October 24, 2022

Mark Johnson, GM
Flathead Electric Cooperative
Flathead Electric LFGE Facility
4098 Highway 93 North
Kalispel, MT 59901

Sent via email: m.johnson@flathead.coop

RE: Final Permit Issuance for MAQP #4245-02

Dear Mr. Johnson:

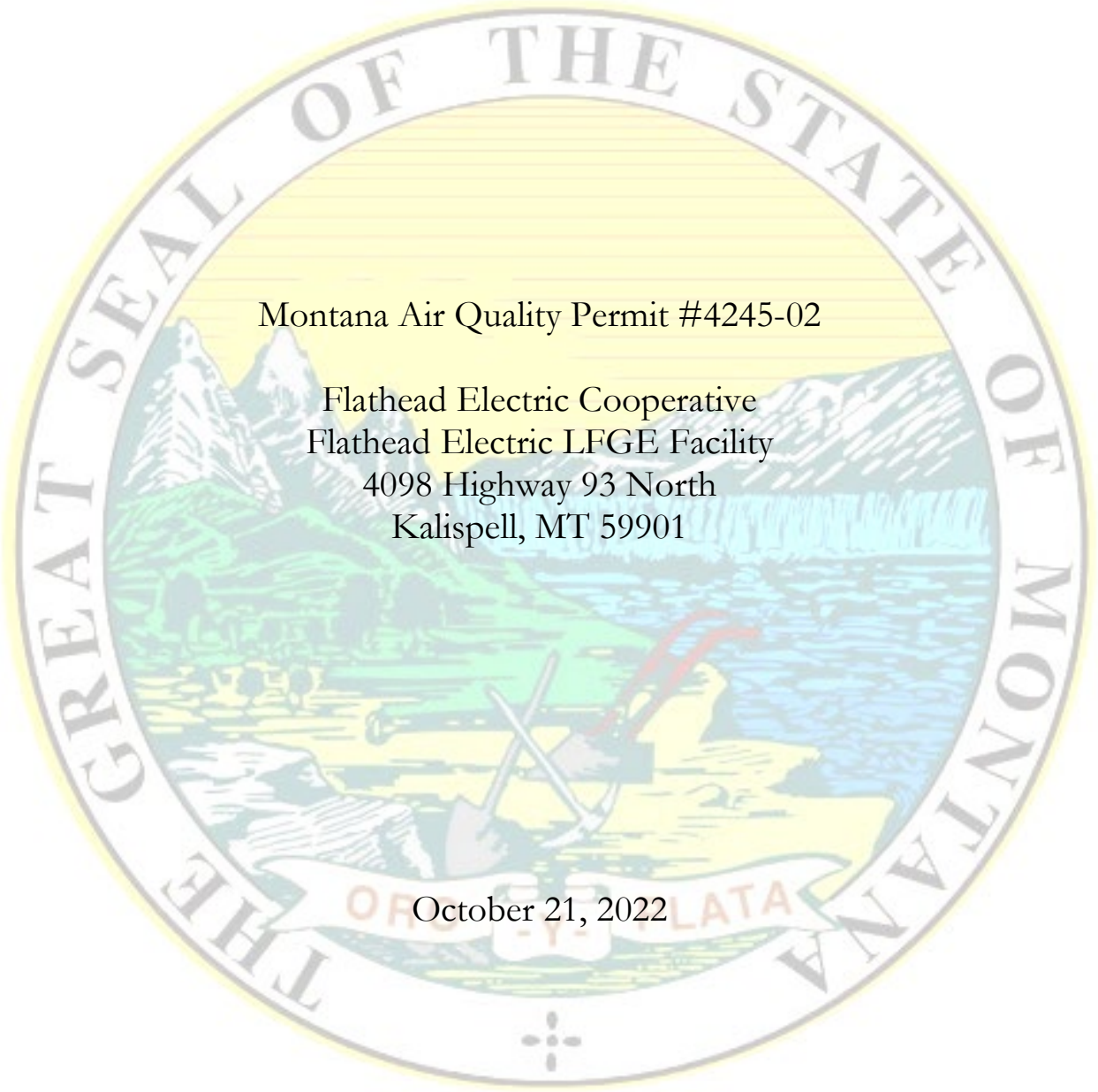
Montana Air Quality Permit (MAQP) #4245-02 is deemed final as of October 21, 2022, by DEQ. This permit is for a Landfill Gas Extraction Facility. All conditions of the Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For DEQ,

Julie A. Merkel
Permitting Services Section Supervisor
Air Quality Bureau
(406) 444-3626

John P. Proulx
Environmental Scientist
Air Quality Bureau
(406) 444-5391

Montana Department of Environmental Quality
Air, Energy & Mining Division
Air Quality Bureau



Montana Air Quality Permit #4245-02

Flathead Electric Cooperative
Flathead Electric LFGE Facility
4098 Highway 93 North
Kalispell, MT 59901

October 21, 2022

MONTANA AIR QUALITY PERMIT

Issued To: Flathead Electric LFGE Facility
4098 Highway 93 North
Kalispell, MT 59901

MAQP#: #4245-02
Application Complete: 8/10/2022
Preliminary Determination Issued: 9/15/2022
Department's Decision Issued: 10/6/2022
Permit Final: 10/21/2022

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to the Flathead Electric Landfill Gas to Energy (Flathead LFGE) facility, pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

The Flathead LFGE operates a landfill gas to energy facility at the Flathead County Solid Waste District's (District) Landfill. The facility is located 9 miles north of Kalispell on Highway 93. The legal description of the facility is the NE¼ of the NW¼ of Section 1, Township 29 North, Range 22 West, in Flathead County. A complete list of equipment is included in the permit analysis of this permit.

B. Current Permit Action

On July 28, 2022, DEQ received an application from Flathead LFGE for the addition of one (1) CAT 3520C Genset.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Emissions from the CAT 3520C Genset 1 and Genset 2 (EU01 and EU02) shall not exceed the following limits, on a grams per brake-horsepower hour (g/bhp-hr) basis. All limits are based on a 3-hour rolling average (ARM 17.8.752):

Oxides of Nitrogen (NO_X):	0.5 g/bhp-hr
Carbon Monoxide (CO) (100 percent (%) output)	2.75 g/bhp-hr
CO (50% output)	3.0 g/bhp-hr
Volatile Organic Compounds (VOC) (100% output):	0.7 g/bhp-hr
VOC (50% output)	0.9 g/bhp-hr
Particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}):	0.1 g/bhp-hr

2. Flathead LFGE shall operate the landfill flare system as specified in Flathead County application for MAQP #2850-03 and all supporting documentation (ARM 17.8.749).

3. Flathead LFGE shall operate a flame sensor system and an associated recorder, or any other equivalent device, to detect the presence of a flame (ARM 17.8.749).

4. Flathead LFGE shall continuously operate a flowmeter and associated recorder on the flare to determine the total flow of landfill gas to the flare (ARM 17.8.749).

5. Flathead LFGE shall operate and maintain a flare capable of meeting the requirements contained in 40 CFR 60.18 (ARM 17.8.752 and ARM 17.8.340).

6. The total volume of landfill gas sent to the flare may not exceed 8.64 X 10^5 standard cubic feet per day. Note: Standard conditions are 77 degrees Fahrenheit (º F) and 1 atmosphere (atm) pressure (ARM 17.8.749).

7. Flathead LFGE may not cause or authorize to be discharged into the atmosphere from the incinerator/landfill flare system:

    - Any visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours (ARM 17.8.752 and 40 CFR 60.18).

    - Any particulate emissions in excess of 0.1 gr/dscf corrected to 12% carbon dioxide (CO_2) (ARM 17.8.752).

    - Any nitrogen oxide (NO_x) emissions in excess of 5.74 lb/hr (ARM 17.8.752).

    - Any carbon monoxide (CO) emissions in excess of 18.40 lb/hr (ARM 17.8.752).

    - Any flare inlet concentrations in excess of the amounts contained in Table I (ARM 17.8.752 and MCA 75-2-215).

Table I. Flare Inlet Concentration Limitations

POLLUTANTS	**FLARE INLET CONCENTRATION (mg/m^3)**
Annual Testing	
Acetonitrile	137
Benzene	61
Carbon Disulfide	18
Carbon Tetrachloride	0.25
Carbonyl Sulfide	15
Chlorobenzene	12
Chloroethane	33
Chloroform	1.5
Chloromethane	25
1,1-Dichloroethane	95

POLLUTANTS	FLARE INLET CONCENTRATION (mg/m^3)
1,2-Dichlorethane	17
Dichloromethane	494
1,2-Dichloropropane	8
Ethylbenzene	200
Hexane	232
Methyl Ethyl Ketone	209
Methyl Isobutyl Ketone	77
Perchloroethene	253
1,1,2,2-Tetrachloroethane	76
Toluene	1481
1,1,1-Trichloroethane	26
Trichloroethene	152
Vinyl Chloride	188
Xylenes	525
5-Year Testing	
Mercury	0.004

- Allowable emissions represent a worst-case scenario based on a 10-fold increase in reported potential emissions.

8. Flathead LFGE shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

9. Flathead LFGE shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

10. Flathead LFGE shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.9 (ARM 17.8.749).

11. Flathead LFGE shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*, and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable engine (ARM 17.8.340 and 40 CFR 60, Subpart JJJJ, 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Flathead LFGE shall conduct a test on the flare inlet concentration for the pollutants identified in Table I and demonstrate compliance with the limits contained in Table I annually, except once every five years for Mercury, or according to another testing/monitoring schedule as may be approved by the Department of Environmental Quality (DEQ) in writing. Flathead LFGE shall also test the liquid condensate once every five years for the pollutants listed in Table I (ARM 17.8.105 and ARM 17.8.749).

2. EU02 shall be tested for NO_X, CO, and VOC to demonstrate compliance with the emission limits in Section II.A.1, within 180 days of the initial startup date. Following initial startup, EU02 shall be tested for NO_X, CO, and VOC once every three (3) years. The emission tests shall consist of three separate test runs that are at least one hour in length and occur while the engine is operating within 10% of 100% peak (or the highest achievable) load (ARM 17.8.749, ARM 17.8.340, and 40 CFR 60, Subpart JJJJ).

3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. DEQ may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. Flathead LFGE shall maintain on-site daily records identifying the total volume (SCF) of landfill gas sent to the flare. Note: Standard conditions are 77°F and 1 atm pressure (ARM 17.8.749).

2. Flathead LFGE shall supply DEQ with annual production information for all emission points, as required by DEQ in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to DEQ by the date required in the emission inventory request. Information shall be in the units required by DEQ. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Flathead LFGE shall notify DEQ of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation.

   The notice must be submitted to DEQ, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

4. All records compiled in accordance with this permit must be maintained by Flathead LFGE as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by DEQ, and must be submitted to DEQ upon request (ARM 17.8.749).

D. Notification

Flathead LFGE shall provide DEQ with written notification of the following dates within the specified time periods (ARM 17.8.749):

1. Commencement of construction of any future gas extraction wells within 30 days after commencement of construction; and

2. Initial startup of EU02 within 10 days; and

3. Anticipated connection date of future gas extraction wells to the flare system, between 30 and 60 days prior to the actual connection date; and

4. Actual connection date of future gas extraction wells to the flare system within 15 days after the actual connection date.

SECTION III: General Conditions

A. Inspection – Flathead LFGE shall allow DEQ's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Flathead LFGE fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Flathead LFGE of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by DEQ's decision may request, within 15 days after DEQ renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay DEQ's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA.

The issuance of a stay on a permit by the Board postpones the effective date of DEQ's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, DEQ's decision on the application is final 16 days after DEQ's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by DEQ at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Flathead LFGE may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Flathead Electric LFGE Facility
MAQP #4245-02

I. Introduction/Process Description

Flathead Electric owns and operates a landfill gas to energy (Flathead LFGE) facility. The facility is located in Section 1, Township 29 North, Range 22 West, in Flathead County, at Flathead County Solid Waste District's existing landfill.

A. Permitted Equipment

The facility incorporates the following major components:

- A landfill gas (LFG) pressurization and cooling skid. The purposes of the skid are to raise the pressure of the LFG to a pressure acceptable for use in the engine/generator and to remove moisture from the LFG. The skid will produce about 610 square cubic foot per minute (scfm) of LFG at about 2.5 pounds per standard inch gauge (psig);

- Two (2) Caterpillar G3520C, 2,233 brake horsepower reciprocating engines/generators.

- An LFG collection extraction system routed to a 2001 Perennial Energy, Inc. (PEI) enclosed ground flare with a capacity of 18 million British thermal units per hour (MMBtu/hr). The flare is capable of combusting 600 scfm of LFG containing approximately 50% methane and 50% nonmethane organic compounds (NMOC) and has the ability to be upgraded to accommodate 1200 scfm of LFG as more wells are installed. The system includes the following additional components:

    - Natural gas fired pilot assembly
    - One flare station blower capable of providing 600 scfm of LFG to the flare
    - Condensate knock-out vessel with particulate filter for LFG particulate removal prior to flaring
    - Flow meter used to monitor and help control the flare's operation
    - Miscellaneous piping and associated equipment used in support of the LFG extraction system; and

- Conveyors, and associated equipment.

B. Process Description

The LFG collection system is comprised of approximately 25 vertical extraction wells, which actively collect gas from the waste prism, and headers and lateral piping to convey extracted LFG to the flare system. The LFG collection system will be expanded as the landfill expands. This permit may need to be altered if any of the proposed extraction wells will result in an increase in the permitted amount of landfill gas that will be combusted by the flare or if these wells result in new pollutants being emitted.

This system results in a variety of pollutants being emitted from the flare. The primary emissions consist of carbon monoxide (CO), oxides of nitrogen (NO_x), and volatile organic compounds (VOC). There will be only minimal particulate emissions (<3 tpy), since knockout drums and demisters will be used to remove the particulate from the landfill gas prior to flaring. In addition, a health risk assessment has been completed on the emission of VOCs and Hazardous Air Pollutants (HAP) that will result from this proposal. A description of the health risk assessment is contained in Section VI of the analysis.

The facility incorporates two Caterpillar G3520C engines/generators. The engines are fueled on LFG produced by, and collected at, the Flathead County Solid Waste District's Landfill. If the LFG is not used as a fuel for the engines, it will be destroyed by the existing enclosed flare.

D. Permit History

On September 23, 2008, DEQ issued **MAQP #4245-00** to Flathead LFGE for the operation of landfill gas to energy facility. The facility consisted of single engine/generator to be fueled on landfill gas produced by and collected at the Flathead County Solid Waste District's landfill. Any LFG not used as a fuel for the engine/generator, would be destroyed in an existing enclosed flare owned and permitted by the Flathead County Solid Waste District.

On September 17, 2009, DEQ received a request from the Flathead County Solid Waste District (District), the owner of the Flathead County Landfill (FCLF) to transfer equipment associated with the LFG gas collection and control system (GCCS) to the LFGE facility located at Flathead County Solid Waste District's existing landfill. **MAQP #4245-01** replaced MAQP #4245-00.

E. Current Permit Action

On July 28, 2022, DEQ received an application from Flathead LFGE for the addition of one (1) CAT 3520C Genset. The application is considered an Energy Development Project and is subject to a 30-day appeal period. The emissions from the additional genset increase the facilities Potential to Emit (PTE) Carbon Monoxide (CO) over 100 tons per year (t/yr). With the increase in PTE, Flathead LFGE will be required to apply for a Title V Operating Permit within one year after startup of the new genset. **MAQP #4245-02** replaces MAQP #4245-01.

F. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from DEQ. Upon request, DEQ will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of DEQ, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by DEQ.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by DEQ, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Flathead LFGE shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from DEQ upon request.

4. ARM 17.8.110 Malfunctions. (2) DEQ must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter

8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Flathead LFGE must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

    a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

    b. 40 CFR 60, Subpart JJJJ – Standard of Performance for Stationary Spark Ignition Internal Combustion Engines. The Flathead LFGE engines are affected sources under this subpart because they are larger than 25 hp and manufactured after January 1, 2008.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:

   a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:

   b. 40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants From Reciprocating Internal Combustion Engines (RICE). The Flathead LFGE facility contains CI RICE at an area source of HAPs which makes them affected sources under 40 CFR 63 Subpart ZZZZ. However, because the LFG extraction and purification facility is an area source of HAPs and not a major source of HAPs, the engine may meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ for spark ignition engines. No further requirements apply for such engines under 40 CFR 63, Subpart ZZZZ.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to DEQ. Flathead LFGE submitted the required permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to DEQ by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by DEQ. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. DEQ may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, alter, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant.

Flathead LFGE has a PTE greater than 25 tons per year of carbon monoxide (CO) and Volatile Organic Compounds (VOC); therefore, an air quality permit is required. In addition, this rule also requires any incinerator, as defined in 75-2-103(11), MCA and subject to the requirements of 75-2-215, MCA to obtain a permit. Flathead LFGE's flare is subject to the above requirements and therefore a permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Flathead LFGE submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Flathead LFGE submitted an affidavit of publication of public notice for the August 8, 2022, issue of the *Daily Inter Lake*, a newspaper of general circulation in the city of Kalispel, Flathead County, Montana.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by DEQ must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The current permit action does not require a BACT analysis because it is considered an administrative action and there will be no increase in emissions from the project.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by DEQ at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Flathead LFGE of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.760 Additional Review of Permit Applications. This rule describes DEQ's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to DEQ.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions). The LFGE facility is located at Flathead County Solid Waste District's existing landfill, which operates under Title V Operating Permit #OP2850-08. Flathead Electric Cooperative leases a parcel of about 1.5 acres in size from Flathead County Solid Waste District for the LFGE facility. The 1.5-acre LFGE parcel is located within the landfill; thus, the adjacent land us in all directions is landfill operations. Any LFG not burned in the Flathead LFGE facility would be routed to the flare.

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

   a. PTE > 100 tons/year of any pollutant;

   b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as DEQ may establish by rule; or

   c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #4245-02 for Flathead LFGE, the following conclusions were made:

   a. The facility's PTE is greater than 100 tons/year for any pollutant.

   b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.

   c. This source is not located in a serious PM_{10} nonattainment area.

      This facility is subject to a current NSPS (40 CFR 60, Subpart JJJJ)

   d. This facility is subject to any current NESHAP (40 CFR 63, Subpart ZZZZ).

   e. This source is not a Title IV affected source.

   f. This source is not a solid waste combustion unit

   g. This source is not an EPA designated Title V source.

Based on these facts, DEQ determined that Flathead LFGE will be a major source of emissions as defined under Title V. Flathead LFGE will be required to apply for a Title V Operating Permit within one year after startup of the new genset (EU02).

H. MCA 75-2-103, Definitions provides in part as follows:

1. "Incinerator" means any single or multiple chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.

2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes including, but not limited to...air pollution control facilities...

I. MCA 75-2-215, Solid or hazardous waste incineration - additional permit requirements:

1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators. Flathead LFGE therefore had to obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to DEQ's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including HAPs, from the incineration of solid waste. DEQ determined that the information submitted in this request and the original application is sufficient to fulfill this requirement.

III. BACT Determination

A BACT determination is required for each new or altered source. Flathead LFGE shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

The current project is for the installation of a second four-stroke lean-burn Caterpillar G3520C 2,233 bhp generator engine (EU02). This unit is identical to the currently operating generator engine (EU01) which was permitted in 2008. Flathead LFGE supplied a BACT analysis as required as part of the permit application for EU02; however, the proposed BACT was less stringent than the BACT limits associated with the identical existing engine EU01. The BACT conditions that exist for EU01 are considered relevant and achievable; therefore, DEQ has determined that the more stringent BACT limits for CO, NO_x, and VOC for EU01 constitute BACT for EU02. The BACT analysis associated with EU01 has been reproduced below.

CO BACT

This project is somewhat unique in that there are generally recognized issues related to the application of catalyst-based pollution control devices to devices combusting landfill gas. Specifically, add-on controls such as oxidation catalysts are not commonly used on landfill gas-fired combustion devices due to the fact that landfill gas contains contaminants that poison the catalyst materials, or at a minimum, significantly reduce the service life of the catalysts. The primary compound of concern is called siloxane, which is silicon-based and present in landfill gas, which clogs the catalyst bed reducing the availability of sites where catalytic reaction can occur, and ultimately renders the catalyst inoperable. DEQ is not aware of any successful installation of post combustion treatment technologies to landfill gas-fired engines.

As part of the review of this permit application, several recently issued permits were reviewed for landfill gas-fired engine projects. Recent CO BACT determinations for reciprocating engines range from 2.3 to 3.0 g/bhp-hr. Caterpillar guarantees a CO emission rate of 4.13 g/bhp-hr at 100 percent, 4.25 g/bhp-hr at 75 percent and 4.4 g/bhp-hr at 50 percent power output. Caterpillar expects a nominal CO emissions rate of 2.5 g/bhp-hr at all three power outputs. Caterpillar defines "nominal" as emissions during the first 100 hours of operation. A BACT/LAER analysis sets a CO standard of 2.75 g/bhp-hr. Flathead LFGE proposed a CO limit of 2.75 g/bhp-hr at 100 percent power output, and 3.0 g/bhp-hr at 50 percent power output on a 3-hour rolling average.

Based on vendor guarantees with supporting information, and recently permitted sources with similar BACT analyses, CO BACT for reciprocating engines is therefore represented by these limits, combustor design and good combustion practices to minimize CO emissions.

NO_X BACT

There is a direct tradeoff between NO_x emissions and CO emissions. Lowering NO_x emissions increases CO (and VOC) emissions, therefore, NO_x is considered with CO when determining BACT limits. As part of the review of this permit application, several recently issued permits were reviewed for landfill gas-fired engine projects. Recent NO_x BACT determinations for reciprocating engines range from 0.50 to 1.4 g/bhp-hr. Caterpillar, the manufacturer of the G3520C reciprocating engine, guarantees a NOx emission rate of 0.5 g/bhp-hr at 100 percent, 75 percent and 50 percent power output. A BACT/LAER analysis shows that 0.5 g/bhp-hr is typically for the type of engine proposed.

Based on vendor guarantees with supporting information, NO_x BACT for reciprocating engines is therefore represented by combustor design and good combustion practices to minimize NO_x emissions. In addition, DEQ concurs that 0.5 g/bhp-hr on a 3-hour rolling average is appropriate as a BACT limit for NO_x.

VOC BACT

Caterpillar guarantees a VOC emission rate of 0.88 g/bhp-hr, 0.98 g/bhp-hr and 1.13 g/bhp-hr at 100 percent, 75 percent, and 50 percent power outputs, respectively. A recent BACT/LAER analysis indicated a VOC limit of 0.7 g/bhp-hr. While 0.7 g/bhp-hr is below Caterpillar's guarantee, the applicant believes that 0.7 g/bhp-hr is achievable based on recent BACT analyses for similar sources. The facility proposed a limit of 0.7 g/bhp-hr as BACT for VOC emissions at 100 percent power output, and 0.9 g/bhp-hr at 50 percent power output on a 3-hour rolling average. DEQ believes that the proposed limits along with good combustion practices constitute BACT for VOC emissions.

SO_2 BACT

Landfill gas contains hydrogen sulfide (H_2S). Upon combustion, the H_2S oxidizes to sulfur dioxide (SO_2). The SO_2 emissions at the site will not change as a result of implementation of the LFGE project. The SO_2 emissions from the existing flare (permitted and operated by the Flathead County Solid Waste District existing landfill) and the proposed engine are identical for the same amount of fuel burned. Any excess fuel not burned in the engine would be routed to the Flathead County Solid Waste District landfill flare. Therefore, good combustion practices are considered BACT for SO_2.

PM_{10}

Flathead LFGE considered the following technology as control options:

- The use of low sulfur fuels that minimize particulate attributable to the carryover of inert material in the fuel;

- The use of low polluting processes such as high-performance combustors or burners to minimize the formation of unburned carbon in the combustion unit;

- The use of filters to remove particles from the landfill gas before being introduced into the combustion units; and

- The use of particulate flue gas controls such as cyclones, fabric filters and electrostatic precipitators.

The facility evaluated the technical feasibility of flue gas particulate controls identified above and concluded that flue gas controls are not technically feasible. These conclusions were based on information showing these controls would have little or no effect on these emission units. The flue gas controls are typically used to control flue gas with relatively high grain loading. The Flathead LFGE project's flue gas concentrations are very low making these controls impractical.

However, prior to reaching the engine, the landfill gas will be processed through the following steps to remove moisture and particulate from the LFG:

- Inlet separator vessel with mesh pad filter;
- LFG pressurization;
- LFG cooling in an air-LFG heat exchanger;
- Outlet separator vessel with mesh pad filter; and
- Pre-engine coalescing filter.

This filtering system will employ a moisture separator with an internal mesh pad filter that will collect water droplets and some incoming particulate. In addition, the reciprocating engines will be equipped with coalescing filters designed to remove 99% of all water droplets and particulates greater than 1 micron. During the compression and chilling stages of landfill gas processing, water vapor is condensed, and another water separator and coalescing filter is used, further removing particulate matter from the landfill gas.

USEPA's "Compilation of Air Emission Factors, Volume I: Stationary Point and Area Sources" (AP-42 Fifth Edition), Section 2.4 for Municipal Solid Waste Landfills, on Table No. 2.4-5, indicates that an emission rate of 48 pounds of particulate matter per 10^6 dry standard cubic feet (dscf), can be expected for landfill gas fired internal combustion engines. The Caterpillar G3520C has a guaranteed heat rate of 7,339 Btu/hp-hr. The engine is rated at 2,233 bhp. The AP-42 emission rate is equivalent to:

2,233 bhp * 7,339 Btu/hp-hr – 16.39
16.39 Btu/hr / 1,012 Btu/ft^3 (methane) = 16,196 ft^3 per hour of methane
16,196 ft^3/hr * 8760 hours/year * 48 lbs/10^6 ft^3 = 6,810 lbs/year or 3.41 tons/year
16,196 ft^3/hr * 48 lbs/10^6 ft^3 * 453.6 g/lb / 2,233 hp = 0.16 g/bhp-hr

After reviewing the information supplied by the applicant, BACT/LAER Clearinghouses, and LFGE projects in other states, DEQ determined that BACT for PM_{10} for all combustion devices consists of filtering the incoming landfill gas and employing good combustion practices. In addition, a PM_{10} limit of 0.1 g/bhp-hr on a 3-hr rolling average will be established for the Flathead Electric LFGE facility.

The control options selected have controls and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Source	Tons/Year				
	PM_{10}	NO_x	CO	SO_2	VOC
Caterpillar G3520C engines (4,466 bhp combined)	4.31	21.56	118.56	10.72	30.18
Flare	1.58	4.73	11.83	0.026	0.077
Total	5.89	26.29	130.39	10.75	30.19

CAT G3520C Engine(s)

Note: Emissions are based on the power output of the engine (2233 hp).		
Operational Capacity of Engine = 2 engines	2	**engines**
Combined Brake horsepower	4466	**bhp**
Pounds per gram	0.002204	**lb/gr**
Hours of Operation = 8,760 hr/yr	8760	**hr/yr**
PM-10 Emissions:		
Emission Factor = 0.38 lb/hr (BACT)	0.1	**lb/hr**
Calculation: ((0.10 g/bhp-hr) * (4,466 bhp) * (8,760 hr/yr) * (0.0022 lb/gr) * (8,760 hr/yr) (ton/2000 lb) = 4.31 ton/yr	4.31	**ton/yr**
NOx Emissions:		
Emission Factor = 0.15 gr/bhp-hr (BACT)	0.5	**g/bhp-hr**
Calculation: ((0.50 g/bhp-hr) * (4,466 bhp) * (8,760 hr/yr) * (0.0022 lb/gr) * (8,760 hr/yr) (ton/2000 lb) = 21.56 ton/yr	21.56	**ton/yr**
CO Emissions:		
Emission Factor = 0.3 gr/bhp-hr (BACT)	2.75	**g/bhp-hr**
Calculation: ((2.75 g/bhp-hr) * (4,466 bhp) * (8,760 hr/yr) * (0.0022 lb/gr) * (8,760 hr/yr) (ton/2000 lb) = 118.56 ton/yr	118.6	**ton/yr**
VOC Emissions:		
Emission Factor = 0.01 gr/bhp-hr (BACT)	0.7	**g/bhp-hr**
Calculation: ((0.70 g/bhp-hr) * (4,466 bhp) * (8,760 hr/yr) * (0.0022 lb/gr) * (8,760 hr/yr) (ton/2000 lb) = 30.18 ton/yr	30.18	**ton/yr**
SO_X Emissions:		
Emission Factor = 0.08 lb/hr (BACT)	200	**ppmv**
Calculation: 200 ppmv * 34.08 * (64.07/34.08) / ($385.1*10^6$) * 1220 scfm * 525,000 min/yr / (2000lb/ton)	10.72	**ton/yr**

Flare

PM Emissions

Emission Factor: 0.72 lb/hr (Company Information)
Hours of Operation: 8760 hr/yr
Calculations: *0.72 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 3.15 ton/yr*

PM_{10} Emissions

Emission Factor: 0.36 lb/hr (Company Information)
Hours of Operation: 8760 hr/yr
Calculations: *0.36 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 1.58 ton/yr*

NO_x Emissions

Emission Factor: 1.08 lb/hr (Company Information)
Hours of Operation: 8760 hr/yr
Calculations: *1.08 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 4.73 ton/yr*

CO Emissions

Emission Factor: 2.70 lb/hr (Company Information)
Hours of Operation: 8760 hr/yr
Calculations: *2.70 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 11.83 ton/yr*

VOC Emissions

Emission Factor: 0.018 lb/hr (Company Information)
Hours of Operation: 8760 hr/yr
Calculations: *0.018 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.077 ton/yr*

SO_x Emissions

Emission Factor: 0.006 lb/hr (Company Information)
Hours of Operation: 8760 hr/yr
Calculations: 0.006 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.026 ton/yr
**Emissions based on a maximum flowrate of 600 standard cubic feet per minute, 40% methane, and 595 ppm VOC.*

Table I. Potential Hazardous Air Pollutant - Risk Assessment Pollutants Emission Estimations

Pollutant	Inlet Uncontrolled Emission Rate (lb/hr)	Controlled Emission Rate* (lb/hr)	Exhaust Worst Case Emission Rate** (lb/hr) (Uncontrolled	Worst Case Emission Rate** (ton/yr) (Uncontrolled)
Acetonitrile	3.09E-02	6.18E-04	3.09E-01	1.35
Benzene	1.37E-02	2.74E-04	1.37E-01	6.00E-01
Carbon Disulfide	4.06E-03	8.12E-05	4.06E-02	1.77E-01
Carbon Tetrachloride	5.66E-05	1.13E-06	5.66E-04	2.48E-03
Carbonyl Sulfide	3.43E-03	6.86E-05	3.43E-02	1.50E-01
Chlorobenzene	2.59E-03	5.18E-05	2.59E-02	1.13E-01
Chloroethane	7.42E-03	1.48E-04	7.42E-02	3.25E-01
Chloroform	3.29E-04	6.59E-06	3.29E-03	1.44E-02

Chloromethane	5.62E-03	1.12E-04	5.62E-02	2.46E-01
1,1-Dichloroethane	2.14E-02	4.28E-04	2.14E-01	9.37E-01
1,2-Dichloroethane	3.73E-03	7.46E-05	3.73E-02	1.63E-01
Dichloromethane	1.12E-01	2.23E-03	1.12	4.91
1,2-Dichloropropane	1.87E-03	3.74E-05	1.87E-02	8.19E-02
Ethylbenzene	4.50E-02	9.00E-04	4.50E-01	1.97
Hexane	5.21E-02	1.04E-03	5.21E-01	2.28
Mercury	8.08E-07	1.62E-08	8.08E-06	3.54E-05
Methyl Ethyl Ketone	4.70E-02	9.40E-04	4.70E-01	2.05
Methyl Isobutyl Ketone	1.72E-02	3.44E-04	1.72E-01	7.53E-01
Perchloroethene	5.69E-02	1.14E-03	5.69E-01	2.49
1,1,2,2-Tetrachloroethane	1.71E-02	3.43E-04	1.71E-01	7.49E-01
Toluene	3.33E-01	6.66E-03	3.33	14.6
1,1,1-Trichloroethane	5.89E-03	1.18E-04	5.89E-02	2.58E-01
Trichloroethene	3.41E-02	6.82E-04	3.41E-01	1.49
Vinyl Chloride	4.22E-02	8.44E-04	4.22E-01	1.85
Xylenes	1.18E-01	2.36E-03	1.18	5.17

*Based on 98% flare destruction efficiency
**Based on a 10-fold increase in emissions

Table II. HCl Emission Estimation

Chlorinated Compounds	Molecular Weight	# of Cl Molecules	Cl Concentration* (mg/m^3)
Carbon Tetrachloride	153.84	4	0.23
Chlorobenzene	112.56	1	3.65
Chloroethane	64.52	1	18.07
Chloroform	119.39	3	1.34
Chloromethane	50.49	1	17.48
1,1-Dichloroethane	99	2	68.21
1,2-Dichloroethene	99	2	11.82
Dichloromethane	84.94	2	412.01
1,2-Dichloropropane	113	2	5.27
Perchloroethene	165.85	4	216.31
Chlorinated Compounds	Molecular Weight	# of Cl Molecules	Cl Concentration* (mg/m^3)
1,1,1,2-Tetrachloroethane	167.8	4	64.20
1,1,1-Trichloroethane	133.4	3	20.88
Trichloroethane	131.4	3	122.71
Vinyl Chloride	*62.5*	*1*	*106.46*

Total Potential HCl emissions → 1068.64

Example Calculation: Carbon Tetrachloride

Cl Concentration = Reported CCl_4 Inlet Concentration (Mg/m^3) * (# of Cl molecules * Molecular Wt. Cl / Molecular Wt. CCl_4)
Cl Concentration = 0.25 Mg CCl_4/m^3 * (4 * 35.45 / 153.84) = 0.23 Mg Cl/m^3
*Based on a 10-fold increase in emission.

V. Existing Air Quality

The city of Kalispell is a maintenance area for the 1987 24-hour PM_{10} national ambient air quality standard, and attainment/unclassifiable for all other ambient air quality standards.

VI. Ambient Air Impact Analysis

In the view of DEQ, the amount of controlled emissions generated by this project will not cause concentrations of any regulated pollutant in the ambient air that exceed any set ambient standard. Any potential impacts will be minimized by the conditions and limitations established in MAQP #4245-02.

VII. Health Risk Assessment

A health risk assessment was not conducted by DEQ because there are no new or increased emissions being routed to the flare.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, DEQ conducted the following private property taking and damaging assessment which is discussed in the attached Environmental Assessment.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Flathead Electric LFGE Facility

Draft Environmental Assessment for the

Preliminary Determination for Montana Air Quality Permit #4245-02

Montana Department of Environmental Quality
Air Quality Bureau
Air Permitting Services Section
ENVIRONMENTAL ASSESSMENT

APPLICANT: Flathead Electric LFGE Facility		
SITE NAME: Flathead Electric LFGE Facility		
PROPOSED PERMIT NUMBER: Montana Air Quality Permit Number 4245-02		
APPLICATION DATE: July 28, 2022		
APPLICATION COMPLETE DATE: August 10, 2022		
LOCATION: Section 1, Township 29 North, Range 22 West		COUNTY: Flathead
PROPERTY OWNERSHIP:	FEDERAL ____ STATE ____ PRIVATE _X_	
EA PREPARER:	John P. Proulx – Environmental Scientist 2	
EA Draft Date	EA Final Date	Permit Final Date
September 15, 2022	October 6, 2022	October 21, 2022

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to determine the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with the proposed action. However, an agency is required to prepare an EA whenever statutory requirements do not allow sufficient time for the agency to prepare an EIS. This document may disclose impacts over which DEQ has no regulatory authority.

COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (§ 75-2-201, et seq., Montana Code Annotated (MCA). DEQ may not approve a proposed project contained in an application for an air quality permit unless the project complies with the requirements set forth in the Clean Air Act of Montana and the administrative rules adopted thereunder. DEQ's approval of an air quality permit application does not relieve the Flathead Electric LFGE Facility (Flathead LFGE), from complying with any other applicable federal, state, or county laws, regulations, or ordinances. Flathead LFGE is responsible for obtaining any other permits, licenses, approvals, that are required for any part of the proposed project. DEQ will decide whether to approve the permit in accordance with the requirements of the Clean Air Act of Montana. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

SUMMARY OF THE PROPOSED ACTION: Flathead LFGE has applied for a modification of their Montana air quality permit under the Clean Air Act of Montana for the installation of one (1) 2,233 brake horsepower (bhp) CAT 3520C Genset engine for the purpose of generating electricity from gas produced in a landfill. The proposed action would be located in Section 1, Township 29 North, Range 22 West, Flathead County, 48.310014°N, latitude and -114.341503°W, longitude. All information included in the EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

PURPOSE AND BENEFIT FOR PROPOSED ACTION: DEQ's purpose in conducting this environmental review is to act upon Flathead LFGE's air quality permit application to authorize one (1) 2,266 bhp engines and the associated air contaminants. DEQ's action on the permit application is governed by the Clean Air Act of Montana, § 75-2-201, et seq., MCA and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*

The benefits of the proposed action include Flathead LFGE is proposing to install the genset for the purpose of generating electricity.

REGULATORY RESPONSIBILITIES: In accordance with ARM 17.4.609(3)(c), DEQ must list any federal, state, or local authorities that have concurrent or additional jurisdiction or environmental review responsibility for the proposed action and the permits, licenses, and other authorizations required.

Flathead LFGE must conduct its operations according to the terms of its permit. Flathead LFGE further agrees to be legally bound by the permit, The Clean Air Act of§ 75-2-201, et seq., MCA and ARM 17.8.740, *et seq.*

Flathead LFGE must cooperate fully with, and follow the directives of any federal, state, or local entity that may have authority over Flathead LFGE's generating operations. These permits, licenses, and other authorizations may include: Richland County and DEQ AQB (air quality).

Table 1: Proposed Action Details

Summary of Proposed Action	
General Overview	Flathead LFGE's air quality permit application consists of the following equipment: • one (1) 2,233 bhp generator engines The facility would be permitted to operate until Flathead LFGE requested permit revocation or until the permit were revoked by DEQ due to gross non-compliance with the permit conditions.
Proposed Action Estimated Disturbance	
Disturbance	Minimal disturbance is estimated with the current permit action.
Proposed Action	
Duration	Construction: Construction or commencement would start within three years of issuance of the final air quality permit. Construction Period: The construction period could begin as soon as the air quality permit (and any other permits identified in this EA) were in place. Operation Life: Until permit is either revoked at the request of the permittee or DEQ has determined the need for revocation.
Construction Equipment	Cranes, delivery trucks, various other types of smaller equipment
Personnel Onsite	Construction: Various number of installation personnel depending on which piece of equipment is being installed. Operations: Current number of employees.
Location and Analysis Area	Location: Section 1, Township 29 North, Range 22 West, in Flathead County, MT Analysis Area: The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.
Air Quality	This EA will be attached to the Air Quality Permit which would include all enforceable conditions for operation of the emitting units
Conditions incorporated into the Proposed Action	The conditions developed in the Preliminary Determination of the Montana Air Quality Permit dated September 15, 2022, set forth in Sections II.A-D, and updated in the Decision Air Quality Permit if needed.

Figure 1: Map of general location of the proposed project.

EVALUATION AND SUMMARY OF POTENTIAL IMPACTS TO THE PHYSICAL AND HUMAN ENVIRONMENT IN THE AREA AFFECTED BY THE PROPOSED PROJECT:

The impact analysis will identify and evaluate direct and secondary impacts. Direct impacts are those that occur at the same time and place as the action that triggers the effect. Secondary impacts means "a further impact to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action." ARM 17.4.603(18).

Where impacts are expected to occur, the impacts analysis estimates the duration and intensity of the impact.

The duration of an impact is quantified as follows:

- **Short-term**: Short-term impacts are defined as those impacts that would not last longer than the proposed operation of the site.
- **Long-term**: Long-term impacts are defined as impacts that would remain or occur following shutdown of the proposed facility.

The severity of an impact is measured using the following:

- **No impact**: There would be no change from current conditions.
- **Negligible**: An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor**: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate**: The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major**: The effect would alter the resource.

1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Direct Impacts:

Proposed Action: Negligible impacts to topography, geology, stability, and moisture would be expected because the proposed project would occur near an already existing facility with minor disturbances due to equipment installation and site preparation.

Secondary Impacts:

Proposed Action: No secondary impacts to topography, geology, stability, and moisture are anticipated with the proposed action.

2. WATER QUALITY, QUANTITY, AND DISTRIBUTION:

Direct Impacts:

Proposed Action: No primary impacts to water quality, quantity, and distribution would be expected because the proposed project would occur near an already existing facility. Water is not required for normal operation of the proposed equipment.

Secondary Impacts:

Proposed Action: No secondary impacts are anticipated with the proposed action.

3. AIR QUALITY:

Direct Impacts:

Proposed Action: Negligible impacts to air quality would be expected with the proposed action. The potential to emit air pollutants has no increase, landfill gas will either be used in the engine or sent to the flare.

Secondary Impacts:
Proposed Action: Negligible impacts could be expected with the proposed action in the event of equipment malfunction.

4. VEGETATION COVER, QUANTITY AND QUALITY:

Direct Impacts:
Proposed Action: No impacts are expected with the proposed permit action due to installation of new equipment in an already existing facility.

Secondary Impacts:
Proposed Action: Negligible impacts to land disturbance at the site may result in propagation of noxious weeds.

5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Direct Impacts:
Proposed Action: No primary impacts are anticipated for aquatic life because there are no aquatic habitats. Minor impacts are anticipated for terrestrial and avian habitats because the area was used for agricultural purposes.

Secondary Impacts:
Proposed Action: No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above would be anticipated for the proposed action.

6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Impacts:
Proposed Action: According to a Montana Natural Heritage Program, there are species (8) species of concern; Bald eagle, Pileated Woodpecker, Great Blue Heron, Evening Grosbeak, Brown Creeper, Hoary Bat, Grizzly Bear, and the Bull Trout. There is no new development being proposed for this project and the activity proposed is small when compared to an industrial scale and would likely not impact any of the before mentioned species.

7. HISTORICAL AND ARCHAEOLOGICAL SITES:

Impacts:
Proposed Action: It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, we would recommend that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place. The Flathead LFGE facility is less than 50 years old and there is no disturbance or alteration to structures over fifty years of age.

8. SAGE GROUSE EXECUTIVE ORDER:

The current permit action is not located in the Greater Sage Grouse habitat area.

9. AESTHETICS:

Direct Impacts:
Proposed Action: Negligible impacts may be associated with the current permit application due to the installation of new equipment in an already existing facility with temporary impacts to aesthetics due to construction activities.

Secondary Impacts:
Proposed Action: No secondary impacts to aesthetics and noise are anticipated with the proposed action.

10. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Direct Impacts:
Proposed Action: Negligible impacts to land, water, air, and energy resources associated with the operational needs of the proposed equipment are anticipated.

Secondary Impacts:
Proposed Action: No secondary impacts to land, water, air or energy resources are anticipated with the proposed action.

11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:

Direct Impacts:
Proposed Actions: No primary impacts to other environmental resources are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to other environmental resources are anticipated as a result of the proposed action.

12. HUMAN HEALTH AND SAFETY:

Direct Impacts:
Proposed Action: Impacts to human health and safety are anticipated to be short-term and minor as a result of this project. The proposed equipment will be installed with Best Available Control Technology to minimize emissions from the new equipment.

Secondary Impacts:
Proposed Action: No secondary impacts to human health and safety are anticipated as a result of the proposed action.

13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:

Direct Impacts:
Proposed Action: Negligible industrial impacts are anticipated due to construction and installation of new equipment. No impacts to commercial and agricultural activities are anticipated.

Secondary Impacts:
Proposed Action: No secondary impacts to industrial, commercial, water conveyance structures, and agricultural activities and production are anticipated as a result of the proposed action.

14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Direct Impacts:
Proposed Action: Minor impacts to quantity and distribution of employment are anticipated for the proposed action because the site plans to add one new employee.

Secondary Impacts:
Proposed Action: Negligible increases in in distribution of employment are anticipated as a result of the proposed action.

15. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Direct Impacts:
Proposed Action: Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, from the companies, employees, or landowners benefitting from this operation.

Secondary Impacts:
Proposed Action: No secondary impacts to local and state tax base and tax revenues are anticipated as a result of the proposed action.

16. DEMAND FOR GOVERNMENT SERVICES:

Direct Impacts:
Proposed Action: Minor impacts are anticipated for demand for government services. The air quality permit and physical site associated with the current permit action would require inspections from state government representatives to ensure the facility is operating within the limits and conditions listed in the air quality permit.

Secondary Impacts:
Proposed Action: No secondary impacts are anticipated with the proposed action.

17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

Direct Impacts:
Proposed Action: No primary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to the locally adopted environmental plans and goals are anticipated as a result of the proposed action.

18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Direct Impacts:
Proposed Action: No primary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action. The proposed area is near an existing oil and gas well site with no recreational areas in the immediate area.

Secondary Impacts:
Proposed Action: No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action.

19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Direct Impacts:
Proposed Action: No primary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

20. SOCIAL STRUCTURES AND MORES:

Direct Impacts:
Proposed Action: No primary impacts anticipated to social structures and mores are anticipated as a result of the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to social structures and mores are anticipated as a result of the proposed action.

21. CULTURAL UNIQUENESS AND DIVERSITY:

Direct Impacts:
Proposed Action: No primary impacts anticipated to cultural uniqueness and diversity are anticipated from the proposed action.

Secondary Impacts:
Proposed Action: No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action.

22. PRIVATE PROPERTY IMPACTS:

The proposed action would take place on privately owned property and is not expected impact other privately owned properties. The analysis below in response to the Private Property Assessment Act indicates no impact. DEQ does not plan to deny the application or impose conditions that would restrict the regulated person's use of private property. Further, if the application is complete, DEQ must take action on the permit pursuant to § 75-2-218(2), MCA. Therefore, DEQ does not have discretion to take the action in another way that would have less impact on private property—its action is bound by a statute.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Due to the nature of the proposed action, no further direct or secondary impacts are anticipated from this project.

ADDITIONAL ALTERNATIVES CONSIDERED:

No Action Alternative: In addition to the proposed action, DEQ is considering a "no action" alternative. The "no action" alternative would deny the approval of the proposed action. The applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the "no action" alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), (MCA) DEQ "may not withhold, deny, or impose conditions on any permit or other authority to act based on" an environmental assessment.

CUMULATIVE IMPACTS:

Cumulative impacts are the collective impacts on the human environment within the borders of Montana of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location and generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.
This environmental review analyzes the proposed action submitted by the Flathead LFGE.

DEQ considered potential impacts related to this project and potential secondary impacts. Due to the limited activities in the analysis area, cumulative impacts related to this project would be minor and short-term.

PUBLIC INVOLVEMENT:

Scoping for this proposed action consisted of internal efforts to identify substantive issues and/or concerns related to the proposed operation. Internal scoping consisted of internal review of the environmental assessment document by DEQ Air Permitting staff.

Internal efforts also included queries to the following websites/ databases/ personnel:
- Montana State Historic Preservation Office
- Montana Department of Environmental Quality (DEQ)
- Montana Natural Heritage Program

OTHER GOVERNMENTAL AGENCIES WITH JURSIDICTION:

The proposed project would be fully located on privately-owned land. All applicable local, state, and federal rules must be adhered to, which, at some level, may also include other local, state, federal, or tribal agency jurisdiction. Other governmental agencies which may have overlapping or sole jurisdiction include, but may not be limited to: Richland County, OSHA (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT (road access).

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

Under ARM 17.4.608, DEQ is required to determine the significance of impacts associated with the proposed action. This determination is the basis for the agency's decision concerning the need to prepare an environmental impact statement and also refers to DEQ's evaluation of individual and cumulative impacts. DEQ is required to consider the following criteria in determining the significance of each impact on the quality of the human environment:

1. The severity, duration, geographic extent, and frequency of the occurrence of the impact;

   "Severity" is analyzed as the density of the potential impact while "extent" is described as the area where the impact is likely to occur. An example could be that a project may propagate ten noxious weeds on a surface area of 1 square foot. In this case, the impact may be a high severity over a low extent. If those ten noxious weeds were located over ten acres there may be a low severity over a larger extent.

   "Duration" is analyzed as the time period in which the impact may occur while "frequency" is analyzed as how often the impact may occur. For example, an operation that occurs throughout the night may have impacts associated with lighting that occur every night (frequency) over the course of the one season project (duration).

2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;

5. The importance to the state and to society of each environmental resource or value that would be affected;

6. Any precedent that would be set as a result of an impact of the proposed action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and

7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts with moderate or major severity may be determined to be not significant if the duration of the impacts is considered to be short-term. As another example, however, moderate or major impacts of short-term duration may be considered to be significant if the quantity and quality of the resource is limited and/or the resource is considered to be unique or fragile. As a final example, moderate or major impacts to a resource may be determined to be not significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Pursuant to ARM 17.4.607, preparation of an environmental assessment is the appropriate level of environmental review under MEPA if statutory requirements do not allow sufficient time for an agency to prepare an environmental impact statement. An agency determines whether sufficient time is available to prepare an environmental impact statement by comparing statutory requirements that establish when the agency must make its decision on the proposed action with the time required to obtain public review of an environmental impact statement plus a reasonable period to prepare a draft environmental review and, if required, a final environmental impact statement.

SIGNIFICANCE DETERMINATION

The severity, duration, geographic extent, and frequency of the occurrence of the impacts associated with the proposed action would be limited. Flathead LFGE proposes to construct and operate the proposed action on private land located in Section 1, Township 29 North, Range 22 West, Flathead County, Montana.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving Flathead LFGE's Air Quality Application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. If Flathead LFGE submits another permit application, DEQ is not committed to approve those applications. DEQ would conduct a new environmental review for any subsequent air quality permit applications sought by Flathead LFGE. DEQ would make a decision on Flathead LFGE's subsequent application based on the criteria set forth in the Clean Air Act of Montana.

DEQ's issuance of an Air Quality Permit to Flathead LFGE for this proposed operation does not set a precedent for DEQ's review of other applications, including the level of environmental review. The level of environmental review decision is made based on a case-specific consideration of the criteria set forth in ARM 17.4.608.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an environmental assessment is determined to be the appropriate level of environmental review under the Montana Environmental Protection Act.

Environmental Assessment and Significance Determination Prepared By:

John P. Proulx	**Environmental Scientist 2**
Name	**Title**

EA Reviewed By:

Ed Warner	**Lead Engineer**
Name	**Title**

Responses to Substantive Comments are located in the Permit Analysis Section of the Air Quality Permit.

References

Montana Air Quality Permit Application, 4245-02_2022_07_28_APP

Montana Air Quality Permit, #4245-00 and #4245-01

https://mtnhp.org/mapviewer