

DWEE ID: 58332**Name of Source:** Curtis Municipal Power Plant**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 OP26R2-039 approves the operation of Curtis Municipal Power Plant (Curtis MPP) for three (3) stationary reciprocating internal combustion engines (RICE). Curtis MPP operates under the standard industrial classification (SIC) code 4911 for electric services and the North American Industry Classification System (NAICS) code 221118-Other Electric Power Generation. Curtis MPP consists of three (3) stationary RICE: internal combustion, large bore engines for the generation of electricity, operating on diesel or dual fuel. Further description of the source is detailed in the table below:

PERMIT HISTORY

Date Issued	Number	Status
12/30/1998	OPEG-0011	Not active; superseded by OPSPR2-0016
12/09/2003	OPSPR-0016	Not active; superseded by OP08R2-007
03/03/2009	OP8R2-007	Not active; superseded by OP14R2-005
08/01/2016	OP14R2-005	Not active; III.(A) superseded by OP17M2-013 superseded by OP21R2-008
06/02/2017	OP17M2-013	Not active; superseded by OP21R2-008
08/18/2021	OP21R2-008	Not active; superseded by OP26R2-039
tbd	OP26R2-039	Active

PERMIT ACTION:

Permitted Emission Points are detailed in the table below:

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)	1.90	--
Particulate Matter less than or equal to 10 microns (PM ₁₀)	1.52	0.02
Particulate Matter less than or equal to 2.5 microns (PM _{2.5})	1.47	0.02
Sulfur Dioxide (SO ₂)	30.93	0.00
Oxides of Nitrogen (NO _x)	98	1.08
Carbon Monoxide (CO)	26.03	0.45
Volatile Organic Compounds (VOCs)	6.13	0.08
Greenhouse Gases (GHGs) ^[1]	4,993.41	1.54
Carbon Dioxide Equivalents (CO ₂ e) ^[1]	5,009.78	324.40
Hazardous Air Pollutants (HAPs)		
Formaldehyde	0.02	0.01
All Other HAPs	0.22	Less than 0.00
Total HAPs	0.24	0.01

^[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 CO₂e will continue to be calculated and reported in this fact sheet.

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

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			
Silencer and DOC Catalytic Oxidizer with CPMS	EU-1: Engine #1, 1920 HP, maximum capacity: 4.88 MMBtu/hr: permitted fuel type: diesel or dual fuel; non-emergency; non-black start	None	40 CFR Part 63, Subpart A; Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01

		None	40 CFR Part 63, Subpart ZZZZ; Title 129, Chapter 13, Section <u>002.78*</u> ; Title 129, Chapter 13 Section <u>002.79</u>
Emission Point ID#: EP-2			
Silencer and DOC Catalytic Oxidizer with CPMS	EU-2: Engine #2, 1,600 HP maximum capacity; 4.07 MMBtu/hr; permitted fuel type: diesel or dual fuel; non-emergency; non-black start; installed prior to February 26, 1974	None	40 CFR Part 63, Subpart A; Title 129, Chapter 13, Section <u>002.01*</u> ; Title 129, Chapter 13, Section <u>002.01</u>
		None	40 CFR Part 63, Subpart ZZZZ; Title 129, Chapter 13, Section <u>002.78*</u> ; Title 129, Chapter 13 Section <u>002.79</u>
Emission Point ID#: EP-4			
Silencer and DOC Catalytic Oxidizer with CPMS	EU-4: Engine #4, 1,280 HP maximum capacity; 3.25 MMBtu/hr; permitted fuel type: diesel or dual fuel; non-emergency; non-black start; installed prior to February 26, 1974	None	40 CFR Part 63, Subpart A; Title 129, Chapter 13, Section <u>002.01*</u> ; Title 129, Chapter 13, Section <u>002.01</u>
		None	40 CFR Part 63, Subpart ZZZZ; Title 129, Chapter 13, Section <u>002.78*</u> ; Title 129, Chapter 13 Section <u>002.79</u>

SUPPLEMENTAL INFORMATION:

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

This source is major for purposes of the PSD program. Although this permit limits the emissions to below the PSD thresholds, the limits were taken so that the source can obtain a Class II operating permit as per Chapter 6 of Title 129*; Chapter 6 of Title 129 and not to avoid PSD. The source may decide to eliminate/relax the emissions limits and obtain a Class I permit in the future by following the appropriate permitting procedures. Such relaxation will not trigger 40 CFR Part 52.21(r)(4) since, as discussed above, the limits were taken for operating permit purposes only and not for PSD purposes. If the source modifies anything at the source, the modification must be reviewed in accordance with PSD regulations.

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

There are no applicable NSPS for Curtis MPP at this time. NSPS that appear to be applicable, but are not, are discussed below.

Subpart K—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978: This subpart adopted by reference in Title 129, Chapter 12, Section 001.17*; Title 129, Chapter 12, Section 001.18, applies to each petroleum liquid storage vessel that has a capacity greater than 151,413 liters (40,000 gallons), but not exceeding 246,052 liters (65,000 gallons) and commences construction or modification after March 8, 1974 and prior to May 19, 1978. The 500-gallon Tank T-1 was installed in 1965, prior to the effective date range of this regulation and the tank is not subject to this subpart because it has a capacity of less than 40,000 gallons.

Subpart Ka—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984: This subpart, adopted by reference in Title 129, Chapter 13, Section 001.18*; Title 129, Chapter 13, Section 001.19, applies to each petroleum liquids storage vessel with a storage capacity greater than 151,416 liters (40,000 gallons) for which construction is commenced after May 18, 1978 and before July 23, 1984. The 500-gallon Tank-1 was installed in 1965, prior to the effective date range of this regulation, and it has a capacity of less than 40,000 gallons less than 40,000 gallons; therefore it is not subject to this subpart.

Subpart Kb—Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984: This subpart, adopted by reference in Title 129, Chapter 13, Section 001.19*; Title 129, Chapter 13, Section 001.20, applies to storage vessels with a storage capacity greater than or equal to 75 cubic meters (m³) (roughly 19,810 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction or modification is commenced after July 23, 1984. Tank T-1 was manufactured in 1965, and it has a capacity of less than 75 m³; therefore this storage tank is not subject to this subpart.

Subpart III—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines: The subpart adopted by reference in Title 129 Chapter 13, Section 001.80*; Title 129, Chapter 13, Section 001.81, applies to the owner or operator of stationary compression ignition (CI) internal combustion engines (ICE) that commenced construction or have been modified or reconstructed after July 11, 2005 where CI ICE are manufactured after April 1, 2006, and are not fire pump engines, or manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006. Subpart III is not applicable because EU-1, EU-2, EU-4 were each constructed prior to July 11, 2005. If any of the engines are modified or reconstructed in the future as described in §60.14 or §60.15, then these engines would become 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)

The source is considered an area source of HAPs because the PTE for a single HAP and total HAPs are below 10 and 25 tons per year, respectively. This facility is subject to NESHAP as summarized below:

Subpart A – General Provision: This subpart adopted by reference in Title 129, Chapter 13, Section 002.01*; Title 129, Chapter 13, Section 002.01 is an applicable requirement for engines EU-1, EU-2, and EU-4 because these engines are subject to NESHAP Subpart ZZZZ.

Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines: This subpart has been adopted by reference in Title 129, Chapter 13, Section 002.78*; Title 129, Chapter 13, Section 002.79. The source has the obligation to comply with the NESHAP Subpart ZZZZ, whether or not it is included in this permit or Title 129, Subpart ZZZZ applies

to existing, new, or reconstructed stationary reciprocating internal combustion engines located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. All three (3) engines at Curtis MPP (EU-1, EU-2 and EU-4) are subject to this subpart because they are existing stationary RICE units located at an area source (§63.6590).

All three (3) engines at the facility are existing non-black start, compression ignition reciprocating internal combustion engines. Emission units EU-1, EU-2, and EU-4, are non-emergency engines, and can be run on dual fuel or diesel. All three (3) are equipped with catalytic oxidizers that have had the required initial performance tests to demonstrate compliance with NESHAP Subpart ZZZZ.

The Initial Notification form, received May 18, 2015, identified all three (3) of the engines as limited use engines. A limited use engine is defined in the subpart as any stationary RICE that operates less than 100 hours per year. As required in Condition III.(A)(3)(c), the operating hours of the engines must be tracked on a calendar year basis (January – December) using a non-resettable hour meter to determine the engine classification (Limited use or not limited use). Condition III.(A)(1)(b) requires that the source notify DWEE if/when their classification changes: this change would include when the engine operates in excess of 100 hours per calendar year thus no longer being considered a limited use engine, or if the engine then operates less than 100 hours the next year and is again considered a limited use engine. Due to the lack of specified testing and reporting frequency in NESHAP Subpart ZZZZ for situations in which the engine classification can change depending on the operating hours per year, this notification to DWEE must also describe the proposed testing and reporting frequency of the engine(s). The DWEE will inform the source if the proposed testing and reporting frequencies are not acceptable.

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.

Particulate Emissions from Combustion Sources

All of the PM emission points subject to Chapter 15, Section 001.02*; Chapter 15, Section 001.02 limitations are in compliance with those limitations, as the potential to emit for each emission point is less than the limitations. Therefore, these PM limitations were not included in Condition III of this permit.

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 Chapter 15, Sections 001.05* and 001.05E*; 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. Engines EU-2 and EU-4 at this site were constructed prior to this date. Therefore, the sulfur oxides limit of 2.5 lb/MMBtu in this chapter applies to those two emission units. This operating permit requires that the source comply with the requirements of NESHAP Subpart ZZZZ, which includes a diesel fuel sulfur content limitation of 15 ppm or 0.0015 percent by weight (40 CFR 63.6604 and 40 CFR 80.510(b)). All engines are expected to comply with the SO_x limitation due to the requirement of NESHAP Subpart ZZZZ. The sulfur oxides emission factor

(considering the AP-42 emission factor and the fuel sulfur content limitation) equals 0.00152 lb/MMBtu as shown in the Fact Sheet Attachment.

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) Specific Conditions for Reciprocating Internal Combustion Engines (RICE)

- (A)(2)(a) This condition identifies the emissions limitations applicable to EU-1, EU-2 and EU-4. In the case of Curtis MPP, NO_x is the pollutant with the highest emission rate. By limiting NO_x to 98 tpy, this permit had indirectly limited the PTE for all other pollutants to below Class I thresholds. Therefore, the NO_x limitation is what allows the source to receive an OP as a Class II Synthetic Minor.
- (A)(3)(b) Emission units described in Condition III.(A)(1) shall combust only diesel and/or dual fuel. This fuel restriction helps demonstrate compliance with the Title 129, Chapter 15, Section 001.02*; Title 129, Chapter 15, Section 001.02 (filterable) requirement, as demonstrated by potential emission rates in the Fact Sheet Attachment.
- (A)(3)(c) The source shall take readings from non-restable kWh meters and record the total kilowatt hours generated by EU-1, EU-2, and EU-4 each month. The source shall not exceed 6,456,902 kWh generated in any twelve (12) consecutive rolling calendar month period, as measured by a non-resettable kWh meter.
- (A)(3)(e) This condition requires that each engine be equipped with a non-resettable hour meter to measure operating hours of each engine to properly classify each under NESHAP Subpart ZZZZ (as either limited use or not limited use).
- (A)(4)(b) The source must notify the DWEE if the total kWh generated exceeds 4,842,676 kWh (75% of the limit in Condition (A)(3)(c)) in any period of twelve consecutive rolling calendar months. Notification of exceeding the 4,842,676 kWh limit is required within 15 days of such knowledge by the source. Upon such notification, DWEE may require performance testing to ensure that the source is in compliance with the permitted NO_x limit.

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 OP26R2-039 received August 28, 2026, including any supporting information received prior to issuance of the permit:

Insignificant Activity ID	Unit Description	Insignificance Criteria
T1	Storage Tank, 500 gallons, Diesel Fuel	Annual Fuel throughput for entire facility < 1,000,000 gallons
Cooling Tower	Cooling Tower, 1,000 gallons	Less than 2,000 gpm circulation rate

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 the 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).

Fact Sheet Attachment

Emission Calculations - Reciprocating Internal Combustion Engines (RICE)

EU-1, EU-2, EU-4

Curtis Municipal Power Plant

Engine Specifications

Emission Unit	Maximum Horsepower Capacity	Maximum Capacity MMBtu/hr ⁽¹⁾	Maximum Annual Capacity MMBtu/yr ⁽²⁾
EU-1	1,920	4.88	42,748.80
EU-2	1,600	4.07	35,653.20
EU-4	1,280	3.25	28,470.00
Total Capacity	4,800	12.20	106,872.00

⁽¹⁾ Convert HP to MMBtu/hr = Horsepower*7,000/1,000,000; Conversion factor obtained from AP 42 Chapter 3.4, Table 3.4.-1 published 04/2025

⁽²⁾Maximum Annual Capacity = (MMBtu/hr)*(8,760 hrs/yr)

Limited Facility Wide MMBtu/yr⁽³⁾ = 61,250

⁽³⁾Based on limiting NOx emissions below 98 ton/yr : x MMBtu/yr * 3.2 lb/MMBTU * 1 ton/2000 lbs = 98 ton/yr

Limited Facility Wide kWh/yr⁽⁴⁾ = 6,456,902

Limited Facility Wide kWh/yr = MMBtu/yr * 292.83 ⁽⁴⁾ * .36 ⁽⁵⁾

⁽⁴⁾ Conversion factor found in AP-42 Appendix A - Miscellaneous Data and Conversion Factors

⁽⁵⁾Assuming 64% power loss, based on the AP-42 conversion from engine fuel input in MMBtu/hr to mechanical output in hp. The ideal conversion 1 MMBtu/hr = 393 hp, becomes, accounting for engine heat loss (inefficiency) due to friction (AP-42, Table 3.3-1, footnote (a)), about 1 MMBtu/hr = 143 hp; 303 hp - 143 hp = 250 hp lost; 250/393 = 0.64 = 64% lost, or an efficiency of 36%.

Emission Calculations - Reciprocating Internal Combustion Engines (RICE)

EU-1, EU-2, EU-4

Criteria Pollutants and Greenhouse Gases

Sulfur Content of Diesel	15 ppm	0.0015%	
Pollutant	Emission Factor (lb/MMBtu)⁽¹⁾	Unrestricted Potential Emissions⁽²⁾ (tons/yr)	Limited Potential Emissions (tons/yr)⁽³⁾
Particulate Matter (filterable)	6.20E-02	3.31	1.90
Particulate Matter ≤ 10µm	4.96E-02	2.65	1.52
Particulate Matter ≤ 2.5µm	4.79E-02	2.56	1.47
Sulfur Oxides ⁽⁴⁾	1.01E+00	53.97	30.93
Nitrogen Oxides	3.20	171.00	98.00
Carbon Monoxide	0.85	45.42	26.03
Volatile Organic Compounds	0.20	10.69	6.13
Carbon Dioxide (CO ₂) ⁽⁵⁾	163.05	8,712.74	4,993.41
Methane (CH ₄) ⁽⁵⁾	6.60E-03	0.35	0.20
Nitrous Oxide (N ₂ O) ⁽⁵⁾	1.32E-03	0.07	0.04
Greenhouse Gases (mass basis) ⁽⁶⁾		8,713.16	4,993.65
CO ₂ e ⁽⁷⁾			5,009.78

⁽¹⁾ Emission Factors from AP-42 Chapter 3.4 Large Stationary Diesel and All Stationary Dual Fuel Engines, Tables 3.4-1 and 3.4-2 published 04/2025

⁽²⁾ Calculated based on all engines (EU-1, EU-2, and EU-4) operating 8,760 hrs/yr

⁽³⁾ Limited Potential Emissions based on the limited facility wide MMBtu/yr calculated on Page 1

⁽⁴⁾ Sulfur oxide emission factor (1.01lb/MMBtu * sulfur content) calculated using 0.0015% sulfur content as required by this permit.

⁽⁵⁾ CO₂, CH₄, and N₂O calculated using the emission factors in Tables C-1 and C-2 of 40 CFR Part 98, *Mandatory Greenhouse - Gas Reporting Rule* Emission factors provided in tables converted from kg/MMBtu to lbs/MMBtu by multiplying by 2.204

⁽⁶⁾ Greenhouse Gases mass basis = Sum of Carbon Dioxide, Methane and Nitrous Oxide

⁽⁷⁾ CO₂e calculated using Global Warming Potential (GWP) found in 40 CFR 98, Subpart A, Table A-1 as published June 3, 2026 - Full CO₂e calculations found on page 4 of this spreadsheet

Fact Sheet Attachment

Emission Calculations - Reciprocating Internal Combustion Engines (RICE)

EU-1, EU-2, EU-4

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor⁽¹⁾ (lb/MMBtu)	Unrestricted Potential Emissions⁽²⁾ (ton/yr)	Limited Potential Emissions⁽³⁾ (ton/yr)
Acetaldehyde	2.52E-05	0.00	7.72E-04
Acrolein	7.88E-06	0.00	2.41E-04
Benzene	7.76E-04	0.04	2.38E-02
Biphenyl	3.95E-06	0.00	1.21E-04
Carbon Tetrachloride	6.07E-05	0.00	1.86E-03
Chlorobenzene	4.44E-05	0.00	1.36E-03
Chloroform	4.71E-05	0.00	1.44E-03
Ethylbenzene	1.08E-04	0.01	3.31E-03
Ethylene Dibromide	7.34E-05	0.00	2.25E-03
Fluorene	1.69E-06	0.00	5.18E-05
Formaldehyde	7.89E-05	0.00	2.42E-03
Methanol	2.48E-03	0.13	7.60E-02
Methylene Chloride	1.47E-04	0.01	4.50E-03
n-Hexane	4.45E-04	0.02	1.36E-02
Naphthalene	9.63E-05	0.01	2.95E-03
Total PAH	1.68E-04	0.01	5.15E-03
Propylene	2.79E-03	0.15	8.54E-02
Styrene	5.48E-05	0.00	1.68E-03
Toluene	2.81E-04	0.02	8.61E-03
Vinyl Chloride	2.47E-05	0.00	7.56E-04
Xylenes	1.93E-04	0.01	5.91E-03
Total HAPS		0.42	0.242

(1) Emission Factors from AP-42 Chapter 3.2 Natural Gas-fired Reciprocating Engines, Table 3.2-1 and Chapter 3.4 Large Stationary Diesel and All Stationary Dual Fuel Engines, Tables 3.4-1 and 3.4-2 - using the largest emission factor between diesel and dual fuel to calculate the worst case scenario published April, 2025

(2) Calculated based on all engines (EU-1, EU-2, and EU-4) operating 8,760 hrs/yr

(3) Limited Potential Emissions based on the limited facility wide MMBtu/yr calculated on page 1.

Fact Sheet Attachment

Emission Calculations - Reciprocating Internal Combustion Engines (RICE)

EU-1, EU-2, EU-4

Greenhouse Gases- CO₂ Equivalent

Pollutant	Global Warming Potential (GWP) (Unitless) ⁽¹⁾	Limited Potential CO₂e⁽²⁾ (tons/yr)
CO ₂	1	4,993.41
CH ₄	28	5.66
N ₂ O	265	10.71
Total CO₂e⁽³⁾		5,009.78

⁽¹⁾CO₂e calculated using Global Warming Potential (GWP) found in 40 CFR 98, Subpart A, Table A-1 as published April 25, 2024.

⁽²⁾ Limited Potential Emissions based on the limited facility wide MMBtu/yr calculated on Page 1

Title 129, Chapter 15, Section 001.02

Title 129, Chapter 15, Section 001.02*

PM Limitations for Combustion Sources

Total Heat Input (MMBtu/hr)	Maximum Allowable Emissions of PM (lbs/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 (per emission unit)	HP	MMBtu/hr^[1]	Allowable PM (lbs/hr)	PM Emission Factor (lb/MMBtu)	Unit PM emission rate (lbs/hr)
EU-1	1,920	4.88	2.93	6.20E-02	0.30
EU-2	1,600	4.07	2.44	6.20E-02	0.25
EU-4	1,280	3.25	1.95	6.20E-02	0.20

^[1]MMBtu/hr ratings computed assuming 7000 btu/hp-hr from AP-42 a footnote to Table 3.3-1 Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines Published April 2025