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McCain Foods USA, Inc.	)	**Departmental**
Aroostook County	)	**Findings of Fact and Order**
Easton, Maine	)	**Air Emission License**
A-436-77-2-A	)	**New Source Review Amendment #2**

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

FACILITY	**McCain Foods USA, Inc. (McCain)**
LICENSE NUMBER	A-436-77-2-A
LICENSE TYPE	06-096 CMR 115 Minor Modification
NAICS CODES	311411
NATURE OF BUSINESS	Frozen Potato Products
FACILITY LOCATION	Easton, Maine
AMENDMENT ISSUANCE DATE	January 6, 2012

McCain has requested a New Source Review (NSR) amendment under 06-096 CMR 115 to install a waste digester at its potato processing facility located in Easton, Maine. The digester will generate additional biogas for combustion in the existing Boilers #8 and #9 (currently Boiler #9 can not burn biogas).

B. Emission Equipment

McCain is proposing to operate the following new equipment:

Fuel Burning Equipment

Equipment	**Maximum Capacity (MMBtu/hr)**	**Fuel Type, % Sulfur**	**Maximum Firing Rate (gal/hr)**	**Stack #**
Sludge Heater	2.66	propane biogas	29.1 4222 cf/hr	20

McCain is also proposing to install a dual-fuel fired burner on existing Boiler #9 which will allow the boiler to combust biogas, similar to the existing dual-fuel fired burner on Boiler #8. Biogas fired in Boilers #8 and/or 9 will displace a commensurate amount of No. 6 oil:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Fuel Type, % Sulfur	Maximum Firing Rate (gal/hr)	Stack #
Boiler #8	49.5	#6 fuel oil, 0.5% * biogas	330	17
Boiler #9	49.5	#6 fuel oil, 0.5% * biogas	330	18

* Based on a 30-day rolling average

C. Application Classification

A modification of a major source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Increase Levels" as defined in the Department's regulations. The emissions increases for a new source are determined by the maximum future license allowed emissions and emissions increases from modifying existing units are determined by comparing predicted future actual emissions to past actual emissions. The Significant Emission Increase Levels are as follows:

Pollutant	Net Change (TPY)	Sig. Level
PM	24.9	25
PM_{10}	14.9	15
$PM_{2.5}$	9.9	10
SO_2	39.9	40
NO_x	39.9	40
CO	99.9	100
VOC	39.9	40
CO_2e	74900	75000

McCain will not exceed the above emissions from the digester project, which includes the net emissions from combusting biogas generated by the digester, reduced emissions from the combustion of the displaced #6 fuel oil, and propane

emissions from the sludge heater. The digester project does not affect the production capacity of the boilers or the overall facility and any increase in emissions from unrelated production increases is not counted in the net emissions increase of the digester project. Therefore, the modification is determined to be a minor modification and has been processed as such.

II. REGULATIONS AND REQUIREMENTS

A. Project Description

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 facility is located off Richardson Road in Easton, Maine on approximately nine acres of property. The site consists of one main manufacturing building and several smaller buildings north of Richardson Road. The waste digester will be located south of Richardson Road, south of the existing covered anaerobic lagoon.

McCain currently sends their cull potatoes, screenings from wastewater, and fried and frozen potato waste to the Tatermeal facility in Presque Isle to be processed for use in the production of animal feed. As an alternative, McCain has proposed to anaerobically digest the potato waste to generate biogas. The digested potato waste would then be dewatered. The liquid stream would be treated in the existing wastewater treatment system. The solids would be stored and spread on agricultural land. The biogas would be used in Boilers #8 and #9 and would replace an equal amount of #6 fuel oil in terms of Btus to the boilers. The project is intended to provide biogas (a renewable fuel) as a substitute for an equivalent amount of Number 6 oil (a fossil fuel).

The anaerobic system will consist of six sub-systems. These include the following:

1. A sub-system to remove rocks, metal, wood, and plastic items from the potato waste streams,

2. A sub-system to process potato waste to produce a fine slurry for digesting,

3. A sub-system to provide digester and waste heating,

4. An anaerobic treatment system for the slurried waste,

5. A sub-system for dewatering and storage of the digestate, and

6. A sub-system for biogas management.

The removal of rocks, metal, wood, and plastic items and the slurrying of the potato waste will be conducted in a building adjacent to the current screening building. Equipment for sludge dewatering, biogas management, and digester heating will be located in a process control building adjacent to the digester. A digestate storage tank will be located underneath the control building.

To keep potential odors from the new waste digestion process to a minimum, McCain will manage potential odors through the inherit design of the process. The waste digestion material preparation will begin at the wastewater screening building where the waste is separated, fed through a grinder, and pumped to an adjacent acidification tank. The closed top acidification tank stores the material for less than a day. The material is then pumped to the 1.5 million gallon digester for anaerobic digestion. The anaerobic digestion tank is operated under a vacuum with an airtight cover. The biogas that is generated leaves the digester through the roof of the tank and from there blowers are used to pressurize the biogas. The biogas is then sent to either Boiler #8 or #9, sludge heater, or the flare for combustion. Biogas is completely burned and not vented and therefore odor potential is significantly reduced. There is no conditioning or processing of the biogas prior to combustion in the boilers or flare.

The digested anaerobic sludge from the digester will be stored in onsite bunkers in a semi-dry state of 20 to 25% solids. No free water will be present and minimal odors are expected from the sludge storage. The stored sludge will then be landspread on local agricultural fields in accordance with established landspreading permits.

There will be no increase in steam demand or increase in potato production at the plant as a result of the waste digestion project, and no changes are being proposed to the Boiler #5 or process equipment or to their associated air emissions. No physical change is being proposed to Boiler #8, although more biogas will be available to direct to this boiler. The existing burner for Boiler #9 will be replaced with a new dual-fuel burner which will allow biogas to be burned in addition to fuel oil. Biogas will continue to be directed to the flare primarily when plant production is shutdown, as every effort will be made to burn as much biogas as possible in Boilers #8 and #9. The best projected long-term estimate of the amount of biogas to be generated by the proposed digester is 10 MMBtu/hr on an annual average basis. The additional 10 MMBtu/hr of biogas could be burned in either Boiler #8 or Boiler #9. This biogas will replace 10 MMBtu/hr generated from fuel oil combustion

Construction of the proposed project is expected to begin early next year, following issuance of the necessary permits. A concrete pad for the tank and building will be poured in the near future and construction of the tank would begin in the spring. The project is expected to be completed in July or August of 2012.

B. Best Available Control Technology

1. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent best practical treatment (BPT), as defined in 06-096 CMR 100 (as amended) of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT) as defined in 06-096 CMR 100 of the Air Regulations. BACT is a top down approach to selecting air emission controls considering economic, environmental and energy impacts. The following is a summary of the BPT/BACT analysis submitted in McCain's application dated September 2011. The Department has verified and agreed with the application's BACT analysis and findings.

2. Sludge Heater BACT

McCain operates the Sludge Heater to aid in the heating of the digester. The heater is rated at 2.66 MMBtu/hr and fires propane on start-up and mainly biogas when operating. The digester temperature will be maintained at 95°F by pre-heating the incoming potato slurry utilizing this direct-fired sludge heater. Sludge will be pumped through the heater, heated up, and then returned to the digester. The sludge heater will burn only biogas and propane. Emissions from this heater, with the exception of SO_2, will be equivalent to those for propane or natural gas combustion.

Due to the size of the unit, the heater is not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

The BACT emission limits for the sludge heater are based on the following:

PM/PM_{10}	–	0.05 lb/MMBtu based on Department particulate matter BPT guidance dated March 8, 2002; 0.1 lb/hr
SO_2	–	based on estimated concentration of H_2S in the biogas of 0.57%
NO_X	–	0.2 lb/1000 gallons based on AP-42, Section 1.5 Liquefied Petroleum Gas Combustion, propane used for start-up;
CO	–	0.1 lb/MMBtu, AP-42, Section 1.5, dated 5/10;

VOC – 1.0 lb/1000 gal, AP-42, Section 1.5, dated 5/10;
Opacity – Visible emissions from the heater shall not exceed 20% 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 proposed new sludge heater, which will fire biogas and propane, will not be subject to 40 CFR Part 63 Subpart JJJJJJ *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* because the heater is gas-fired, and gas-fired equipment is not subject to Subpart JJJJJJ. A gas-fired unit includes any unit that burns gaseous fuel, which is defined as "natural gas, process gas, landfill gas, coal derived gas, refinery gas, hydrogen, and biogas, and natural gas, as defined in the rule, includes propane.

3. Boilers #8 and #9 BPT/BACT

McCain was issued Air Emission License A-436-70-B-A on April 13, 2006 for the installation and operation of Boilers #8 and #9. A thorough BACT analysis was included for these units in that license. The BACT analysis assumed Boiler #9 would burn solely fuel oil and that Boiler #8 would burn both biogas and fuel oil. The two boilers were identical except that the burner for Boiler #8 was designed to burn the biogas in addition to fuel oil. McCain is now proposing to replace the burner for Boiler #9 so that this boiler will also be capable to burn biogas as well as fuel oil. This is the only physical change being proposed to the boilers. With this change, the two boilers will now be identical, therefore many of the findings in the previously conducted BACT analysis for these boilers is still appropriate.

The proposed waste digestion project will mean the substitution of additional #6 fuel oil with biogas in the two boilers. When Boiler #8 or Boiler #9 is fired with biogas in combination with fuel oil, SO_2 emissions may be higher than when this boiler is fired solely with fuel oil. For all other pollutants, emissions from this boiler will be the same or lower when firing a combination of biogas and fuel oil than when firing fuel oil alone. For these reasons, the detailed analysis, which can be found in McCain's September 2011 application submittal, addresses BACT for NO_x, PM, CO, and VOC for the boilers when firing residual fuel oil. The BACT analysis for SO_2 addresses combustion of biogas in combination with fuel oil in these boilers.

A thorough BPT/BACT analysis is provided in McCain's Minor Modification Application submitted September 2011. This BACT analysis is summarized below.

Particulate Matter Emissions

Particulate matter emissions are primarily generated from the entrainment of ash and soot in the flue gas. Control technologies to reduce particulate emissions (PM) typically involve on-the-stack collection devices such as electrostatic precipitators (ESP), scrubbers, and fabric filters. These post control devices were determined to be economically infeasible. BPT/BACT for PM from Boilers #8 and #9 will be the use of low sulfur (0.5% by weight) fuel oil and good combustion practices to meet an emission limit of 0.08 lb/MMBtu.

To meet BPT/BACT for visible emissions, McCain's Boilers #8 and #9 respective stacks will not exceed 20% opacity on a six (6) minute block average basis, except for one (1) six (6) minute block average period of not more than 27% opacity. Continuous Opacity Monitors (COMS) are operated to demonstrate compliance.

SO_2 Emissions

During the combustion process, sulfur dioxide (SO_2) is formed through the oxidation of sulfur contained in the fuel oil. For typical fuel oil combustion, more than 95% of the fuel sulfur is converted to SO_2. There are two general methods used to control SO_2 emissions from fuel oil combustion - limiting fuel sulfur content and post-combustion treatment of flue gases. Technologies including Wet Scrubbing, Flue Gas Desulfurization, Spray Drying, Furnace or Duct Injection, and Alternative Fuels, were determined not to be BACT based on economic or technological infeasibility.

As mentioned before, SO_2 emissions will be higher when a combination of biogas and fuel oil is fired in both Boilers #8 and #9 than when the boilers are fired solely on fuel oil. Since Boiler #9 could fire only fuel oil, the lb/hr SO_2 emissions limit (29.7 lb/hr) was less than for Boiler #8 (43.2 lb/hr). SO_2 emissions result from the conversion of H_2S in the biogas to SO_2 during combustion. Under normal operating conditions, biogas will supply about 20 percent of the heat input to the boilers (i.e. 10 MMBtu/hr). Post-combustion controls would be the same for biogas as for fuel oil and, as discussed these technologies were determined as economically infeasible. Also, some pre-combustion controls to remove H_2S from the biogas were evaluated, including a catalyst system, an H_2S purifier or iron sponge system (e.g. SulfaTreat system), the use of ferric chloride, and the Thiopaq process. These technologies were found not to be technologically or economically feasible for this project.

BPT/BACT for SO_2 will require the fuel oil to have a sulfur content of 0.5% by weight or less based on a 30-day rolling average. BPT/BACT will also require McCain to meet an SO_2 emission limit of 48.9 lb/hr for Boiler #8 and Boiler #9.

NOx Emissions

The formation of nitrogen oxide (NO_x) during combustion occurs through two mechanisms: the oxidation of nitrogen in the combustion air (thermal NO_x) and the oxidation of chemically bound nitrogen contained in the fuel (fuel NO_x). The quantity of NO_x formed is dependent upon the nitrogen content of the fuel, the temperature of the flame, the amount of air (oxygen) available, and the residence time of gases in the combustion zone.

BPT/BACT for NOx emissions included the review of several control technologies, including; Selective Catalytic Reduction, Ammonia injection, SCONOx technology, Low-NOx burners, Staged Air/Fuel, and Flue Gas Recirculation. For either technical or economic reasons, many of these control strategies were not considered BACT. The use of low NOx burners, staged air, and Flue Gas Recirculation, and a limit of 0.33 lb/MMBtu are considered BACT for NOx emissions. This previous determination is similar to the data found in the RACT/ BACT/LAER Clearinghouse and continues to represent BPT/BACT for NOx emissions from these boilers.

Carbon Monoxide and Volatile Organic Compounds

Emissions of carbon monoxide (CO) and volatile organic compounds (VOC) are primarily the result of incomplete combustion caused by low oxygen concentrations, low furnace temperatures, or short residence time. Boiler design features that increase fuel/air mixing, and provide uniform temperatures promote complete combustion of CO and organics. Control of CO and VOC emissions is achieved by providing sufficient oxygen in the secondary and tertiary zones in the combustion chamber to ensure maximum oxidation conditions in the boiler. BPT/BACT for the control of CO and VOC will be achieved through boiler design and good combustion practices to meet a CO emission limit of 4.0 lb/hour and VOC emission limit of 0.4 lb/hour.

Greenhouse Gases (GHG)

The principal GHGs are CO_2, methane (CH_4), and N_2O, and fuel combustion at McCain's Easton plant is the primary source of these GHGs. CO_2 emissions are by far the greatest proportion of the GHG emissions from Boiler #8, Boiler #9, and the sludge heater. The waste digestion project will result in the substitution

of biogas for #6 fuel oil combustion in Boilers #8 and #9. This substitution will result in a net reduction in CO_2 equivalents (from 7609 tpy to 5153 tpy).

Biogas is a biogenic GHG meaning that it is produced by organisms or biological processes. EPA recently proposed to delay for three years the application of PSD and Part 70 permitting requirements to CO_2 emissions from bio-energy and other biogenic stationary sources. EPA provided examples of biogenic CO_2 emissions that would be subject to the deferral which included CO_2 from biological decomposition of waste and landfills, wastewater treatment or manure management processes, and CO_2 from combustion of biogas collected from biological decomposition of waste and landfills or wastewater treatment. The purpose of the deferral is to provide EPA with additional time to review the scientific basis for excluding CO_2 emissions from biogenic fuels from permitting programs. BACT for GHGs from the proposed waste digestion project is combustion of the biogas itself.

BACT Summary for all criteria pollutants

Pollutant	Emission Limitation (each)	Control Technology
PM	0.08 lb/MMBtu	0.5 % sulfur fuel, good combustion
SO_2	48.94 lb/hr	0.5% sulfur fuel oil
NOx	0.33 lb/MMBtu	Low NOx Burners Staged Air Combustion Flue Gas Recirculation
CO	4.0 lb/hr	Boiler Design and Operation
VOC	0.40 lb/hr	Boiler Design and Operation

4. Periodic Monitoring

Periodic monitoring shall consist of record keeping which includes records of fuel use through purchase receipts indicating amounts (gallons) and analysis of fuel oil samples for percent sulfur by weight. McCain shall also track quantity in cubic feet per year of biogas (on a 12-month rolling total) to determine compliance with the future projected ton per year emissions after this modification.

C. 40 CFR Part 63, Subpart JJJJJJ

40 CFR Part 63, Subpart JJJJJJ establishes National Emission Standards for Hazardous Air Pollutants (NESHAPS) at area sources which include industrial, commercial, and institutional boilers. This rule is commonly referred to as the Area Source Boiler MACT. Boilers #8 and #9, as well as Boiler #5, at McCain's Easton facility are subject to this rule.

Although Boilers #8 and #9 burn biogas as well as fuel oil, they do not fit the gas-fired boiler category of Subpart JJJJJJ because they burn oil at times other than gas curtailment, gas supply emergencies, and periodic testing. Therefore, all three boilers fall within the oil subcategory of the rule.

Because the boilers were constructed prior to June 4, 2010, they are considered existing boilers. They are also considered large boilers because their maximum heat input capacities exceed 10 MMBtu/hr. As existing large boilers, they are required to conduct biennial performance tune-ups and to conduct a one-time energy assessment. The rule includes additional notifications, reporting, and record keeping, as well as a general duty to operate and maintain all subject equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions.

For informational purposes, a summary of the current applicable federal 40 CFR Part 63 Subpart JJJJJJ requirements is listed below. At this time, the Maine Department of Environmental Protection has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA, however McCain is still subject to the requirements. Notification forms and additional rule information can be found on the following website: http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance
An Initial Notification submittal to EPA was due on September 17, 2011. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program – Initial and Biennial

(a) A boiler tune-up program shall be implemented to include the tune-up of applicable boilers by March 21, 2012. [40 CFR Part 63.11196(a)(1)]

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

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; however, the burner must be inspected at least once every 36 months. [40 CFR Part 63.11223(b)(1)]

2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. [40 CFR Part 63.11223(b)(3)]
4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million (ppm), by volume, and oxygen in volume percent, before and after adjustments are made. [40 CFR Part 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of start-up. [40 CFR Part 63.11223(b)(7)

(c) A Notification of Compliance Status shall be submitted to EPA no later than 120 days after conducting the initial boiler tune-up. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

(d) The facility shall implement a biennial boiler tune-up program after the initial tune-up and initial compliance report has been submitted.

1. Each biennial tune-up shall be conducted no more than 25 months after the previous tune-up. [40 CFR Part 63.11223(a)]
2. The biennial report shall be maintained onsite and submitted to EPA, if requested. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The biennial compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

iii. Energy Assessment

(a) A one-time energy assessment shall be performed by a qualified energy assessor on the applicable boilers by March 21, 2014. [40 CFR Part 63.11196(a)(3)]

(b) The energy assessment shall include a visual inspection of the boiler system; an evaluation of operating characteristics of energy

using systems, operating and maintenance procedures, and unusual operating constraints; an inventory of major systems consuming energy from affected boiler(s); a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; a list of major energy conservation measures; a list of the energy savings potential of the energy conservation measures identified; and a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. [40 CFR Part 63, Table 2(4)]

(c) A Notification of Compliance Status shall be submitted to EPA no later than 120 days after conducting the energy assessment. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(c)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

D. Compliance Assurance Monitoring (CAM)

CAM monitoring focuses on emission units that rely on air pollution control equipment to achieve compliance. In general, an emission unit is subject to CAM if it is located at a major source, is subject to an emission limitation or standard, uses a control device to meet the standard or limit and has potential pre-control emissions of at least 100 percent of the major source amount. Boilers #8 and #9 are subject to the provisions of this regulation for NO_x. This regulation was applicable because there is an applicable NO_x emission limitation (i.e., 0.33 lb/MMBtu), a control device is used to achieve compliance (i.e., flue gas recirculation), and potential pre-control device emissions of NO_x exceed 100 tons/yr, the major source applicability threshold. EPA regulations and CAM guidance specify that low-NOx burners are not control devices, but FGR is considered a control device for the purpose of CAM applicability. No control devices other than FGR are used with Boilers #8 or #9. Because no control device is used to achieve compliance with

emission limits for any other pollutants, these boilers are subject to CAM only for NO_x. Boilers #8 and #9 will continue to be subject to CAM for NO_x following Boiler #9 burner modification and the installation of the waste digester. A CAM plan was previously prepared and licensed in A-436-70-B-A.

The proposed new sludge heater will not be subject to CAM because a control device will not be utilized to meet any standard or emission limit.

E. Licensed Annual Emissions

Due to the digester project and the emissions associated with this, McCain's "Facility-wide Total Annual Emissions (tons/year)" will need to be updated. The following table summarizes the revised potential annual facility-wide emissions (used to calculate the license fee) for the Easton plant following the inclusion of the digester project to the air emissions license:

Facility Emissions

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

Equipment	PM	PM_{10}	SO_2	NO_X	CO	VOC
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
Fryers	63.9	63.9	--	--	--	--
Dryers	41.2	41.2	--	--	--	--
Biogas Flare *	--	--	83.8	--	--	--
Fire Pump	0.1	0.1	0.1	1.1	0.2	0.1
Emrg diesel gen	0.1	0.1	0.1	1.8	0.4	0.1
TOTALS (TPY)	**199.6**	**189.6**	**667.6**	**315.6**	**204.5**	**47.4**

* The digester project emissions are in addition to emissions currently licensed for these units (Boilers #8, Boiler #9, and Biogas Flare). Compliance will be demonstrated by maintaining records of biogas, fuel oil, and propane combusted in these units. McCain shall meter each boiler and the sludge heater for biogas and the boilers for fuel oil. The amount of biogas flared will be calculated by summing the generation of biogas and subtracting the boiler and sludge heater usage.

III. AMBIENT AIR QUALITY ANALYSIS

McCain previously submitted an ambient air quality analysis for air emission license A-436-71-B-A (dated April 13, 2006) 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 minor modification.

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

The Department hereby grants New Source Review Air Emission License minor modification, A-436-77-2-A, subject to the conditions found in Air Emission License A-436-70-A-I and subsequent amendments, in addition to the following conditions:

The following Conditions are new to Air Emissions License A-436-70-A-I.

(1) McCain is licensed to install and operate an anaerobic digester that will process potato waste to generate biogas. [06-096 CMR 115, BACT]

(2) Sludge Heater

(a) McCain is licensed to install and operate a 2.66 MMBtu/hr sludge heater that can fire both propane and biogas. The calculated tons per year emissions from this unit will be included in the overall future projected actual emissions as a result of this minor modification. The facility shall maintain propane fuel records from the supplier showing type and quantity which shall be kept on a 12-month rolling total. [06-096 CMR 115, BACT]

(b) Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Sludge Heater	PM	0.05	06-096 CMR 115, BACT

(c) Emissions shall not exceed the following: [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)
Sludge Heater	0.1	0.1	3.0	0.4	0.3	0.1

(d) Visible emissions from sludge heater shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(3) As a result of the digester project, McCain shall not exceed the following actual emissions increases combined from Boiler #8, Boiler #9, and the new sludge heater on a 12-month rolling total basis over the next five and 10 year periods as described in 40 CFR Part 52 (21)(41):

Pollutant	Tons/year
PM	24.9
PM_{10}	14.9
$PM_{2.5}$	9.9
SO_2	39.9
NO_x	39.9
CO	99.9
VOC	39.9
CO_2e	74900

Compliance shall be demonstrated by maintaining records of the annual volume of biogas produced and fuel oil combusted on a twelve-month rolling total basis. McCain shall meter each boiler and the sludge heater individually for biogas use as well as the biogas generated from each source (the digester and covered anaerobic lagoon). The amount flared will be calculated by summing the generation of biogas and subtracting the boiler and sludge heater usage. [06-096 CMR 115, BACT]

(4) McCain shall flare all by-passed biogas from the new digester system and the dewatered sludge must be handled in accordance with Maine DEP Bureau of Remediation and Solid Waste requirements. The Department may require additional controls if odors become a significant issue.

The following Condition shall replace Condition (35) D. 3 of Air Emissions License Amendment, A-436-70-B-A.

(35) D. Boilers #8 and #9 shall each be limited to the following emissions: [06-096 CMR 115, BACT]

3. SO_2

Pollutant	Emission Rate
Boiler #8 SO_2	48.9 lb/hr
Boiler #9 SO_2	48.9 lb/hr

Compliance with lb/hr shall be based on stack tests upon Department request.

DONE AND DATED IN AUGUSTA, MAINE THIS 6th DAY OF January 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Melanie Loyzim for
PATRICIA W. AHO, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: September 12, 2011
Date of application acceptance: September 13, 2011

Date filed with Board of Environmental Protection: _____

This Order prepared by Edwin Cousins, Bureau of Air Quality

Filed
JAN 12 2012
State of Maine
Board of Environmental Protection