



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

McCain Foods USA, Inc.
Aroostook County
Easton, Maine
A-436-70-E-A

Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #1

FINDINGS OF FACT

After review of the Part 70 License 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 (Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	McCain Foods USA, Inc.
LICENSE TYPE	Part 70 Administrative Revision
NAICS CODES	311411
NATURE OF BUSINESS	Frozen Potato Products
FACILITY LOCATION	Richardson Rd, Easton, Maine

McCain Foods USA, Inc. (McCain) of Easton, Maine is licensed to operate emission sources associated with their potato processing facility.

McCain has requested a Part 70 Administrative Revision in order to update the Findings of Fact in their Part 70 license. Specifically, McCain has updated the assumed hydrogen sulfide (H₂S) concentration used to quantify sulfur dioxide (SO₂) emissions from the digester project installed pursuant to New Source Review (NSR) license A-436-77-2-A (1/6/12). These findings were also addressed in McCain NSR license amendment A-436-77-6-M (5/12/16).

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AUGUSTA, MAINE 04333-0017
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PORTLAND, MAINE 04103
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PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

B. Emission Equipment

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

Boilers & Flare

Equipment	Maximum Heat Input Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur	Manufacture Date	Stack #
Boiler #8	49.5 37.8 (biogas)	354 gal/hr 48,529 scf/hr 60,000 scf/hr	distillate fuel, 0.5% spec. waste oil, 0.5% vegetable oil natural gas biogas	2005	17
Boiler #9	49.5 37.8 (biogas)	354 gal/hr 48,529 scf/hr 60,000 scf/hr	distillate fuel, 0.5% spec. waste oil, 0.5% vegetable oil natural gas biogas	2005	18
Sludge Heater	2.7	29.1 gal/hr 4,222 scf/hr	propane biogas	2012	20
Biogas Flare	26.5	0.6 gal/hr 42,000 scf/hr	propane biogas	1998	N/A

Additional Equipment

Equipment	Pollution Control Equipment
Anaerobic Digester	biogas flare

C. Application Classification

A Part 70 Administrative Revision is for license changes that correct typographical errors; change the name, address, or phone number of any person or facility identified in the Part 70 license or a similar administrative change at the Part 70 source; or result in more frequent monitoring, reporting, recordkeeping or testing requirements.

The requested revision to update the basis of emission calculations meets the definition of a Part 70 Administrative Revision and has been processed under *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (as amended).

II. BEST PRACTICAL TREATMENT (BPT) AND EMISSION STANDARDS

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in 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. Revision Description

When the digester project was originally permitted in NSR license A-436-77-2-A, McCain accepted a limit on actual facility-wide emissions increases from the project in order to be classified as a minor modification. McCain is required to demonstrate that emissions as a result of the digester project do not exceed major modification thresholds in any 12-month period up until January 2022.

In NSR amendment A-436-77-5-A (4/24/15), McCain demonstrated that it is not physically possible to exceed major modification thresholds for any pollutant except SO₂. Therefore, McCain is only required to calculate and maintain records of emissions of SO₂ from the digester project.

McCain is required to demonstrate compliance with a 39.9 ton/year SO₂ limit on a 12-month rolling total basis utilizing the total amount of biogas produced by the digester and assuming all of the H₂S in the biogas is converted to SO₂ upon combustion. Currently, the H₂S content of the biogas used in the SO₂ emission calculations is assumed to be 0.57%. This H₂S concentration is based on data from McCain's Plover, Wisconsin facility.

In 1999 McCain installed a wastewater treatment system where biogas was produced and combusted at the facility. McCain needed to estimate the H₂S concentration of the biogas that would be produced. The only information available at the time was biogas testing from the Plover, Wisconsin plant. The equipment in Plover is a high rate anaerobic system. The wastewater treatment system in Easton is a slow rate anaerobic system. It was believed that a high rate system, such as Plover's, would produce biogas with a higher H₂S concentration

than a low rate system as installed in Easton. Therefore, an H₂S concentration of 0.57% was used as it was considered conservatively high.

When McCain installed the digester project in 2012, the same H₂S concentration was used for consistency as it was still considered conservatively high. However, McCain's digester project has been very successful and they continue to use more biogas to replace fossil fuels in their boilers. McCain's calculated SO₂ emissions are approaching the 39.9 ton/year limit for SO₂; therefore, McCain looked at refining the estimates used for calculating compliance.

McCain has performed H₂S testing on the biogas produced by their Easton facility. Three separate samples were taken in February and March of 2016. As expected, the H₂S content of the biogas was significantly lower than the estimates used from the Plover facility. H₂S concentrations ranged from 0.0263% to 0.0317%. Therefore, McCain was licensed in NSR license A-436-77-6-M (5/12/16) to use an H₂S concentration of 0.04% when calculating emissions of SO₂ for the digester project. Using this value still yields a conservatively high estimate of SO₂ emissions while greatly increasing the amount of biogas the facility can utilize.

This change does not require any changes to licensed annual emissions. Since the specific H₂S concentration used in calculating emissions is not addressed in the Order section of their Part 70 license, no changes are required to any license conditions. McCain has not requested any changes to short-term emission limits from any equipment which fires biogas.

C. Facility Annual Emissions

This amendment will not result in any change in licensed annual emissions.

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 Amendment A-436-70-E-A pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the conditions found in Air Emission License A-436-70-D-R/A.

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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.

DONE AND DATED IN AUGUSTA, MAINE THIS 9 DAY OF June, 2016.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Corne for
PAUL MERCER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-436-70-D-R/A.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/2/16

Date of application acceptance: 5/2/16

Date filed with the Board of Environmental Protection:

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

