

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY  
AIR QUALITY DIVISION**

June 16, 2022

**PERMIT TO INSTALL**

81-22

**ISSUED TO**

Darling Ingredients, Inc.

**LOCATED AT**

600 Jay Street  
Coldwater, Michigan 49036

**IN THE COUNTY OF**

Branch

**STATE REGISTRATION NUMBER**

B1526

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>February 28, 2022</b>	
DATE PERMIT TO INSTALL APPROVED: <b>June 16, 2022</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

## PERMIT TO INSTALL

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## COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

## POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H <sub>2</sub> S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO <sub>x</sub>	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO <sub>2</sub>	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

## GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

## EMISSION UNIT SPECIAL CONDITIONS

### EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUBOILER1	A Nebraska boiler rated capacity of 72.9 MMBTU/hr, used to provide steam to the animal by-product processing facility.	1/2/2007	FGBOILERS
EUBOILER2	A Babcock & Wilcox boiler rated capacity of 78.1 MMBtu/hr, used to provide steam to the animal by-product processing facility.	1/2/1973	FGBOILERS
EUBOILER3	A Victory Energy boiler rated capacity of 89.83 MMBTU/hr with flue gas recirculation, used to provide steam to the animal by-product processing facility.	TBD	NA
EUTEMPBOILER	A temporary boiler with a rated capacity less than 78.1 MMBTU/hr, used to provide steam to the animal by-product processing facility during the installation of EUBOILER3.	TBD	NA
EUSCRUBBER	75,000 CFM scrubber for general room exhaust odor control from EURENDERING1 and EURENDERING2.	1/2/1994	FGRENDERING
EUTO	20.4 MMBtu/hr thermal oxidizer with heat recovery boiler for controlling odors from EURENDERING1 and EURENDERING2.	1/22/1996	FGRENDERING
EURENDERING1	Rendering process line 1 - animal by-products (red meat) consisting of a grinder, cooker, and condenser. Emissions and odors are controlled by a venturi scrubber followed by a thermal oxidizer (EUTO). A 75,000 cfm wet scrubber (EUSCRUBBER) provides backup control in the event of a failure/malfunction of the EUTO.	1/2/1994	FGRENDERING
EURENDERING2	Rendering process line 2 - animal by-products (red meat) consisting of a grinder, cooker, and condenser. Emissions and odors are controlled by a venturi scrubber followed by a thermal oxidizer (EUTO). A 75,000 cfm wet scrubber (EUSCRUBBER) provides backup control in the event of a failure/malfunction of the EUTO.	1/2/1994	FGRENDERING
EUDRYER	Blood receiving process for blood drying, consisting of a coagulator, centrifuge, ring dryer, and cyclone separator. The process is controlled by a baghouse, and a venturi scrubber followed by two 18,000 cfm packed tower scrubbers in series.	1/2/1994	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

**EUDRYER  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Blood receiving process for blood drying, consisting of a coagulator, centrifuge, ring dryer, and cyclone separator. The process is controlled by a baghouse, and a venturi scrubber followed by two 18,000 cfm packed tower scrubbers in series.

**Flexible Group ID:** FGFUELS

**POLLUTION CONTROL EQUIPMENT**

SV008 - Baghouse  
 SV007 - Venturi scrubber and two 18,000 cfm packed tower scrubbers

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. PM	0.10 lb/1000 lb exhaust gas on a dry gas basis	hourly	EUDRYER	SC V.1	R 336.1331

**II. MATERIAL LIMIT(S)**

NA

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EUDRYER unless the baghouse, venturi scrubber followed by two (2) packed tower scrubbers in series, are installed, maintained, and operated in a satisfactory manner.<sup>1</sup> **(R 336.1301, R 336.1331, R 336.1901, R 336.1910)**

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall equip and maintain the venturi/packed tower scrubber system for EUDRYER with pressure gauges for indicating total pressure drop across the venturi and packed tower scrubbers and flow meters for measuring the liquid flow rates to the venturi scrubber and the spray nozzles of the packed towers.<sup>1</sup> **(R 336.1901, R 336.1910)**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Upon request of the AQD District Supervisor, the permittee shall verify PM emission rates from EUDRYER, by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in:

<b>Pollutant</b>	<b>Test Method Reference</b>
PM	40 CFR Part 60, Appendix A; Part 10 of the Michigan Air Pollution Control Rules

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.2001, R 336.2003, R 336.2004)

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep, in a satisfactory manner, records of the pH reading of the recycled scrubber solution for the venturi/packed tower scrubber system, once every eight hours of operation. All records shall be kept on file for a period of at least five years and made available to the Department upon request.<sup>1</sup> (R 336.1901, R 336.1910)

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV007 (tower scrubbers)	NA	40 <sup>1</sup>	R 336.1901
2. SV008 (Baghouse)	NA	35 <sup>1</sup>	R 336.1901

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

## EUBOILER3 EMISSION UNIT CONDITIONS

**DESCRIPTION**

A Victory Energy boiler rated capacity of 89.83 MMBTU/hr with flue gas recirculation, used to provide steam to the animal by-product processing facility.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

Flue gas recirculation to control NOx emissions.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO <sub>x</sub>	2.87 pph, while burning natural gas	Hourly	EUBOILER3	SC V.1, SC VI.4	R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 52.21(c) & (d)
2. Visible Emissions	20 percent opacity <sup>A</sup> , while burning No.2 fuel oil	6-minute average	EUBOILER3	SC V.2, SC VI.3, SC VI.4	R 336.1301, 40 CFR 60.43c(c)

<sup>A</sup> Except for one 6-minute period per hour of not more than 27 percent opacity.

**II. MATERIAL LIMITS**

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Sulfur content of No. 2 fuel oil	500 ppm (0.05 percent) by weight <sup>A</sup>	At all times	EUBOILER3	SC VI.4(c)	R 336.1205(1)(a) & (3)

<sup>A</sup> The sulfur content limit in 40 CFR 60.42c(d) is 0.50 weight percent sulfur. SC II.1 subsumes the NSPS requirement.

2. The permittee shall burn only natural gas, No. 2 fuel oil, yellow grease, or tallow in EUBOILER3, as allowed in SC III.1. **(R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d), 40 CFR 60 Subpart Dc, 40 CFR 63.11195(e))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not burn liquid fuel in EUBOILER3 except during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. This condition is necessary to avoid the requirements of 40 CFR 63 Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources. **(40 CFR 63 Subpart JJJJJJ, 40 CFR 63.11195(e))**

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The maximum design heat input capacity for EUBOILER3 shall not exceed 89.83 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (3), 40 CFR Part 60 Subpart Dc)**

2. The permittee shall not operate EUBOILER3 unless the dry low NO<sub>x</sub> burners and/or flue gas recirculation system are installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (3), R 336.1910, 40 CFR 52.21(c) & (d))**
3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the fuel usage rate for EUBOILER3 on a continuous basis. **(R 336.1205(1)(a) & (3))**

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of initial startup, the permittee shall verify NO<sub>x</sub> emission rates, from EUBOILER3, at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. Thereafter, testing shall be performed at the request of the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

<b>Pollutant</b>	<b>Test Method Reference</b>
NO <sub>x</sub>	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1702, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

2. Within 60 days after achieving the maximum production rate, but not later than 180 days after commencement of initial startup, the permittee shall evaluate visible emissions from EUBOILER3, as required by federal Standards of Performance for New Stationary Sources, at owner's expense, in accordance 40 CFR Part 60 Subparts A and Dc. Method 9 of appendix A-4 of 40 CFR Part 60 shall be used for determining the opacity of stack emissions. Per 40 CFR 60.47c(a), the observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation. No less than 30 days prior to testing, the permittee shall submit a complete plan of visible emission observation procedures to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1301, 40 CFR 60.43c(c), 40 CFR 60.45c(a)(8), 40 CFR 60.47c(a))**

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, 40 CFR 52.21(c) & (d), 40 CFR 60 Subpart Dc)**
2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the types and amounts of fuels burned in EUBOILER3 on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, 40 CFR 52.21(c) & (d), 40 CFR 60.47c(a), 40 CFR 60.48c(g))**
3. While burning No. 2 fuel oil, the permittee shall demonstrate ongoing compliance with the opacity limitation in SC I.2, after the initial performance test required under SC V.2, the permittee shall comply with the applicable

requirements in either paragraphs (a)(1), (a)(2), or (a)(3) of 40 CFR 60.47c. **(40 CFR 60.43c(c), 40 CFR 60.47c(a))**

4. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
  - a) Reports and results from compliance tests and any testing and visible emissions observations required under SC V.1, V.2, and VI.3.
  - b) Monitoring data.
  - c) Total sulfur content of the No. 2 fuel oil in the form of certification from the fuel supplier, as described under 40 CFR 60.48c(f)
  - d) Verification of heat input capacity required to show compliance with SC IV.1.
  - e) All records required by 40 CFR 60.7 and 40 CFR 60.48c.
  - f) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the AQD and shall be consistent with the requirements of 40 CFR 60.7(f). The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1912, 40 CFR 52.21(c) & (d), 40 CFR 60.7(f), 40 CFR 60.42c(h))**

**VII. REPORTING**

1. The permittee shall provide written notification of the date construction commences and initial startup of EUBOILER3, in accordance with 40 CFR 60.7 and 40 CFR 60.48c. The notification shall include the information listed under 40 CFR 60.48c. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(R 336.1201(7)(a), 40 CFR 60.7, 40 CFR 60.48c)**
2. The permittee shall submit reports for each six-month period for each unit in EUBOILER3, as required by 40 CFR 60.48c(d), (e), and (f). All reports shall be submitted to the AQD District Supervisor and shall be postmarked by the 30th day following the end of the reporting period. **(40 CFR Part 60.48c(d), (e), and (f))**

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV002	48	60	R 336.1225, 40 CFR 52.21(c) & (d)

**IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EUBOILER3. **(40 CFR Part 60 Subparts A & Dc)**

<b>EUTEMPBOILER EMISSION UNIT CONDITIONS</b>
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**DESCRIPTION**

A temporary boiler with a rated capacity less than 78.1 MMBTU/hr, used to provide steam to the animal by-product processing facility during the installation of EUBOILER3.

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NOx	7.81 pph	Hourly	EUTEMPBOILER	SC VI.3	R 336.1225, R 336.1205(3)

**II. MATERIAL LIMIT(S)**

1. The permittee shall burn only natural gas in EUTEMPBOILER. **(R 336.1225, R 336.1702(a))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EUTEMPBOILER while operating either EUBOILER2 or EUBOILER3. **(R 336.1205(1)(a) & (3))**

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The maximum design heat input capacity for EUTEMPBOILER shall not exceed 78.1 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**
2. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the fuel usage rate for EUTEMPBOILER on a continuous basis. **(R 336.1205(1)(a) & (3))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**
2. The permittee shall keep monthly natural gas usage records, in a format acceptable to the AQD District Supervisor, indicating the amount of natural gas used, in cubic feet, on a calendar month basis, and a 12-month rolling time period basis. The records must indicate the total amount of natural gas used in

EUTEMPBOILER. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

3. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:
  - a) Verification of heat input capacity required to show compliance with SC IV.1.
  - b) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the AQD and shall be consistent with the requirements of 40 CFR 60.7(f). The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1912, 40 CFR 52.21(c) & (d), 40 CFR 60.7(f), 40 CFR 60.42c(h))**

## **VII. REPORTING**

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUTEMPBOILER. **(R 336.1201(7)(a))**

## **VIII. STACK/VENT RESTRICTION(S)**

1. The exhaust gases from EUTEMPBOILER shall be discharged unobstructed vertically upwards to the ambient air. **(R 336.1225)**

## **IX. OTHER REQUIREMENT(S)**

1. The permittee shall remove EUTEMPBOILER within 12 months from the date of installation at the facility. **(R 336.1205(3))**

## FLEXIBLE GROUP SPECIAL CONDITIONS

### FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGBOILERS	Two boilers used to provide steam to the animal by-product processing facility.	EUBOILER1, EUBOILER2
FGRENDERING	Two rendering process lines for animal by-products (red meat) consisting of two grinders, two cookers, and two condensers. Emissions and odors are controlled by a venturi scrubber followed by a thermal oxidizer (EUTO). A 75,000 cfm wet scrubber (EUSCRUBBER) provides backup control in the event of a failure/malfunction of the EUTO.	EURENDERING1, EURENDERING2, EUSCRUBBER, EUTO

<b>FGBOILERS EMISSION UNIT CONDITIONS</b>
---

**DESCRIPTION**

Two boilers used to provide steam to the animal by-product processing facility.

**Emission Unit:** EUBOILER1, EUBOILER2

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMIT(S)**

NA

**II. MATERIAL LIMIT(S)**

1. The permittee shall burn only natural gas, No. 2 fuel oil, yellow grease, or tallow in FGBOILERS. **(R 336.1205, R 336.1225, R 336.1702(a))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not operate EUBOILER2 while operating either EUTEMPBOILER or EUBOILER3. **(R 336.1205(1)(a) & (3))**

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The maximum design heat input capacity for EUBOILER1 and EUBOILER2 shall not exceed 72.9 MMBTU/hr or 78.1 MMBTU/hr, respectively, on a fuel heat input basis. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**
2. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the fuel usage rate for FGBOILERS on a continuous basis. **(R 336.1205(1)(a) & (3))**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702(a))**
2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the types and amounts of fuels burned in FGBOILERS on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**
3. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to the following:

- a) Verification of heat input capacity required to show compliance with SC IV.1.
- b) Total sulfur content of the No.2 fuel oil in the form of certification from the fuel supplier,
- c) All calculations necessary to show compliance with the limits contained in this permit.

All of the above information shall be stored in a format acceptable to the AQD. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVBOILER1	60	45	R 336.1225
2. SVBOILER2	48	60	R 336.1225

**IX. OTHER REQUIREMENT(S)**

NA

## **FGRENDERING FLEXIBLE GROUP CONDITIONS**

### **DESCRIPTION**

Two rendering process lines for animal by-products (red meat) consisting of two grinders, two cookers, and two condensers. Emissions and odors are controlled by a venturi scrubber followed by a thermal oxidizer (EUTO). A 75,000 cfm wet scrubber (EUSCRUBBER) provides backup control in the event of a failure/malfunction of the EUTO.

**Emission Unit:** EURENDERING1, EURENDERING2, EUSCRUBBER, EUTO

### **POLLUTION CONTROL EQUIPMENT**

EUTO (SV003) – Thermal oxidizer  
EUSCRUBBER (SV004) – 75,000 cfm wet scrubber

#### **I. EMISSION LIMIT(S)**

1. There shall be no visible emissions from FGRENDERING. **(R 336.1301(1))**

#### **II. MATERIAL LIMIT(S)**

NA

#### **III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall not accept incoming material into the plant after 72 hours of downtime of EUTO, due to failure/malfunction and bypass, if repairs of the EUTO are anticipated to exceed one week (168 hours). If the EUTO is expected to be down for repair longer than one week (168 hours) and the permittee wishes to continue operation using EUSCRUBBER as backup control, the permittee shall notify the AQD District Supervisor. **(R 336.1301, R 336.1901, R 336.1910, R 336.1911)**
2. The permittee shall immediately begin the use of EUSCRUBBER as backup control of FGRENDERING in the event of a failure/malfunction, bypass, or natural gas curtailment of EUTO. **(R 336.1301, R 336.1901, R 336.1910, R 336.1911)**
3. During normal shutdown operations for FGRENDERING, the permittee shall begin the use of EUSCRUBBER for use as an alternate control of FGRENDERING, only after the shutdown of the cookers and after the subsequent shutdown of EUTO. **(R 336.1301, R 336.1901, R 336.1910, R 336.1911)**
4. The permittee shall not operate FGRENDERING unless a minimum temperature of 1200 °F and a minimum retention time of 0.5 seconds in EUTO are maintained. **(R 336.1301, R 336.1901, R 336.1910, R 336.1911)**

#### **IV. DESIGN/EQUIPMENT PARAMETER(S)**

1. The permittee shall not operate FGRENDERING unless the condensers, non-condensable wet scrubbers, EUSCRUBBER, and EUTO are installed, maintained, and operated in a satisfactory manner, except as described in SC III.1 and III.2. **(R 336.1301, R 336.1901, R 336.1910)**
2. The permittee shall equip and maintain EUTO with a temperature gauge. **(R 336.1901, R 336.1910)**
3. The permittee shall equip and maintain EUSCRUBBER with a pH meter. **(R 336.1901, R 336.1910)**

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall keep, in a satisfactory manner, hourly records of the pH reading for EUSCRUBBER. All records shall be kept on file for a period of at least five years and made available to the AQD District upon request. (R 336.1901, R 336.1910)
2. The permittee shall keep, in a satisfactory manner, hourly records of the temperature for EUTO. All records shall be kept on file for a period of at least five years and made available to the Department upon request. (R 336.1901, R 336.1910)

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter / Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV003	36 <sup>1</sup>	57 <sup>1</sup>	R 336.1901
2. SV004	48 <sup>1</sup>	40 <sup>1</sup>	R 336.1901

**IX. OTHER REQUIREMENT(S)**

NA

**Footnotes:**

<sup>1</sup> This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

## FGFACILITY CONDITIONS

### DESCRIPTION

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

### POLLUTION CONTROL EQUIPMENT

NA

#### I. EMISSION LIMIT(S)

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. NOx	89.4 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1205(1)(a) & (3)

#### II. MATERIAL LIMIT(S)

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Monitoring / Testing Method</b>	<b>Underlying Applicable Requirements</b>
1. No. 2 Fuel Oil	7,964,878 Gallons/yr	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)
2. Yellow Grease	9,843,102 Gallons/yr	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)
3. Tallow	10,818,545 Gallons/yr	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.2	R 336.1205(1)(a) & (3)

#### III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

#### IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

#### V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall calculate and keep, in a satisfactory manner acceptable to the AQD District Supervisor, monthly and 12-month rolling NOx emission rates for FGFACILITY using the equation in APPENDIX 1. The calculations shall utilize, at a minimum, monthly fuel usage of each type of fuel used, as required in SC VI.2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**
2. The permittee shall keep monthly fuel usage records, in a format acceptable to the AQD District Supervisor, indicating the type and amount of fuel used, on a calendar month basis, and a 12-month rolling time period basis. The records must indicate the total amount of each fuel used in each emission unit. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

NA

### APPENDIX 1 Procedures for Calculating Emissions

The permittee shall use the calculations below to demonstrate compliance with the 12-month rolling emission limits in this permit. The permittee shall use the higher heating values (HHV) of the fuels and emission factors from source specific testing (if stack test data is available, use the most recent stack test data) or as contained in the table below. If emission factors from other sources are used, the permittee shall obtain the approval of the AQD District Supervisor before using the emission factors to calculate emissions. The permittee shall document the source of each emission factor used in the calculations.

Type of Fuel	NOx Emission Factor (EF)	HHV
Natural Gas (EUDRYER)	0.100 lb/MMBTU	1,000 BTU/scf
Natural Gas (EUTO)	0.100 lb/MMBTU	1,000 BTU/scf
Natural Gas (EUBOILER1)	0.032 lb/MMBTU	1,000 BTU/scf
Natural Gas (EUBOILER2)	0.100 lb/MMBTU	1,000 BTU/scf
Natural Gas (EUBOILER3)	0.032 lb/MMBTU	1,000 BTU/scf
Natural Gas (EUTEMPBOILER)	0.100 lb/MMBTU	1,000 BTU/scf
No. 2 Fuel Oil	0.140 lb/MMBTU	140,000 BTU/gal
Yellow Grease	0.122 lb/MMBTU	130,000 BTU/gal
Tallow	0.111 lb/MMBTU	130,000 BTU/gal

NOx Emissions from Natural Gas, in tons per month:

$$EF \times HHV \times AF = \frac{lbs}{MMBTU} \times \frac{BTU}{scf} \times \frac{scf}{month} = \frac{X \text{ tons NOx}}{month}$$

Where:

- EF = NOx Emission Factor, lb/MMBTU
- HHV = Higher Heating Value of the fuel, BTU/scf
- AF = Amount of Fuel used, scf/month
- X = Amount of NOx, tons/month and tpy

NOx Emissions from No. 2 Fuel Oil, Yellow Grease, or Tallow, in tons per month:

$$EF \times HHV \times AF = \frac{lbs}{MMBTU} \times \frac{BTU}{gallon} \times \frac{gallons}{month} = \frac{X \text{ tons NOx}}{month}$$

Where:

- EF = NOx emission factor, lb/MMBTU
- HHV = Higher Heating Value of the fuel, BTU/gallon
- AF = Usage rate of the fuel, gallons/month
- X = Amount of NOx, tons/month and tpy