 CMR 115, BACT]
- B. Emissions from Boiler #4 shall not exceed the following limits while firing natural gas [06-096 CMR 115, BACT]:

Pollutant	Limit (lb/hr)
PM	2.5
PM <sub>10</sub>	2.5
SO <sub>2</sub>	0.1
NO <sub>x</sub>	5.2
CO	4.4
VOC	0.3

- C. Pioneer shall operate Boiler #4 such that visible emissions from Boiler #4 when firing natural gas 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]
- D. Pioneer shall maintain records of natural gas fired in Boiler #4, on a monthly and 12-month rolling total basis for inventory purposes. [06-069 CMR 137]

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- (2) Pioneer shall submit an application to incorporate this amendment into the Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 CMR 140, Section 2(J)(2)(c)]

DONE AND DATED IN AUGUSTA, MAINE THIS 3<sup>rd</sup> DAY OF *May*, 2012

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Melanie R. ... for*  
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 29, 2012

Date of application acceptance: April 4, 2012

Date filed with the Board of Environmental Protection:

This Order prepared by Edwin Cousins, Bureau of Air Quality

