FACT SHEET FOR: OP26R2-024 **DATE: DRAFT**

DWEE ID: 41253

Name of Source: Darling Ingredients Inc.

Source Classification: Class II Synthetic Minor at time of issuance
Area Source of Hazardous Air Pollutants (HAPs)

Regulatory changes may supersede information in this document. If the source should add or change equipment or change processes such that a NESHAP or NSPS subpart becomes an applicable requirement, it is the source's obligation to comply with that subpart and applicable requirements whether or not they are identified in the associated permitting action or Title 129. Also note that the NESHAP and NSPS subparts are subject to change. Detailed information related to NESHAP and NSPS subparts can be found on the DWEE Air Toxics Notebook and DWEE NSPS Notebook located on the DWEE website (https://dwee.nebraska.gov/). The DWEE website can also be used to find other permit-related and facility specific information that is not identified in this fact sheet.

The source is subject to and will comply with all applicable requirements found in Title 40 Protection of Environment, Code of Federal Regulations that apply to the source including those found at 40 CFR Part 52, Subpart CC or 40 CFR Part 70, Appendix A (federally enforceable requirements); the State Implementation Plan (SIP) approved Title 129 as amended September 28, 2022 cited in this permit and denoted by an asterisk (*) are federally enforceable; and the Environmental Protection Act, Neb. Rev. Stat. §§ 81-1501 to 81-1532, and Nebraska Administrative Code Title 129 as amended June 28, 2026. When Title 129 as amended June 28, 2026, cited in this permit becomes SIP approved and federally enforceable it will supersede Title 129 as amended September 28, 2022.

DESCRIPTION OF THE SOURCE OR ACTIVITY:

This operating permit OP26R2-024 approves the operation of a food by-product recycling facility. Darling Ingredients Inc. in Bellevue operates under the standard industrial classification (SIC) code 2077 (Animal and Marine Fats and Oils) for meat rendering plant to process animal by-products. The products of the plant include inedible tallow and meat and bone meals, which would be used as animal feed.

PERMIT HISTORY

Date Issued	Number	Status
4/1/1996	OPSP-0003	Not Active; Superseded by CP/OP97-0048
11/18/1997	CP/OP97-0048	Not Active; Expired/Superseded OPSPR-0004 and CP14-033
4/1/1998	CP NPR application 98-0027	Active
6/8/2001	CPM01-0005	Not Active; superseded by CP14-033
1/12/2006	OPSPR2-0004	Not Active; Expired/Superseded by OP10R2-028
7/8/2015	CP14-033	Not Active; Superseded by CP22-013
8/3/2016	CP15-050	Active
12/14/2016	OP10R2-028	Not Active; Condition III.(B) Superseded by OP18M2-033; rest of permit Superseded by OP21R2-012
7/2/2019	OP18M2-033	Not Active; Superseded by OP21R2-012
12/21/2021	OP21R2-012	Not Active; Superseded by OP26R2-024
10/24/2022	CP22-013	Not Active; Superseded by CP24-005
8/16/2024	CP24-005[1]	Active
TBD	OP26R2-024	Active

[1] Construction permit CP24-005 emission units EU-6g through EU-6i and EU-7c were not built thus are not included in this operating permit.

PERMIT ACTION:

Permitted Emission Points are detailed in the table below:

Control Equipment ID# and Description	Emission Unit Description	Applicable NSPS Requirements	Applicable NESHAP Requirements
Emission Point ID#: EP-1			
Low NO_x Burners and Flue Gas Recirculation	EU-1: Victory Boiler: 61.84 MMBtu/hr. boiler, combusting Natural Gas and Fuel Oil #2, installed in 2022	40 CFR Part 60, Subpart A; Title 129, Chapter 12, Section 001.01*; Title 129, Chapter 12, Section 001.01	40 CFR Part 63, Subpart A; Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01
		40 CFR Part 60, Subpart Dc; Title 129, Chapter 12, Section 001.05*; Title 129, Chapter 12, Section 001.06	40 CFR Part 63, Subpart JJJJJJ; Title 129, Chapter 13, Section 002.101*; Title 129, Chapter 13, Section 002.103
Emission Point ID#: EP-2			
Low NO_x Burners and Flue Gas Recirculation	EU-2: Johnston Boiler: 48.7 MMBtu/hr. boiler, combusting Natural Gas and Fuel Oil #2, installed in 2013	40 CFR Part 60, Subpart A; Title 129, Chapter 12, Section 001.01*; Title 129, Chapter 12, Section 001.01	40 CFR Part 63, Subpart A; Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01
		40 CFR Part 60, Subpart Dc; Title 129, Chapter 12, Section 001.05*; Title 129, Chapter 12, Section 001.06	40 CFR Part 63, Subpart JJJJJJ; Title 129, Chapter 13, Section 002.101*; Title 129, Chapter 13, Section 002.103
Emission Point ID#: EP-3			
Low NO_x Burners and Flue Gas Recirculation	EU-3: Hurst Boiler: 50.4 MMBtu/hr. boiler, combusting Natural Gas and Fuel Oil #2, installed in 2013	40 CFR Part 60, Subpart A; Title 129, Chapter 12, Section 001.01*; Title 129, Chapter 12, Section 001.01	40 CFR Part 63, Subpart A; Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01
		40 CFR Part 60, Subpart Dc; Title 129, Chapter 12, Section 001.05*; Title 129, Chapter 12, Section 001.06	40 CFR Part 63, Subpart JJJJJJ; Title 129, Chapter 13, Section 002.101*; Title 129, Chapter 13, Section 002.103

Control Equipment ID# and Description	Emission Unit Description		Applicable NSPS Requirements	Applicable NESHAP Requirements
Control Equipment ID#: CE-3[1]				
CE-3: Odor Abatement System (12K Venturi Wet Scrubber)	Condenser #3	Condenser #1	EU-4: Supercooker #1	None
		Condenser #2	EU-5: Supercooker #2	None
	EU-6a, through EU-6f: Presses (6)			None
	EU-7a and EU-7b: Centrifuges (2)			None
	EU-8a and EU-8b: Drainer Screens (2)			None
Emission Point ID#: EP-4				
CE-4: Regenerative Thermal Oxidizer (RTO); 4.0 MMBtu/hr.; Natural Gas combustion	CE-3: Odor Abatement System			None
Emission Point ID#: EP-5				
CE-5: Packed Bed Scrubber System	CE-3: Odor Abatement System			None
Emission Point ID#: EP-6				
CE-6: Biogas Flare, maximum capacity 8.11 MMBtu/hr.; permitted fuel type: Biogas	EU-9a: Anaerobic Lagoon 1		None	None
	EU-9b: Anaerobic Lagoon 2		None	None
	EU-10: Pilot, maximum permitted capacity: 2.0 MMBtu/hr.; permitted fuel type: Propane		None	None
Emission Point ID#: EP-9				
None	RTO Emergency Back-up Generator Engine, Eaton EGENX32, 32 kW, 0.375 MMBtu/hr., spark ignition reciprocating internal combustion engine, natural gas fired, 4-stroke lean-burn, manufactured and installed in 2018.		40 CFR Part 60, NSPS Subpart A; Title 129, Chapter 12, Section 001.01* Title 129, Chapter 12, Section 001.01	40 CFR Part 63, NESHAP Subpart A; Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01
			40 CFR Part 60, NSPS Subpart JJJJ; Title 129, Chapter 12, Section 001.81*; Title 129, Chapter 12, Section 001.82	40 CFR Part 63, NESHAP Subpart ZZZZ; Title 129, Chapter 13, Section 002.78*; Title 129, Chapter 13, Section 002.79

Control Equipment ID# and Description	Emission Unit Description	Applicable NSPS Requirements	Applicable NESHAP Requirements
EP-GRIND			
N/A	EU-GRIND: Hammermill; Maximum Capacity 28 tons/hr.	None	None
Emission Point ID#: EP-SILO1			
N/A	EU-SILO1: Protein Meal Silo #1; Maximum Capacity 1,200 bu./hr.	None	None
Emission Point ID#: EP-SILO2			
N/A	EU-SILO2: Protein Meal Silo #2; Maximum Capacity 1,200 bu.hr.	None	None
Emission Point ID#: EP-LOADFUG			
Partial Enclosure	EU-LOADFUG1: Finished Red Meat Protein Loadout 1; Maximum Capacity 25 tons/hr.	None	None
Partial Enclosure	EU-LOADFUG2: Finished Red Meat Protein Loadout 2; Maximum Capacity 25 tons/hr.		
Emission Point ID#: EP-MOBILE			
None	On-site paved haul roads with production related truck traffic	None	None

[1] Emissions from CE-3 are routed to either the RTO (CE-4) or the Packed Bed Scrubber System consisting of a 12K Packed Bed Wet Scrubber then a 100K Packed Bed Wet Scrubber (CE-5).

TYPE AND QUANTITY OF AIR CONTAMINANT EMISSIONS ANTICIPATED:

The following table summarizes the potential and actual emissions:

Regulated Pollutant	Potential Emissions as limited by permit (tons/year)	Actual Emissions[2] (tons/year)
Particulate Matter (PM)	25.19	5.08
Particulate Matter less than or equal to 10 microns (PM_{10})	24.10	4.72
Particulate Matter less than or equal to 2.5 microns ($PM_{2.5}$)	23.78	4.72
Sulfur Dioxide (SO_2)	43.19	73.48
Oxides of Nitrogen (NO_x)	38.30	6.74
Carbon Monoxide (CO)	63.63	13.19
Volatile Organic Compounds (VOCs)	27.33	7.56
Greenhouse Gases (GHGs)[1]	91,116	17,466.02

Regulated Pollutant	Potential Emissions as limited by permit (tons/year)	Actual Emissions[2] (tons/year)
Carbon Dioxide Equivalents (CO_2e)[1]	91,295	17,559.55
Hazardous Air Pollutants (HAPs)		
Hexane	1.28	0.087
All Other HAPs	6.59	0.005
Total HAPs	7.87	0.092

[1] The U.S. Supreme Court ruled in 2014 that greenhouse gases (GHGs) may not be used to determine whether a source is a Class I (major) source. Utility Air Regulatory Group v. EPA, 134 S.Ct. 2427 (2014). Therefore, potential emissions of GHGs will not be used to determine a source's operating permit classification at this time. However, GHGs are still regulated air pollutants so GHGs and CO_2e will continue to be calculated and reported in this fact sheet.

[2] Actual Emissions are from 2025 air emissions inventory.

SUPPLEMENTAL INFORMATION:

Title 129, Chapter 4*; Title 129, Chapter 4 - Prevention of Significant Deterioration (PSD) of Air Quality

Darling is not classified as a major stationary source and does not fall into one of the 28 categories for which the 100 tpy threshold applies as described in Title 129, Chapter 4, Section 001*; Title 129, Chapter 4, Section 001. Therefore, the 250 tpy per PSD regulated pollutant threshold applies to Darling. The potential emissions for Darling are less than 100 tpy for each PSD regulated pollutants.

Title 129, Chapter 12*; Title 129, Chapter 12 - New Source Performance Standards (NSPS) and Emission Limits for Existing Sources

The following Subparts apply:

Subpart A – General Provisions: This subpart, adopted by reference in Title 129, Chapter 12, Section 001.01*; Title 129, Chapter 12, Section 001.01, applies to those units covered by the specific NSPS as discussed below. The owner or operator is required to notify the Department when several milestones occur including, but not limited to, the date construction commenced postmarked no later than thirty (30) days after such date (40 CFR 60.7(a)(1)), the actual date of initial start-up of the equipment postmarked within fifteen (15) days after such date (40 CFR 60.7(a)(3)), and any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart 40 CFR 60.7(a)(4).

Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units: This subpart, adopted by reference in Title 129, Chapter 12, Section 001.05*; Title 129, Chapter 12, Section 001.06, is for steam generating units with a design rate between 10 MMBtu/hr. and 100 MMBtu/hr., constructed, reconstructed, or modified after June 9, 1989. A steam-generating unit is defined as any device which combusts any fuel to produce steam, heat water, or heats any heat transfer medium, including air. The Victory Boiler (EP-1) is subject to this subpart, because it was installed in 2022. The Johnston Boiler (EP-2) and Hurst Boiler (EP-3) are subject to this subpart, because both boilers were installed in 2013 and have a maximum design rate of 48.7 MMBtu/hr. and 50.4 MMBtu/hr., respectively. The Victory Boiler (EP-1), Johnston Boiler (EP-2) and Hurst Boiler (EP-3) are subject to requirements for natural gas and fuel oil, which include, but not limited to, 0.50 % weight percent sulfur in the fuel oil (40 CFR 60.43c(e)(4)) in lieu of PM limitations.

Note: the OP set the sulfur content level to 0.05%.

Subpart JJJJ – Standards of Performance for Stationary Spark Ignition (SI) Internal Combustion Engines (ICE):

This subpart, adopted by reference in Title 129, Chapter 12, Section 001.81*; Title 129, Chapter 12, Section 001.82, applies to stationary spark ignition internal combustion engines that commence construction after June 12, 2006, where the engines are manufactured:

- On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 hp;
- On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 hp and less than 1,350 hp.
- On or after July 1, 2008, for engines with a maximum engine power less than 500 hp or
- On or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 kW (25 hp).

For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. The new emergency engine (EP-9) is subject to NSPS Subpart JJJJ, because it was constructed after 2009 and has maximum engine power greater than 19kW. This subpart includes limitations on NO_x, CO, and VOC. Demonstration of compliance with these emission limits is based on the manufacturer's certification, and proper maintenance and operation of the reciprocating internal combustion engine (RICE) in accordance with the manufacturer's written instructions. If Darling doesn't comply with the manufacturer's instruction for proper maintenance and operations, then the engine(s) is subject to requirements for non-certified engines in this subpart, including testing of the engine(s).

The following Subparts appear applicable, but are not:

NSPS Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines: This subpart, adopted by reference in Title 129, Chapter 12, Section 001.80*; Title 129, Chapter 12, Section 001.81, applies to owners or operators of stationary CI ICE constructed after July 11, 2005, with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder. Emergency generator, EP-9, is a 32 kW, 0.375 MMBtu/hr., spark ignition reciprocating internal combustion engine, natural gas fired, 4-stroke lean-burn, that was manufactured and installed in 2018. Due to this engine being an SI RICE, constructed in 2018, it is not subject to this subpart.

Title 129, Chapter 13, Sections 002* and 003*; Title 129, Chapter 13, Sections 002 and 003 - National Emission Standards for Hazardous Air Pollutants (NESHAP)

Darling is considered an area source of HAPs, because the PTE for any single HAP is below 10 tons per year, and the PTE for total HAPs is below 25 tons per year.

The following Subparts apply:

Subpart A – General Provision: Emission units subject to other NESHAP subparts are also subject to NESHAP Subpart A. This subpart, adopted by reference in Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01, applies to facilities that are subject to one or more NESHAP subparts. Because the engines are subject to Subpart ZZZZ, they are also subject to Subpart A.

Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines: This subpart, adopted by reference in Title 129, Chapter 13, Section 002.78*; Title 129, Chapter 13, Section 002.79, applies to owners or operators of new, existing, or reconstructed stationary reciprocating internal combustion engines (RICE). The emergency generator, EP-9, is subject to this subpart because it is a SI RICE. However, because this unit is subject to NSPS Subpart JJJJ, it will comply with NESHAP Subpart ZZZZ by complying with NSPS Subpart JJJJ (per §63.6590(c).

Subpart JJJJJJ- National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers - Area Sources: This subpart, adopted by reference in Title 129, Chapter 13,

Section 002.101*; Title 129, Chapter 13, Section 002.103, applies to boilers located at an area (minor) source of HAP. The Victory Boiler (EP-1), the Johnston Boiler (EP-2), and the Hurst Boiler (EP-3) are classified as gas-fired boilers. Gas-fired boilers that burn liquid fuel only during periods of gas curtailment, gas supply interruptions, startups, or for periodic testing are not considered in the oil subcategory of boilers. Because these boilers can burn fuel oil #2, a permit condition restricting the use of the liquid fuels (to meet the definition of gas-fired boilers) has been added to the permit. They are considered gas-fired boilers and therefore not subject to NESHAP Subpart JJJJJJ per §63.1195(e). Condition III.(A)(3)(e) restricts liquid fuel usage of the boilers to meet the definition of gas-fired boilers in this subpart. Condition III.(A)(5) allows liquid fuel usage beyond the level allowed for gas-fired boilers in this subpart, but the condition requires Darling to comply with this subpart.

The Dayton space heater, the three thaw shed space heaters, and the Reznor heater are not subject to NESHAP Subpart JJJJJJ, because they are not boilers.

The following Subparts appear applicable, but are not:

Subpart VVV – National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works: This subpart, adopted by reference in Title 129, Chapter 13, Section 002.54*; Title 129, Chapter 13, Section 002.55, applies to publicly owned treatment works (POTW) at a major source of HAPs. Darling is not subject to the requirements of this subpart because the wastewater treatment system at Darling is not a POTW because under Subpart VVV, Darling is not owned by a municipality (as defined by section 502(4) of the Clean Water Act), a State, an intermunicipal or interstate agency, or any department, agency, or instrumentality of the Federal Government.

Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters - Major Sources: This subpart, adopted by reference in Title 129, Chapter 13, Section 002.80*; Title 129, Chapter 13, Section 002.81, applies to boilers and process heaters located at a major source of HAP. The boilers and heaters are not subject to this subpart because the facility is not a major source for HAPs.

Title 129, Chapter 15*; Title 129, Chapter 15 - Compliance

Process Weight Rate

Title 129, Chapter 15, Section 001.01*; Title 129, Chapter 15, Section 001.01, limits PM (filterable) emissions to the amounts shown in Table 15-1*; Table 15-1 during any one hour. These process weight rate limits, which are based on throughput of the emission units, vary as throughputs change. Since the potential to emit for each emission point is less than the process weight rate limitations, these PM limitations were not included in Condition III of this permit.

OP Condition III.	Emission Unit	Process Weight Rate	Allowable PM Emissions (lb./hr.)	Potential Emissions (lb./hr.)
(B)	EP-4 or EP-5 (throughput based on Supercookers #1 &2 (EU-4 & EU-5))	11.6 tons/hr.	21.18	14.50[1]
(C)	CE-6 – Wastewater Flare	557.94 lb./hr.[2]	1.74	0.031

[1] Potential Emissions for Rendering Process (EP-4 & EP-5) is a permit limit established in the operating permit.

[2] Assuming Biogas density is equal to methane density (0.0447 lb./scf), and assuming LPG is entirely propane (4.11 lb./gal)

Particulate Emissions from Combustion Sources

The maximum allowable emissions and calculated emission limitations are:

OP Condition III.	Emission Unit	Total Heat Input	Maximum Allowable PM Emissions		Potential Emission Rate[1]
		(MMBtu/hr.)	(lb./MMBtu)	(lb./hr.)	(lb./hr.)
(A)	Victory Boiler	61.84	0.39	24.12	0.46
(A)	Johnston Boiler	48.7	0.42	20.45	1.15
(A)	Hurst Boiler	50.4	0.41	20.66	1.19
(B)	RTO	4.0	0.60	2.4	2.47[2]
(C)	Waste Gas Flare	10.11	0.60	6.07	0.03
(D)	Emergency Engine	0.375	0.60	0.23	0.004
IA	Dayton heater	0.2	0.60	0.12	0.0015
IA	Three (3) Thaw shed heaters (total)	0.60	0.60	0.36	0.00128
IA	Reznor heater	0.15	0.60	0.09	0.000003

[1] Potential Emission Rates were calculated using the Fact Sheet Attachment associated with this Operating Permit.
[2] Potential Emission Rate for the RTO is based on stack test emissions, including process emissions and fuel combustion.

Opacity Limitations from Emission Units (Section 001.04)*; (Section 001.04)

Specific Condition I.(J) specifies that no person shall cause or allow emissions, from any source, which has an opacity equal to or greater than twenty percent (20%). Opacity must be determined using an EPA-approved method or recorded by a continuous opacity monitoring system which has been operated and maintained pursuant to 40 CFR Part 60 Appendix B except as provided for in title 129, Chapter 15, Sections 001.05* and 001.05E*; Title 129, Chapter 15, Sections 001.05 and 001.05E; (Title 129, Chapter 15, Section 001.04)*; (Title 129, Chapter 15, Section 001.04). Therefore, while not specifically stated in Condition III, this requirement is still applicable to all emission units at the source.

Title 129, Chapter 16, Section 001*; Title 129, Chapter 16, Section 001 - Sulfur Compound and Nitrogen Oxides Emissions

Title 129, Chapter 16, Section 001*; Title 129, Chapter 16, Section 001 applies to combustion emission units that existed prior to February 26, 1974. Nebraska Boiler #1 (EU-1) per OP21R2-012 Condition III.(A) issued December 21, 2021, was subject to Title 129, Chapter 16, Section 001*; Title 129, Chapter 16, Section 001 because this boiler was installed in 1972. Per construction permit CP22-013 issued October 24, 2022, Nebraska Boiler #1 (EU-1) was removed on November 1, 2022, and was replaced by a 1,500-hp Victory Boiler (EU-1) which was commissioned on November 22, 2022. Due to the installation date of the Victory Boiler being after February 26, 1974, Title 129, Chapter 16, Section 001*; Title 129, Chapter 16, Section 001 no longer applies to the Victory Boiler (EU-1).

SPECIFIC PERMIT CONDITIONS DISCUSSION:

Condition III includes conditions that are specific to the emissions units and emission points listed in each respective condition. Permit conditions that require no additional discussion are not included in this section.

(A) For the boilers, the operating permit includes a 0.05% sulfur content, which is more stringent than the NSPS Subpart Dc sulfur content limit for fuel oil. This operating permit also specifies that the boilers only combust natural gas or fuel oil, with fuel oil usage to strictly gas curtailment, gas supply interruption, startups, or periodic testing of the liquid fuel. The restriction on the fuel oil usage meets the definition of gas-fired boiler in NESHAP Subpart JJJJJJ. An alternative operating scenario is included for when a boiler is operated as an oil- fired boiler (no longer meeting definition of gas-fired boiler).

(B) For the meat rendering process, the specific control device configuration is identified. DWEE has established emission limitations for PM, PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, and VOC to ensure the facility is limited to less than Class I thresholds. In 2018, the emission points were tested and demonstrated compliance with the limits for all pollutants except for NO_x. The NO_x emissions from the RTO failed twice. In 2020, the emission points were tested and the NO_x emissions from the RTO failed again. In November 2025, the emission points were tested and the NO_x emissions demonstrated compliance. DWEE is requiring NO_x testing for EP-4 and EP-5 to ensure they comply with the new emission limit. Performance testing shall occur at least once every five (5) years after the last valid performance test.

The control devices for the rendering process must be operational and maintained. The minimum monitoring and operating conditions and their associated recordkeeping and reporting requirements are specified.

(C) For wastewater treatment operations, the biogas from the anaerobic lagoons is controlled by a biogas flare, but the aerobic lagoons are uncontrolled. The flare must be maintained. The maintenance records for the flare need to be kept demonstrating that the equipment is operating correctly. The hydrogen sulfide (H_2S) concentration of the biogas is limited and periodically sampled. The H_2S concentration limitation and hours of operations of the biogas flare limits the SO_2 emissions for the facility below the Class I thresholds.

Note: The aerobic lagoons are still present at the source, but because they have no OP requirements, they were removed from the OP.

(D) For the emergency engine, the source must operate EU-ENG such that hours of operation are restricted to 500 hours per any twelve (12) consecutive calendar months. The emergency engine shall be equipped with a non-resettable hour meter to record operating hours to determine compliance. All documentation shall be maintained on-site and available to DWEE representatives upon request.

(E) For the product storage, hammermilling, and loading operations, particulate matter (PM_{10}) emissions for EP-GRIND are limited to 0.09 lb./hr. on three 1-hour test runs or test method average. EP-SILO-1 and EP-SILO-2 each are limited to 0.69 lb./hr. for PM on three 1-hour test runs or test method average and PM_{10} emissions are limited to 0.17 lb./hr. on three 1-hour test runs or test method average. The PM_{10} emissions for EP-LOADFUG are limited to 0.02 lb./hr. on three 1-hour test runs or test method average. CP24-005 Condition III.(E)(1) detailed the construction of EP-SILO-3. The source confirmed via email that this emission unit will not be constructed; therefore, it was not included in the operating permit.

(F) All haul roads shall maintain an opacity that does not exceed 20 percent on a 6-minute averaging period. All production related truck traffic haul roads are confirmed paved through email communication with the source.

Insignificant Activities:

The following table contains a description of insignificant activities at the source at the time of permit issuance, in accordance with operating permit application OP26R2-024, received May 28, 2026, including any supporting information received prior to issuance of the permit:

Insignificant Activity ID	Unit Description	Insignificance Criteria
N/A	12,000-gallon fuel oil (diesel) underground storage tank, vented to the atmosphere, installed in 1990	Total annual throughput < 1 million gallons
N/A	Two 1,000-gallon propane tanks with pressure relief valves	Total annual throughput < 1 million gallons
N/A	Reznor waste oil heater, 150,000 Btu/hr. maximum heat input, located in truck shop[1]	Heat input < 2.0 MMBtu/hr., and fuel oil fired
N/A	Thaw shed heaters: Three space heaters, 200,000 Btu/hr. maximum heat input each, combusting propane[1]	Heat input < 8 MMBtu/hr. each, and propane fired
N/A	Dayton Heater, 200,000 Btu/hr. maximum heat input, combusting natural gas[1]	Heat input < 10 MMBtu/hr., and natural gas fired

[1] All of the combustion units listed in the above insignificant activities table were constructed after February 26, 1974.

Although not required, DWEE recommends that the source submit a written notification to DWEE if there are additions or changes to the list of insignificant activities identified above, containing the following suggested information:

- A brief description of the addition or change within the permitted source;
- The date on which the addition or change occurred;
- Any change in potential emissions; and
- The criteria, as defined in Operating Permit Application Forms, used to determine that the addition or change to the list of insignificant activities qualifies as insignificant.

This notification helps the DWEE keep an up-to-date list on file for compliance purposes. In addition, because emissions from insignificant activities must be counted toward major source (Class I) applicability, it is important to know if a source makes additions or changes to the list of insignificant activities that would cause a change in potential to emit at the source, and ultimately whether the source has a change in classification (i.e., Class I vs. Class II).

Construction Permit Conditions Modified/Not Included:

The following terms and conditions from the construction permit(s) listed were not incorporated into this permit, or have been modified as discussed below:

Permit Number and Issuance Date	Specific Condition	Reason Modified or Not Included In Operating Permit
CP24-005 August 16, 2024	III.(B)(1)(a)	Emission Units EU-6g through EU-6i: Presses (3) and EU-7c: Centrifuge were not built as prescribed in CP24-005. Since these units were not built, they are omitted from OP26R2-024.
CP24-005 August 16, 2024	III.(E)(1)	Emission Point EP-SILO-3 was not constructed as prescribed in CP24-005. Since this unit was not built, it was omitted from operating permit OP26R2-024.

Fact Sheet Attachment

Facility-Wide Potential to Emit

Pollutant	Potential to Emit												PTE
tpy	EP-1	EP-2	EP-3	EP-4	EP-5	EP-6	EP-9	EP-GRIND (EU-GRIND1, EU-GRIND2)	EP-SILO1, EP-SILO2, EP-SILO3[1]	EP-LOADFUG	EP-MOBILE (Haul Roads)	Insignificant Activities	tpy
PM	2.56	2.01	2.08	10.82	6.20	0.02	9.36E-04	0.19	0.69	0.08	0.53	0.007	25.19
PM_{10}	2.56	2.01	2.08	10.82	6.20	0.02	9.36E-04	0.09	0.17	0.02	0.11	0.007	24.10
$PM_{2.5}$	2.56	2.01	2.08	10.82	6.20	0.02	9.36E-04	0.02	0.03	0.00	0.03	0.007	23.78
SO_x	1.86	1.46	1.51	25.32	0.95	12.09	5.51E-05	-	-	-	-	9.63E-04	43.19
NO_x	12.22	9.62	9.96	4.72	0.53	0.42	0.38	-	-	-	-	0.45	38.30
CO	22.31	17.57	18.18	1.44	1.94	1.89	0.03	-	-	-	-	0.28	63.63
VOC	1.46	1.15	1.19	1.56	18.40	3.47	1.11E-02	-	-	-	-	9.68E-02	27.33
Hazardous Air Pollutants													
Formaldehyde	0.03	0.02	0.02	1.29E-03	0.00	0.00	4.95E-03	-	-	-	-	-	0.07
Hexane	0.48	0.38	0.39	0.03	0.00	0.00	1.04E-04	-	-	-	-	1.55E-03	1.28
Total HAPs	3.01	2.37	2.45	0.03	4.82E-04	0.01	6.77E-03	0.00	0.00	0.00	0.00	1.56E-03	7.87
Greenhouse Gases													
GHGs (mass basis)	33,224	26,164	27,078	2,049	0.00	1,890	244.23	0.00	0.00	0.00	0.00	466.67	91,116
GHGs (CO2e)	33,269	26,200	27,115	2,052	0.00	1,897	293.61	0.00	0.00	0.00	0.00	468.23	91,295

[1] The tons/yr values for each silo assumes all of the meal is going through each silo. Since the meal is not going through all three silos prior to loadout, the facility PTE is based on all meal going through one of the silos (since each silo has the same lb/hr emission rate).

Fact Sheet Attachment

Emission Point Summary

EP-1, EP-2, EP-3, EP-4, EP-5, EP-6, EP-9, EP-GRIND, EP-SILO-1, EP-SILO-2, EP-LOADFUG, EP-MOBILE, and Insignificant Activ

Emission Point Description

Emission Point ID	Emission Unit ID	Description	Control Device ID	Maximum Capacity	Fuel Type	Condition
EP-1[1]	EU-1	Victory Boiler	Low NOx burners/ Flue Gas Recirculation	61.84 MMBtu/hr	Natural gas, Fuel oil	New
EP-2	EU-2	Johnston Boiler	Low NOx burners/ Flue Gas Recirculation	48.7 MMBtu/hr	Natural gas, Fuel oil	Existing
EP-3	EU-3	Hurst Boiler	Low NOx burners/ Flue Gas Recirculation	50.4 MMBtu/hr	Natural gas, Fuel oil	Existing
None	EU-4	Condenser #3: Dupps 320U Supercooker #1 and Condenser #1	CE-3[2]: Odor Abatement System	4 MMBtu/hr (RTO)	Steam/ Natural gas for RTO	Existing
	EU-5	Condenser #3: Dupps 320U Supercooker #2 and Condenser #2				Existing
	EU-6a through 6f	6 Presses				Existing
	EU-7a, EU-7b	2 Centrifuges				Existing
	EU-8a, EU-8b	2 Drainer Screens				Existing
EP-4	-	CE-3: Odor Abatement System	CE-4: RTO	-	-	-
EP-5	-	CE-3: Odor Abatement System	CE-5: Wet scrubbers	-	-	-
EP-6	EU-9a	Anaerobic Lagoon #1	CE-6: Waste Gas Flare	-	-	Existing
	EU-9b	Anaerobic Lagoon #2				
	EU-10	Waste Gas Flare	-	8.11 MMBtu/hr		
EP-9	-	RTO Emergency Back-up	-	0.375 MMBtu/hr	Natural Gas	Existing
EP-GRIND	EP-GRIND1	EU-GRIND: Hammermill	-	28 tons/hr.	-	Existing
	EP-GRIND2					
EP-SILO1	EU-SILO1	EU-SILO1: Protein Meal Silo #1	-	1,200 bu./hr.[3]	-	Existing
EP-SILO2	EU-SILO2	EU-SILO2: Protein Meal Silo #2	-			
EP-LOADFUG	EU-LOADFUG	EU-LOADFUG1: Finished Red Meat Protein Loadout 1	Partial Enclosure	25 tons/hr.	-	Existing
		EU-LOADFUG2: Finished Red Meat Protein Loadout 2	Partial Enclosure	25 tons/hr.	-	Existing
EP-MOBILE	-	Paved Haul Roads	-	-	-	Existing
Insignificant Activities	-	12,000-gallon fuel oil (diesel) underground storage tank, vented to the atmosphere, installed in 1990	-	Total annual throughput < 1 million gallons	Diesel	Existing
		Two 1,000-gallon propane tanks with pressure relief valves	-	Total annual throughput < 1 million gallons	Propane	Existing
		Reznor waste oil heater, 150,000 Btu/hr. maximum heat input, located in truck shop[4]	-	Heat input < 2.0 MMBtu/hr., and fuel oil fired	Waste Oil	Existing
		Thaw shed heaters: Three space heaters, 200,000 Btu/hr. maximum heat input each, combusting propane[4]	-	200,000 Btu/hr. maximum heat input each	Propane	Existing
		Dayton Heater, 200,000 Btu/hr. maximum heat input, combusting natural gas[4]	-	200,000 Btu/hr. maximum heat input	Natural Gas	Existing
EP-1 (old)	EU-1 (old)	Nebraska Boiler	-	38.8 MMBtu/hr	Natural gas, Fuel oil, and processed fats	Removed

[1] EP-1: EP-1 (old) was removed and previously known as Nebraska Boiler

[2] Emissions From CE-3 are routed to either the RTO (CE-4) or 100K Packed Bed Wet Scrubber and 26K Packed Bed Wet Scrubber (CE-5). CE-3 consists of a 12K Venturi Wet Scrubber.

[3] The bu./hr. values for each silo assumes all of the meal is going through each silo. Since the meal is not going through all three silos prior to loadout, the facility PTE is based on all meal going through one of the silos (since each silo has the same bu./hr. emission rate).

[4] All of the combustion units listed in the above insignificant activities table were constructed after February 26, 1974.

Fact Sheet Attachment

Victory Boiler: EP-1

Worst Case Emissions: Natural Gas or Natural Gas + Fuel Oil #2		
Pollutant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (tpy)
PM	1.46	2.56
PM_{10}	1.46	2.56
$PM_{2.5}$	1.46	2.56
SO_x	3.18	1.86
NO_x	8.83	12.22
CO	5.09	22.31
VOCs	0.33	1.46
HAPS		
Formaldehyde	0.01	0.03
Hexane	0.11	0.48
Total HAPs	**0.69**	**3.01**
Greenhouse Gases		
GHG (as Mass)	**10083.73**	**33223.84**
GHG (as CO_2e)	**10116.37**	**33269.42**

Fact Sheet Attachment

Victory Boiler: EP-1

Potential to Emit from Combusting Natural Gas by External Combustion

[A] Total Heat Input Capacity 61.84 MMBtu/hr

1 MMscf = 1020 MMBtu

[B] Potential Natural Gas Throughput 0.06 MMscf/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/MMscf)

Pollutant	[C] Emission Factor (lb/MMscf)[1]	[D] PTE (lb/hr)	[E] = [D] x 8760 / 2000 PTE (ton/yr)
Particulate Matter	7.60	0.46	2.02
Particulate Matter ≤ 10 µm	7.60	0.46	2.02
Particulate Matter ≤ 2.5 µm	7.60	0.46	2.02
Sulfur Oxides	0.60	0.04	0.16
Nitrogen Oxides[3]	32.00	1.94	8.50
Carbon Monoxide	84.00	5.09	22.31
Volatile Organic Compounds	5.50	0.33	1.46
Hazardous Air Pollutants	**(lb/MMscf)**	**(lb/hr)**	**(ton/yr)**
Benzene	2.10E-03	1.27E-04	5.58E-04
Butane	2.10E+00	0.13	0.56
Dichlorobenzene	1.20E-03	7.28E-05	3.19E-04
Ethane	3.10E+00	0.19	0.82
Formaldehyde	0.08	4.55E-03	0.02
Hexane	1.80E+00	0.11	0.48
Naphthalene	6.10E-04	3.70E-05	1.62E-04
Pentane	2.60E+00	0.16	0.69
Propane	1.60E+00	0.10	0.42
Toluene	3.40E-03	2.06E-04	9.03E-04
POMs	8.82E-05	5.35E-06	2.34E-05
Arsenic	2.00E-04	1.21E-05	5.31E-05
Barium	4.40E-03	2.67E-04	1.17E-03
Beryllium	1.20E-05	7.28E-07	3.19E-06
Cadmium	1.10E-03	6.67E-05	2.92E-04
Chromium	1.40E-03	8.49E-05	3.72E-04
Cobalt	8.40E-05	5.09E-06	2.23E-05
Copper	8.50E-04	5.15E-05	2.26E-04
Manganese	3.80E-04	2.30E-05	1.01E-04
Mercury	2.60E-04	1.58E-05	6.90E-05
Molybdenum	1.10E-03	6.67E-05	2.92E-04
Nickel	2.10E-03	1.27E-04	5.58E-04
Selenium	2.40E-05	1.46E-06	6.37E-06
Vanadium	2.30E-03	1.39E-04	6.11E-04
Zinc	2.90E-02	1.76E-03	7.70E-03
Total HAPs	**11.33**	**0.69**	**3.01**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	116.98	7,234	31,684
CH_4	2.20E-03	0.14	0.60
N_2O	2.20E-04	0.01	0.06
GHG (mass basis)	**116.98**	**7,234**	**31,685**
CO_2e	**117.10**	**7,241**	**31,717**

[1] Emission Factors from AP-42 Tables 1.4-2, 1.4-3, and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] Emission factor for small boiler controlled - Low NOx Burner/ Flue Gas Recirculation

Fact Sheet Attachment

Victory Boiler: EP-1

Potential to Emit from Combusting Natural Gas and Fuel Oil #2 by External Combustion

Natural Gas (7680 hr)

[A] Total Heat Input Capacity 61.84 MMBtu/hr

1 MMscf = 1020 MMBtu

[B] Potential Natural Gas Throughput 0.06 MMscf/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/10^3 Gallons)

Pollutant	[C] Emission Factor (lb/MMscf)[1]	[D] PTE (lb/hr)	[E] = [D] x 7680 / 2000 PTE (ton/yr)
Particulate Matter	7.60	0.46	1.77
Particulate Matter ≤ 10 µm	7.60	0.46	1.77
Particulate Matter ≤ 2.5 µm	7.60	0.46	1.77
Sulfur Oxides	0.60	0.04	0.14
Nitrogen Oxides[3]	32.00	1.94	7.45
Carbon Monoxide	84.00	5.09	19.56
Volatile Organic Compounds	5.50	0.33	1.28
Hazardous Air Pollutants	**(lb/MMscf)**	**(lb/hr)**	**(ton/yr)**
Benzene	2.10E-03	1.27E-04	4.89E-04
Butane	2.10E+00	0.13	0.49
Dichlorobenzene	1.20E-03	7.28E-05	2.79E-04
Ethane	3.10E+00	0.19	0.72
Formaldehyde	0.08	4.55E-03	0.02
Hexane	1.80E+00	0.11	0.42
Naphthalene	6.10E-04	3.70E-05	1.42E-04
Pentane	2.60E+00	0.16	0.61
Propane	1.60E+00	0.10	0.37
Toluene	3.40E-03	2.06E-04	7.92E-04
POMs	8.82E-05	5.35E-06	2.05E-05
Arsenic	2.00E-04	1.21E-05	4.66E-05
Barium	4.40E-03	2.67E-04	1.02E-03
Beryllium	1.20E-05	7.28E-07	2.79E-06
Cadmium	1.10E-03	6.67E-05	2.56E-04
Chromium	1.40E-03	8.49E-05	3.26E-04
Cobalt	8.40E-05	5.09E-06	1.96E-05
Copper	8.50E-04	5.15E-05	1.98E-04
Manganese	3.80E-04	2.30E-05	8.85E-05
Mercury	2.60E-04	1.58E-05	6.05E-05
Molybdenum	1.10E-03	6.67E-05	2.56E-04
Nickel	2.10E-03	1.27E-04	4.89E-04
Selenium	2.40E-05	1.46E-06	5.59E-06
Vanadium	2.30E-03	1.39E-04	5.35E-04
Zinc	2.90E-02	1.76E-03	6.75E-03
Total HAPs	**11.33**	**0.69**	**2.64**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	116.98	7,234	27,778
CH_4	2.20E-03	0.14	0.52
N_2O	2.20E-04	0.01	0.05
GHG (mass basis)	**116.98**	**7,234**	**27,779**
CO_2e	**117.10**	**7,241**	**27,807**

[1] Emission Factors from AP-42 Tables 1.4-2, 1.4-3, and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] Emission factor for small boiler controlled - Low NOx Burner/ Flue Gas Recirculation

Fact Sheet Attachment

Victory Boiler: EP-1

Potential to Emit from Combusting Fuel Oil #2 by External Combustion

Fuel Oil #2 (1080 hr)

[A] Total Heat Input Capacity 61.84 MMBtu/hr

10^3 Gallon = 140 MMBtu

[B] Potential Fuel Oil Throughput 0.44 10^3 Gallon/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/10^3 Gallons)

Pollutant	[C] Emission Factor ($lb/10^3$ Gallon)[1]	[D] PTE (lb/hr)	[E] = [D] x 1080 / 2000 PTE (ton/yr)
Particulate Matter[3]	3.30	1.46	0.79
Particulate Matter ≤ 10 µm	3.30	1.46	0.79
Particulate Matter ≤ 2.5 µm	3.30	1.46	0.79
Sulfur Oxides[4]	7.20	3.18	1.72
Nitrogen Oxides	20.00	8.83	4.77
Carbon Monoxide	5.00	2.21	1.19
Volatile Organic Compounds	0.25	0.11	0.06
Hazardous Air Pollutants	**($lb/10^3$ Gallon)[1]**	**(lb/hr)**	**(ton/yr)**
Benzene	2.14E-04	9.45E-05	5.10E-05
Ethylbenzene	6.36E-05	2.81E-05	1.52E-05
Formaldehyde	3.30E-02	0.01	7.87E-03
Naphthalene	1.13E-03	4.99E-04	2.70E-04
1,1,1-Trichloroethane	2.36E-04	1.04E-04	5.63E-05
Toluene	6.20E-03	2.74E-03	1.48E-03
o-Xylene	1.09E-04	4.81E-05	2.60E-05
Acenaphthene	2.11E-05	9.32E-06	5.03E-06
Acenaphthylene	2.53E-07	1.12E-07	6.03E-08
Anthracene	1.22E-06	5.39E-07	2.91E-07
Benz(a)anthracene	4.01E-06	1.77E-06	9.56E-07
Benzo(b,k)fluoranthene	1.48E-06	6.54E-07	3.53E-07
Benzo(g,h,i)perylene	2.26E-06	9.98E-07	5.39E-07
Chrysene	2.38E-06	1.05E-06	5.68E-07
Dibenzo(a,h) anthracene	1.67E-06	7.38E-07	3.98E-07
Fluoranthene	4.84E-06	2.14E-06	1.15E-06
Fluorene	4.47E-06	1.97E-06	1.07E-06
Indo(1,2,3-cd)pyrene	2.14E-06	9.45E-07	5.10E-07
Phenanthrene	1.05E-05	4.64E-06	2.50E-06
Pyrene	4.25E-06	1.88E-06	1.01E-06
OCDD	3.10E-09	1.37E-09	7.39E-10
Arsenic	4.00E-06	2.47E-04	1.34E-04
Beryllium	3.00E-06	1.86E-04	1.00E-04
Cadmium	3.00E-06	1.86E-04	1.00E-04
Chromium	3.00E-06	1.86E-04	1.00E-04
Copper	6.00E-06	3.71E-04	2.00E-04
Lead	9.00E-06	5.57E-04	3.01E-04
Mercury	3.00E-06	1.86E-04	1.00E-04
Manganese	6.00E-06	3.71E-04	2.00E-04
Nickel	3.00E-06	1.86E-04	1.00E-04
Selenium	1.50E-05	9.28E-04	5.01E-04
Zinc	4.00E-06	2.47E-04	1.34E-04
Total HAPs	**0.04**	**0.02**	**0.01**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	163.05	10,083	5,445
CH_4	6.61E-03	0.41	0.22
N_2O	1.32E-03	0.08	0.04
GHG (mass basis)	**163.06**	**10,084**	**5,445**
CO_2e	**163.59**	**10,116**	**5,463**

[1] Emission Factors from AP-42 Tables 1.3-1, 1.3-2, 1.3-3, 1.3-6, 1.3-9, and 1.3-10 (5/2010)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] PM emission factor calculated using tables 1.3-1 and 1.3-2 combining filterable PM and condensable PM

[4] Sulfur content of 0.05% is assumed for this emission factor

Fact Sheet Attachment

Johnston Boiler: EP-2

Worst Case Emissions: Natural Gas or Natural Gas + Fuel Oil #2		
Pollutant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (tpy)
PM	1.15	2.01
PM_{10}	1.15	2.01
$PM_{2.5}$	1.15	2.01
SO_x	2.50	1.46
NO_x	6.96	9.62
CO	4.01	17.57
VOCs	0.26	1.15
HAPS		
Formaldehyde	0.01	0.02
Hexane	0.09	0.38
Total HAPs	**0.54**	**2.37**
Greenhouse Gases		
GHG (as Mass)	**7941.10**	**26164.31**
GHG (as CO_2e)	**7966.80**	**26200.20**

Fact Sheet Attachment

Johnston Boiler: EP-2

Potential to Emit from Combusting Natural Gas by External Combustion

[A] Total Heat Input Capacity 48.70 MMBtu/hr

1 MMscf = 1020 MMBtu

[B] Potential Natural Gas Throughput 0.05 MMscf/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/MMscf)

Pollutant	[C] Emission Factor (lb/MMscf)[1]	[D] PTE (lb/hr)	[E] = [D] x 8760 / 2000 PTE (ton/yr)
Particulate Matter	7.60	0.36	1.59
Particulate Matter ≤ 10 µm	7.60	0.36	1.59
Particulate Matter ≤ 2.5 µm	7.60	0.36	1.59
Sulfur Oxides	0.60	0.03	0.13
Nitrogen Oxides[3]	32.00	1.53	6.69
Carbon Monoxide	84.00	4.01	17.57
Volatile Organic Compounds	5.50	0.26	1.15
Hazardous Air Pollutants	**(lb/MMscf)**	**(lb/hr)**	**(ton/yr)**
Benzene	2.10E-03	1.00E-04	4.39E-04
Butane	2.10E+00	0.10	0.44
Dichlorobenzene	1.20E-03	5.73E-05	2.51E-04
Ethane	3.10E+00	0.15	0.65
Formaldehyde	0.08	3.58E-03	0.02
Hexane	1.80E+00	0.09	0.38
Naphthalene	6.10E-04	2.91E-05	1.28E-04
Pentane	2.60E+00	0.12	0.54
Propane	1.60E+00	0.08	0.33
Toluene	3.40E-03	1.62E-04	7.11E-04
POMs	8.82E-05	4.21E-06	1.84E-05
Arsenic	2.00E-04	9.55E-06	4.18E-05
Barium	4.40E-03	2.10E-04	9.20E-04
Beryllium	1.20E-05	5.73E-07	2.51E-06
Cadmium	1.10E-03	5.25E-05	2.30E-04
Chromium	1.40E-03	6.68E-05	2.93E-04
Cobalt	8.40E-05	4.01E-06	1.76E-05
Copper	8.50E-04	4.06E-05	1.78E-04
Manganese	3.80E-04	1.81E-05	7.95E-05
Mercury	2.60E-04	1.24E-05	5.44E-05
Molybdenum	1.10E-03	5.25E-05	2.30E-04
Nickel	2.10E-03	1.00E-04	4.39E-04
Selenium	2.40E-05	1.15E-06	5.02E-06
Vanadium	2.30E-03	1.10E-04	4.81E-04
Zinc	2.90E-02	1.38E-03	6.06E-03
Total HAPs	**11.33**	**0.54**	**2.37**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	116.98	5,697	24,952
CH_4	2.20E-03	0.11	0.47
N_2O	2.20E-04	0.01	0.05
GHG (mass basis)	**116.98**	**5,697**	**24,952**
CO_2e	**117.10**	**5,703**	**24,980**

[1] Emission Factors from AP-42 Tables 1.4-2, 1.4-3, and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 20025

[3] Emission factor for small boiler controlled - Low NOx Burner/ Flue Gas Recirculation

Fact Sheet Attachment

Johnston Boiler: EP-2

Potential to Emit from Combusting Natural Gas and Fuel Oil #2 by External Combustion

Natural Gas (7680 hr)

[A] Total Heat Input Capacity 48.70 MMBtu/hr

1 MMscf = 1020 MMBtu

[B] Potential Natural Gas Throughput 0.05 10^3 Gallon/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/10^3 Gallons)

Pollutant	[C] Emission Factor (lb/MMscf)[1]	[D] PTE (lb/hr)	[E] = [D] x 7680 / 2000 PTE (ton/yr)
Particulate Matter	7.60	0.36	1.39
Particulate Matter ≤ 10 µm	7.60	0.36	1.39
Particulate Matter ≤ 2.5 µm	7.60	0.36	1.39
Sulfur Oxides	0.60	0.03	0.11
Nitrogen Oxides[3]	32.00	1.53	5.87
Carbon Monoxide	84.00	4.01	15.40
Volatile Organic Compounds	5.50	0.26	1.01
Hazardous Air Pollutants	**(lb/MMscf)**	**(lb/hr)**	**(ton/yr)**
Benzene	2.10E-03	1.00E-04	3.85E-04
Butane	2.10E+00	0.10	0.39
Dichlorobenzene	1.20E-03	5.73E-05	2.20E-04
Ethane	3.10E+00	0.15	0.57
Formaldehyde	0.08	3.58E-03	0.01
Hexane	1.80E+00	0.09	0.33
Naphthalene	6.10E-04	2.91E-05	1.12E-04
Pentane	2.60E+00	0.12	0.48
Propane	1.60E+00	0.08	0.29
Toluene	3.40E-03	1.62E-04	6.23E-04
POMs	8.82E-05	4.21E-06	1.62E-05
Arsenic	2.00E-04	9.55E-06	3.67E-05
Barium	4.40E-03	2.10E-04	8.07E-04
Beryllium	1.20E-05	5.73E-07	2.20E-06
Cadmium	1.10E-03	5.25E-05	2.02E-04
Chromium	1.40E-03	6.68E-05	2.57E-04
Cobalt	8.40E-05	4.01E-06	1.54E-05
Copper	8.50E-04	4.06E-05	1.56E-04
Manganese	3.80E-04	1.81E-05	6.97E-05
Mercury	2.60E-04	1.24E-05	4.77E-05
Molybdenum	1.10E-03	5.25E-05	2.02E-04
Nickel	2.10E-03	1.00E-04	3.85E-04
Selenium	2.40E-05	1.15E-06	4.40E-06
Vanadium	2.30E-03	1.10E-04	4.22E-04
Zinc	2.90E-02	1.38E-03	5.32E-03
Total HAPs	**11.33**	**0.54**	**2.08**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	116.98	5,697	21,876
CH_4	2.20E-03	0.11	0.41
N_2O	2.20E-04	0.01	0.04
GHG (mass basis)	**116.98**	**5,697**	**21,876**
CO_2e	**117.10**	**5,703**	**21,898**

[1] Emission Factors from AP-42 Tables 1.4-2, 1.4-3, and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 20025

[3] Emission factor for small boiler controlled - Low NOx Burner/ Flue Gas Recirculation

Fact Sheet Attachment

Johnston Boiler: EP-2

Potential to Emit from Combusting Fuel Oil #2 by External Combustion

Fuel Oil #2 (1080 hr)

[A] Total Heat Input Capacity 48.70 MMBtu/hr

10^3 Gallon = 140 MMBtu

[B] Potential Fuel Oil Throughput 0.35 10^3 Gallon/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/10^3 Gallons)

Pollutant	[C] Emission Factor ($lb/10^3$ Gallon)[1]	[D] PTE (lb/hr)	[E] = [D] x 1080 / 2000 PTE (ton/yr)
Particulate Matter[3]	3.30	1.15	0.62
Particulate Matter ≤ 10 µm	3.30	1.15	0.62
Particulate Matter ≤ 2.5 µm	3.30	1.15	0.62
Sulfur Oxides[4]	7.20	2.50	1.35
Nitrogen Oxides	20.00	6.96	3.76
Carbon Monoxide	5.00	1.74	0.94
Volatile Organic Compounds	0.25	0.09	0.05
Hazardous Air Pollutants	**($lb/10^3$ Gallon)[1]**	**(lb/hr)**	**(ton/yr)**
Benzene	2.14E-04	7.44E-05	4.02E-05
Ethylbenzene	6.36E-05	2.21E-05	1.19E-05
Formaldehyde	3.30E-02	0.01	6.20E-03
Naphthalene	1.13E-03	3.93E-04	2.12E-04
1,1,1-Trichloroethane	2.36E-04	8.21E-05	4.43E-05
Toluene	6.20E-03	2.16E-03	1.16E-03
o-Xylene	1.09E-04	3.79E-05	2.05E-05
Acenaphthene	2.11E-05	7.34E-06	3.96E-06
Acenaphthylene	2.53E-07	8.80E-08	4.75E-08
Anthracene	1.22E-06	4.24E-07	2.29E-07
Benz(a)anthracene	4.01E-06	1.39E-06	7.53E-07
Benzo(b,k)fluoranthene	1.48E-06	5.15E-07	2.78E-07
Benzo(g,h,i)perylene	2.26E-06	7.86E-07	4.25E-07
Chrysene	2.38E-06	8.28E-07	4.47E-07
Dibenzo(a,h) anthracene	1.67E-06	5.81E-07	3.14E-07
Fluoranthene	4.84E-06	1.68E-06	9.09E-07
Fluorene	4.47E-06	1.55E-06	8.40E-07
Indo(1,2,3-cd)pyrene	2.14E-06	7.44E-07	4.02E-07
Phenanthrene	1.05E-05	3.65E-06	1.97E-06
Pyrene	4.25E-06	1.48E-06	7.98E-07
OCDD	3.10E-09	1.08E-09	5.82E-10
Arsenic	4.00E-06	1.95E-04	1.05E-04
Beryllium	3.00E-06	1.46E-04	7.89E-05
Cadmium	3.00E-06	1.46E-04	7.89E-05
Chromium	3.00E-06	1.46E-04	7.89E-05
Copper	6.00E-06	2.92E-04	1.58E-04
Lead	9.00E-06	4.38E-04	2.37E-04
Mercury	3.00E-06	1.46E-04	7.89E-05
Manganese	6.00E-06	2.92E-04	1.58E-04
Nickel	3.00E-06	1.46E-04	7.89E-05
Selenium	1.50E-05	7.31E-04	3.94E-04
Zinc	4.00E-06	1.95E-04	1.05E-04
Total HAPs	**0.04**	**0.02**	**9.26E-03**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	163.05	7,941	4,288
CH_4	6.61E-03	0.32	0.17
N_2O	1.32E-03	0.06	0.03
GHG (mass basis)	**163.06**	**7,941**	**4,288**
CO_2e	**163.59**	**7,967**	**4,302**

[1] Emission Factors from AP-42 Tables 1.3-1, 1.3-2, 1.3-3, 1.3-6, 1.3-9, and 1.3-10 (5/2010)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] PM emission factor calculated using tables 1.3-1 and 1.3-2 combining filterable PM and condensable PM

[4] Sulfur content of .05% is assumed for this emission factor

Fact Sheet Attachment

Hurst Boiler: EP-3

Worst Case Emissions: Natural Gas or Natural Gas + Fuel Oil #2		
Pollutant	Hourly Emission Rate (lb/hr)	Annual Emission Rate (tpy)
PM	1.19	2.08
PM_{10}	1.19	2.08
$PM_{2.5}$	1.19	2.08
SO_x	2.59	1.51
NO_x	7.20	9.96
CO	4.15	18.18
VOCs	0.27	1.19
HAPS		
Formaldehyde	0.01	0.02
Hexane	0.09	0.39
Total HAPs	**0.56**	**2.45**
Greenhouse Gases		
GHG (as Mass)	**8218.31**	**27077.64**
GHG (as CO_2e)	**8244.91**	**27114.79**

Fact Sheet Attachment

Hurst Boiler: EP-3

Potential to Emit from Combusting Natural Gas by External Combustion

[A] Total Heat Input Capacity 50.40 MMBtu/hr

1 MMscf = 1020 MMBtu

[B] Potential Natural Gas Throughput 0.05 MMscf/hr

[D] = [C] x [A] when emission factor has units of (lb/MMBtu)

[D] = [C] x [B] when emission factor has units of (lb/MMscf)

Pollutant	[C] Emission Factor	[D] PTE	[E] = [D] x 8760 / 2000 PTE
	(lb/MMscf)[1]	(lb/hr)	(ton/yr)
Particulate Matter	7.60	0.38	1.64
Particulate Matter ≤ 10 µm	7.60	0.38	1.64
Particulate Matter ≤ 2.5 µm	7.60	0.38	1.64
Sulfur Oxides	0.60	0.03	0.13
Nitrogen Oxides[3]	32.00	1.58	6.93
Carbon Monoxide	84.00	4.15	18.18
Volatile Organic Compounds	5.50	0.27	1.19
Hazardous Air Pollutants	**(lb/MMscf)**	**(lb/hr)**	**(ton/yr)**
Benzene	2.10E-03	1.04E-04	4.54E-04
Butane	2.10E+00	0.10	0.45
Dichlorobenzene	1.20E-03	5.93E-05	2.60E-04
Ethane	3.10E+00	0.15	0.67
Formaldehyde	0.08	3.71E-03	0.02
Hexane	1.80E+00	0.09	0.39
Naphthalene	6.10E-04	3.01E-05	1.32E-04
Pentane	2.60E+00	0.13	0.56
Propane	1.60E+00	0.08	0.35
Toluene	3.40E-03	1.68E-04	7.36E-04
POMs	8.82E-05	4.36E-06	1.91E-05
Arsenic	2.00E-04	9.88E-06	4.33E-05
Barium	4.40E-03	2.17E-04	9.52E-04
Beryllium	1.20E-05	5.93E-07	2.60E-06
Cadmium	1.10E-03	5.44E-05	2.38E-04
Chromium	1.40E-03	6.92E-05	3.03E-04
Cobalt	8.40E-05	4.15E-06	1.82E-05
Copper	8.50E-04	4.20E-05	1.84E-04
Manganese	3.80E-04	1.88E-05	8.22E-05
Mercury	2.60E-04	1.28E-05	5.63E-05
Molybdenum	1.10E-03	5.44E-05	2.38E-04
Nickel	2.10E-03	1.04E-04	4.54E-04
Selenium	2.40E-05	1.19E-06	5.19E-06
Vanadium	2.30E-03	1.14E-04	4.98E-04
Zinc	2.90E-02	1.43E-03	6.28E-03
Total HAPs	**11.33**	**0.56**	**2.45**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	116.98	5,896	25,823
CH_4	2.20E-03	0.11	0.49
N_2O	2.20E-04	0.01	0.05
GHG (mass basis)	**116.98**	**5,896**	**25,823**
CO_2e	**117.10**	**5,902**	**25,849**

[1] Emission Factors from AP-42 Tables 1.4-2, 1.4-3, and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] Emission factor for small boiler controlled - Low NOx Burner/ Flue Gas Recirculation

Fact Sheet Attachment

Hurst Boiler: EP-3

Potential to Emit from Combusting Natural Gas by External Combustion

Hours of Operation	7680 hr
[A] Total Heat Input Capacity	50.40 MMBtu/hr
1 MMscf = 1020 MMBtu	
[B] Potential Natural Gas Throughput	0.05 MMscf/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/10^3 Gallons)

Pollutant	[C] Emission Factor (lb/MMscf)[1]	[D] PTE (lb/hr)	[E] = [D] x 7680 / 2000 PTE (ton/yr)
Particulate Matter	7.60	0.38	1.44
Particulate Matter ≤ 10 µm	7.60	0.38	1.44
Particulate Matter ≤ 2.5 µm	7.60	0.38	1.44
Sulfur Oxides	0.60	0.03	0.11
Nitrogen Oxides[3]	32.00	1.58	6.07
Carbon Monoxide	84.00	4.15	15.94
Volatile Organic Compounds	5.50	0.27	1.04
Hazardous Air Pollutants	**(lb/MMscf)**	**(lb/hr)**	**(ton/yr)**
Benzene	2.10E-03	1.04E-04	3.98E-04
Butane	2.10E+00	0.10	0.40
Dichlorobenzene	1.20E-03	5.93E-05	2.28E-04
Ethane	3.10E+00	0.15	0.59
Formaldehyde	0.08	3.71E-03	0.01
Hexane	1.80E+00	0.09	0.34
Naphthalene	6.10E-04	3.01E-05	1.16E-04
Pentane	2.60E+00	0.13	0.49
Propane	1.60E+00	0.08	0.30
Toluene	3.40E-03	1.68E-04	6.45E-04
POMs	8.82E-05	4.36E-06	1.67E-05
Arsenic	2.00E-04	9.88E-06	3.79E-05
Barium	4.40E-03	2.17E-04	8.35E-04
Beryllium	1.20E-05	5.93E-07	2.28E-06
Cadmium	1.10E-03	5.44E-05	2.09E-04
Chromium	1.40E-03	6.92E-05	2.66E-04
Cobalt	8.40E-05	4.15E-06	1.59E-05
Copper	8.50E-04	4.20E-05	1.61E-04
Manganese	3.80E-04	1.88E-05	7.21E-05
Mercury	2.60E-04	1.28E-05	4.93E-05
Molybdenum	1.10E-03	5.44E-05	2.09E-04
Nickel	2.10E-03	1.04E-04	3.98E-04
Selenium	2.40E-05	1.19E-06	4.55E-06
Vanadium	2.30E-03	1.14E-04	4.36E-04
Zinc	2.90E-02	1.43E-03	5.50E-03
Total HAPs	**11.33**	**0.56**	**2.15**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	116.98	5,896	22,639
CH_4	2.20E-03	0.11	0.43
N_2O	2.20E-04	0.01	0.04
GHG (mass basis)	**116.98**	**5,896**	**22,640**
CO_2e	**117.10**	**5,902**	**22,663**

[1] Emission Factors from AP-42 Tables 1.4-2, 1.4-3, and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] Emission factor for small boiler controlled - Low NOx Burner/ Flue Gas Recirculation

Fact Sheet Attachment

Hurst Boiler: EP-3

Potential to Emit from Combusting Fuel Oil #2

Hours of Operation 1080 hr

[A] Total Heat Input Capacity 50.40 MMBtu/hr

10^3 Gallon = 140 MMBtu

[B] Potential Diesel Throughput 0.36 10^3 Gallon/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/10^3 Gallons)

Pollutant	[C] Emission Factor	[D] PTE	[E] = [D] x 1080 / 2000 PTE
	(lb/10^3 Gallon)[1]	(lb/hr)	(ton/yr)
Particulate Matter[3]	3.30	1.19	0.64
Particulate Matter ≤ 10 µm	3.30	1.19	0.64
Particulate Matter ≤ 2.5 µm	3.30	1.19	0.64
Sulfur Oxides[4]	7.20	2.59	1.40
Nitrogen Oxides	20.00	7.20	3.89
Carbon Monoxide	5.00	1.80	0.97
Volatile Organic Compounds	0.25	0.09	0.05
Hazardous Air Pollutants	**(lb/10^3 Gallon)[1]**	**(lb/hr)**	**(ton/yr)**
Benzene	2.14E-04	7.70E-05	4.16E-05
Ethylbenzene	6.36E-05	2.29E-05	1.24E-05
Formaldehyde	3.30E-02	0.01	6.42E-03
Naphthalene	1.13E-03	4.07E-04	2.20E-04
1,1,1-Trichloroethane	2.36E-04	8.50E-05	4.59E-05
Toluene	6.20E-03	2.23E-03	1.21E-03
o-Xylene	1.09E-04	3.92E-05	2.12E-05
Acenaphthene	2.11E-05	7.60E-06	4.10E-06
Acenaphthylene	2.53E-07	9.11E-08	4.92E-08
Anthracene	1.22E-06	4.39E-07	2.37E-07
Benz(a)anthracene	4.01E-06	1.44E-06	7.80E-07
Benzo(b,k)fluoranthene	1.48E-06	5.33E-07	2.88E-07
Benzo(g,h,i)perylene	2.26E-06	8.14E-07	4.39E-07
Chrysene	2.38E-06	8.57E-07	4.63E-07
Dibenzo(a,h) anthracene	1.67E-06	6.01E-07	3.25E-07
Fluoranthene	4.84E-06	1.74E-06	9.41E-07
Fluorene	4.47E-06	1.61E-06	8.69E-07
Indo(1,2,3-cd)pyrene	2.14E-06	7.70E-07	4.16E-07
Phenanthrene	1.05E-05	3.78E-06	2.04E-06
Pyrene	4.25E-06	1.53E-06	8.26E-07
OCDD	3.10E-09	1.12E-09	6.03E-10
Arsenic	4.00E-06	2.02E-04	1.09E-04
Beryllium	3.00E-06	1.51E-04	8.16E-05
Cadmium	3.00E-06	1.51E-04	8.16E-05
Chromium	3.00E-06	1.51E-04	8.16E-05
Copper	6.00E-06	3.02E-04	1.63E-04
Lead	9.00E-06	4.54E-04	2.45E-04
Mercury	3.00E-06	1.51E-04	8.16E-05
Manganese	6.00E-06	3.02E-04	1.63E-04
Nickel	3.00E-06	1.51E-04	8.16E-05
Selenium	1.50E-05	7.56E-04	4.08E-04
Zinc	4.00E-06	2.02E-04	1.09E-04
Total HAPs	**0.04**	**0.02**	**9.58E-03**
Greenhouse Gases	**(lb/MMBtu)[2]**	**(lb/hr)**	**(ton/yr)**
CO_2	163.05	8,218	4,438
CH_4	6.61E-03	0.33	0.18
N_2O	1.32E-03	0.07	0.04
GHG (mass basis)	**163.06**	**8,218**	**4,438**
CO_2e	**163.59**	**8,245**	**4,452**

[1] Emission Factors from AP-42 Tables 1.3-1, 1.3-2, 1.3-3, 1.3-6, 1.3-9, and 1.3-10 (5/2010)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] PM emission factor calculated using tables 1.3-1 and 1.3-2 combining filterable PM and condensable PM

[4] Sulfur content of 0.05% is assumed for this emission factor

Fact Sheet Attachment

Cookers: EP-4

Potential to Emit from Combusting Natural Gas by RTO

[A] Total Heat Input Capacity 4.00 MMBtu/hr

1 MMscf = 1020 MMBtu

[B] Potential Natural Gas Throughput 3.92E-03 MMscf/hr

[D] = [C] x [A] when emission factor has units of (lbs/MMBtu)

[D] = [C] x [B] when emission factor has units of (lbs/MMscf)

Pollutant	[C] Emission Factor	[D] PTE	[E] = [D] x 8760 / 2000 PTE
	(lbs/MMscf)[1]	(lbs/hr)	(ton/yr)
Particulate Matter[3]	0	2.47	10.82
Particulate Matter ≤ 10 μm[3]	0	2.47	10.82
Particulate Matter ≤ 2.5 μm[3]	0	2.47	10.82
Sulfur Oxides [3]	0	5.78	25.32
Nitrogen Oxides[4]	0	1.08	4.72
Carbon Monoxide	84.00	0.33	1.44
Volatile Organic Compounds[3]	0	0.36	1.56
Hazardous Air Pollutants	**(lbs/MMscf)**	**(lbs/hr)**	**(ton/yr)**
Benzene	2.13E-03	8.35E-06	3.66E-05
Dichlorobenzene	1.20E-03	4.71E-06	2.06E-05
Formaldehyde	0.08	2.94E-04	1.29E-03
Hexane	1.80	7.06E-03	0.03
Naphthalene	6.10E-04	2.39E-06	1.05E-05
Polycyclic Organic Matter	8.82E-05	3.46E-07	1.51E-06
Toluene	3.40E-03	1.33E-05	5.84E-05
Arsenic Compounds	2.00E-04	7.84E-07	3.44E-06
Beryllium Compounds	1.20E-05	4.71E-08	2.06E-07
Cadmium Compounds	1.10E-03	4.31E-06	1.89E-05
Chromium Compounds	1.40E-03	5.49E-06	2.40E-05
Cobalt Compounds	8.40E-05	3.29E-07	1.44E-06
Lead Compounds	5.00E-04	1.96E-06	8.59E-06
Manganese Compounds	3.80E-04	1.49E-06	6.53E-06
Mercury Compounds	2.60E-04	1.02E-06	4.47E-06
Nickel Compounds	2.10E-03	8.24E-06	3.61E-05
Selenium Compounds	2.40E-05	9.41E-08	4.12E-07
Total HAPs	**1.89**	**7.41E-03**	**0.03**
Greenhouse Gases	**(lbs/MMBtu)[2]**	**(lbs/hr)**	**(ton/yr)**
CO_2	116.98	467.91	2,049
CH_4	2.20E-03	8.82E-03	0.04
N_2O	2.20E-04	8.82E-04	3.86E-03
GHG (mass basis)	**116.98**	**467.92**	**2,049**
CO_2e	**117.10**	**468.39**	**2,052**

[1] Emission Factors from AP-42 Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4 (7/98)

[2] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

[3] Emission rates based on performance tests conducted June 12-13, 2018.

[4] NO_x emission rate is based on performance tests conducted November 3-4, 2020.

Fact Sheet Attachment
Cookers: EP-5

Potential to Emit from cookers followed by scrubbing system

Pollutant	[D] PTE[1] (lbs/hr)	[E] = [D] x 8760 / 2000 PTE (ton/yr)
Particulate Matter	1.42	6.20
Particulate Matter ≤ 10 µm	1.42	6.20
Particulate Matter ≤ 2.5 µm	1.42	6.20
Sulfur Oxides	0.22	0.95
Nitrogen Oxides[3]	0.12	0.53
Carbon Monoxide	0.44	1.94
Volatile Organic Compounds[2]	4.20	18.40
Hazardous Air Pollutants	**(lbs/hr)**	**(ton/yr)**
Benzene	0	0
Dichlorobenzene	0	0
Formaldehyde	0	0
Hexane	0	0
Naphthalene	0	0
Polycyclic Organic Matter	0	0
Toluene	0	0
Arsenic Compounds	0	0
Beryllium Compounds	0	0
Cadmium Compounds	0	0
Chromium Compounds	0	0
Cobalt Compounds	0	0
Lead Compounds	1.10E-04	4.82E-04
Manganese Compounds	0	0
Mercury Compounds	0	0
Nickel Compounds	0	0
Selenium Compounds	0	0
Total HAPs	**1.10E-04**	**4.82E-04**
Greenhouse Gases[4]	**(lbs/hr)**	**(ton/yr)**
CO_2	0	0
CH_4	0	0
N_2O	0	0
GHG (mass basis)	**0**	**0**
CO_2e	**0**	**0**

[1] Emission rates in lbs/hr are based on Darling compilation of tested scrubber emissions submitted along the CP application. The source stated that there are no combustion/HAP emissions resulting from a cooker or scrubber. Darling believes these emissions result from miscellaneous activities such as truck and front end loader exhaust operating inside the building. The DWEE used test results as generated because it is more conservative.

[2] VOC emission rates in lbs/hr are based on stack testing performed on a similar Darling International Facility Inc. in Lexington on January 17-18, 2013

[3] Emission rate based on performance tests conducted November 3-4, 2020.

[4] Emission Factors from 40 CFR 98 Tables A-1, C-1, and C-2 published January 1, 2025

Fact Sheet Attachment

Waste Gas Flare: EU-10

Biogas Produced[1]	13,178,880	scf/yr
Biogas Flow to EU-9	208.00	scf/min
Biogas Flow to EU-9	12,480	scf/hr
Operational Hours	1,500	hours/yr
Heating Value of Biogas[1]	650.00	Btu/scf
Heating Value of Biogas	8.11	MMBtu/hr
Heating Value of Biogas	12,168	MMBtu/yr

Pollutant	Emission Factor	Emission Factor Units	PTE (lb/hr)	PTE (tons/yr)
PM[2]	-	-	0.03	2.32E-02
PM_{10}	-	-	3.10E-02	2.32E-02
$PM_{2.5}$	-	-	3.10E-02	2.32E-02
SO_x[3]	-	-	16.12	12.09
NO_x[4]	6.80E-02	lb/MMBtu	0.55	0.41
CO[5]	0.31	lb/MMBtu	2.51	1.89
VOC[5]	0.57	lb/MMBtu	4.62	3.47
Greenhouse Gases[6]				
CO_2	52.07	kg/MMBtu	931.21	698.41
CH_4	3.20E-03	kg/MMBtu	5.72E-02	4.29E-02
N_2O	6.30E-04	kg/MMBtu	1.13E-02	8.45E-03
GHG (mass basis)			**931.28**	**698.46**
GHG (CO_2e basis)[7]			**935.80**	**701.85**

[1] Provided by source in application

[2] PM Emission Factors are based on a lightly smoking flare (40 µg/L)

PM_{10} and $PM_{2.5}$ are assumed to be equal to PM for conservatism, and based on a lightly smoking flare (40 µg/L) (AP-42 Table 13.5-1)

PM Emission Factor (lb/hr): (scf of biogas/hr) x (28.137 L/scf) x (40 µg/L) x (1 g/10^6 µg) x (1 lb/453.59 g)

PM Emission Factor (lb/hr): 3.10E-02 lb/hr

[3] Maximum concentration of Hydrogen Sulfide in Biogas was measured to be 7,800 ppm (as provided by source in application)

Assuming 100% conversion from Hydrogen Sulfide to Sulfur Dioxide

SO_x Emission Factor: (H_2S ppm) x (64 lb SO_2/lb-mol) x (Biogas flow rate scf/hr) * (1 lb-mol/386.5 ft^3 air) * (1/10^6)

SO_x Emission Factor: 16.12 lb/hr

[4] AP-42 Table 13.5-1 (04/2015)

[5] AP-42 Table 13.5-2 (04/2015)

[6] 40 CFR 98 Tables C-1 and C-2 for Other Biomass Gas (11/2013)

[7] 40 CFR 98 Table A-1 (01/2025)

Fact Sheet Attachment
Waste Gas Flare: EU-10

Fact Sheet Attachment
Waste Gas Flare: EU-10

Pilot Emissions

Heat Input Capacity of Pilot[1]	2.00	MMBtu/hr
Heating Value	97,400	Btu/gal
Operating Time	8,760	hrs/yr
Total LPG Usage	2.05E-05	10^3 gal/hr
Sulfur Content of LPG	1.50	gr/100 gal

Pollutant	Emission Factor[2]	Emission Factor Units	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
PM	0.20	lb/10^3 gal	4.11E-06	1.80E-05
PM_{10}	0.80	lb/10^3 gal	1.64E-05	7.20E-05
$PM_{2.5}$	0.80	lb/10^3 gal	1.64E-05	7.20E-05
SO_x[3]	0.15	lb/10^3 gal	3.09E-06	1.35E-05
NO_x	15.00	lb/10^3 gal	3.08E-04	1.35E-03
CO	8.40	lb/10^3 gal	1.72E-04	7.55E-04
VOC	1.10	lb/10^3 gal	2.26E-05	9.89E-05
Total HAPs[4]	**68.09**	**lb/10^3 gal**	**1.40E-03**	**6.12E-03**
Greenhouse Gases[5]				
CO_2	61.71	kg/MMBtu	272.09	1,192
CH_4	3.00E-03	kg/MMBtu	1.32E-02	5.79E-02
N_2O	6.00E-04	kg/MMBtu	2.65E-03	1.16E-02
GHG (mass basis)			**272.11**	**1,192**
GHG (CO_2e basis)[6]			**273.17**	**1,195**

[1] DWEE Standard Value for Flare Pilot

[2] Worst-case scenario between Butane and Propane from AP-42 Table 1.5-1 (07/2008), unless otherwise indicated

[3] 185 ppm Sulfur content (Gas Producers Association, Standard 2140-92) was used

185 ppm = 0.0185%

0.0185% S x 31.12 lb/ft^3 Propane = 0.0058 lb S/ft^3 of Propane

0.0058 lb S/ft^3 Propane x 1 ft^3/0.027 gal Propane = 0.2148 lb S/ga

SO_x Emission Factor = 0.10 x gr S/100 gal Propane (AP-42 Table 1.5-1 (07/2008)) = 1.50 gr/100 gal

1.50 gr/100 = 15.00 lb/10^3 gal

[4] HAPs from Natural Gas (AP-42 Tables 1.4-3 and 1.4-4 (07/98)) were assumed

HAPs = 1.893 lb/MMscf (Combined Natural Gas HAPs as listed by EPA) (*CAA Amendments of 1990* List of Hazardous Air Pollutants)

1 MMscf Propane = 27.8 gallons of Propane

1.893 lb/MMscf = 0.0681 lb/gal

0.0681 lb/gal = 68.09 lb/10^3 gal

[5] 40 CFR 98 Tables C-1 and C-2 (11/2013)

[6] 40 CFR 98 Table A-1 (01/2025)

Fact Sheet Attachment

Emergency Generator: EP-9

Natural gas fired

Maximum capacity	32	kW
Heat content	1020	MMBtu/MMscf
Hours of operation	500	hrs/yr (permit limit in OP)
Hourly throughput	0.375	MMBtu/hr

Pollutant	Emission Factor (lb/MMBtu)[1]	Potential Emissions (lb/hr)[2]	Potential Emissions (tons/yr)[3]
PM	9.99E-03	0.004	9.36E-04
PM_{10}	9.99E-03	3.75E-03	9.36E-04
$PM_{2.5}$	9.99E-03	3.75E-03	9.36E-04
SO_x	5.88E-04	2.21E-04	5.51E-05
NO_x	4.08	1.53	0.38
CO	0.317	1.19E-01	2.97E-02
VOC	0.118	4.43E-02	1.11E-02
Hazardous Air Pollutants			
Acetaldehyde	8.36E-03	3.14E-03	7.84E-04
Acrolein	5.14E-03	1.93E-03	4.82E-04
Benzene	4.40E-04	1.65E-04	4.13E-05
1,3-Butadiene	2.67E-04	1.00E-04	2.50E-05
Carbon Tetrachloride	3.67E-05	1.38E-05	3.44E-06
Chlorobenzene	3.04E-05	1.14E-05	2.85E-06
Chloroform	2.85E-05	1.07E-05	2.67E-06
1,3-Dichloropropene	2.64E-05	9.90E-06	2.48E-06
Ethyl Benzene	3.97E-05	1.49E-05	3.72E-06
Ethylene Dibromide	4.43E-05	1.66E-05	4.15E-06
Formaldehyde	5.28E-02	1.98E-02	4.95E-03
Hexane	1.11E-03	4.16E-04	1.04E-04
Methanol	2.50E-03	9.38E-04	2.34E-04
Methylene Chloride	2.00E-05	7.50E-06	1.88E-06
Naphthalene	7.44E-05	2.79E-05	6.98E-06
Phenol	2.40E-05	9.00E-06	2.25E-06
Polycyclic Organic Matter	2.99E-04	1.12E-04	2.80E-05
Styrene	2.36E-05	8.85E-06	2.21E-06
1,1,2,2-Tetrachloroethane	4.00E-05	1.50E-05	3.75E-06
Toluene	4.08E-04	1.53E-04	3.83E-05
1,1,2-Trichloroethane	3.18E-05	1.19E-05	2.98E-06
2,2,4-Trimethylpentane	2.50E-04	9.38E-05	2.34E-05
Vinyl Chloride	4.90E-05	1.84E-05	4.59E-06
Xylenes	1.84E-04	6.90E-05	1.73E-05
Total HAPs		**2.71E-02**	**6.77E-03**
Greenhouse Gases	**(kg/MMBtu)[4]**		**(tons/yr)[5]**
Carbon Dioxide	53.06		10.97
Methane	1.00E-03		2.07E-04
Nitrous Oxides	1.00E-04		2.07E-05
Total GHGs (mass basis)			**10.97**
Total GHGs (CO_2e equivalent)[6]			**10.98**

[1] Emission Factors are from AP-42, Chapter 3.2 (7/2000), Table 3.2-2.

[2] Potential Emissions (lb/hr) = (Emission Factor lb/MMBtu)*(Hourly Throughput MMBtu/hr)

[3] Potential Emissions (tons/yr) = (lb/hr)*(Hours of Operation hrs/yr)/(2000 lb/ton)

[4] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies prescribed in 40 CFR Part 98.

[5] GHG (tons/yr) = [Emission Factor (kg/MMBtu)] x (Potential Heat Input Capacity MMBtu/hr)*(8,760 hrs/yr)]/(907.18 kg/tons)

[6] tons CO_2e/yr = [(tons/yr CO_2)*1]+[(tons/yr CH_4)*28] + [(tons/yr N_2O)*265]; CO_2 equivalents are found in 40 CFR Part 98 Subpart A Table A-1 *Global Warming Potentials* (January 1, 2025) (Title 129, Chapter 1*; Title 129, Chapter 1). The CO_2e for CO_2 =1, for CH_4 =28, and for N_2O = 265.

Fact Sheet Attachment
Grinding Fugitives: EP-GRIND

Max Bucket Elevator Throughput	28	ton/hr
Max Annual Meal Production	115,632	tpy
Annual Meal Production	65,000	tpy

EP ID#	EU ID#	Pollutant	Emission Factor[1]	Units	Control Efficiency[2]	Potential Emissions	
						lb/hr	ton/yr
EP-GRIND1	EU-GRIND1	PM	0.067	lb/ton	90%	0.19	0.22
		PM_{10}[3]	0.0335		90%	0.09	0.11
		$PM_{2.5}$[3]	0.0057		90%	0.02	0.02
EP-GRIND2	EU-GRIND2	PM	0.067	lb/ton	90%	0.19	0.22
		PM_{10}[3]	0.0335		90%	0.09	0.11
		$PM_{2.5}$[3]	0.0057		90%	0.02	0.02

[1] AP-42 Table 9.9.1-2 - Particulate Emission Factors for Grain Processing Facilities (May 2003) for Hammermill.

[2] Hammermilling occurs inside building, under cover, and emissions are routed to a cyclone. Therefore, a control efficiency of 90% is used.

[3] PM_{10} estimated at 50% of PM per Table 9.9.1-2 footnote (g); $PM_{2.5}$ estimated at 17% of PM per Table 9.9.1-1 footnote (g).

Fact Sheet Attachment
Silos: EP-SILO1, EP-SILO2

Max Bucket Elevator Throughput:	28	ton/hr
Max Annual Meal Production:	242,013	tpy
Annual Meal Production:	65,000	tpy

EP ID#	EU ID#	Pollutant	Emission Factor[1]	Units	Potential Emissions	
					lb/hr	ton/yr[2]
EP-SILO1	EU-SILO1	PM	0.0250	lb/ton	0.69	0.81
		PM_{10}	0.0063		0.17	0.20
		$PM_{2.5}$	0.0011		0.03	0.04
EP-SILO2	EU-SILO2	PM	0.0250	lb/ton	0.69	0.81
		PM_{10}	0.0063		0.17	0.20
		$PM_{2.5}$	0.0011		0.03	0.04

[1] AP-42 Table 9.9.1-1 - Particulate Emission Factors for Grain Elevators (May 2003) for Storage bin (vent).

[2] The tons/yr values for each silo assumes all of the meal is going through each silo. Since the meal is not going through both silos prior to loadout, the facility PTE is based on all meal going through one of the silos (since each silo has the same lb/hr emission rate).

Fact Sheet Attachment
Loadout: EP-LOADFUG

Max Truck Loading	2	/hr
Truck Loading Capacity	25	ton/truck
Annual Meal Production	65,000	tpy

EP ID#	EU ID#	Pollutant	Emission Factor[1]	Units	Control Efficiency[2]	Potential Emissions	
						lb/hr	ton/yr
EP-LOADFUG	EU-LOADFUG	PM	0.0033	lb/ton	50%	8.25E-02	5.36E-02
		PM_{10}	0.0008		50%	2.00E-02	1.30E-02
		$PM_{2.5}$[2]	0.0001		50%	3.40E-03	2.21E-03

[1] AP-42 Table 9.9.1-2 - Particulate Emission Factors for Grain Processing Facilities (May 2003) for Feed shipping.

[2] Protein meal loadout occurs inside building, under cover. Therefore, a control efficiency of 50% is used.

[3] $PM_{2.5}$ estimated at 17% of PM_{10} per Table 9.9.1-1 footnote (g).

Fact Sheet Attachment

Paved Haul Roads: EP-MOBILE

Haul Road Emissions

Paved roads: AP-42 Chapter 13.2.1 (01/11)

Equation (2): (modified)

$$E = k \times sL^{0.91} \times W^{1.02} \times \left(1 - \frac{P}{4 \times 365}\right)$$

	k
PM	0.011
PM_{10}	0.0022
$PM_{2.5}$	0.0005

Haul Road / Traffic Parameters

Activity / Road Description	Road Type / Silt Value		Roundtrip Distance		Truck Weight			Ave. Speed (mph)	Maximum Throughput (units/yr)	Ave. Truck Capacity (tons/truck)	Annual VMT
			empty	full	empty	full	Ave.[1]				
Raw Material Receiving	p	1.58	350	350	15	40	27.5	15	330,000	25	1,750
Protein Product Shipping	p	1.58	550	550	15	40	27.5	15	65,000	25	541.67
										Total VMT:	2,292

[1] Weighted average = {(distance*weight empty)+(distance*weight full)}/(Roundtrip distance)

Emission Calculations

	Emission Factors (lb/VMT)			Potential Emissions (ton/yr)		
	PM	**PM_{10}**	**$PM_{2.5}$**	**PM**	**PM_{10}**	**$PM_{2.5}$**
Raw Material Receiving	0.46	9.16E-02	2.25E-02	0.40	8.02E-02	1.97E-02
Protein Product Shipping	0.46	9.16E-02	2.25E-02	0.12	2.48E-02	6.09E-03
Total Annual Emissions:				**0.53**	**0.11**	**2.58E-02**

Description of Constants/Variables

E : haul road emissions (lb/VMT)

k, a, b, c, d : dimensionless constants from AP-42 Tables 13.2.1-1 & 13.2.2-2

sL : silt loading (g/m^2) of paved road surface

W : average vehicle weight (tons)

P : days/yr with at least 0.01" of precipitation

P = 95

S : mean vehicle speed on road (mph) default = 30, minimum =15

VMT: vehicle miles traveled

Fact Sheet Attachment: Insignificant Activities

Emission Point ID#: Insignificant natural gas fired combustion units

Dayton heater	0.2	MMBtu/hr

Heat Content for Natural Gas:	1,020	MMBtu/MMscf	(From AP-42 Table 1.4-1, Footnote a)	
Maximum Operating Hours	8,760	hrs/yr		
Total Heat Input Capacity	0.2	MMBtu/hr	1,752.0	MMBtu/yr
Potential Natural Gas Throughput	0.0002	MMscf/hr	2	MMscf/yr

Pollutant	**Emission Factor**	**Hourly Emission Rate**	**Potential Annual Emission Rate**
	(lb/MMscf)[1]	**(lbs/hr)[2]**	**(tons/yr)[3]**
Particulate Matter (PM)	7.6	1.49E-03	6.53E-03
Particulate Matter (PM_{10})	7.6	1.49E-03	6.53E-03
Particulate Matter ($PM_{2.5}$)[5]	7.6	1.49E-03	6.53E-03
Sulfur Dioxide (SO_2)	0.6	1.18E-04	5.15E-04
Nitrogen Oxides (NO_x)	100	1.96E-02	8.59E-02
Carbon Monoxide (CO)	84	1.65E-02	7.21E-02
Volatile Organic Compounds (VOC)	5.5	1.08E-03	4.72E-03
Individual Hazardous Air Pollutants (HAP)			
Benzene	0.0021	4.12E-07	1.80E-06
Dichlorobenzene	0.0012	2.35E-07	1.03E-06
Hexane	1.8	3.53E-04	1.55E-03
Lead Compounds	0.0005	9.80E-08	4.29E-07
Naphthalene	0.00061	1.20E-07	5.24E-07
Polycyclic Organic Matter (POM)	0.0000882	1.73E-08	7.57E-08
Toluene	0.0034	6.67E-07	2.92E-06
Arsenic Compounds (ASC)	0.0002	3.92E-08	1.72E-07
Beryllium Compounds (BEC)	0.000012	2.35E-09	1.03E-08
Cadmium Compounds (CDC)	0.0011	2.16E-07	9.45E-07
Chromium Compounds (CRC)	0.0014	2.75E-07	1.20E-06
Cobalt Compounds (COC)	0.000084	1.65E-08	7.21E-08
Manganese Compounds (MNC)	0.00038	7.45E-08	3.26E-07
Mercury Compounds (HGC)	0.00026	5.10E-08	2.23E-07
Nickel Compounds (NIC)	0.0021	4.12E-07	1.80E-06
Selenium Compounds (SEC)	0.000024	4.71E-09	2.06E-08
Total HAPs	**-**	**3.56E-04**	**1.56E-03**
Greenhouse Gases (GHG)	**Emission Factor**	**Potential Annual Emission Rate**	**Potential Annual Emission Rate**
	(kg/MMBtu)[4]	**(tons/yr)[5]**	**(tons CO_2e/yr)[6]**
Carbon Dioxide (CO_2)	53.02	102.40	102.40
Methane (CH_4)	0.001	1.93E-03	4.83E-02
Nitrous Oxide (N_2O)	0.0001	1.93E-04	5.76E-02
Total GHG		**102.40**	**102.50**

[1] Emission Factors from AP-42 Chapter 1.4 (7/1998), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4.

[2] (Hourly Emission Rate lb/hr) = (Emission Factor lb/MMscf) x (Potential Natural Gas Throughput MMscf/hr)

[3] (Potential Annual Emission Rate tons/yr) = (Hourly Emission Rate lb/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

[4] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies prescribed in 40 CFR Part 98.

[5] (Potential Annual Emission Rate tons/yr) = (Emission Factor kg/MMBtu) x (Potential Heat Input Capacity MMBtu/yr)/(907.18 kg/tons)

[6] Total GHG emission calculations into CO_2 equivalents (CO_2e) was calculated based on 40 CFR Part 98, Subpart A, Equation A-1 and Table A-1. Total GHG = (CO_2 tons/yr)+(CH_4 tons/yr x 25)+(N_2O tons/yr x 298)

Fact Sheet Attachment: Insignificant Activities

Emission Point ID#: Insignificant propane fired combustion units

Three heaters (total)	600,000.0	Btu/hr

Heat Content for Propane:	94	MMBtu/10^3 gal	(From AP-42 Appendix A)	
Maximum Operating Hours	8,760	hrs/yr		
Total Heat Input Capacity	0.6	MMBtu/hr	5,256.0	MMBtu/yr
Potential Propane Throughput	0.0064	10^3 gal/hr	56	10^3 gal/yr

Pollutant	Emission Factor	Hourly Emission Rate	Potential Annual Emission Rate
	(lb/10^3 gal)[1]	(lbs/hr)[2]	(tons/yr)[3]
Particulate Matter (PM)	0.2	1.28E-03	5.59E-03
Particulate Matter (PM_{10})	0.2	1.28E-03	5.59E-03
Particulate Matter ($PM_{2.5}$)[5]	0.2	1.28E-03	5.59E-03
Sulfur Dioxide (SO_2)	0.016	1.02E-04	4.47E-04
Nitrogen Oxides (NO_x)	13	0.08	0.36
Carbon Monoxide (CO)	7.5	0.05	0.21
Volatile Organic Compounds (VOC)	1.0	6.38E-03	0.03
Greenhouse Gases (GHG)	**Emission Factor**	**Potential Annual Emission Rate**	**Potential Annual Emission Rate**
	(kg/MMBtu)[4]	**(tons/yr)[5]**	**(tons CO_2e/yr)[6]**
Carbon Dioxide (CO_2)	62.87	364.25	364.25
Methane (CH_4)	0.003	0.02	0.43
Nitrous Oxide (N_2O)	0.0006	0.0035	1.04
Total GHG		**364.28**	**365.73**

[1] Emission Factors from AP-42 Chapter 1.5 (7/2008), Table 1.5-1. PM_{10} and $PM_{2.5}$ are assumed to equal PM.

[2] (Hourly Emission Rate lb/hr) = (Emission Factor lb/10^3 gal) x (Potential Propane Throughput 10^3 gal/hr)

[3] (Potential Annual Emission Rate tons/yr) = (Potential Hourly Emission Rate lb/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

[4] All emission factors are default values from 40 CFR 98 Tables C-1 and C-2. This PTE summary follows the methodologies prescribed in 40 CFR Part 98.

[5] (Potenital Annual Emission Rate tons/yr) = (Emission Factor kg/MMBtu) x (Potential Heat Input Capacity MMBtu/yr)/(907.18 kg/tons)

[6] Total GHG emission calculations into CO_2 equivalents (CO_2e) was calculated based on 40 CFR Part 98, Subpart A, Equation A-1 and Table A-1. Total GHG = (CO_2 tons/yr)+(CH_4 tons/yr x 25)+(N_2O tons/yr x 298)

Fact Sheet Attachment: Insignificant Activities

Emission Point ID#: Insignificant storage tanks

Tank VOC Emissions

EP ID#	Tank ID	Tank Capacity	Product	VOC Emissions	
		gal		lb/hr	ton/yr
EP-TK-PR1	EU-TK-PR1	1,000	Propane[1]	0.01	0.01
EP-TK-PR2	EU-TK-PR2	1,000	Propane[1]	0.01	0.01
EP-UST1	EU-UST1	12,000	Diesel[2]	0.18	2.20E-03
EP-TBLDFUG	EU-TK1	27,100	Tallow[3]	0.01	<0.01
	EU-TK2	27,100	Tallow[3]	0.01	<0.01
	EU-TK3	27,100	Tallow[3]	0.01	<0.01
	EU-TK4	27,100	Tallow[3]	0.01	<0.01
	EU-TK5	27,100	Tallow[3]	0.01	<0.01
	EU-TK6	27,100	Tallow[3]	0.01	<0.01
	EU-TK7	23,300	Tallow[3]	0.01	<0.01
	EU-TK8	23,300	Tallow[3]	0.01	<0.01
EP-SHOPFUG	EU-TK-MO1	400	Motor Oil[2]	2.46	1.95E-02
	EU-TK-WO2	300	Waste Oil[2]	1.85	1.44E-02
			Total VOC Emissions:	**4.59**	**6.41E-02**

[1] Emissions are not expected due to pressurized tank. Assuming negligible emissions to be conservative.

[2] Emissions calculated using AP-42, Fifth Edition, Volume 1, Chapter 7.1 Organic Liquid Storage Tanks - June 2020 and TCEQ Air Permit Reviewer Reference Guide APDG 6250 - Estimating Short Term Emission Rates from Tanks - February 2020. PTE calculated in CP24-005 fact sheet attachment.

[3] Emissions are expected to be negligible based on engineering judgement due to the low vapor pressure, VOC content, and/or low throughput of the tank.

Fact Sheet Attachment

Title 129, Chapter 15, Section 001* and 002*; Title 129, Chapter 15, Section 001 and 002
Title 129, Chapter 15, Section 001*; Title 129, Chapter 15, Section 001

For process weight rates up to 60,000 lbs/hr: $E= 4.10\ p^{0.67}$

For process weight rates in excess of 60,000 lbs/hr: $E= 55.0\ p^{0.11}-40$

where E = rate of emissions in lbs/hr PM and p = process weight rate in tons/hr.

Process	P [1]		E	Unit PM emission rate
Rendering Operations	104,000	lb/hr	44.94 lb/hr	1.42 lb/hr
	52.00	ton/hr		

[1] Process weight rate is based on information supplied by the source

Title 129, Chapter 15, Section 001.02

Total Heat Input (MMBtu/hr)	Maximum Allowable Emissions of PM (lb/MMBtu)
10 or less	0.6
Between 10 and 10,000	$1.026/I^{0.233}$ Where I = total heat input in MMBtu/hr.
10,000 or more	0.12

Process equipment [1]	MMBtu/hr	PM Threshold (lb/MMBtu)	PM Threshold (lb/hr)	PM Emissions (lb/hr)
EP-1:Victory Boiler	61.84	0.39	24.27	2.56
EP-2:Johnston Boiler	48.70	0.41	20.21	2.01
EP-3:Hurst Boiler	50.40	0.41	20.74	2.08
EP-4/5:RTO	4.00	0.60	2.40	2.47
EP-6:Flare	10.11	0.60	6.05	0.03

[1] PM PTE is the maximum PTE from all fuels used.