STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Ingredion Incorporated **Aroostook County** **Fort Fairfield, Maine** **A-817-71-G-R/M**	**Departmental** **Findings of Fact and Order** **Air Emission License** **Renewal and Amendment**

FINDINGS OF FACT

After review of the air emission license renewal application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Ingredion Incorporated (Ingredion) has applied to renew their Air Emission License for the operation of emission sources associated with their starch manufacturing facility.

The equipment addressed in this license is located at 145 Presque Isle Street, Fort Fairfield Maine.

Ingredion has requested a minor revision to their license in order to make the following changes:

1. Remove Boilers #1 and #2 from the license; and
2. Remove Starch Dryers #2 and #3 and their associated components.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Direct-Fire Furnace 1	12	131 gal/hr	Propane	2013	2014	#1
*Boiler #1**	*25.1*	*179.5 gal/hr*	*Distillate Fuel*		*2001*	*#1*
*Boiler #2**	*25.1*	*179.5 gal/hr*	*Distillate Fuel*		*2001*	*#1*

* Removed from license.

Process Equipment

Equipment	Production Rate	Pollution Control Equipment	Stack #
Starch Dryer #1	4.5 ton/hr	Cyclone, Scrubber	#1
*Starch Dryer #2**	*3.09 tons/hr*	*Cyclone, Scrubber*	
*Starch Dryer #3**	*1.1 tons/hr*	*Cyclone, Scrubber*	

* Removed from license.

C. Definition

Records or *Logs* mean either hardcopy or electronic records.

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

The application for Ingredion does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units and a minor revision to remove equipment and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115.

E. Facility Classification

The facility is licensed as follows:

- As a natural minor source of criteria pollutants, because no license restrictions are necessary to keep facility emissions below major source thresholds for criteria pollutants; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

II. BEST PRACTICAL TREATMENT (BPT)

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 *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

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 emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Facility Description

Ingredion's facility in Fort Fairfield produces food grade potato starch. The raw starch is sourced from local potato processing plants at 40% moisture. The starch is then turned into slurry, treated, and cleaned. The starch is then dried to a lower moisture content and packaged into 2,000-lb sacks and 50-lb bags and distributed to consumers.

C. Direct-Fire Furnace 1

Ingredion operates Direct-Fire Furnace 1 for process heat. The furnace is rated at 12 MMBtu/hr and fires propane. Direct-Fire Furnace 1 was installed in 2014 and exhausts through Stack #1.

1. BPT Findings
The BPT emission limits for Direct-Fire Furnace 1 were based on the following:

$PM/PM_{10}/PM_{2.5}$	–	0.05 lb/MMBtu from 06-096 C.M.R ch. 115, BPT
SO_2	–	0.054 lb/1,000 gal based on AP-42 Table 1.5-1 dated 5/25
NO_x	–	13 lb/1,000 gal based on AP-42 Table 1.5-1 dated 5/25
CO	–	7.5 lb/1,000 gal based on AP-42 Table 1.5-1 dated 5/25
VOC	–	1.0 lb/1,000 gal based on AP-42 Table 1.5-1 dated 5/10
Visible Emissions	–	06-096 C.M.R. ch. 101

The BPT emission limits for Direct-Fire Furnace 1 are the following:

Unit	Pollutant	lb/MMBtu
Direct-Fire Furnace 1	PM	0.05

Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Direct-Fire Furnace 1	0.60	0.60	0.60	0.01	1.70	0.98	0.13

2. Visible Emissions

The Direct-Fire Furnace 1 exhausts through Starch Dryer #1. Visible emissions form the dryer cyclone, and scrubber shall be limited to 10% opacity based on a 6-minute average.

3. Periodic Monitoring

   Periodic monitoring for Direct-Fire Furnace 1 shall include recordkeeping to document fuel use both on a monthly and calendar year total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

4. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

   Direct-Fire Furnace 1 is not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. As defined in 40 C.F.R. Part 60, Subpart Dc, 'steam generating unit' is "a device that combusts any fuel and produces steam or heats water or heats and heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart," 'Process heaters' are defined as "a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst." As operated, Direct-Fire Furnace 1 is not part of a combined cycle system that provides exhaust gas to a steam generating unit. [40 C.F.R. § 60.40c]

5. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJJ

   Direct-Fire Furnace 1 is not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ. Direct-Fire Furnace 1 does not heat water or steam, and hence does not meet the definition for a boiler; therefore it is exempt from the requirements of this regulation. [40 C.F.R. §§ 63.11195(e)]

D. Starch Dryer #1

Starch Dryer #1 is a flash dryer with a maximum raw starch processing rate of 4.5 tons/hr. Expected emissions from this process are primarily particulate matter. The unit was installed in 2001 and is controlled by a cyclone and scrubber unit.

The starch process also includes use of sodium hypochlorite (NaOCl) as a 12.5% solution, sodium hydroxide (NaOH) as a 25% solution, hydrochloric acid (HCl) as a 31% solution, and sodium chlorite ($NaClO_2$) as a 25% solution. Ingredion keeps an inventory of these compounds, none of which are listed by EPA as hazardous air pollutants.

1. BPT Findings

   The cyclone is rated at 95% efficiency for removal of the starch particulate from the gas stream and the scrubber is rated at 99.95% efficiency.

Calculated particulate matter emissions from Starch Dryer #1 were based on the following: maximum raw material process rate of 4.5 tons/hr, which equates to 9,000 lbs/hr, cyclone efficiency of 95%, resulting in 450 lb/hr of starch that reaches the scrubber; a scrubber removal efficiency of 99.95%. Resulting starch emissions exiting the scrubber are estimated to be 0.23 lb/hr.

BPT for Starch Dryer #1 is the use of a cyclone and scrubber unit and the following emission limit:

Unit	Pollutant	lb/hr
Starch Dryer #1	PM	0.23

Visible emissions from the dryer cyclone and scrubber unit shall not exceed 10% opacity, based on a six-minute average.

2. Recordkeeping

Ingredion shall keep a maintenance record for the starch dryer system to document all routine and non-routine maintenance activities and dryer, cyclone, or scrubber malfunctions. Recordkeeping for maintenance activities shall include the date and maintenance performed. Recordkeeping for malfunctions shall include the date, reason for the malfunction, and explanation of any corrective actions taken (if applicable), including the date and time of when the malfunction was resolved. [06-096 C.M.R ch. 115, BPT]

E. General Process Emissions

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis.

F. Fugitive Emissions

Ingredion shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

Ingredion shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

G. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e., emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- The Starch Dryer #1 system operates the cyclone separator at 95% efficiency, and the scrubber unit at 99.95% efficiency; and
- The Direct-Fire Furnace 1 operates for 8,760 hr/yr.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

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

	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC
Direct-Fire Furnace 1	2.6	2.6	2.6	0.03	7.5	4.3	0.6
Starch Dryer #1	1.0	1.0	1.0	--	--	--	--
Total TPY	**3.6**	**3.6**	**3.6**	**0.1**	**7.5**	**4.3**	**0.6**

Pollutant	Tons/year
Single HAP	7.9
Total HAP	19.9

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by-case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM_{10}	25
$PM_{2.5}$	15
SO_2	50
NO_x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

This determination is based on information provided by the applicant regarding licensed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require Ingredion to submit additional information and may require an ambient air quality impact analysis at that time.

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

The Department hereby grants Air Emission License A-817-71-G-R/M subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof 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.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).

(2) The licensee shall acquire a new or amended air emission license prior to beginning actual construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension

upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115] Payment of the annual air emission license fee for Ingredion is due by the end of November of each year. [38 M.R.S. § 353-A(3)]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:

A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff

inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

2. Pursuant to any other requirement of this license to perform stack testing.

B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. Submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 C.M.R. ch. 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 C.M.R. ch. 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next

state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]

(16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) **Direct-Fire Furnace 1**

A. Ingredion is licensed to firer propane in Direct-Fire Furnace 1. [06-096 C.M.R. ch 115, BPT]

B. Emissions from Direct-Fire Furnace 1 shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Direct-Fire Furnace 1	PM	0.05	06-096 C.M.R. ch. 115, BPT

C. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	$PM_{2.5}$ (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Direct-Fire Furnace 1	0.60	0.60	0.60	0.01	1.70	0.98	0.13

D. The Direct-Fire Furnace 1 shall exhaust through the Starch Dryer #1. [06-096 C.M.R ch. 115, BPT]

(18) **Starch Dryer #1**

A. Emissions from Starch Dryer #1 shall be controlled by the use of a cyclone and scrubber unit. [06-096 C.M.R ch. 115, BPT]

B. Emissions from the starch dryer system, consisting of the dryer, cyclone and scrubber, shall not exceed the following [06-096 C.M.R ch. 115, BPT]:

Unit	Pollutant	lb/hr
Starch Dryer #1	PM	0.23

C. Visible emissions from the dryer system shall be limited to 10% opacity, based on a six-minute average. [06-096 C.M.R ch. 115, BPT]

D. Ingredion shall keep a maintenance record for the starch dryer system to document all routine and non-routine maintenance activities and dryer, cyclone or scrubber malfunctions. Recordkeeping for maintenance activities shall include the date and maintenance performed. Recordkeeping for the malfunctions shall include the date, reason for the malfunction, and explanation of any corrective actions taken (if applicable), including the date and time of when the malfunction was resolved. [06-096 C.M.R ch. 115, BPT]

(19) **General Process Sources**

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(B)(4)]

(20) **Fugitive Emissions**

A. Ingredion shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

B. Ingredion shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

[06-096 C.M.R. ch. 101, § 4(C)]

(21) If the Department determines that any parameter value pertaining to construction and operation of the emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, Ingredion may be required to submit additional information. Upon written request from the Department, Ingredion shall provide information necessary to demonstrate AAQS will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure

compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter. [06-096 C.M.R. ch. 115, § 2(O)]

DONE AND DATED IN AUGUSTA, MAINE THIS 23rd DAY OF JANUARY, 2026.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for _____
MELANIE LOYZIM, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 7/31/2023
Date of application acceptance: 8/1/2023

This Order prepared by Jack Doran, Bureau of Air Quality.