

Date of Posting: October 14, 2025

Erik M. Bass
M & E Enterprises
406 Pet Crematory - Helena
2807 Bozeman Avenue
Helena, MT 59601

RE: Final and Effective Montana Air Quality Permit #2906-04

Sent via email: info@406petcrematory.com

Dear Mr. Bass:

Montana Air Quality Permit (MAQP) #2906-04 for the above-named permittee is deemed final and effective as of October 11, 2025, by the Montana Department of Environmental Quality (DEQ). All conditions of the Decision remain the same. A copy of final MAQP #2906-04 is enclosed.

For DEQ,



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MONTANA AIR QUALITY PERMIT

Issued to: M & E Enterprises
2807 Bozeman Avenue
Helena, MT 59601

MAQP: #2906-04
Administrative Amendment Received: 09/05/2025
Department Decision Issued: 09/25/2025
Permit Final: 10/11/2025

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to M & E Enterprises (M & E) pursuant to Sections 75-2-204, 211, and 215 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

M & E Enterprises (M & E) operates an animal crematorium located at 3247 Highway 93 South in Kalispell, Montana. The legal description is Section 33, Township 28 North, Range 21 West, Flathead County. A complete list of the permitted equipment can be found in Section I of the permit analysis.

B. Current Permit Action

On September 5, 2025, the Montana Department of Environmental Quality (DEQ), pursuant to the applicable requirements of ARM 17.8.764, Administrative Amendment to Permit, received a request to transfer ownership of the Mountain View Pet Crematory requesting a change of ownership from Mountain View Pet Crematory to M & E. All conditions of the permit remain unchanged.

Section II: Conditions and Limitations

A. Emission Limitations

1. M & E shall not operate more than two animal cremation incinerators and the combined incineration design capacity shall not exceed 255 lb/hr (ARM 17.8.749).
2. M & E shall not incinerate/cremate any material other than animal carcasses (ARM 17.8.749).
3. M & E shall provide written notice to DEQ and obtain approval from DEQ of material other than what would be termed "animal carcasses" is to be incinerated (ARM 17.8.749).
4. The secondary (burn) chambers of each incinerator shall be maintained above 1500 °F (Fahrenheit) during incineration. The operating temperatures shall be maintained during operation and for ½ hour after the feed has stopped (ARM 17.8.752).
5. M & E shall not cause or authorize to be discharged to the atmosphere from each incinerator/crematorium:

- a. Any visible emissions that exhibit an opacity of 10% or greater (ARM 17.8.752).
- b. Any particulate emissions in excess of 0.10 grains per dry standard cubic foot (gr/dscf), corrected to 12% CO₂ (ARM 17.8.749).

B. Testing Requirements

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. DEQ may require further testing (ARM 17.8.105).

C. Monitoring Requirements

1. M & E shall install, calibrate, maintain, and operate continuous monitoring and recording equipment to measure the secondary chamber exit temperature of each incinerator. M & E shall also record the daily quantity of material incinerated/cremated and daily hours of operation for each incinerator (ARM 17.8.749).
2. DEQ may require testing (ARM 17.8.105).
3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

D. Operational Reporting Requirements

1. M & E 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).

2. M & E 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).

3. All records compiled in accordance with this permit must be maintained by M & E 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).

E. Notification

1. M & E shall provide DEQ with written notification of commencement of construction of the new incinerator within 30 days after commencement of construction.
2. M & E shall provide DEQ with written notification of the actual start-up date of the new incinerator within 15 days of actual startup.

SECTION III: General Conditions

- A. Inspection – M & E 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 (Continuous Emission Monitoring Systems (CEMS) and/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 M & E fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving M & E 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 M & E 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 Analysis
M & E Enterprises
MAQP #2906-04

I. Introduction/Process Description

M & E Enterprises (M & E) owns and operates a pet crematorium capable of incinerating up to 255 pounds per hour (lb/hr) combined between 2 animal cremation incinerators. The facility is located at 3247 Highway 93 South in Kalispell, Montana. The legal description is Northwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ of Section 33, Township 28 North, Range 21 West, in Flathead County, Montana.

A. Permitted Equipment

- 125 lb/hr FMS V Incinerator
- 130 lb/hr Crawford C-700p Pet Crematory

B. Source Description

M & E operates two incinerators that will be used as an animal crematorium. The incinerators use natural gas and have a maximum rated design capacities of 125 lb/hr and 130 lb/hr.

C. Permit History

On November 30, 1995, M & E submitted a complete permit application for an air quality pre-construction permit to install and operate a Shenandoah pathological incinerator/crematorium at their existing funeral home located at 3249 Highway 93 South in Kalispell, Montana. **Permit #2906-00** was issued to M & E on January 3, 1996.

On January 1, 2001, M & E requested a modification to Permit #2906-00. In 1999, the U.S. Environmental Protection Agency (EPA) informed the Department of Environmental Quality (DEQ) that any condition in an air quality pre-construction permit would be considered a federally enforceable condition. However, there are certain state rules that were never intended to be federally enforceable. DEQ notified all facilities holding pre-construction permits that they could request deletion of those conditions based on Administrative Rules of Montana (ARM) 17.8.717 and ARM 17.8.315. Removing either of these conditions does not relieve the facility from complying with the rule upon which the permit condition was based; removal only ensures that enforcement of that condition remains solely with DEQ. The current permit action removes the condition, based on ARM 17.8.315, from M & E's permit and updates the rule references. **Permit #2906-01** replaced Permit #2906-00.

On August 1, 2001, Mountain View submitted an application for a modification to Permit #2906-01. M & E requested to replace the existing incinerator, operating at the capacity of 60 lb/hr, with a larger natural gas fired pathological incinerator with the capacity of 125 lb/hr. **Permit #2906-02** replaced Permit #2906-01.

On June 15, 2016, DEQ received an application for a permit modification from M & E requesting the addition of a second crematory unit as well as notifying DEQ of a change of address for the facility. The owner/operator is installing the new incinerator as well as the existing incinerator from the old facility into the new facility that is being constructed on site. In addition, the permit has been updated to reflect DEQ's current permit format, language, and rule references. **MAQP #2906-03** replaced MAQP #2906-02.

D. Current Permit Action

On September 5, 2025, DEQ, pursuant to the applicable requirements of ARM 17.8.764, Administrative Amendment to Permit, received a request to transfer ownership of the Mountain View Pet Crematory requesting a change of ownership from Mountain View Pet Crematory to M & E Enterprises. **MAQP #2906-04** replaces MAQP #2906-03.

E. Response to Public Comments

Person/Group Commenting	Permit Reference	Comment	Department Response
No comments			

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).

M & E 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 PM₁₀
11. ARM 17.8.230 Fluoride in Forage

M & E 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. (2) Under this rule, M & E 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.
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 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.
 6. 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.
 7. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Also, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator, emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes. This rule does not apply to the incinerators at M & E because they applied for and received air quality permits in accordance with ARM 17.8.770 and MCA 75-2-215.
 8. 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). M & E incinerator is not an NSPS affected source because it does not meet any of the definitions in 40 CFR Part 60.
- 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. M & E was not required to submit a fee for the current permit action, as it is an Administrative 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, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. M & E does not have a PTE greater than 25 tons per year of any pollutant; however, in accordance with MCA 75-2-215, an air quality permit must be obtained prior to the construction and operation of any incinerator, regardless of potential incinerator emissions. Because M & E must obtain an air quality permit, all normally applicable requirements apply in this case.
 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, modification, or use of a source. M & E 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. M & E was not required to submit an affidavit of publication of public notice for this action as it is an Administrative Action.
 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 required BACT analysis is included in Section III of this permit analysis.
 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 M & E 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 17.8.759 Review of Permit Applications. This rule describes DEQ's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
 11. 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.
 12. 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 modified 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.
 13. 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).
 14. 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.
 15. 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.
 16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to DEQ for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).
 17. ARM 17.8.771 Mercury Emission Standards for Mercury-Emitting Generating Units. This rule identifies mercury emission limitation requirements, mercury control strategy requirements, and application requirements for mercury-emitting generating units.
- 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).

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 (PM₁₀) in a serious PM₁₀ 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 #2906-04 for M & E, the following conclusions were made:
 - a. The facility's PTE is less 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 PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, or a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.

Based on these facts, DEQ determined that M & E will be a minor source of emissions as defined under Title V.

H. MCA 75-2-103, Definitions provided, 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; therefore, M & E must 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 hazardous air pollutants from the incineration of solid waste. DEQ determined that the information submitted in the MAQP application was sufficient to fulfill this requirement.
3. MCA 75-2-215 requires that DEQ reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. DEQ completed a health risk assessment based on an emissions inventory and ambient air quality modeling for this MAQP application. Based on the results of the emission inventory, modeling, and the health risk assessment, DEQ determined that M & E complies with this requirement.
4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. DEQ determined that the design of the incinerator and operating the incinerator according to the manufacturer-recommended operation procedures constitutes BACT.

III. BACT Determination

A BACT determination is not required for this action, as it is an administrative action.

IV. Emission Inventory

Emissions:

Natural Gas Combustion Emissions

Notes:

1. Emission factors from AP-42 for uncontrolled natural gas combustion in boilers < 100 MMBTU/hr. AP-42 Chapter 1.4 (Tables 1.4-1 and 1.4-2)

PTE from Natural Gas Combustion			
Pollutant	Emission Factor (lb/MMft ³)	Annual (lb/yr)	Annual (Ton/yr)
PM10 & PM2.5 (including condensable)	7.6	178.00	0.09
NOx	100	2342.10	1.17
CO	84	1967.37	0.98
SO2	0.6	14.05	0.01
VOC	5.5	128.82	0.06

$$\left(\frac{\text{MMBTU}}{\text{hr}} \right) \times \frac{\text{hr}}{\text{yr}} \times \frac{\text{lbs}}{\text{MMft}^3} \times \frac{\text{Ton}}{\text{lb}} = \frac{\text{Ton}}{\text{yr}} \text{ (Annual TPY)}$$

Cremation Emissions

Notes:

1. PM10 emission factor from EPA's FIRE program.
2. Emission factors from other pollutants are from AP-42 for uncontrolled medical waste incineration. AP-42 Chapter 2.3 (Tables 2.3-1 and 2.3-2)

PTE from Cremation of Body (including case wrappings)			
Pollutant	Emission Factor (lb/150 lb body)	Annual (lb/yr)	Annual (Tons/yr)
PM10 & PM2.5 (including condensable)	8.50E-02	1265.82	0.63
NOx	2.57E-01	3827.24	1.91
CO	2.21E-01	3291.13	1.65
SO2	1.63E-01	2427.40	1.21
VOC	2.24E-01	3335.81	1.67

$$\frac{\text{lb}}{150 \text{ lb body}} \times \frac{150 \text{ lb body}}{\text{hr}} \times \frac{\text{hr}}{\text{yr}} \times \frac{\text{Tons}}{\text{lb}} = \frac{\text{Ton}}{\text{yr}} \text{ (Annual TPY)}$$

Total Criteria Pollutant Emissions

Total Criteria Pollutant Emissions			
Pollutant	Nat. Gas	Cremation	Annual
PM10 & PM2.5	0.09	0.63	0.72
NOx	1.17	1.91	3.08
CO	0.98	1.65	2.63
SO2	0.01	1.21	1.22
VOC	0.06	1.67	1.73

V. Existing Air Quality

M & E is located at 3247 Hwy 93 South, Kalispell, Flathead County, Montana. The affected area is designated Attainment under a Maintenance Plan for PM₁₀. M & E's allowable emissions of any pollutant, including PM₁₀, would not be expected to cause or contribute to a violation of any National Ambient Air Quality Standards (NAAQS), including the PM₁₀ NAAQS.

VI. Ambient Air Impact Analysis

Potential emissions from the proposed facility are significantly less than DEQ's regulatory permitting threshold; therefore, a comprehensive impact analysis is not required to ensure associated emissions do not negatively affect or impede the Attainment/Maintenance Area compliance plans. M & E applied for this MAQP in accordance with ARM 17.8.770 and MCA 75-2-215 for the regulated emitting units.

DEQ conducted SCREEN3 Modeling, an EPA-approved screening model, using the indicated inputs obtained from the emission inventory and a HAP emission rate of 0.016379 grams per second (g/s), which is the sum of all toxic pollutant and/or HAP emissions from the proposed crematorium. The maximum 1-hour modeled concentration was then converted to an annual average and used in the risk assessment. The individual one-hour results for each pollutant were calculated by multiplying the maximum modeled annual concentration of toxic and/or HAPs in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), by the percentage of each individual pollutant identified within the emission inventory. The emission factors employed in development of the emission inventory were derived from stack test data; as such include pollutant contributions of fuel utilized in firing the crematory.

As shown by the Health Risk Assessment provided in Section VII of this permit analysis, DEQ determined that there is a negligible human health risk associated with the proposed project. With consideration of the modeling conducted for the Health Risk Assessment, and the small potential to emit of criteria pollutants, DEQ determined that the impacts from this facility will be minor, and that operations will not cause or contribute to a violation of any ambient air quality standard.

VII. Human Health Risk Assessment

A health risk assessment was conducted to determine if the proposed crematorium complies with the negligible risk requirement of MCA 75-2-215. The environmental effects unrelated to human health were not considered in determining compliance with the negligible risk standard but were evaluated as required by the Montana Environmental Policy Act, in determining compliance with all applicable rules or other requirements requiring protection of public health, safety, welfare, and the environment.

Pursuant to ARM 17.8.770(1)(c), pollutants may be excluded from the human health risk assessment if DEQ determines that exposure from inhalation is the only appropriate pathway to consider in the human health risk assessment and if the ambient concentrations of the pollutants (calculated using the potential to emit; enforceable limits or controls) are less than the levels specified in Table 1 or Table 2 of ARM 17.8.770.

The proposed M & E incinerator has a stack height of 16 feet (ft), with vertical discharge, a stack exit temperature of ~ 1000 °F, and a flow rate of 2,400 actual cubic feet per minute (ACFM) with a 20-inch diameter stack. Ambient air modeling was accomplished using SCREEN3 software; an EPA approved ambient air dispersion. The SCREEN3 Modeling results are provided below:

Screen3 Modeling			
Calculation Procedure	Max Concentration ($\mu\text{g}/\text{m}^3$)	Distance to Max (m)	Terrain Height (m)
Simple Terrain	3.961	69	0
Distance to nearest structure (m)		12	

Although not all pollutants exceeded the levels specified in Table 1 or Table 2 of ARM 17.8.770, DEQ conducted a full risk assessment. DEQ included those pollutants for which emissions factors are available for crematory operations. Although additional species of pollutants have been identified in documented emission factors for the combustion of natural gas, prior analyses indicate those pollutants would pass the human health risk assessment. Therefore, emission factors based on stack test data specific to crematory emissions were used. For those pollutants reviewed, the calculated cancer risks demonstrate there is not more than a negligible health, safety, and welfare risk to the public and to the environment, as defined in ARM 17.8.740(16).

As documented in the Negligible Risk Assessment table and in accordance with DEQ's negligible risk requirement, as defined in ARM 17.8.740(16), no individual pollutant concentration exceeds the Cancer Risk threshold of $1.00\text{E}-06$, the sum of all the Cancer Risk concentrations ($5.3\text{E}-6$) do not exceed $1.00\text{E}-05$. Further, the sum of the Chronic Non-cancer Reference Exposure Level (CNCREL) hazard quotient of 0.142358 is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

HAP Category / Pollutant Name	CAS #	Fraction of all HAPs	Calculated HAP Concentration	ARM 17.8.770 De Minimis Levels			Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
				Table 1 Cancer Annual	Table 2 Noncancer Chronic Annual	Table 2 Noncancer Acute Annual				
Heavy Metals										
Antimony (less than)	7440360	0.00E+00	0.00E+00	N/A	2.00E-03	N/A	N/A	N/A	N/A	N/A
Arsenic (less than)	7440382	0.00E+00	0.00E+00	2.33E-05	5.00E-03	N/A	0.0043	1.3401E-06	0.015	0.020777
Beryllium	7440417	0.00E+00	0.00E+00	4.17E-05	N/A	N/A	0.0024	6.8315E-08	0.02	0.001423
Cadmium	7440439	0.00E+00	0.00E+00	5.56E-05	N/A	N/A	0.0018	4.1138E-07	0.01	0.022855
Chromium	7440473	0.00E+00	0.00E+00	8.33E-06	N/A	N/A	N/A	N/A	N/A	N/A
Chromium, hx	18540299	0.00E+00	0.00E+00	N/A	N/A	N/A	0.012	3.3659E-06	0.1	0.002805
Cobalt (less than)	7440484	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	0.1	0.000182
Lead	7439921	0.00E+00	0.00E+00	N/A	1.50E-02	N/A	N/A	N/A	0.15	0.00917
Nickel	7440020	0.00E+00	0.00E+00	3.85E-04	2.40E-03	1.00E-02	N/A	N/A	0.09	0.008819
Selenium	7782492	0.00E+00	0.00E+00	N/A	5.00E-03	2.00E-02	N/A	N/A	20	4.53E-05
Zinc	7440666	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Polycyclic Organic Matter (POM)										
2-methylnaphthalene	91576	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-methylchloranthrene (less than)	56495	0.00E+00	0.00E+00	N/A	N/A	N/A	0.0063	1.8528E-10	N/A	N/A
7,12-Dibenz(a)anthracene (less than)		0.00E+00	0.00E+00	N/A	N/A	N/A	0.071	1.856E-08	N/A	N/A
Anthracene (less than)	120127	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	71432	0.00E+00	0.00E+00	1.20E-02	7.10E-01	N/A	7.8E-06	5.3524E-10	30	2.29E-06
Dichlorobenzene	25321226	0.00E+00	0.00E+00	9.09E-03	8.00E+00	N/A	0.000011	4.3133E-10	800	4.9E-08
Hexane	110543	0.00E+00	0.00E+00	N/A	2.00E+00	N/A	N/A	N/A	700	8.4E-05
Napthalene	91203	0.00E+00	0.00E+00	N/A	1.40E-01	N/A	0.000034	N/A	3	6.64E-06
Phenanathrene	85018	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	108883	0.00E+00	0.00E+00	N/A	4.00E+00	N/A	N/A	N/A	5000	2.22E-08
Acenaphthene	83329	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	208968	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene (less than)	56553	0.00E+00	0.00E+00	5.88E-05	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene (less than)	50328	0.00E+00	0.00E+00	5.88E-05	N/A	N/A	0.0011	3.3253E-10	N/A	N/A
Benzo(b)fluoranthene (less than)	205992	0.00E+00	0.00E+00	5.88E-05	N/A	N/A	0.00011	1.8169E-11	N/A	N/A
Benzo(g,h,i)perylene (less than)	191242	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene (less than)	207089	0.00E+00	0.00E+00	5.88E-05	N/A	N/A	0.00011	1.6227E-11	N/A	N/A
Chrysene (less than)	218019	0.00E+00	0.00E+00	N/A	N/A	N/A	0.000011	6.1707E-12	N/A	N/A
Dibenzo(a,h)anthracene (less than)	53703	0.00E+00	0.00E+00	5.88E-05	N/A	N/A	0.00011	1.4513E-11	N/A	N/A
Fluorene	86737	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	206440	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	193395	0.00E+00	0.00E+00	5.88E-05	N/A	N/A	0.00011	1.7598E-11	N/A	N/A
Phenanthrene	85018	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	129000	0.00E+00	0.00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzofurans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran (less than)	67562394	0.00E+00	0.00E+00	2.63E-09	3.50E-08	N/A				
1,2,3,4,7,8,9-Heptachlorodibenzofuran (less than)	55673897	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	0.00E+00	0.00E+00	N/A	N/A	N/A				
2,3,4,6,7,8-Hexachlorodibenzofuran	60851345	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,7,8-Pentachlorodibenzofuran (less than)	57117416	0.00E+00	0.00E+00	N/A	N/A	N/A				
2,3,4,7,8-Pentachlorodibenzofuran (less than)	57117314	0.00E+00	0.00E+00	N/A	N/A	N/A				
2,3,7,8-Tetrachlorodibenzofuran	51207319	0.00E+00	0.00E+00	N/A	N/A	N/A				
Listed Non-POM Organic HAPs										
Acetaldehyde	75070	0.00E+00	0.00E+00	4.55E-02	9.00E-02	N/A	N/A	N/A	9	0.0003
Formaldehyde	50000	0.00E+00	0.00E+00	7.69E-03	3.60E-02	3.70E+00	0.000013	9.1834E-09	9.8	7.21E-05
Listed Acids										
Hydrogen chloride (hydrochloric acid)	7647010	0.00E+00	0.00E+00	N/A	2.00E-01	3.00E+01	N/A	N/A	20	0.074797
Hydrogen fluoride	7664393	0.00E+00	0.00E+00	N/A	5.90E-02	5.80E+00	N/A	N/A	14	0.000979
Dioxins										
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	0.00E+00	0.00E+00	N/A	N/A	N/A	33	5.444E-08	0.00004	4.12E-05
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	0.00E+00	0.00E+00	N/A	N/A	N/A				
SUM of Hexachlorodibenzo-p-dioxin			0.00E+00	N/A	N/A	N/A	1.3	3.144E-08	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	0.00E+00	0.00E+00	N/A	N/A	N/A				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	0.00E+00	0.00E+00	N/A	N/A	N/A				
								5.3009E-06		0.142358

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, DEQ conducted the following private property taking and damaging assessment.

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?
	X	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)

Based on this analysis, DEQ determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

Because this is an administrative action, an environmental assessment is not required pursuant to the Montana Environmental Policy Act or MEPA.