

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

IN THE MATTER OF APPROVING  
OPERATION FOR  
MCCAIN FOODS, USA

)  
) Approval Order No. 19AQ-E056  
) PRELIMINARY DETERMINATION

TO: Edmund Wee, Vice President of Engineering  
McCain Foods, USA  
One Tower Lane  
Oakbrook Terrace, IL 60181

**Equipment evaluated in this Approval Order:**

Item	Line	Equipment	Manufacturer	Equipment Rating	Use Type or Controlled Equip.
1	1	Two Stage Fryer			Battered or Conventional
2	1	Steam-Heated Dryer			Battered or Conventional
3	1	Scrubber			Air Washer, Stage B of Two-Stage Fryer
4	2	Single Stage Fryer			Conventional
5	2	Steam-Heated Dryer			Conventional
6	2	Scrubber			Air Washer for Single-Stage Fryer
7	3	Single Stage Fryer			Co-product
8	3	Direct-Fired Dryer			Co-product
9	3	Wet ESP	Beltran BTP, 8x8		Line 3 Single-Stage Fryer, Line 1 Stage A of Two-Stage Fryer
10	1-3	Boiler 1		294.4 MMBtu/hr of heat input	Natural Gas
11	1-3	Boiler 2			Natural Gas
12	1-3	Air Make-Up Units	n/a		Natural Gas
13	4	Two-Stage Fryer			Battered and Conventional
14	4	Dryer			Battered and Conventional
15	4	Wet ESP			Line 4 Fryer and Dryer
16	4	Boiler 3	Cleaver Brooks, NB-300D-65	97.6 MMBtu/hr of heat input	Natural Gas / Biogas
17	4	Flare	Shand & Jurs, 97300T	850 scfm of Biogas	Biogas
18	4	Scrubber		98% DRE of H <sub>2</sub> S	Remove H <sub>2</sub> S from Biogas
19	4	28 Air Handling Units	n/a	65.35 MMBtu/hr of cumulative heat input	Natural Gas

**DETERMINATIONS**

In relation to the above equipment and the evaluation outlined in the Technical Support Document associated with this Order, the Department of Ecology, State of Washington, pursuant to RCW 70.94.152, WAC 173-400-110, and WAC 173-460-040, makes the following determinations:

- The proposed existing boilers, if operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and 173-460 WAC and the operation thereof, at the location proposed, will not result in ambient air quality standards being exceeded.
- The proposed facility, if operated as herein required, will provide all known, available, and reasonable methods of emission control.

**THEREFORE, IT IS ORDERED** that the project as described in the Notice of Construction application submitted to Ecology is approved for operation, provided the following conditions are satisfied.

**ADMINISTRATIVE**

- a. Upon issuance of this Approval, Order No's: DE95AQ-E125 1<sup>st</sup> Amendment and DE98AQ-E121 are rescinded and replaced by the terms and conditions of this Approval Order No. 19AQ-E056.

**APPROVAL CONDITIONS**

**1) OPERATING LIMITATIONS – Production Lines 1 thru 3**

- a) Production lines 1-3 has three potato product frying lines, and natural gas fired boilers, dryers, and air make-up units that collectively are rated at 294.4 million BTUs per hour heat input.
- b) The potato product frying lines are controlled by either a scrubber or a wet electrostatic precipitator (wet ESP).
- c) In order to limit particulate matter emissions to no more than 92 tons per calendar year, particulate matter emissions from the units described above shall be determined by the following calculational method:

*92 tons PM / calendar year*  $\geq$

$$\begin{aligned} & \left[ \frac{(Batter Pr oduct + Co - Pr oduct tons) * (0.062 lbs PM / ton of Batter or Co - Pr oduct)}{(2,000 lbs/ton)} \right] \\ & + \left[ \frac{(Batter Pr oduct tons) * (0.047 lbs PM / ton Batter to Fryer #1)}{(2,000 lbs/ton)} \right] \\ & + \left[ \frac{(Conventional Fryer #1 + #2 Pr oduct tons) * (0.0906 lbs PM / ton of Conventional)}{(2,000 lbs/ton)} \right] \\ & + \left[ \frac{(Batter + Co - product + Conventional Pr oduct tons) * (0.25 lbs PM / finished ton)}{(2,000 lbs/ton)} \right] \\ & + \left[ \frac{(MMft **3 Natural Gas) * (13.75 lbs PM / MMft **3 Natural Gas)}{(2,000 lbs/ton)} \right] \end{aligned}$$

- d)** McCain Foods USA, Inc. has requested that Ecology limit the above described fryers' production of finished product and the natural gas combustion units' use of natural gas for a potential to emit particulate matter and nitrogen oxide to a level agreed to by McCain Foods USA, Inc. and Ecology.
- e)** The scrubbers and the wet ESP shall be in operation whenever the fryer lines are in service.
- f)** In order to limit nitrogen oxide emissions to no more than 92 tons per calendar year, usage of natural gas for the units described above shall be limited to 1,314.28 million cubic feet per calendar year.
- g)** The amount of finished Batter, Co-product and Conventional product from the fryers and amount of product processed by the dryers shall be determined based upon production records. The quantity of natural gas used on an annual basis shall be calculated and reported based upon direct fuel meter and totalizer readings, or by purchase and inventory records using natural gas supplier documents. The quantity of finished product from the fryers and the quantity of natural gas used on an annual basis shall be reported within thirty days of the end of the calendar year.
- h)** The above caps are based upon calculational methods. The 92 ton per calendar year emission targets for particulate matter and nitrogen oxides were used for the caps to allow for an eight ton per calendar year buffer between the calculated emissions and the operating permit emissions threshold of 100 tons per calendar year for these pollutants. Adjustments to the caps that will exceed the respective 92 ton per year emission targets may be made by issuing another separate Order in accordance with WAC 173-400-091. Issuing another separate Order in accordance with WAC 173-400-091 may be done if more refined calculations or testing is conducted or justification is made that 100 tons per calendar year of either particulate matter or nitrogen oxides would not be exceeded. A Notice of Construction will not be required for this instance if this is the sole reason for requesting a change to the terms of this Order.
- i)** If the company determines they no longer want to limit emissions of particulate matter or nitrogen oxides below the 100 tons per calendar year threshold, they must submit an operating permit application in accordance with Chapter 173-401 WAC. Until an operating permit is issued, the company will continue to be bound by this Order.
- j)** Any application form, report, or compliance certification, including the annual production and consumption reports, submitted pursuant to this Order shall contain certification by a responsible official of truth, accuracy, and completeness. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- k)** The co-product fryer (item 7) has a maximum rate of 10,000 pounds of finished product per hour.
- l)** The batter fryer (item 1) has a maximum rate of 50,000 pounds of finished product per hour.
- m)** Annual production throughput for the co-product fryer (item 7) shall be limited to no more than 87.6 million pounds of finished product per calendar year.
- n)** Annual production throughput for the batter fryer (item 1) shall be limited to no more than 438 million pounds of finished product per calendar year.

- o) The production line throughputs in APPROVAL CONDITIONS 1(m) and 1(n) shall not be exceeded until a new NOC application is submitted to, and approved by Ecology.

**2) OPERATING LIMITATIONS – Production Line 4**

- a) The production capacity of Line 4 is limited to 59,300 pounds of finished product per hour or 519.21 million pounds per year.
- b) Boiler 3 (item 16) approved under this order shall combust only pipeline quality Natural Gas.
- c) The annual Natural Gas usage for Boiler 3 (item 16) shall be limited to 838.3 million standard cubic feet per year, or 855,000 MMBtu per year.
- d) The steam production is limited to 701 million pounds per hour for a 12 month rolling period.
- e) Records of natural gas usage shall be kept as per Approval Condition 8.
- f) The Flare shall be operated to assure:
  - i) An operating temperature at all times of at least 1400 degrees Fahrenheit (°F)
  - ii) A residence time of at least 0.30 seconds.
  - iii) No flame is visible above the top of the flare bonnet.
  - iv) Only propane shall be used as supplemental fuel.
- g) McCain Foods shall install a Sulfur Scrubber downstream of the boiler (Boiler #3) exhaust and flare before initial commissioning of the boiler and flare to reduce H<sub>2</sub>S emissions.
- h) The wet ESP shall be operated at all times to control VOC and PM emissions from the two-stage fryer and dryer.
- i) The Anaerobic Digester shall not be discharged to the ambient air:
  - i) Without combustion through the Boiler #3 or the Flare, when discharges are preventable by reasonable methods.
  - ii) Without H<sub>2</sub>S removal, when such discharges are preventable by reasonable methods.
- j) Odors emanating from the project shall be minimized through the use of recognized good practice and procedures.

**3) EMISSION LIMITATIONS – Production Lines 1 thru 3**

- a) Operation of the steam-heated co-product fryer (item 7 in equipment list), the existing batter fryer (item 1 in equipment list) and associated wet ESP with pre-quench (item 9 in equipment list) section has the potential for emitting the following criteria air pollutants, based on 24 hr/day, 7 day/week, 12 month/year operation: Particulate Matter (PM) - 8.76 tons per year.
- b) The co-product fryer (item 7) is heated via an existing steam-heat source, hence there are no new combustion emissions related to heating the fryer.
- c) Opacity for the Wet ESP (item 9) shall be no more than 10 percent, averaged over a six-minute period, measured using EPA Reference Method 9.
- d) PM for the Wet ESP (item 9) shall not exceed 0.0262 grains per dry standard cubic foot (filterable + condensable portions), using EPA Reference Method 5 for filterable and Reference Method 202 for condensable.

**4) EMISSION LIMITATIONS – Production Line 4**

- a) The natural gas for the 28 HVAC units (item 19) that have been added for Line 4 is limited to a combined 65.35 MMBtu/hr or 573,000 MMBtu/yr.
- b) The Line 4 wet ESP that controls emissions for the two-stage Fryer and Dryer exhaust shall not exceed the following pollutant concentration mass emission limits:
  - i) Volatile Organic Compounds (VOCs) shall not exceed 12.3 pounds per hour.

- ii) Particulate emissions shall not exceed 0.01 grains per dry standard cubic foot corrected to 7 percent O<sub>2</sub> or 1.22 pounds per hour.
- iii) Opacity: five percent, averaged over a six-minute interval, measured using EPA Reference Method 9.
- c) The Flare shall only combust Biogas from the Anaerobic Digester that is not fed to the Line 4 Boiler (Boiler #3), or Propane when the Biogas is insufficient to maintain a flame. The exhaust shall not exceed the following pollutant concentrations, mass emission limits, and visual emission limits:
  - i) NO<sub>x</sub>: 1.25 lb/hr, 3.99 ton/yr measured using EPA Reference Method 7E.
  - ii) CO: 1.48 lb/hr, 4.70 ton/yr measured using EPA Reference Method 10.
  - iii) Particulate emissions shall not exceed 0.01 grains per dry standard cubic foot corrected to 7 percent O<sub>2</sub> or 0.48 pounds per hour.
  - iv) Volatile Organic Compounds (VOCs) from the burner shall not exceed 0.17 pounds per hour.
  - v) Sulfur Oxide (SO<sub>x</sub>) emissions from the burner shall not exceed 1.78 pounds per hour.
  - vi) Opacity: five percent, averaged over a six-minute interval, measured using EPA Reference Method 9.
- d) The Sulfur Scrubber shall maintain a 98% Destruction Removal Efficiency (D.R.E.) of H<sub>2</sub>S after scrubber treatment. Source testing under Washington Administration Code (WAC) 173-400-105(4) may be required at Ecology's discretion to verify Scrubber DRE.
- e) The 97.6 MMBTU/hr Cleaver Brooks boiler exhaust shall not exceed the following pollutant concentrations, mass emission limits, and visual emission limits:
  - i) NO<sub>x</sub>: 30 ppmvd @ three percent O<sub>2</sub>, 3.56 lb/hr, 15.57 ton/yr measured using EPA Reference Method 7E.
  - ii) CO: 50 ppmvd @ three percent O<sub>2</sub>, 3.60 lb/hr, 15.78 ton/yr measured using EPA Reference Method 10.
  - iii) Particulate emissions from the burner shall not exceed 0.01 grains per dry standard cubic foot corrected to 7 percent O<sub>2</sub> or 0.73 pounds per hour.
  - iv) Volatile Organic Compounds (VOCs) from the burner shall not exceed 0.53 pounds per hour.
  - v) Sulfur Oxide (SO<sub>x</sub>) emissions from the burner shall not exceed 0.04 pounds per hour.
  - vi) Opacity: five percent, averaged over a six-minute interval, measured using EPA Reference Method 9.
  - vii) The Biogas that is fed to the boiler during dual fire a scenario is limited to 850 standard cubic feet per minute, or 325 million standard cubic feet per year.
- f) There shall be no visible emissions from the boiler, flare, or otherwise generated by the source, at or beyond the property boundary.

## 5) COMPLIANCE TESTING

- a) Periodic combustion analysis of Boiler #3 (item 16) to maintain operational efficiency may be substituted for stack testing. Nitrogen oxides and carbon monoxide combustion analysis measurements, and operational rate in percentage during measurement, shall be submitted whenever Ecology requests information for emission inventory. Source testing under Washington Administration Code (WAC) 173-400-105(4) may be required at Ecology's discretion to verify boiler emission rates.

**6) OPERATION and MAINTENANCE (O&M) MANUAL**

- a) A site-specific O&M manual for all equipment that has the potential to affect emissions to the atmosphere shall be developed and followed. The information generated and collected for the newly installed equipment (items 14 thru 19) shall be developed with 90 days of acceptance of this Approval Order. Manufacturers' instructions may be referenced. The O&M manual shall be updated to reflect any modifications of the plant or operating procedures. Emissions that result from failure to follow the requirements of the O&M manual or manufacturer's instructions may be considered proof that the equipment was not properly operated, maintained and tested. The O&M manual shall at a minimum include:
  - i) Normal operating parameters for the pre-quench section and the wet ESP
  - ii) A maintenance schedule for the pre-quench section and the wet ESP
  - iii) Monitoring and record keeping requirements for the pre-quench section and the wet ESP
  - iv) A description of the monitoring procedures for the pre-quench section and the wet ESP and actions for abnormal pre-quench and wet ESP control system operation

**7) NOTIFICATIONS and SUBMITTALS**

- a) Notification of Performance Testing
  - i) The permittee shall provide written notification to Ecology of their intent to conduct any performance test at least 30 days before such test is scheduled to begin.
- b) Submittal of Performance Test Plan
  - i) A written test plan, including a description of the method(s) proposed, shall be submitted for approval to Ecology at least 30 calendar days prior to the start of any performance test.
- c) Notification of Inability to Conduct Performance Test
  - i) In the event the permittee is unable to conduct any performance test as scheduled, Ecology shall be notified at least 24 hours before the test at the above address or via telephone at (509) 456-2926.
- d) Notifications and submittals shall be sent to:  
**Washington State Department of Ecology**  
**Air Quality Program**  
**4601 N. Monroe Street**  
**Spokane, WA 99205-1295**

Reports may also be submitted electronically to: [emissions.inventory@ecy.wa.gov](mailto:emissions.inventory@ecy.wa.gov)

**8) MONITORING and RECORDKEEPING**

- a) Specific records shall be kept on-site by the permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period. The records to be kept shall include the following:

- i) **Occurrence and duration of any malfunction** in the operation of the boilers that caused a violation of this Order. The record shall include date, time, duration and/or cause, as applicable.
- ii) **Boiler fuel consumption** for the three boilers for each calendar year. Records shall show monthly fuel usage, monthly operating hours, and total annual fuel usage and operating hours of each boiler. This recordkeeping may be done for each boiler separately, or by plant wide natural gas usage.
- iii) **Boiler hours of operation** for each boiler shall be recorded monthly, and totaled each calendar year.
- iv) **Combustion analysis reports.**
- v) **Occurrence and duration of any malfunction** in the operation of either the pre-quench section or the wet ESP. The record shall include date, time, duration and/or cause, as applicable.
- vi) **Production throughput of finished product by type and quantity** each for the co-product fryer (item 7) and the batter fryer (item 1) on a calendar year basis.
- vii) A file of initial and any periodic **performance testing results.**
- viii) **O&M manual and maintenance records.**
- ix) **Flare fuel consumption** for propane as well as the Biogas that is not being fed to the boiler.

## 9) REPORTING

- a) McCain Foods is required to submit annual emissions information to Ecology by January 30 for the previous calendar year when requested, including the following:
  - i) **Combined annual natural gas consumption** for the boilers.
  - ii) **Annual hours of operation** for each boiler.
  - iii) The **occurrence and duration of any malfunction** per the recordkeeping shall be sent to the above address no later than 30-days following such event.
  - iv) **Production throughput of finished product by type and quantity** per the recordkeeping shall be sent to the above address no later than 30-days following the end of the calendar year.
  - v) **Estimated PM and VOC air pollutant emissions** from the exhaust of the wet ESP for the given calendar year shall be sent to the above address no later than 30 days following the end of the calendar year.
  - vi) The results of all **initial performance and any subsequent periodic testing** shall be sent to the above address no later than 60-days following such testing.

## 10) GENERAL CONDITIONS

- a. **Visible Emissions** – No visible emissions shall be allowed beyond the property line, as determined by opacity readings.
- b. **Commencing/Discontinuing Construction and/or Operations** – This Approval Order shall become void if construction of all modifications are not commenced within 18 months following the date of this Approval Order, or if construction or operation of any emission unit at the facility is discontinued for a period of 18 months.
- c. **Compliance Assurance Access** – Access to the source by EPA or Ecology shall be allowed for the purposes of compliance assurance inspections. Failure to allow access is grounds for revocation of this Approval Order and enforcement under applicable regulations.

- d. **Approval Order Availability** – Legible copies of this Approval Order shall be available to employees directly involved in facility operations, and shall be available for review upon request by Ecology.
- e. **Equipment Operation** – Facility operations shall be conducted in compliance with all data and specifications submitted as part of the NOC application, and in accordance with the O&M manual.
- f. **Modifications:** – Any modification to the project, contrary to information in the NOC application, shall be reported to Ecology at least 60 days before such modification. Such modifications may require a new or amended NOC Approval Order.
- g. **Activities Inconsistent with this Approval Order** – Any activity undertaken by the permittee or others, in a manner that is inconsistent with information in the NOC application or this Approval Order, shall be subject to Ecology enforcement under applicable regulations.
- h. **Obligations under Other Laws or Regulations** – This Approval Order shall not be construed to relieve the permittee of its obligations under any local, state or federal laws or regulations.

Authorization may be modified, suspended, or revoked in whole or part for cause including, but not limited to, the following:

- i. Violation of any terms or conditions of this authorization.
- ii. Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

All plans, specifications, and other information submitted to the Department of Ecology relative to this project and further documents and any further authorizations or approvals or denials in relation thereto shall be kept at Ecology's Eastern Regional Office in the "Air Quality Controlled Sources" files and by such action shall be incorporated herein and made a part hereof.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

## **YOUR RIGHT TO APPEAL**

You have a right to appeal this Approval Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Approval Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of this Approval Order:

- File your appeal and a copy of this Approval Order with the PCHB (See address provided). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Approval Order on Ecology in paper form - by mail or in person. (See address provided.) E-mail is not accepted.



You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

**ADDRESS AND LOCATION INFORMATION**

Street Addresses	Mailing Addresses
<b>Department of Ecology</b> Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	<b>Department of Ecology</b> Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
<b>Pollution Control Hearings Board</b> 1111 Israel RD SW, STE 301 Tumwater, WA 98501	<b>Pollution Control Hearings Board</b> PO Box 40903 Olympia, WA 98504-0903

*For additional information, visit the Environmental Hearings Office Website: <http://www.eho.wa.gov>  
To find laws and agency rules visit the Washington State Legislature Website:  
<http://www1.leg.wa.gov/CodeRevise>*

DATED at Spokane, Washington this **X<sup>th</sup>** day of **MONTH**, 2019.

PREPARED BY:

APPROVED BY:

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