

DWEE ID: 09044**Name of Source:** City of Wakefield 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 OP26R2-030 approves the operation of four (4) diesel and dual fuel reciprocating internal combustion engines (RICE) at the City of Wakefield Municipal Power Plant (Wakefield). Wakefield operates under the standard industrial classification (SIC) code 4911.

PERMIT HISTORY

Date Issued	Number	Status
09/14/1999	EG-0033	Not active; superseded by OPSPr2-0033
10/28/2004	OPSPR2-0033	Not active; superseded by OP09R2-017
09/21/2009	OP09R2-017	Not active; superseded by OP13R2-017
05/04/2016	OP13R2-017	Not active; superseded by OP20R2-036
06/23/2021	OP20R2-036	Not active; superseded by OP26R2-030
tbd	OP26R2-030	Active

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-2			

Control Equipment ID# and Description	Emission Unit Description	Applicable NSPS Requirements	Applicable NESHAP Requirements
Catalytic Converter	EU-2: Diesel/Dual Fuel Reciprocating Internal Combustion Engine (RICE), 960 Horsepower (HP), Displacement 17 Liters/Cylinder, Non-Emergency, Non-Black Start, Compression Ignition, Existing RICE, Installed 1955	None	40 CFR Part 63, NESHAP Subpart A; Title 129, Chapter 13, Section <u>002.01</u> *; Title 129, Chapter 13, Section <u>002.01</u>
			40 CFR Part 63, NESHAP Subpart <u>ZZZZ</u> ; Title 129, Chapter 13, Section <u>002.78</u> *; Title 129, Chapter 13, Section <u>002.79</u>
Emission Point ID#: EP-4			
Catalytic Converter	EU-4: Diesel/Dual Fuel RICE, 1,280 HP, Displacement 17 Liters/Cylinder, Non-Emergency, Non-Black Start, Compression Ignition, Existing RICE, Installed 1961	None	40 CFR Part 63, NESHAP Subpart A; Title 129, Chapter 13, Section <u>002.01</u> *; Title 129, Chapter 13, Section <u>002.01</u>
			40 CFR Part 63, NESHAP Subpart <u>ZZZZ</u> ; Title 129, Chapter 13, Section <u>002.78</u> *; Title 129, Chapter 13, Section <u>002.79</u>
Emission Point ID#: EP-5			
Catalytic Converter	EU-5: Diesel/Dual Fuel RICE, 1,920 HP, Displacement 17 Liters/Cylinder, Non-Emergency, Non-Black Start, Compression Ignition, Existing RICE, Installed 1965	None	40 CFR Part 63, NESHAP Subpart A; Title 129, Chapter 13, Section <u>002.01</u> *; Title 129, Chapter 13, Section <u>002.01</u>
			40 CFR Part 63, NESHAP Subpart <u>ZZZZ</u> ; Title 129, Chapter 13, Section <u>002.78</u> *; Title 129, Chapter 13, Section <u>002.79</u>
Emission Point ID#: EP-6			

Control Equipment ID# and Description	Emission Unit Description	Applicable NSPS Requirements	Applicable NESHAP Requirements
Catalytic Converter	EU-6: Diesel/Dual Fuel RICE, 1,920 Horsepower (HP), Displacement 17 Liters/Cylinder, Non-Emergency, Non-Black Start, Compression Ignition, Existing RICE, Installed 1971	None	40 CFR Part 63, NESHAP Subpart A; Title 129, Chapter 13, Section <u>002.01</u> *; Title 129, Chapter 13, Section <u>002.01</u>
			40 CFR Part 63, NESHAP Subpart <u>ZZZZ</u> ; Title 129, Chapter 13, Section <u>002.78</u> *; Title 129, Chapter 13, Section <u>002.79</u>

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)	1.75	1.19E-03
Particulate Matter less than or equal to 2.5 microns (PM _{2.5})	1.70	1.15E-03
Sulfur Dioxide (SO ₂)	0.05	3.00E-05
Oxides of Nitrogen (NO _x)	98.00	6.64E-02
Carbon Monoxide (CO)	35.53	5.30E-03
Volatile Organic Compounds (VOCs)	6.13	1.87E-03
Greenhouse Gases (GHGs) ^[1]	4,993.65	3.38
Carbon Dioxide Equivalents (CO ₂ e) ^[1]	5,009.78	3.39
Hazardous Air Pollutants (HAPs)		
Greatest Individual HAP(s) Formaldehyde	1.69	0.00
All Other HAPs	0.75	3.00E-05
Total HAPs	2.44	3.00E-05

^[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.

SUPPLEMENTAL INFORMATION:

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

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, Section 001*; Chapter 6, Section 001 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) because 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

No NSPS apply to the emission units at the source.

The following NSPS appear to apply, but do not:

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 151,416 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 or has a capacity greater than 246,052 liters (65,000 gallons) and commences construction or modification after June 11, 1973, and prior to May 19, 1978. The storage tank at Wakefield is not subject to this subpart because the tank has a capacity 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 12, Section 001.18*; Title 129, Chapter 12, 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 storage tank at Wakefield is not subject to this subpart because the tank has a capacity less than 40,000 gallons.

Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction or Modification Commenced After July 23, 1984: The subpart, adopted by reference in Title 129, Chapter 12, Section 001.19*; Title 129, Chapter 12, Section 001.20, applies to storage vessels with a capacity greater than or equal to 75 cubic meters (m³) (~19,810 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. The storage tank at Wakefield is not subject to this subpart because the tank has a capacity less than 19,810 gallons.

40 CFR Subpart Kc- Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023 NSPS Subpart Kc applies to VOL storage vessels which were constructed, reconstructed, or modified after October 4, 2023, and have a capacity greater than or equal to 20,000 gallons. The storage tank at Wakefield is not subject to this subpart because the tank was installed in August 2010.

Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines: The subpart, adopted by reference in Title 129, Chapter 12, Section 001.80*; Title 129, Chapter 12, 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 the stationary 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 IIII is not applicable to emission units EU-2, EU-4, EU-5, and EU-6 because they were constructed prior to July 11, 2005 and have not been modified or reconstructed since 2005. EU-4 underwent an overhaul in the summer of 2015 due to the engine overheating, as mentioned in the inspection report for the January 22, 2015 compliance inspection. However, the source stated in November 23, 2015 correspondence that this overhaul did not meet the definition of “reconstruction” and does not impact the status of the engine. If any of the engines are modified or reconstructed in the future, applicability should be re-evaluated to determine if these changes are as described in 40 CFR Part 60.14 or 60.15.

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 Provisions

This subpart, adopted by reference in Title 129, Chapter 6, Section 003*; Title 129, Chapter 6, Section 003, is an applicable requirement for engines EU-2, EU-4, EU-5, and EU-6 because these engines are subject to NESHAP Subpart ZZZZ.

Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR 63.6580]:

This subpart, adopted by reference in Title 129, Chapter 13, Section 002.78*; Title 129, Chapter 13, Section 002.79, applies to 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. The engines at Wakefield (EU-2, EU-4, EU-5, and EU-6) are subject to this subpart because they are existing stationary RICE units located at an area source of HAP (§63.6590(a)(iii)).

EU-4 underwent an overhaul in the summer of 2015 due to the engine overheating, as mentioned in the inspection report for the January 22, 2015 compliance inspection. However, the source stated in November 23, 2015 correspondence that this overhaul did not meet the definition of “reconstruction” in the rule. Therefore, this work does not impact the status of the engine under NESHAP Subpart ZZZZ.

Wakefield submitted a Compliance Extension Request for this rule; this request was received on December 28, 2012. The DWEE approved the extension request in a letter dated January 31, 2013, and the source’s compliance date was extended until May 3, 2014.

All engines at Wakefield are diesel/dual fuel fired, non-black start, non-emergency, compression ignition, existing reciprocating internal combustion engines. The engines are equipped with catalytic converters and performance tests were completed in August 2013 for EU-4 and EU-5 and February 2014 for EU-2 and EU-6 to ensure compliance with NESHAP Subpart ZZZZ.

The Compliance Status Notification form, received April 28, 2015, identified 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)(e) and Condition III.(A)(4)(b)(iii), the operating hours of the engines must be tracked and recorded 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 the 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 year to 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.

The following NESHAP appear to apply, but do not:

Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: This subpart, adopted by reference in Title 129, Chapter 12, Section 001.81*; Title 129, Chapter 12, Section 001.82 applies to manufacturers, owners, and operators of spark ignition (SI) internal combustion engines (ICE) they have commenced construction after July 1, 2007 or have been modified or reconstructed after June 12, 2006. The subpart limits emissions of SI ICE based on engine size (hp, cylinder displacement), type of use (emergency or non-emergency), and model year. The engines at Wakefield (EU-2, EU-4, EU-5, and EU-6) are not subject to this subpart because they are compression engines.

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 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 the 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- 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. All engines at Wakefield were constructed prior to this date; therefore, the Section 001*; Section 001 sulfur oxides limit of 2.5 lb/MMBtu applies. 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)). The engines at Wakefield are expected to comply with the SO_x limitation due to the fuel 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.

III.(A) Specific Conditions for Reciprocating Internal Combustion Engines (RICE)

- (A)(2)(a) This condition identifies the emissions limitations applicable to EU-2, EU-4, EU-5, and EU-6. NO_x is the pollutant with the highest emissions rate; by limiting NO_x to 98 tpy, this permit has indirectly limited the PTE for all other pollutants to below Class I thresholds.
- (A)(3)(b) This condition requires that the engines combust only diesel 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 PM (filterable) requirement, as demonstrated by potential emission rates in the Fact Sheet Attachment. [(Title 129, Chapter 15, Section 001.02; Chapter 6, Sections 003.03 and 003.13)*; Title 129, Chapter 15, Section 001.02; Chapter 6, Sections 003.03 and 003.13]
- (A)(3)(c) The total kWh generated by EU-2, EU-4, EU-5, and EU-6 combined must not exceed 6,456,901 kWh (the equivalent of 98 tpy NO_x as calculated in the Fact Sheet Attachment) in any period of 12 consecutive rolling calendar months. The kWh will be measured by the non-resettable kWh meters that each engine is equipped with, according to July 23, 2014 correspondence from the source. [(Title 129, Chapter 6, Sections 001.02, 003.03, and 003.13)*; Title 129, Chapter 6, Sections 001.02, 003.03, and 003.13]
- (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). [(Title 129, Chapter 6, Sections 003.03 and 003.13)*; Title 129, Chapter 6, Sections 003.03 and 003.13] According to correspondence from the source dated April 12, 2013 (but filed under December 13, 2013), each engine is already equipped with a non-resettable hour meter.
- (A)(4)(d) This condition requires the source to notify the DWEE if the engines exceed 4,842,676 kWh combined. This threshold is approximately 75% of the production limit in III.(A)(3)(c) and therefore, approximately 75% of the NO_x limit in Condition III.(A)(2). Notification is required within fifteen (15) days of such knowledge to ensure that DWEE is made aware of when the facility is utilized at high levels. Upon notification, DWEE will make a determination as to whether stack testing is required to verify actual emissions and compliance with the permitted NO_x limit. [(Title 129, Chapter 6, Section 003.13; Chapter 15, Section 005)*; Title 129, Chapter 6, Section 003.13; Chapter 15, Section 005]

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 OP26R2-030, received June 23, 2026, including any supporting information received prior to issuance of the permit:

Insignificant Activity ID	Unit Description	Insignificance Criteria
T-1	Fuel Storage Tank, Diesel Fuel, 10,000 gallons, installed August 2010	Annual fuel throughput for entire facility < 1,000,000 gallons

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 the 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).

Fact Sheet Attachment

Potential to Emit Calculations - Reciprocating Internal Combustion Engines (RICE)

Emission Points EP-2, EP-4, EP-5, EP-6

City of Wakefield Municipal Power Plant

Engine Specifications

Emission Unit	Maximum Capacity Horsepower	Maximum Capacity MMBtu/hr ⁽¹⁾
EU-2	960	9.9
EU-4	1,280	13.1
EU-5	1,920	19.9
EU-6	1,920	19.9
Total Capacity	6,080	62.8

⁽¹⁾ Engine capacities as reported in the Air Quality Operating Permit Application, received June 23, 2026.

Facility Wide MMBtu/hr = 62.8

Facility Wide MMBtu/year = 550,128

Limited Facility Wide MMBtu/yr = 61,250

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

Limited Facility Wide kWh/yr = 6,456,901.50

Limited Facility Wide kWh/yr = MMBtu/yr * 292.83 ⁽²⁾ * .36 ⁽³⁾

⁽²⁾ Conversion factor found in AP-42 Appendix A - Miscellaneous Data and Conversion Factors

⁽³⁾ Assuming 64% power loss, based on the AP-42 conversion from engine fuel input in MMBtu/hr to mechanical output in hp

Fact Sheet Attachment

Potential to Emit Calculations - Reciprocating Internal Combustion Engines (RICE)

Emission Points EP-2, EP-4, EP-5, EP-6

Criteria Pollutants and Greenhouse Gases

Pollutant	Emission Factor (lb/MMBtu) ⁽¹⁾	Unrestricted Potential Emissions (tons/yr) ⁽²⁾	Limited Potential Emissions (tons/yr) ⁽³⁾
Particulate Matter (filterable)	6.20E-02	17.05	1.90
Particulate Matter ≤ 10µm	5.73E-02	15.76	1.75
Particulate Matter ≤ 2.5µm	5.56E-02	15.29	1.70
Sulfur Oxides ⁽⁴⁾	1.52E-03	0.42	0.05
Nitrogen Oxides	3.20E+00	880.20	98.00
Volatile Organic Compounds	2.00E-01	55.01	6.13
Carbon Monoxide	1.16E+00	319.07	35.53
Carbon Dioxide (CO ₂) ⁽⁵⁾	1.63E+02	44,849.19	4,993.41
Methane (CH ₄) ⁽⁵⁾	6.60E-03	1.82	0.20
Nitrous Oxide (N ₂ O) ⁽⁵⁾	1.32E-03	0.36	0.04
Greenhouse Gases (mass basis) ⁽⁶⁾		44,851.36	4,993.65
CO ₂ e ⁽⁷⁾			5,009.78

⁽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

⁽²⁾ Calculated based on all engines 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 calculated using 0.0015% sulfur content as required by NESHAP Subpart ZZZZ

⁽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) tons CO₂e/yr = [(tons/yr CO₂)*1] or [(tons/yr CH₄)*28] or [(tons/yr N₂O)*265]; CO₂ equivalents are found in 40 CFR Part 98 Subpart A Table A-1 Global Warming Potentials as published at 89 Federal Register 31894, April 25, 2024, effective on January 1, 2025. The CO₂e for CO₂ = 1, for CH₄ = 28, and for N₂O = 265. - Full CO₂e calculations found on page 4 of this spreadsheet.

Fact Sheet Attachment

Potential to Emit Calculations - Reciprocating Internal Combustion Engines (RICE)

Emission Points EP-2, EP-4, EP-5, EP-6

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu) ⁽¹⁾	Unrestricted Potential Emissions ⁽²⁾ (ton/yr)	Limited Potential Emissions ⁽³⁾ (ton/yr)
1,1-Dichloroethane	3.91E-05	1.08E-02	1.20E-03
1,1,2,2-Tetrachloroethane	6.63E-05	1.82E-02	2.03E-03
1,1,2-Trichloroethane	5.27E-05	1.45E-02	1.61E-03
1,2-Dichloroethane	4.22E-05	1.16E-02	1.29E-03
1,2-Dichloropropane	4.46E-05	1.23E-02	1.37E-03
1,3-Butadiene	8.20E-04	2.26E-01	2.51E-02
1,3-Dichloropropene	4.38E-05	1.20E-02	1.34E-03
2,2,4-Trimethylpentane	8.46E-04	2.33E-01	2.59E-02
Acetaldehyde	7.76E-03	2.13E+00	2.38E-01
Acrolein	7.78E-03	2.14E+00	2.38E-01
Benzene	1.94E-03	5.34E-01	5.94E-02
Biphenyl	3.95E-06	1.09E-03	1.21E-04
Carbon Tetrachloride	6.07E-05	1.67E-02	1.86E-03
Chlorobenzene	4.44E-05	1.22E-02	1.36E-03
Chloroform	4.71E-05	1.30E-02	1.44E-03
Ethylbenzene	1.08E-04	2.97E-02	3.31E-03
Ethylene Dibromide	7.34E-05	2.02E-02	2.25E-03
Formaldehyde	5.52E-02	1.52E+01	1.69E+00
Methanol	2.48E-03	6.82E-01	7.60E-02
Methylene Chloride	1.47E-04	4.04E-02	4.50E-03
n-Hexane	4.45E-04	1.22E-01	1.36E-02
Total PAH	2.12E-04	5.83E-02	6.49E-03
Phenol	4.21E-05	1.16E-02	1.29E-03
Styrene	5.48E-05	1.51E-02	1.68E-03
Toluene	9.63E-04	2.65E-01	2.95E-02
Vinyl Chloride	2.47E-05	6.79E-03	7.56E-04
Xylenes	2.68E-04	7.37E-02	8.21E-03
Total HAPS		2.19E+01	2.44E+00

⁽¹⁾ Emission Factors from AP-42 Chapter 3.2 Reciprocating Ignition Combustion Engines, Table 3.2 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 natural gas to calculate the worst case scenario

⁽²⁾ Calculated based on all engines operating 8,760 hrs/yr

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

Fact Sheet Attachment
Potential to Emit Calculations - Reciprocating Internal Combustion Engines (RICE)
Emission Points EP-2, EP-4, EP-5, EP-6

Greenhouse Gases- CO ₂ Equivalent		
Pollutant	Global Warming Potential (GWP) ⁽¹⁾ (unitless)	Limited Potential CO ₂ e ⁽²⁾ (tons/yr)
CO ₂	1	4,993.41
CH ₄	28	5.66
N ₂ O	265	10.71
Total CO₂e⁽²⁾		5,009.78

⁽¹⁾ Tons CO₂e/yr = [(tons/yr CO₂)*1] or [(tons/yr CH₄)*28] or [(tons/yr N₂O)*265]; CO₂ equivalents are found in 40 CFR Part 98 Subpart A Table A-1 Global Warming Potentials as published at 89 Federal Register 31894, April 25, 2024, effective on January 1, 2025. The CO₂e for CO₂ =1, for CH₄ =28, and for N₂O = 265.

⁽²⁾ Limited Potential Emissions based on the limited facility wide MMBtu/yr calculated on page 1 of this spreadsheet.

Fact Sheet Attachment

Title 129, Chapter 15*; Chapter 15 Calculations

Emission Points EP-2, EP-4, EP-5, EP-6

(Title 129, Chapter 15, Section 001.02)*;

Title 129, Chapter 15, Section 001.02

Particulate Emissions from Combustion Sources

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

Emission Point (EP)	EP horsepower	EP MMBtu/hr^[1]	Maximum Allowable PM	Maximum Allowable PM	EP PM emission rate
			(lb/MMBtu)	(lb/hr)^[2]	(lb/hr)^[3]
EP-2	960	9.9	0.6	5.94	0.61
EP-4	1,280	13.1	0.56	7.38	0.81
EP-5	1,920	19.9	0.51	10.17	1.23
EP-6	1,920	19.9	0.51	10.17	1.23

⁽¹⁾ Engine capacities as reported in the Air Quality Operating Permit Application, received June 23, 2026.

⁽²⁾ Maximum Allowable PM (lb/hr) = Maximum Allowable PM (lb/MMBtu) * EP MMBtu/hr

⁽³⁾ EP PM filterable (lb/hr) = 6.20E-02 lb/MMBtu * EP MMBtu/hr