December 3, 2019

Scott Stevenson
MTS Holdings - Axelson Funeral & Cremation Services
1717 Main Street
Miles City, MT 59301

Dear Mr. Stevenson:

Montana Air Quality Permit #2999-02 is deemed final as of December 3, 2019, by the Department of Environmental Quality (Department). This permit is for a crematorium. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Rhonda Payne
Air Quality Specialist
Air Quality Bureau
(406) 444-5287

JM:RP
Enclosures:

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #2999-02

MTS Holdings - Axelson Funeral & Cremation Services
1717 Main Street
Miles City, MT 59301

December 3, 2019

MONTANA AIR QUALITY PERMIT

Issued To: MTS Holdings - Axelson Funeral & Cremation Services 1717 Main Street Miles City, MT 59301	MAQP: #2999-02 Application Complete: 9/3/19 Preliminary Determination Issued: 10/9/19 Department's Decision Issued: 11/15/19 Permit Final: 12/3/2019

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to MTS Holdings - Axelson Funeral & Cremation Services (AFCS), 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

AFCS proposes to install and operate one natural gas-fired crematorium, located at 2415 South Montana Street, Butte, MT 59701. The legal description of the site is Section 25, Township 3 North, Range 8 West, Silver Bow County, Montana. The latitude and longitude of the incinerator is 45.985947°, -112.545641°.

B. Current Permit Action

On September 3, 2019, the Montana Department of Environmental Quality – Air Quality Bureau (Department) received an application from AFCS to modify their MAQP to replace the two existing crematories with one crematory rated for a maximum 150 pound/hour (lb/hr) capacity. MAQP #2999-02 makes the requested change and updates the permit to reflect current Department language and rule references.

Section II: Conditions and Limitations

A. Emission Limitations

1. AFCS shall develop operation procedures for the crematorium and require all personnel who operate the unit to familiarize themselves with the operating procedures. The operating procedures shall be readily available to all personnel who operate the unit. AFCS shall keep training records containing name and signature of authorized operators available on-site and available to the Department upon request (ARM 17.8.752).

2. AFCS shall not incinerate/cremate any material other than human remains and the corresponding container (ARM 17.8.749).

3. The cremation unit shall be equipped with a secondary combustion chamber with auxiliary burners. The incinerator shall be equipped with auxiliary fuel burners. The auxiliary fuel burners shall be used to preheat the secondary chamber of the incinerator to the minimum required operating temperature

of 1600°F prior to igniting a charge. The secondary chamber operating temperature shall be maintained above 1600°F for any one-hour averaging period while incinerating a charge (ARM 17.8.752).

4. In no circumstance shall visible emissions exceed 10% opacity over any six-minute period (ARM 17.8.749).

5. The primary and secondary chamber burners shall be fired on natural gas or propane only (ARM 17.8.749 and ARM 17.8.752).

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. The Department of Environmental Quality (Department) may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. AFCS shall supply the Department with annual production information for all emission points, as required by the Department 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 the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. 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. AFCS shall notify the Department 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 the Department, 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 AFCS 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 the Department, and must be submitted to the Department upon request (ARM 17.8.749).

D. Monitoring Requirements

1. AFCS shall install, calibrate, maintain, and operate continuous monitoring and recording equipment on each cremation unit to measure the secondary chamber exit gas temperature. This equipment shall be used to maintain a record, either paper or electronic, indicating date and timeframe of crematory operation and secondary chamber exit gas temperature during operation. All records shall be maintained for a minimum of 5 years from the date of record creation (ARM 17.8.749).

2. AFCS shall record the daily quantity of material incinerated/cremated and the daily hours of operation of the crematorium (ARM 17.8.749).

E. Notification

BMI shall provide the Department with written notification of the actual start-up date of the crushing and screening set postmarked within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

A. Inspection – AFCS shall allow the Department'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 AFCS fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving AFCS 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 the Department's decision may request, within 15 days after the Department 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 the Department'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 the Department'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, the

Department's decision on the application is final 16 days after the Department'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 the Department at the location of the source.

G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by AFCS 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
MTS Holdings - Axelson Funeral & Cremation Services
MAQP #2999-02

I. Introduction/Process Description

MTS Holdings - Axelson Funeral & Cremation Services (AFCS) owns and operates one crematory. The facility is located Section 25, Township 3 North, Range 8 West, Silver Bow County, Montana. The latitude and longitude of the incinerator is 45.985947, -112.545641.

A. Permitted Equipment

AFCS proposes to install and operate one Power Pak I Matthews crematory fired on natural gas and capable of charging up to 150 pounds per hour (lbs/hr) of human remains.

B. Source Description

For a typical operation, human remains are placed into the primary chamber of the cremator. The door is then closed, and a pre-heat of the secondary chamber occurs via auxiliary burner(s). Upon the secondary chamber reaching required pre-heating temperature of 1600 °F, the primary chamber burner(s) are ignited and the human remains incinerated.

The secondary chamber serves as a pollution control device, ensuring a more complete combustion of the exhaust gases entering the chamber.

C. Permit History

In August 1988, Butte Crematories Inc. (the initial permittee) installed the #1 Cremator. At that time, an air quality preconstruction permit was not required because all incinerators that had less than 200 lbs/hr input were exempt from the permitting requirements. This statute was changed in 1993 so that an air quality preconstruction permit is required for all new or modified incinerators, regardless of their size. The #1 Cremator was not considered a new or modified incinerator; therefore, an air quality preconstruction permit was not required for the #1 Cremator.

MAQP #2999-00 was issued on April 15, 1998 to Butte Crematories Inc., for the operation of the #2 Cremator. #1 Cremator was included in this permit analysis to identify all the equipment at the site and to avoid any confusion that might result at a later date.

On June 19, 2019, the Montana Department of Environmental Quality – Air Quality Bureau (Department) received an Intent to Transfer Ownership from Butte Crematories, Inc. to Axelson Funeral & Cremation Services. The permit action updated rule references, standard permit language, and standard permit format. **MAQP #2999-01** replaced MAQP #2999-00.

D. Current Permit Action

On September 3, 2019, the Department received a request from AFCS to modify their MAQP to replace the two existing crematories with one crematory rated for a maximum 150 pound/hour (lb/hr) capacity. MAQP #2999-02 makes the requested change and updates the permit to reflect current Department language and rule references. **MAQP #2999-02** replaces MAQP #2999-01.

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 the Department of Environmental Quality (Department). Upon request, the Department 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 the Department, 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 the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, 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).

   AFCS 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 the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department 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}
11. ARM 17.8.230 Fluoride in Forage

AFCS 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, AFCS 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. (1) An incinerator may not be used to burn solid or hazardous waste unless the incinerator is a multiple chamber incinerator or has a design of equal effectiveness approved by the Department prior to installation or use. (2) A person may not cause or authorize 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. (3) A person may not cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions which exhibit an opacity of 10% or greater averaged over six consecutive minutes. (4) To determine compliance with this rule, the department may direct that an incinerator not be operated at any time other than between the hours of 8:00 a.m. and 5:00 p.m. When operation of an incinerator is prohibited by the department, the owner or operator of the incinerator shall store any solid or hazardous waste in a manner that will not create a fire hazard or arrange for removal and disposal of the solid or hazardous waste in a manner consistent with ARM Title 17, chapter 50, subchapter 5. (5) This rule applies to performance tests for determining emissions of particulate matter from incinerators. All performance tests shall be conducted while the affected facility is burning solid or hazardous waste representative of normal operation. Testing shall be conducted in accordance with ARM 17.8.106 and the Montana Source Test Protocol and Procedures Manual.

   AFCS has applied to modify an MAQP pursuant to MCA 75-2-215 and ARM 17.8.770. MAQP #2999-02 requires a secondary chamber equipped with auxiliary burners and minimum temperature requirements in that secondary chamber. The MAQP also

requires that in no circumstance may visible emissions exceed 10% over any 6 consecutive minutes. Under this operating scenario, emissions performance is expected to be significantly better than 0.10 gr/dscf. As noted in ARM 17.8.316(6), the requirements of this rule are not applicable to an incinerator which has received an MAQP under MCA 75-2-215 and ARM 17.8.770. Therefore, while the unit is expected to satisfy the emissions performance requirements of ARM 17.8.316, these requirements are not applicable to this facility.

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 17.8.324 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.

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). 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 E – Standards of Performance for Incinerators. The provisions of this subpart are applicable to each incinerator of more than 45 metric tons per day charging rate. The AFCS crematory is not an affected facility under this subpart.

   b. 40 CFR 60 Subpart Ea and Eb – Standards of Performance for Municipal Waste Combustors. The AFCS crematory is permitted for use as a human remains crematory only. Therefore, the crematory will not incinerate household, commercial/retail, or industrial wastes as described in these subparts and is not an affected facility under these subparts.

   c. 40 CFR 60 Subpart Ec – Standards of Performance for Hospital/Medical/Infection Waste Incinerators. This subpart does not apply to the incineration of remains. The ACFS crematory is permitted for use as a human remains crematory only and therefore is not an affected facility under this subpart.

   d. 40 CFR 60 Subpart AAAA – Standards of Performance for Small Municipal Waste Combustion Units. The ACFS crematory is permitted for use as a human remains crematory only. Therefore, the crematory will not incinerate household, commercial/retail, or industrial wastes as described in this subpart and is not an affected facility under this subpart.

   e. 40 CFR 60 Subpart CCCC – Standards of Performance for Commercial and Industrial Solid Waste Incineration Units. The AFCS crematory is permitted for use as a human remains crematory only. Therefore, the crematory will not combust commercial or industrial waste and is not an affected facility under this subpart.

   f. 40 CFR 60 Subpart EEEE – Standards of Performance for Other Solid Waste Incineration Units. This subpart applies to very small municipal waste combustion

units or institutional waste incineration units, as defined in this subpart. The AFCS crematory is permitted for use as a human remains crematory only and therefore is not an affected facility under this subpart.

9. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate. This facility is not a NESHAP affected source.

10. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants. This facility is not subject to any 40 CFR Part 63 requirements.

    a. 40 CFR 63 Subpart EEE – National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors. The provisions of this subpart apply to all hazardous waste combustors. The AFCS crematory is permitted for use as a human remains crematory only. Therefore, it does not meet the definition of a hazardous waste combustor and is not an affected facility under this subpart.

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 the Department. AFCS submitted the appropriate 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 the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. 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. The Department 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. AFCS does not have a PTE greater than 25 tons per year,

however, in accordance with MCA 75-2-215, an air permit must be obtained prior to the construction and operation of an incinerator, regardless of potential incinerator emissions. Because AFCS must obtain an air quality permit, all normally applicable requirements apply.

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. AFCS 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. AFCS submitted an affidavit of publication of public notice for the August 23, 2019 issue of *The Montana Standard*, a newspaper of general circulation in the City of Butte in Silver Bow County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department 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 the Department 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 AFCS 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 the Department'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 the Department'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 the Department.

16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).

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 the Department 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 #2999-02 for AFCS, 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 PM_{10} nonattainment area.

   d. This facility is not subject to any current NSPS.

   e. This facility is not subject to any current NESHAP.

   f. This source is not a Title IV affected source,

   g. This source is not a solid waste combustion unit.

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

   Based on these facts, the Department determined that AFCS will be a minor source of emissions as defined under Title V.

III. BACT Determination

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

Emissions of products of incomplete combustion from incineration (carbon monoxide (CO), volatile organic compounds (VOC), particulate matter, and organic HAPs) resulting from incinerator operations can be controlled by use of a properly designed and operated secondary combustion chamber.

In a secondary combustion chamber, auxiliary burner(s) (often referred to as 'afterburners') are utilized to further combust components vaporized or carried through (entrained) during primary combustion. Proper design includes good turbulence, high temperature and adequate residence time. The destruction efficiency of the components released, formed, or carried through from primary combustion is exponentially increased with increased residence time and temperature in the secondary chamber. Proper operation includes operating the secondary chamber at maximum rated temperatures, and ensuring that the secondary chamber is preheated to the required set-point prior to igniting the primary chamber.

Temperature requirements of the secondary chamber vary depending on the heating value and moisture content of the waste, the amount and types of HAPs and other products of incomplete combustion entering the secondary chamber, and the required emissions performance. The afterburners are usually fired to produce a temperature higher than achieved in the primary combustion chamber. A minimum 1600 °F temperature is recommended to reduce organic HAP emissions, including combustion formed dioxin emissions. Increased temperatures also increase destruction efficiency of other components of incomplete combustion including HAPs, VOC, CO, and PM. Quickly cooling the combustion gases after secondary combustion is further found to minimize thermally formed dioxin emissions.

Residence time is achieved by appropriate sizing of the secondary chamber. Such size should provide a residence time long enough to support complete combustion within the secondary combustion chamber given secondary chamber temperatures. Increased secondary chamber size results in increased residence time and increased destruction efficiency, assuming good turbulence. Higher secondary combustion chamber volume, temperature, and turbulence results in increased initial and ongoing operating costs.

Additional control of acid gases created during incineration can be made by use of a wet scrubber. Acid gases can be expected when burning components which include chlorine, such as plastic. However, based on the limited amount of chlorine expected to be charged, additional wet scrubber control for crematory operations is not commonly found to represent BACT as the additional cost is not warranted compared to the amount of emissions created.

Control of heavy metals can be accomplished by use of a fabric filter or wet scrubber. However, based on the limited amount of heavy metals expected from a crematory, addition of a fabric filter for heavy metal control was determined beyond the requirements of BACT. Combustion related emissions can also be minimized via fuel selection.

Natural gas combustion is inherently low in emissions of air pollutants due to characteristics of the fuel. The smaller fuel molecule sizes, lack of fuel bound nitrogen and other impurities, and the inherently low sulfur content of commercially available natural gas and propane lead to more complete combustion and therefore less emissions of PM, CO, VOC, NOX, and SO2 compared to other fuels.

A properly designed crematory normally has essentially no visible emissions during proper operation. The presence of visible emissions may be an indicator that the unit is not functioning properly.

Therefore, while a BACT derived visible emissions standard has not been included, a visible emissions performance requirement has been assigned as another indicator of performance. AFCS has proposed a design capable of reaching 1600 °F in the secondary chamber with a

residence time of 1 second. The Department concurs such control represents BACT for this source category.

IV. Emission Inventory

Toxic Emissions Inventory:

Toxic Emissions from Crematory (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)	CAS #	lb/yr	Fraction of all HAPS
Heavy Metals				
Antimony (less than)	1.51E-05	7440360	1.32E-01	1.92E-04
Arsenic (less than)	1.50E-05	7440382	1.31E-01	1.91E-04
Beryllium	1.37E-06	7440417	1.20E-02	1.74E-05
Cadmium	1.10E-05	7440439	9.64E-02	1.40E-04
Chromium	2.99E-05	7440473	2.62E-01	3.80E-04
Chromium, hx	1.35E-05	18540299	1.18E-01	1.72E-04
Cobalt (less than)	8.75E-07	7440484	7.67E-03	1.11E-05
Lead	6.62E-05	7439921	5.80E-01	8.42E-04
Mercury	3.40E-03	7439976	2.98E+01	4.33E-02
Nickel	3.82E-05	7440020	3.35E-01	4.86E-04
Selenium	4.36E-05	7782492	3.82E-01	5.55E-04
Zinc	3.53E-04	7440666	3.09E+00	4.49E-03
Polycyclic Organic Matter (POM)				
2-methylnaphthalene	2.40E-05	91576	2.06E-04	2.99E-07
3-methylchloranthrene (less than)	9.00E-07	56495	7.73E-06	1.12E-08
7,12 Dibenz(a)anthracene (less than)	8.00E-06		6.87E-05	9.98E-08
Anthracene (less than)	1.20E-06	120127	1.03E-05	1.50E-08
Benzene	2.10E-03	71432	1.80E-02	2.62E-05
Dichlorobenzene	1.20E-03	25321226	1.03E-02	1.50E-05
Hexane	1.80E+00	110543	1.55E+01	2.25E-02
Napthalene	6.10E-04	91203	5.24E-03	7.61E-06
Phenanathrene	1.70E-05	85018	1.46E-04	2.12E-07
Toluene	3.40E-03	108883	2.92E-02	4.24E-05
Acenaphthene	1.11E-07	83329	9.72E-04	1.41E-06
Acenaphthylene	1.22E-07	208968	1.07E-03	1.55E-06
Benzo(a)anthracene (less than)	4.88E-09	56553	4.27E-05	6.21E-08
Benzo(a)pyrene (less than)	1.46E-08	50328	1.27E-04	1.85E-07
Benzo(b)fluoranthene (less than)	7.95E-09	205992	6.96E-05	1.01E-07
Benzo(g,h,i)perylene (less than)	1.46E-08	191242	1.27E-04	1.85E-07
Benzo(k)fluoranthene (less than)	7.10E-09	207089	6.22E-05	9.03E-08
Chrysene (less than)	2.70E-08	218019	2.37E-04	3.44E-07
Dibenzo(a,h)anthracene (less than)	6.35E-09	53703	5.56E-05	8.08E-08
Fluorene	4.17E-07	86737	3.65E-03	5.31E-06
Fluoranthene	2.05E-07	206440	1.80E-03	2.61E-06

Toxic Emissions from Crematory (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)	CAS #	lb/yr	Fraction of all HAPS
Indeno(1,2,3-cd) pyrene (less than)	7.70E-09	193395	6.75E-05	9.80E-08
Phenanthrene	2.29E-06	85018	2.01E-02	2.91E-05
Pyrene	1.62E-07	129000	1.42E-03	2.06E-06
Dibenzofurans				
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	2.29E-09	67562394	2.00E-05	2.91E-08
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)	1.39E-10	55673897	1.22E-06	1.77E-09
1,2,3,4,7,8-Hexachlorodibenzofuran	9.53E-10	70648269	8.35E-06	1.21E-08
1,2,3,6,7,8-Hexachlorodibenzofuran	8.52E-10	57117449	7.46E-06	1.08E-08
1,2,3,7,8,9-Hexachlorodibenzofuran	1.67E-09	72918219	1.46E-05	2.13E-08
2,3,4,6,7,8-Hexachlorodibenzofuran	3.44E-10	60851345	3.01E-06	4.38E-09
1,2,3,7,8-Pentachlorodibenzofuran (less than)	1.47E-10	57117416	1.29E-06	1.87E-09
2,3,4,7,8-Pentachlorodibenzofuran (less than)	4.43E-10	57117314	3.88E-06	5.63E-09
2,3,7,8-Tetrachlorodibenzofuran	5.19E-10	51207319	4.55E-06	6.60E-09
Listed Non-POM Organic HAPs				
Acetaldehyde	1.30E-04	75070	1.14E+00	1.65E-03
Formaldehyde	3.40E-05	50000	2.98E-01	4.33E-04
Listed Acids				
Hydrogen chloride	7.20E-02	7647010	6.31E+02	9.16E-01
Hydrogen fluoride	6.60E-04	7664393	5.78E+00	8.40E-03
Dioxins				
2,3,7,8-tetrachlorodibenzo-p-dioxin	7.94E-11	1746016	6.96E-07	1.01E-09
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	3.79E-09	35822469	3.32E-05	4.82E-08
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.75E-10	39227286	2.41E-06	3.50E-09
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	3.97E-10	57653857	3.48E-06	5.05E-09
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	4.92E-10	19408743	4.31E-06	6.26E-09
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2.33E-10	40321764	2.04E-06	2.96E-09
Total:			6.88E+02	1.00E+00

Criteria Pollutant Emissions:

PTE from Natural Gas Combustion			
Pollutant	Emission Factor (lb/MMft^3)	Annual (lb/yr)	Annual (Ton/yr)
PM_{10} & $PM_{2.5}$ (including condensable)	7.6	65.27	0.03
NOx	100	858.82	0.43
CO	84	721.41	0.36
SO2	0.6	5.15	0.00
VOC	5.5	47.24	0.02

$$\frac{\left(\frac{MMBTU}{hr}\right)}{\left(\frac{BTU}{ft^3}\right)} \; x \; \frac{hr}{yr} \; x \; \frac{lbs}{MMft^3} \; x \; \frac{Ton}{lb} = \frac{Ton}{yr} \; (Annual \; TPY)$$

PTE from Cremation of Body (including case wrappings and assuming 150 lbs/hr for 8,760 hrs)			
Pollutant	Emission Factor (lb/150 lb body)	Annual (lb/yr)	Annual (Ton/yr)
PM_{10} &$PM_{2.5}$ (including condensable)	8.50E-02	744.60	0.37
NOx	2.57E-01	2251.32	1.13
CO	2.21E-01	1935.96	0.97
SO2	1.63E-01	1427.88	0.71
VOC	2.24E-01	1962.24	0.98

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

Total Criteria Pollutant Emissions			
Pollutant	Nat. Gas (Tons/yr)	Cremation (Tons/yr)	Annual (Tons/yr)
PM_{10} & $PM_{2.5}$	0.03	0.37	0.40
NOx	0.43	1.13	1.56
CO	0.36	0.97	1.33
SO2	0.00	0.71	0.71
VOC	0.02	0.98	1.00

V. Existing Air Quality

AFCS is located at located at 2415 South Montana Street, Butte, MT 59701. The immediate area is which the facility is operated is designated nonattainment area for PM_{10}. AFCS maximum potential emissions of any pollutant, including PM_{10} are not expected to have an impact on existing air quality.

VI. Ambient Air Impact Analysis

Potential emissions from the proposed facility are significantly less than the Department's regulatory permitting threshold and impacts to ambient air quality from a conventional pollutants standpoint will be negligible.

As required by ARM 17.8.770, a human health risk analysis of HAP emissions was conducted for the proposed crematory. Ambient air modeling was accomplished using SCREEN3 software; an EPA approved ambient air modeling software used for conservative modeling. Ambient air impacts were modeled using the sum of non-criteria pollutants from the proposed crematorium identified in the emissions inventory. The total combined HAP emission rate for the proposed cremation unit was estimated to be 0.0786 pounds per hour (lb/hr). This value was used in the SCREEN3 model to determine the maximum one-hour concentration. The one-hour modeled maximum concentration was then converted to the annual maximum concentration and used to calculate the speciated concentration of each HAP pollutant emitted from the crematories. Speciated concentrations of each HAP were calculated by multiplying the total modeled HAP maximum annual concentration by the mass percentage of each individual HAP making up the total of the HAP emissions. The calculated individual annual HAP concentrations were then used in the risk assessment.

Additional model inputs include a stack height of 17 feet (ft), diameter of 1.67 ft with vertical discharge, a stack exit temperature of 1100 °F, and a flow rate of 2,300 actual cubic feet per minute (ACFM). Results from the SCREEN3 model run are below.

Screen3 Modeling			
Calculation Procedure	Max Concentration (µg/m^3)	Distance to Max (m)	Terrain Height (m)
Simple Terrain	2.127	71	0
Distance to nearest structure (m)		10	

As shown by the Health Risk Assessment located in Section VII of this permit analysis, the Department determined that there is a negligible human health risk associated with the proposed project. With consideration of the modeling accomplished for the Health Risk Assessment, and the small potential to emit of criteria pollutants, the Department determined that the impacts from this permitting action will be minor, and that the proposed action 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 the Department 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. Even though most of the estimated HAP species calculated in the emission inventory fell below the de minimis levels in Table 1 or Table 2 of ARM 17.8.770, the Department elected to conduct the human health risk assessment by contemplating all of the estimated HAP species. The results of the human health risk assessment pursuant to ARM 17.8.770 are shown in the following table.

HAP Category / Pollutant Name	Negligible Risk Assessment (1)			
	Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
Heavy Metals				
Antimony (less than)	N/A	N/A	N/A	N/A
Arsenic (less than)	4.30E-03	1.75E-07	1.50E-02	2.71E-03
Beryllium	2.40E-03	8.90E-09	2.00E-02	1.85E-04
Cadmium	1.80E-03	5.36E-08	1.00E-02	2.98E-03
Chromium	N/A	N/A	N/A	N/A
Chromium, hx	0.012	4.38E-07	1.00E-01	3.65E-04
Cobalt (less than)	N/A	N/A	1.00E-01	2.37E-05
Lead	N/A	N/A	1.50E-01	1.19E-03
Mercury	N/A	N/A	3.00E-01	3.07E-02
Nickel	N/A	N/A	9.00E-02	1.15E-03
Selenium	N/A	N/A	2.00E+01	5.90E-06
Zinc	N/A	N/A	N/A	N/A
Polycyclic Organic Matter (POM)				
2-methylnaphthalene	N/A	N/A	N/A	N/A
3-methylchloranthrene (less than)	6.30E-03	1.50E-11	N/A	N/A
7,12 Dibenz(a)anthracene (less than)	7.10E-02	1.51E-09	N/A	N/A
Anthracene (less than)	N/A	N/A	N/A	N/A
Benzene	7.80E-06	4.35E-11	3.00E+01	1.86E-07
Dichlorobenzene	1.10E-05	3.50E-11	8.00E+02	3.98E-09
Hexane			7.00E+02	6.82E-06
Napthalene	3.40E-05		3.00E+00	5.40E-07
Phenanthrene	N/A	N/A	N/A	N/A
Toluene			5.00E+03	1.80E-09
Acenaphthene	N/A	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	N/A	N/A
Benz(a)anthracene (less than)	N/A	N/A	N/A	N/A
Benzo(a)pyrene (less than)	1.10E-03	4.33E-11	N/A	N/A
Benzo(b)fluoranthene (less than)	1.10E-04	2.37E-12	N/A	N/A
Benzo(g,h,i)perylene (less than)	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene (less than)	1.10E-04	2.11E-12	N/A	N/A
Chrysene (less than)	1.10E-05	8.04E-13	N/A	N/A
Dibenz(a,h)anthracene (less than)	1.10E-04	1.89E-12	N/A	N/A
Fluorene	N/A	N/A	N/A	N/A
Fluoranthene	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	1.10E-04	2.29E-12	N/A	N/A
Phenanthrene	N/A	N/A	N/A	N/A
Pyrene	N/A	N/A	N/A	N/A

HAP Category / Pollutant Name	Negligible Risk Assessment (1)			
	Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
Dibenzofurans				
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)				
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)				
1,2,3,4,7,8-Hexachlorodibenzofuran				
1,2,3,6,7,8-Hexachlorodibenzofuran				
1,2,3,7,8,9-Hexachlorodibenzofuran				
2,3,4,6,7,8-Hexachlorodibenzofuran				
1,2,3,7,8-Pentachlorodibenzofuran (less than)				
2,3,4,7,8-Pentachlorodibenzofuran (less than)				
2,3,7,8-Tetrachlorodibenzofuran				
Listed Non-POM Organic HAPs				
Acetaldehyde	N/A	N/A	9.00E+00	3.91E-05
Formaldehyde	1.30E-05	1.20E-09	9.80E+00	9.39E-06
Listed Acids				
Hydrogen chloride (hydrochloric acid)	N/A	N/A	2.00E+01	9.74E-03
Hydrogen fluoride (hydrofluoric acid)	N/A	N/A	1.40E+01	1.28E-04
Dioxins				
2,3,7,8-tetrachlorodibenzo-p-dioxin	3.30E+01	7.09E-09	4.00E-05	5.37E-06
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin				
SUM of Hexachlorodibenzo-p-dioxin	1.30E+00	4.10E-09	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin				
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin				
	TOTAL:	6.8956E-07		0.049214

Footnotes:
(1) Source of chronic dose-response values is from USEPA Table 1: Prioritized Chronic Dose-Response Values for Screening Risk Assessments https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associatedexposure-hazardous-air-pollutants

(2) Cancer Chronic Inhalation Unit Risk Factor, units 1/µg/m3

(3) Cancer Risk is unit less and is calculated by multiplying the predicted concentration by the URF.

(4) Chronic Noncancer Reference Exposure Level

(5) CNCREL Quotient Value is calculated by dividing the modeled HAP concentration by the CNCREL.

No individual pollutant concentration exceeds the Cancer Risk threshold of 1.00E-06 and the sum of all Cancer Risks concentrations does not exceed 1.00E-05, and further, the sum of the Chronic Non-cancer Reference Exposure Level hazard quotients is less than 1.0. Therefore, compliance with the negligible risk requirement as outlined in ARM 17.8.770 is demonstrated. The impacts of existing emissions sources not owned or operated by AFCS, to determine compliance with the negligible risk standard, were not included. Based on the results of the human health risk assessment, the crematorium is significantly below the negligible risk

threshold of ARM 17.8.770. Further, such determination is made assuming 8,760 hours of operation per year of the crematory and conservative emissions estimations. The presence or absence of this facility in this area would not be expected to cause a discernable change in human health risks in this area.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department 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?
		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, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

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

DEPARTMENT OF ENVIRONMENTAL QUALITY
Air, Energy & Mining Division
Air Quality Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

ENVIRONMENTAL ASSESSMENT (EA)

Issued To: MTS Holdings - Axelson Funeral & Cremation Services

Montana Air Quality Permit number (MAQP): 2999-02

EA Draft: 10/9/2019
EA Final: 11/9/2019
Permit Final: 12/3/2019

1. *Legal Description of Site:* 2415 South Montana Street, Butte, MT 59701. The legal description of the site is Section 25, Township 3 North, Range 8 West, Silver Bow County, Montana. The latitude and longitude of the incinerator is 45.985947°, -112.545641°.

2. *Description of Project:* MTS Holdings - Axelson Funeral & Cremation Services (AFCS) intends to install and operate one human crematory rated for a maximum 150 pound/hour (lb/hr) capacity.

3. *Objectives of Project:* Install and operate a new, more efficient incinerator for human cremation.

4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny the issuance of the MAQP to the facility. AFCS would be denied the opportunity to upgrade the existing two crematories. However, the Department does not consider the "no-action" alternative to be appropriate because BMI has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the BACT analysis, Section III, in the permit.

5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #2999-02.

6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS*: The following comments have been prepared by the Department.

A. *Terrestrial and Aquatic Life and Habitats*

Emissions form the proposed project would potentially affect terrestrial and aquatic life and habitats in the proposed project area outside of normal construction operations. However, as detailed in Sections V and VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentrations of the pollutants emitted.

B. *Water Quality, Quantity and Distribution*

The project would not be expected to affect water quality or distribution. The crematorium would operate within an existing structure and does not discharge or use water during normal operation.

C. *Geology and Soil Quality, Stability and Moisture*

The project would not be expected to affect the geology, soil quality, stability, or moisture of the immediate area outside of normal construction operations. The crematorium would operate inside an existing structure.

D. *Vegetation Cover, Quantity, and Quality*

The project would take place within an existing developed area. Emissions would be very minor on an industrial scale. Impacts to vegetation cover, quantity, and quality in this area would be minor.

E. *Aesthetics*

The project would take place within an existing developed area. The operation would likely operate with no visible emissions, with permit requirements that under no circumstance may visible emissions exceed 10% opacity over any 6-minute period. Proper operation of the secondary combustion chamber, which would be required by MAQP #2999-02, would minimize any odors that might otherwise be expected. The facility would be constructed in an already developed area. No more than minor impacts to aesthetics would be expected.

F. *Air Quality*

The project would be an extremely small source of conventional air pollutant emissions on an industrial scale. As a project subject to the Human Health Risk Assessment requirements of the Administrative Rules of Montana 17.8.770, the air toxics from this source were assessed and found to be below the negligible risk threshold. Impacts to air quality, if any discernable amount at all, would be expected to be minor.

G. *Unique Endangered, Fragile, or Limited Environmental Resources*

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department completed a species of concern report through the environmental summary function shared by the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The area was defined by the section, township, and ranged of the proposed location with an additional 1-mile buffer zone. Search results identified several

species within the search radius. Species of concern include the Hoary Bat, Preble's Shrew, Brewer's Sparrow, Clark's Nutcracker, Common Loon, Golden Eagle, Gray-crowned Rosy-Finch, Great Blue Heron, Sage Thrasher, White-faced Ibis, Greater Short-horned Lizard, Snapping Turtle, and Westslope Cutthroat Trout. The project would be an extremely small source of conventional air pollutant emissions on an industrial scale. As a project subject to the Human Health Risk Assessment requirements of the Administrative Rules of Montana 17.8.770, the air toxics from this source were assessed and found to be below the negligible risk threshold. Impacts to air quality, if any discernable amount at all, would be expected to be minor. Any impacts to unique endangered, fragile, or limited environmental resources present in the area would be expected to be minor.

H. *Sage Grouse Executive Order*

The Department recognizes that the site location is not within a Greater Sage Grouse Area as defined by Executive Order No. 12-2015. As the application for this project was received after the Executive Order effective date of 1/1/2016, this project is subject to review under the Executive Order.

I. *Demands on Environmental Resource of Water, Air and Energy*

MAQP 2999-02 would allow for the replacement of two crematories with a more efficient crematory. As described above, impacts to water or air would be expected to be minor. MAQP #2999-02 would require that the crematory be equipped with a secondary chamber and auxiliary burners. The primary and secondary chamber burners combined would require a maximum 3 million British thermal units per hour firing rate. The burners would be fired on natural gas. This is a very small energy need on an industrial basis which would be utilized on an intermittent basis. Demands on water, air and energy would be expected to be minor.

J. *Historical and Archaeological Sites*

The project would be constructed in an existing site and developed area. The crematory is adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete. No impacts to historical or archaeological sites would be expected.

K. *Cumulative and Secondary Impacts*

No more than minor impacts to the individual physical and biological considerations above would be expected. No more than minor cumulative and secondary impacts would be expected because of issuance of MAQP #2999-02.

8. *SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS:* The following comments have been prepared by the Department.

A. *Social Structures and Mores*

The project is to be located in an area already developed for such operations. The crematory is adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete. Impacts to social structures and mores, if any at all, would be minor.

B. *Cultural Uniqueness and Diversity*

The Department determined that the current permit action would not have any additional impact on the cultural uniqueness and diversity of the area because the proposed crematory would be located in an area already developed for such operations. The crematory is adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete. Impacts to cultural uniqueness and diversity, if any at all, would be minor.

C. *Local and State Tax Base and Tax Revenue*

The current permit action would have no impact on the local and state tax base. Furthermore, no additional employees are planned because of this project. No impact to local and state tax base and revenue would be expected because of issuance of MAQP #2999-02.

D. *Agricultural or Industrial Production*

The project is to be located in an area already developed for such operations. The crematory is adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete. Any impacts to agricultural or industrial production would be expected to be minor.

E. *Human Health*

The project would be an extremely small source of conventional air pollutant emissions on an industrial scale. As a project subject to the Human Health Risk Assessment requirements of the Administrative Rules of Montana 17.8.770, the air toxics from this proposed source were assessed and found to be significantly below the negligible risk threshold. Impacts to human health would be expected to be minor.

F. *Access to and Quality of Recreational and Wilderness Activities*

The source would be located adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete in an already developed area. As previously described, no more than a minor impact to aesthetics would be expected. No more than a minor impact to quality of recreational and wilderness activities would be expected.

G. *Quantity and Distribution of Employment*

No additional employees would be hired to operate the crematory. The project would not be expected to have any impact on the quantity and distribution of employment.

H. *Distribution of Population*

No additional employees would be hired to operate the crematory. No individuals would be expected to permanently relocate to the area because of this project. Therefore, the proposed project would not be expected to have any impact on the distribution of population.

I. *Demands for Government Services*

Issuance of MAQP #2999-02 would require an MAQP and ongoing compliance checks with the terms and conditions of the permit and underlying rules. The source would be a minor source of emissions and would pose no more than a minor impact on demands for government services.

J. *Industrial and Commercial Activity*

The project would be an extremely small source of conventional air pollutant emissions on an industrial scale. Any increase in traffic associated with the business operations of this facility would be expected to be very minor.

K. *Locally Adopted Environmental Plans and Goals*

The Department is not aware of any locally adopted environmental plans and goals this project would impact. The permit would be issued in accordance with federal and state clean air act requirements including the toxics review required by the Administrative Rules of Montana 17.8.770.

L. *Cumulative and Secondary Impacts*

The Department found no more than minor impacts to the individual economic and social considerations above. No more than minor cumulative and secondary impacts would be expected.

Recommendation: No Environmental Impact Statement (EIS) is required.

The current permitting action is for the construction and operation of a human crematorium. MAQP #2999-02 would include conditions and limitations to ensure the facility will operate in compliance with all applicable air quality rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program – Montana Sage Grouse Conservation Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Quality Bureau

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