



June 17, 2022

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

Sent via email: scott@stevensonandsons.com

RE: Final Permit Issuance for MAQP #5272-00

Dear Mr. Stevenson:

Montana Air Quality Permit (MAQP) #5272-00 is deemed final as of 6/9/2022, by DEQ. This permit is for Axelson Funeral & Cremation Services., a Crematory. All conditions of the Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For DEQ,

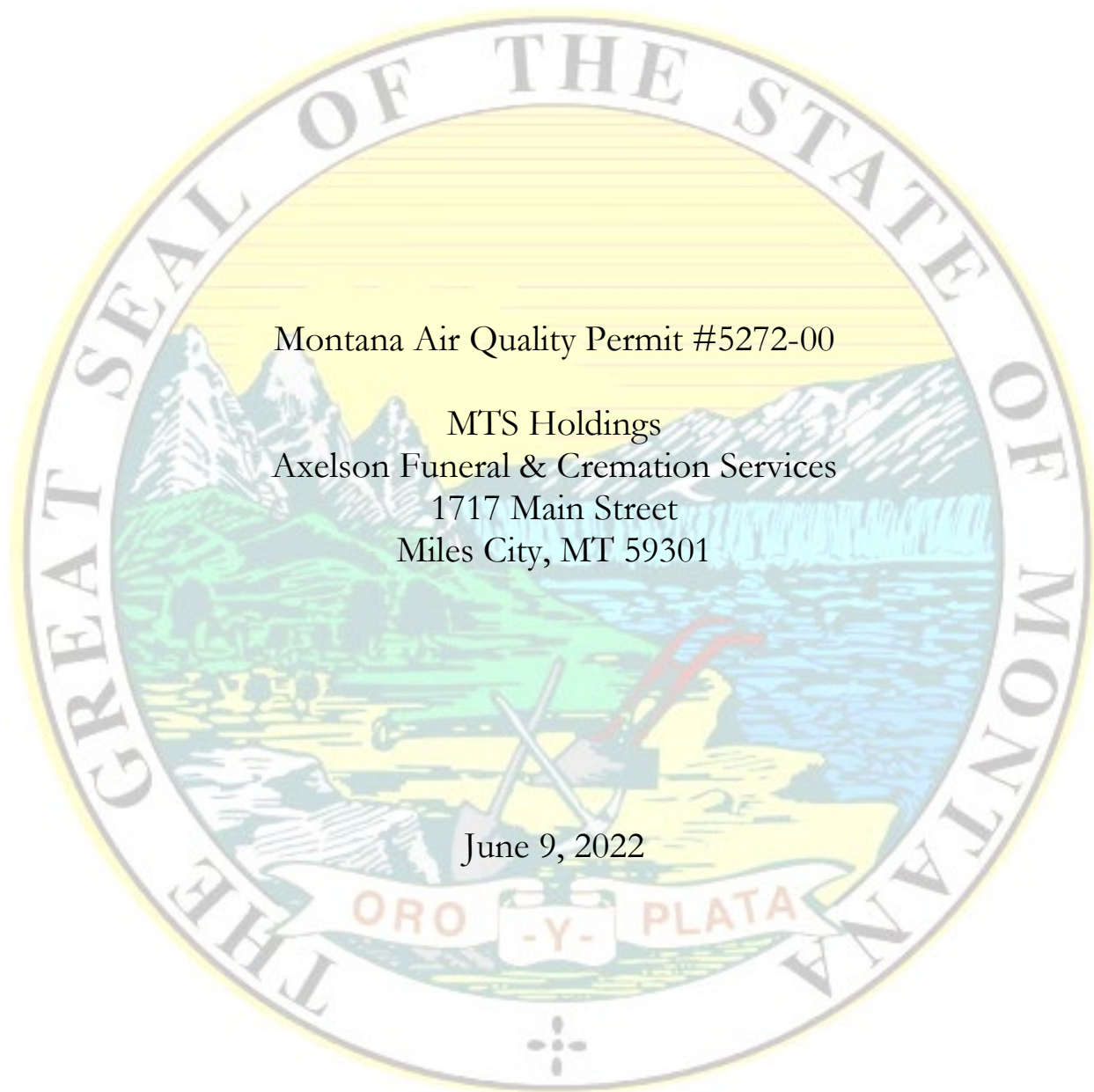
A handwritten signature in black ink that reads "Julie A. Merkel".

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

A handwritten signature in black ink that reads "Troy M. Burrows".

Troy M. Burrows
Air Quality Scientist
Air Quality Bureau
(406) 444-1452

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



Montana Air Quality Permit #5272-00

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

June 9, 2022

MONTANA AIR QUALITY PERMIT

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

MAQP: #5272-00
Application Complete: 3/25/22
Preliminary Determination Issued: 4/21/22
Department's Decision Issued: 5/24/2022
Permit Final: 6/9/2022

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 March 25, 2022, the Montana Department of Environmental Quality – Air Quality Bureau (DEQ) received an application from AFCS to install and operate one crematory rated for a maximum 150 pound/hour (lb/hr) capacity. MAQP #5272-00 is the number assigned to this permit.

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 DEQ 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 and auxiliary 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. DEQ may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. AFCS 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. AFCS 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 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 DEQ, and must be submitted to DEQ 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

ACFS did provide DEQ with written notification of the actual start-up date of the crematory postmarked within 15 days after the actual start-up date (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – AFCS shall allow DEQ’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if 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 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 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 #5272-00

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 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 at least 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.

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 (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).

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 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

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 DEQ 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.

MAQP #5272-00 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. Listed below are some federal regulations that can apply to incinerators and the reason why AFCS is not subject to them.
 - 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 because its maximum rated capacity is less than 45 metric tons per day.
 - 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 DEQ. 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 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. 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 March 13, 2022, 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 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 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 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 because 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).

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 #5272-00 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 PM₁₀ 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, DEQ 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 at least 1600 °F in the secondary chamber with a residence time of a minimum of 1 second. DEQ 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	CAS #	ug/m3	Fraction of all HAPS
	(lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)			
<u>Heavy Metals</u>				
Antimony (less than)	7440360	1.91E-04	6.76E-08	1.91E-04
Arsenic (less than)	7440382	1.90E-04	6.72E-08	1.90E-04
Beryllium	7440417	1.73E-05	6.14E-09	1.73E-05
Cadmium	7440439	1.39E-04	4.93E-08	1.39E-04
Chromium	7440473	3.78E-04	1.34E-07	3.78E-04
Chromium, hx	18540299	1.71E-04	6.05E-08	1.71E-04
Cobalt (less than)	7440484	1.11E-05	3.92E-09	1.11E-05
Lead	7439921	8.37E-04	2.97E-07	8.37E-04
Mercury	7439976	4.30E-02	1.52E-05	4.30E-02
Nickel	7440020	4.83E-04	1.71E-07	4.83E-04
Selenium	7782492	5.51E-04	1.95E-07	5.51E-04
Zinc	7440666	4.46E-03	1.58E-06	4.46E-03
<u>Polycyclic Organic Matter (POM)</u>		N/A	N/A	

Toxic Emissions from Crematory (including fuel and case wrappings)				
HAP Category / Pollutant Name	Emission Factor	CAS #	ug/m3	Fraction of all HAPS
	(lb/150 lb body) - or - (lb/MMscf natural gas from AP-42 where not tested/reported in crematory emissions)			
<u>Listed Non-POM Organic HAPs</u>				
Acetaldehyde	75070	1.64E-03	5.82E-07	1.64E-03
Formaldehyde	50000	4.30E-04	1.52E-07	4.30E-04
<u>Listed Acids</u>				
Hydrogen chloride (hydrochloric acid)	7647010	9.10E-01	3.23E-04	9.10E-01
Hydrogen fluoride (hydrofluoric acid)	7664393	8.35E-03	2.96E-06	8.35E-03
<u>Dioxins</u>				
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	1.00E-09	3.56E-13	1.00E-09
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	4.79E-08	1.70E-11	4.79E-08
SUM of Hexachlorodibenzo-p-dioxin		1.47E-08	5.21E-12	1.47E-08
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	3.48E-09	1.23E-12	3.48E-09

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	

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

PTE from Natural Gas Combustion			
Pollutant	Emission Factor (lb/MMft ³)	Annual (lb/yr)	Annual (Ton/yr)
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
NO _x	2.57E-01	2251.32	1.13
CO	2.21E-01	1935.96	0.97
SO ₂	1.63E-01	1427.88	0.71
VOC	2.24E-01	1962.24	0.98

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

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
NO _x	0.43	1.13	1.56
CO	0.36	0.97	1.33
SO ₂	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 was formerly designated as a nonattainment area for PM₁₀. It has been redesignated as attainment/maintenance for PM₁₀ as of July 26, 2021. AFCS's maximum potential emissions of any pollutant, including PM₁₀ 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 DEQ'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 ($\mu\text{g}/\text{m}^3$)	Distance to Max (m)	Terrain Height (m)
Simple Terrain	0.004429	50000	100
Distance to nearest structure (m)		10	

As shown by the Health Risk Assessment located 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 accomplished for the Health Risk Assessment, and the small potential to emit of criteria pollutants, DEQ 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 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. 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, DEQ elected to conduct the human health risk assessment by contemplating all 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 A4:D55	CAS #	Fraction of all HAPS	Calculated HAP Concentration (ug/m3)	Negligible Risk Assessment (1)				Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
				Exceed ARM 17.8.770 Table 1?	Exceed ARM 17.8.770 Table 2 Chronic?	Exceed ARM 17.8.770 Table 2 Acute?	Cancer URF (2)			
Heavy Metals										
Antimony (less than)	7440360	1.91E-04	6.76E-08	No	No	No	N/A	N/A	N/A	N/A
Arsenic (less than)	7440382	1.90E-04	6.72E-08	No	No	No	0.0043	2.89E-10	0.015	4.48E-06
Beryllium	7440417	1.73E-05	6.14E-09	No	No	No	0.0024	1.47E-11	0.02	3.07E-07
Cadmium	7440439	1.39E-04	4.93E-08	No	No	No	0.0018	8.87E-11	0.01	4.93E-06
Chromium	7440473	3.78E-04	1.34E-07	No	No	No	N/A	N/A	N/A	N/A
Chromium, hx	18540299	1.71E-04	6.05E-08	No	No	No	0.012	7.26E-10	0.1	6.05E-07
Cobalt (less than)	7440484	1.11E-05	3.92E-09	No	No	No	N/A	N/A	0.1	3.92E-08
Lead	7439921	8.37E-04	2.97E-07	No	No	No	N/A	N/A	0.15	1.98E-06
Mercury	7439976	4.30E-02	1.52E-05	No	No	No	N/A	N/A	0.3	5.08E-05
Nickel	7440020	4.83E-04	1.71E-07	No	No	No	N/A	N/A	0.09	1.90E-06
Selenium	7782492	5.51E-04	1.95E-07	No	No	No	N/A	N/A	20	9.77E-09
Zinc	7440666	4.46E-03	1.58E-06	No	No	No	N/A	N/A	N/A	N/A
Polycyclic Organic Matter (POM)										
2-methylnaphthalene	91576	3.81E-07	1.35E-10	No	No	No	N/A	N/A	N/A	N/A
3-methylchloranthrene (less than)	56495	1.43E-08	5.07E-12	No	No	No	0.0063	3.19E-14	N/A	N/A
7,12 Dibenz(a)anthracene (less than)		1.27E-07	4.51E-11	No	No	No	0.071	3.20E-12	N/A	N/A
Anthracene (less than)	120127	1.91E-08	6.76E-12	No	No	No	N/A	N/A	N/A	N/A
Benzene	71432	3.34E-05	1.18E-08	No	No	No	7.8E-06	9.22E-14	30	3.94E-10
Dichlorobenzene	25321226	1.91E-05	6.76E-09	No	No	No	0.000011	7.43E-14	800	8.45E-12
Hexane	110543	2.86E-02	1.01E-05	No	No	No	N/A	N/A	700	1.45E-08
Naphthalene	91203	9.70E-06	3.44E-09	No	No	No	0.000034		3	1.15E-09
Phenanthrene	85018	2.70E-07	9.57E-11	No	No	No	N/A	N/A	N/A	N/A
Toluene	108883	5.40E-05	1.91E-08	No	No	No	N/A	N/A	5000	3.83E-12
Acenaphthene	83329	1.40E-06	4.97E-10	No	No	No	N/A	N/A	N/A	N/A
Acenaphthylene	208968	1.54E-06	5.47E-10	No	No	No	N/A	N/A	N/A	N/A
Benz(a)anthracene (less than)	56553	6.17E-08	2.19E-11	No	No	No	N/A	N/A	N/A	N/A
Benzo(a)pyrene (less than)	50328	1.84E-07	6.52E-11	No	No	No	0.0011	7.17E-14	N/A	N/A
Benzo(b)fluoranthene (less than)	205992	1.01E-07	3.56E-11	No	No	No	0.00011	3.92E-15	N/A	N/A
Benzo(g,h,i)perylene (less than)	191242	1.84E-07	6.52E-11	No	No	No	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene (less than)	207089	8.98E-08	3.18E-11	No	No	No	0.00011	3.50E-15	N/A	N/A
Chrysene (less than)	218019	3.41E-07	1.21E-10	No	No	No	0.000011	1.33E-15	N/A	N/A
Dibenz(a,h)anthracene (less than)	53703	8.03E-08	2.84E-11	No	No	No	0.00011	3.13E-15	N/A	N/A
Fluorene	86737	5.27E-06	1.87E-09	No	No	No	N/A	N/A	N/A	N/A
Fluoranthene	206440	2.59E-06	9.18E-10	No	No	No	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	193395	9.74E-08	3.45E-11	No	No	No	0.00011	3.79E-15	N/A	N/A
Phenanthrene	85018	2.90E-05	1.03E-08	No	No	No	N/A	N/A	N/A	N/A

Pyrene	129000	2.05E-06	7.26E-10	No	No	No	N/A	N/A	N/A	N/A
<u>Dibenzofurans</u>			3.29E-11	No	No	No	N/A	N/A	N/A	N/A
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	67562394	2.89E-08	1.02E-11	No	No	No	N/A	N/A	N/A	N/A
1,2,3,4,7,8,9-Heptachlorofodibenzenofuran (less than)	55673897	1.76E-09	6.23E-13	No	No	No	N/A	N/A	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzenofuran	70648269	1.21E-08	4.27E-12	No	No	No	N/A	N/A	N/A	N/A
1,2,3,6,7,8-Hexachlorodibenzenofuran	57117449	1.08E-08	3.82E-12	No	No	No	N/A	N/A	N/A	N/A
1,2,3,7,8,9-Hexachlorodibenzenofuran	72918219	2.11E-08	7.48E-12	No	No	No	N/A	N/A	N/A	N/A
2,3,4,6,7,8-Hexachlorodibenzenofuran	60851345	4.35E-09	1.54E-12	No	No	No	N/A	N/A	N/A	N/A
1,2,3,7,8-Pentachlorodibenzenofuran (less than)	57117416	1.86E-09	6.59E-13	No	No	No	N/A	N/A	N/A	N/A
2,3,4,7,8-Pentachlorodibenzenofuran (less than)	57117314	5.60E-09	1.98E-12	No	No	No	N/A	N/A	N/A	N/A
2,3,7,8-Tetrachlorodibenzenofuran	51207319	6.56E-09	2.33E-12	No	No	No	N/A	N/A	N/A	N/A
<u>Listed Non-POM Organic HAPs</u>										
Acetaldehyde	75070	1.64E-03	5.82E-07	No	No	No	N/A	N/A	9	6.47E-08
Formaldehyde	50000	4.30E-04	1.52E-07	No	No	No	0.000013	1.98E-12	9.8	1.55E-08
<u>Listed Acids</u>										
Hydrogen chloride (hydrochloric acid)	7647010	9.10E-01	3.23E-04	No	No	No	N/A	N/A	20	1.61E-05
Hydrogen fluoride (hydrofluoric acid)	7664393	8.35E-03	2.96E-06	No	No	No	N/A	N/A	14	2.11E-07
<u>Dioxins</u>										
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	1.00E-09	3.56E-13	No	No	No	33	1.17E-11	0.00004	8.89E-09
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	4.79E-08	1.70E-11	No	No	No	N/A	N/A	N/A	N/A
SUM of Hexachlorodibenzo-p-dioxin		1.47E-08	5.21E-12	No	No	No	1.3	6.78E-12	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	3.48E-09	1.23E-12	No	No	No	N/A	N/A	N/A	N/A
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	5.02E-09	1.78E-12	No	No	No	N/A	N/A	N/A	N/A
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	6.22E-09	2.20E-12	No	No	No	N/A	N/A	N/A	N/A
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	2.95E-09	1.04E-12	No	No	No	N/A	N/A	N/A	N/A
				SUM --->				1.1422E-09		8.15E-05

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. 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 a private property taking and damaging assessment which is located in the attached environmental assessment.

IX. Environmental Assessment

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



**MTS Holdings - Axelson Funeral & Cremation
Services
Draft Environmental Assessment for
Montana Air Quality Permit #5272-00**

Air Quality Bureau

APPLICANT: MTS Holdings - Axelson Funeral & Cremation Services		
SITE NAME: Axelson Funeral & Cremation Services		
PROPOSED PERMIT NUMBER: Montana Air Quality Permit (MAQP) #5272-00		
APPLICATION RECEIVED: 03/25/2022		
APPLICATION DEEMED COMPLETE: 03/25/2022		
LOCATION: 2415 South Montana Street, Butte, MT 59701		COUNTY: Silver Bow
PROPERTY OWNERSHIP:	FEDERAL ___ STATE ___ PRIVATE <u>X</u>___	
EA PREPARER:	T. Burrows	
EA Draft Date	EA Final Date	Permit Final Date
4/21/2022	5/24/2022	06/09/2022

COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT

The Montana Department of Environmental Quality (DEQ) prepared this Environmental Assessment (EA) in accordance with requirements of the Montana Environmental Policy Act (MEPA). An EA functions to determine the need to prepare an Environmental Impact Statement (EIS) through an initial evaluation and determination of the significance of impacts associated with the proposed action. However, an agency is required to prepare an EA whenever, as here, statutory requirements do not allow sufficient time for the agency to prepare an EIS (ARM 17.4.607(3)(c)). This document may disclose impacts over which DEQ has no regulatory authority.

INCORPORATION BY REFERENCE

DEQ has no additional references to be incorporated into this document.

COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (CAA), §§ 75-2-101, *et seq.*, Montana Code Annotated (MCA). DEQ may not approve a proposed action contained in an application for an air quality permit unless the project complies with the requirements set forth in the CAA and the administrative rules adopted thereunder, ARMs 17.8.101 *et seq.* The project is subject to approval by the DEQ Air Quality Bureau (AQB) as the crematory is an incinerator subject to MCA 75-2-215, which triggers the requirement for an MAQP regardless of potential emissions levels (ARM 17.8.743). DEQ’s approval of an air quality permit application does not relieve AFCS from complying with any other applicable federal, state, or county laws, regulations, or ordinances. AFCS is responsible for obtaining any other permits, licenses, or approvals (from DEQ or otherwise) that are required for any part of the proposed action. Any action DEQ takes at this time is limited to the pending air quality permit application currently before DEQ’s AQB and the authority granted to DEQ under the Clean Air Act of Montana. This action is not indicative of any other action DEQ may take on any future (unsubmitted) applications made pursuant to any other authority (*e.g.* Montana’s Water Protection Act). DEQ will decide whether to issue the pending air quality permit pursuant to the requirements of the CAA alone. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

SUMMARY OF THE PROPOSED ACTION

On March 25, 2022, DEQ received an application from AFCS to install and operate one crematory rated for a maximum 150 pound/hour (lb/hr) capacity.

All information included in the EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

Table 1: Proposed Action Details

Proposed Action	
General Overview	AFCS is to operate one crematory rated for a maximum 150 pound/hour (lb/hr) capacity.
Proposed Action Estimated Disturbance	
Disturbance	This is an existing crematory with a new unit. There is no disturbance.
Proposed Action	
Duration	Operational Life: Although equipment may have functional lives of 20 to 30 years depending on equipment maintenance efforts, and the crematory would be expected to remain operational as long as economic conditions are favorable.
Construction Equipment	None
Personnel Onsite	No change in staff is necessary for the operation of the new crematory.
Location and Analysis Area	Location: The proposed action is 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°.

	Analysis Area: The area being analyzed as part of this environmental review includes the immediate existing facility area.
Air Quality	The Draft EA will be attached to the Preliminary Determination Air Quality Permit which would include all enforceable conditions for operation of the emitting units. Any revisions to the EA would be addressed and included in the Final EA attached to DEQ's Decision.
Conditions Incorporated into the Proposed Action	The conditions developed in the Preliminary Determination of the MAQP dated April 21, 2022, set forth in Sections II.A-E.

PURPOSE AND BENEFIT FOR PROPOSED ACTION

DEQ's purpose in conducting this environmental review is to act upon AFCS's air quality permit application No. 5272-00 to operate a crematory with a capacity of 150 lbs/hr.

The benefits of the proposed action, if approved, includes authorizing AFCS to continue current operations unchanged using the new crematory.

Authority to AFCS for operation of the crematory would continue until the permit is revoked, either at the request of AFCS or by DEQ because of non-compliance with the conditions within the air quality permit.

REGULATORY RESPONSIBILITIES

In accordance with ARM 17.4.609(3)(c), DEQ must list any federal, state, or local, authorities that have concurrent or additional jurisdiction or environmental review responsibility for the proposed action and the permits, licenses, and other authorizations required. AFCS must conduct its operations according to the terms of its permit, the CAA, §§ 75-2-101, *et seq.*, MCA, and ARMs 17.8.101, *et seq.*

AFCS must cooperate fully with, and follow the directives of, any federal, state, or local entity that may have authority over AFCS's Butte Crematory. These permits, licenses, and other authorizations may include: City of Butte, Silver Bow County Weed Control Board, Occupational safety and Health Administration (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), and Montana Department of Transportation and Silver Bow County (road access).

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

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

The duration of an impact is quantified as follows:

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

The severity of an impact is measured using the following:

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

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

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

Direct Impacts: There is no impact expected to topography, geology, and soil quality, stability, and moisture.

Secondary Impacts: No secondary impacts to topography, geology, stability, and moisture would be expected because the Crematory is located within the existing building.

2. 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.

Direct Impacts: There are no impacts to surface water features and water quality, quantity, and distribution management.

Secondary Impacts: No secondary impacts to water quality, quantity and distribution would be expected, nor any impacts from stormwater runoff.

3. AIR QUALITY:

The project would be a small source of conventional air pollutant emissions on an industrial scale. As a project subject to the Human Health Risk Assessment requirements of ARM 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.

Direct Impacts: Very minor direct impacts of air quality are expected.

Secondary Impacts: No secondary air quality impacts are expected.

4. VEGETATION COVER, QUANTITY AND QUALITY:

The project would take place within an existing developed area. Emissions would be very minor on an industrial scale.

Direct Impacts: No impacts to vegetation cover, quantity and quality are expected.

Secondary Impacts: No secondary impacts are expected.

5. TERRESTRIAL, AVIAN, AND AQUATIC LIFE AND HABITATS:

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

Direct Impacts: The potential impact (including cumulative impacts) to terrestrial, avian and aquatic life and habitats would be negligible, due to the long-term industrial nature of the site.

Secondary Impacts: No secondary impacts to terrestrial, avian, and aquatic life and habitats would be expected.

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

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, DEQ 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 a 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.

Direct Impacts: 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.

Secondary Impacts: The proposed action would have no secondary impacts to endangered species because the permit conditions are protective of human and animal health.

7. HISTORICAL AND ARCHAEOLOGICAL SITES:

The project would be operated in an existing site and developed area. The crematory is adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete.

However, should structures need to be altered, or if cultural materials are inadvertently discovered during this proposed action, SHPO requests their office be contacted for further investigation.

Direct Impacts: No impacts to historical or archaeological sites would be expected.

Secondary Impacts: No secondary impacts to historical and archaeological sites are anticipated.

8. SAGE GROUSE EXECUTIVE ORDER:

The project would not be in core, general or connectivity sage grouse habitat, as designated by the Sage Grouse Habitat Conservation Program (Program) at: <http://sagegrouse.mt.gov>.

Direct Impacts: The proposed action is not located within Sage Grouse habitat, so no direct impacts would occur.

Secondary Impacts: No secondary impacts to sage grouse or sage grouse habitat would be expected since the proposed action is not located within Sage Grouse habitat.

9. 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 #5272-00, would minimize any odors that might otherwise be expected.

Direct Impacts: The facility would be operated in an already developed area. No more than minor impacts to aesthetics would be expected.

Secondary Impacts: No secondary impacts to aesthetics are anticipated.

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

MAQP #5272-00 would allow for the operation of the crematory. As described above, impacts to water or air would be expected to be minor. MAQP #5272-00 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.

Direct Impacts: Direct impacts would be minor. See the Air Quality and Water Quality sections of the EA to review the potential impacts from the proposed action regarding air and water resources.

Secondary Impacts: No secondary impacts are expected.

11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:

The site is surrounded by commercial and industrial properties.

Direct Impacts: No other environmental resources are known have been identified in the area beyond those discussed above. Hence, there is no impact to other environmental resources.

Secondary Impacts: No secondary impacts to other environmental resources are anticipated.

12. HUMAN HEALTH AND SAFETY:

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

Direct Impacts: Direct impacts to human health and safety would be expected to be minor.

Secondary Impacts: No secondary impacts to human health and safety are anticipated.

13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:

The project would be a 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.

Direct Impacts: Impacts on the industrial, commercial, and agricultural activities and production in the area would be negligible.

Secondary Impacts: No secondary impacts to industrial, commercial, and agricultural activities and production are anticipated.

14. 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.

Direct Impacts: The proposed action would be expected to have no impacts on the overall distribution of employment.

Secondary Impacts: No secondary impact is expected on long term employment.

15. LOCAL AND STATE TAX BASE AND TAX REVENUES:

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.

Direct Impacts: No impact to local and state tax base and revenue would be expected because of issuance of MAQP #5272-00.

Secondary Impacts: No secondary impacts to local and state tax base and tax revenues are anticipated.

16. DEMAND FOR GOVERNMENT SERVICES:

The proposed action is in an industrial and commercial area.

Direct Impacts: Compliance review and assistance oversight by DEQ AQB would be conducted in concert with other area activity when in the vicinity. The proposed action would have only minor impacts on demand for government services, mainly through oversight by DEQ AQB.

Secondary Impacts: No secondary impacts are anticipated on government services with the proposed action and a minimal increase in impact would occur from the permitting and compliance needs associated with the crematory.

17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

DEQ 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 air toxics review required by ARM 17.8.770.

Direct Impacts: No impacts from the proposed action would be expected relative to any locally adopted community planning goals.

Secondary Impacts: No secondary impacts to the locally adopted environmental plans and goals are anticipated because of the proposed action.

18. 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.

Direct Impacts: No more than a minor impact to quality of recreational and wilderness activities would be expected.

Secondary Impacts: No secondary impacts to access and quality of recreational and wilderness activities are anticipated because of the proposed action.

19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

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.

Direct Impacts: The proposed project would not be expected to have any impact on the distribution of population.

Secondary Impacts: No secondary impacts to density and distribution of population and housing are anticipated because of the proposed action.

20. 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.

Direct Impacts: Impacts to social structures and mores, if any at all, would be minor.

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

21. CULTURAL UNIQUENESS AND DIVERSITY:

DEQ 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 in an area already developed for such operations. The crematory is adjacent to Mt. Moriah Cemetery and 200 yards from Hollow Contracting & Concrete.

Direct Impacts: Direct impacts to cultural uniqueness and diversity, if any at all, would be minor.

Secondary Impacts: No secondary impacts to cultural uniqueness and diversity are anticipated because of the proposed action.

22. PRIVATE PROPERTY IMPACTS:

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

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

23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

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

ADDITIONAL ALTERNATIVES CONSIDERED:

In addition to the proposed action, DEQ 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, DEQ does not consider the “no-action” alternative to be appropriate because AFCS 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.

CUMULATIVE IMPACTS:

DEQ 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.

PUBLIC INVOLVEMENT:

Scoping for this proposed action consisted of internal efforts to identify substantive issues and/or concerns related to the proposed action. Internal scoping consisted of internal review of the EA document by DEQ Air Permitting staff. Additionally, the EA for the crematory was reviewed extensively.

Internal efforts also included queries to the following websites/ databases/ personnel:

- Montana State Historic Preservation Office
- Montana DEQ
- Silver Bow County
- Montana Natural Heritage Program

A thirty-day public comment period occurs along with the Preliminary Determination on MAQP #5272-00 and is posted to the DEQ website.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:

The proposed action would be fully located on privately-owned land. All applicable local, state, and federal rules must be adhered to, which, at some level, may also include other local, state, federal, or tribal agency jurisdiction. Other Governmental Agencies which may have overlapping, or sole jurisdiction include but may not be limited to: City of Butte, Silver Bow County Commission or County Planning Department (zoning), Silver Bow County Weed Control Board, Occupational Safety and Health Administration (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), DNRC (water rights), and MDT and Silver Bow County (road access).

NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS

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

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

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

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

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

3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts.
4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values.
5. The importance to the state and to society of each environmental resource or value that would be affected.
6. Any precedent that would be set because of an impact of the proposed action that would commit the DEQ to future actions with significant impacts or a decision in principle about such future actions.
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

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

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

SIGNIFICANCE DETERMINATION

The severity, duration, geographic extent, and frequency of the occurrence of the primary, secondary, and cumulative impacts associated with the proposed action would be limited. AFCS proposes to operate a modern crematory in an existing crematory operation. The operation will occur completely on the AFCS property. The crematory will be located on private land, within the city limits of Butte, Montana.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving AFCS's air quality permit application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. DEQ also has received an air quality application from AFCS related to the operation of the crematory. If AFCS submits another permit application, DEQ is not committed to approve those applications. DEQ would conduct a new environmental assessment for any subsequent air quality permit applications sought by AFCS. DEQ would decide on AFCS's subsequent application based on the criteria set forth in the CAA.

DEQ's issuance of a MAQP to AFCS for this operation also does not set a precedent for DEQ's review of other applications, including the level of environmental review. A decision of on the

References

Air Quality Permit Application Received March 25, 2022
Air Quality Bureau Permitted Source List-GIS Layer
Air Quality Permit MAQP #2999-02

ABBREVIATIONS and ACRONYMS

AQB – Air Quality Bureau
ARM - Administrative Rules of Montana
BACT – Best Available Control Technology
BMP - Best Management Practices
CAA – Clean Air Act of Montana
CFR - Code of Federal Regulations
CO - carbon monoxide
DEQ – Department of Environmental Quality
DNRC – Department of Natural Resources and Conservation
EA – Environmental Assessment
EIS – Environmental Impact Statement
EPA - U.S. Environmental Protection Agency
FCAA Federal Clean Air Act
MAQP – Montana Air Quality Permit
MCA – Montana Code Annotated
MEPA – Montana Environmental Policy Act
MPDES - Montana Pollutant Discharge Elimination System
MTNHP - Montana Natural Heritage Program
NO_x - oxides of nitrogen
PM - particulate matter
PM₁₀ - particulate matter with an aerodynamic diameter of 10 microns and less
PM_{2.5} - particulate matter with an aerodynamic diameter of 2.5 microns and less
PPAA - Private Property Assessment Act
Program - Sage Grouse Habitat Conservation Program
PSD - Prevention of Significant Deterioration
SHPO - Montana State Historic Preservation Office
SOC - Species of Concern
SO₂ - sulfur dioxide
tpy – tons per year
U.S.C. - United States Code
VOC - volatile organic compound