



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE  
GOVERNOR

PATRICIA W. AHO  
COMMISSIONER

McCain Foods USA, Inc. )  
Aroostook County )  
Easton, Maine )  
A-436-77-3-M )

Departmental  
Findings of Fact and Order  
New Source Review  
NSR #3

After review of the air emissions license amendment 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 590, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

<b>FACILITY</b>	<b>McCain Foods USA, Inc. (McCain)</b>
PART 70 LICENSE NUMBER	A-436-70-A-I
LICENSE TYPE	06-096 CMR 115; Minor Revision
NAICS CODE	311411
NATURE OF BUSINESS	Frozen Potato Products
FACILITY LOCATION	Easton, Maine

McCain Foods USA, Inc. (McCain) of Easton, Maine is licensed to operate emission sources associated with their potato processing facility. The facility is located off Richardson Road in Easton, Maine on approximately nine acres of property. This minor revision addresses the facility's request to have the option of combusting natural gas in Boilers #5, #8, and #9. McCain needs to retain the option of burning fuel oil and vegetable oil in these boilers, as well as biogas in Boilers #8 and #9.

**B. Application Classification**

McCain's application was submitted pursuant to the minor revision procedures in 06-096 CMR 115 (as amended). The application for McCain does not violate any applicable federal or state requirements, does not include new fuel burning or process equipment, and does not increase emissions of any pollutant. Therefore, this modification is determined to be a minor revision for New Source Review 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

McCain proposes that the addition of natural gas in the boilers does not constitute a modification of the boilers, 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 #5, #8, and #9 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 #5, #8, and #9 does not change the status of the boilers as existing sources 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 units either new or reconstructed sources.

#### 3. Compliance Assurance Monitoring (CAM)

When firing natural gas, Boilers #5, #8, and #9 do not meet 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 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. DESCRIPTION OF MINOR REVISION and Best Practical Treatment (BPT)**

**Natural Gas Combustion in Boilers #5, #8, and #9**

McCain's Easton facility is a potato processing plant which produces frozen potato products, such as french fries and tater tots, for the retail and service markets. The site consists of one main manufacturing building and several smaller buildings north of Richardson Road. Cold storage, the covered anaerobic lagoon, and a waste digester are located south of Richardson Road.

McCain has requested through this minor revision to add the option to combust natural gas in Boilers #5, #8, and #9 as an alternative fuel. McCain needs to retain the option of burning fuel oil and vegetable oil in each of these boilers, as well as biogas in Boilers #8 and #9, in the event of logistical or supply problems with receiving natural gas.

McCain plans to convert Boilers #8 and #9 with a new fuel train and burner ring specifically for natural gas. Thus, Boilers #8 and #9 will have a fuel oil gun, biogas fuel train and burner ring, and natural gas fuel train and burner ring. Boiler #5 would be converted from fuel oil to fuel oil and natural gas by the addition of a natural gas fuel train and burner ring. Delivery of the natural gas to the Easton facility would be by truck in cryogenic liquid form similar to fuel oil deliveries, with approximately two truck deliveries per week. The intent is to have the natural gas vendor install onsite storage in cryogenic liquid form and to vaporize to a gas. Delivery would occur at an agreed upon site meter in a gaseous state. McCain would take possession of the natural gas as a vapor. Ownership would change from the vendor to McCain at a meter at the fence line of the vendor's storage system. McCain expects to begin construction on this project by April of this year and have natural gas operation begin by August 2012.

There will be no increase in steam demand or increase in potato production at the plant as a result of this project. Although there will be physical changes in the burners of

the boilers 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 Boilers #5, #8, and #9 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 each boiler 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.

McCain shall keep records of the natural gas usage in Boilers #5, #8, and #9 on a monthly and 12- month rolling total basis.

As shown in the following tables, annual and short term emissions are lower when the boilers fire natural gas or natural gas combined with biogas than on fuel oil and biogas.

<b>Potential Emissions from Use of Oil and Biogas (tons/yr) <sup>a</sup></b>						
<b>Equipment</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boiler #5	34.6	34.6	224.3	129.6	69.2	3.7
Boiler #8	17.4	17.4	189.2	71.6	17.4	1.8
Boiler #9	17.4	17.4	130.2	71.6	17.4	1.8
Digester Project	24.9	14.9	39.9	39.9	99.9	39.9
Total	94.3	84.3	583.6	312.7	203.9	47.2
<b>Potential Emissions from Use of Natural Gas or Natural Gas and Biogas (tons/yr) <sup>b</sup></b>						
Boiler #5	21.6	21.6	0.3	13.5	35.5	2.3
Boiler #8	10.9	10.9	111.9	7.7	17.9	1.2
Boiler #9	10.9	10.9	111.9	7.7	17.9	1.2
Total	43.4	43.4	224.1	28.9	71.3	4.7
<b>Difference in Potential Emissions (tons/yr)</b>						
	-50.9	-40.9	-359.5	-283.8	-132.6	-42.5

a Potential emissions from use of fuel oil and biogas are from current air emission license.

b Potential emissions from natural gas combustion only in Boiler #5. Natural gas and biogas can be fired separately or simultaneously in Boilers #8 and #9.

Pollutant	(Boiler #5) Current licensed allowed emission limits (lb/hr)	(Boilers #8 & #9) Current licensed allowed emission limits (lb/hr)	(Boiler #5) New Licensed allowed emission limits when firing natural gas only (lb/hr)	(Boilers #8 & #9) New Licensed allowed emission limits for each when firing natural gas only (lb/hr)
PM	7.9	4.0	4.9	2.5
PM <sub>10</sub>	7.9	4.0	4.9	2.5
SO <sub>2</sub>	51.2	48.9	0.1	0.1
NO <sub>x</sub>	29.6	16.4	3.1	1.6
CO	15.8	4.0	8.1	4.1
VOC	0.8	0.4	0.5	0.3

Based on the information submitted by McCain, the Department approves McCain's request to combust natural gas in Boilers #5, #8 and #9 as an alternative fuel.

**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-436-77-3-M pursuant to the preconstruction licensing requirements of 06-096 CMR 115 and subject to the standard and special 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 #5**

- A. Natural gas may be fired in Boiler #5. [06-096 CMR 115, BACT]
- B. Emissions from Boiler #5 (98.5 MMBtu/hr) shall not exceed the following limits while firing natural gas [06-096 CMR 115, BACT]:

Pollutant	Limit (lb/hr)
PM	4.9
PM <sub>10</sub>	4.9
SO <sub>2</sub>	0.1
NO <sub>x</sub>	3.1
CO	8.1
VOC	0.5

C. McCain shall operate Boiler #5 such that visible emissions from Boiler #5 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. McCain shall maintain records of natural gas fired in Boiler #5, on a monthly and 12-month rolling total basis for inventory purposes. [06-069 CMR 137]

**(2) Boiler #8 and #9**

A. Natural gas may be fired in Boilers #8 and #9. [06-096 CMR 115, BACT]

B. Emissions from each Boiler #8 (49.5 MMBtu/hr) and Boiler #9 (49.5 MMBtu/hr) shall not exceed the following limits while firing natural gas only. [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>	1.6
CO	4.1
VOC	0.3

C. McCain shall operate Boilers #8 and #9 such that visible emissions from each boiler 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. McCain shall maintain records of natural gas fired in Boilers #8 and #9, based on a monthly and 12-month rolling total basis for inventory purposes. [06-069 CMR 137]

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- (3) McCain 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 6<sup>th</sup> DAY OF April, 2012

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie A. B. [Signature]  
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 9, 2012

Date of application acceptance: March 19, 2012

Date filed with the Board of Environmental Protection:

This Order prepared by Edwin Cousins, Bureau of Air Quality

