Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor
P. O. Box 200901 Helena, MT 59620-0901 (406) 444-2544 Website: www.deq.mt.gov

PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: July 21, 2010

Name of Applicant: Duggan Merrill Dolan Mortuary, Inc.

Source: Human Crematory (crematorium)

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number MAQP #4563-00.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Resources Management Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by August 20, 2010. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed by the date stated in the Department's Decision on this permit. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, MT 59620.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-3490

Deanne Fischer, PE
Environmental Engineer
Air Resources Management Bureau
(406) 444-3403

VW:DF
Enclosures

MONTANA AIR QUALITY PERMIT

Issued To:	Duggan Merrill Dolan Mortuary, Inc. P.O. Box 765 Butte, MT 59701	MAQP: #4563-00 Application Complete: 06/11/2010 Preliminary Determination Issued: July 21, 2010 Department's Decision Issued: Permit Final: AFS #:093-0021

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Duggan Merrill Dolan Mortuary, Inc. (Duggan Dolan Mortuary), 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. Permitted Equipment

Duggan Dolan Mortuary proposes to operate a 2010 B & L Matthews Creation, IE-43 (Power Pak 11) multiple chamber human cremation unit with a maximum incineration capacity of 150 pounds per hour (lb/hr), and associated equipment. A complete description of the permitted equipment is contained in the permit analysis.

B. Plant Location

Duggan Dolan Mortuary is to be located at 1805 Meadowlark, Butte, Montana. The legal description is Section 31, Township 3 North, Range 7 West, in Silver Bow County, Montana.

SECTION II: Conditions and Limitations

A. Operational Requirements

1. Duggan Dolan Mortuary shall not incinerate/cremate any material other than human remains and/or any corresponding container unless otherwise approved by the Department of Environmental Quality (Department) in writing (ARM 17.8.749).

2. The crematorium shall be equipped with auxiliary fuel burners. The auxiliary fuel burners shall be used to preheat the secondary chamber of the crematorium to the minimum required operating temperature prior to igniting the primary chamber burner. The operating temperatures shall be maintained during operation and for one-half hour after waste feed has stopped, as follows:

   The secondary chamber operating temperature of the crematorium shall be maintained above 1500 degrees Fahrenheit (˚F) with no single reading less than 1400 °F. (ARM 17.8.752).

3. Duggan Dolan Mortuary shall operate the crematorium as specified in the application for MAQP #4563-00. Further, Duggan Dolan Mortuary shall develop crematorium operation procedures for the crematorium, print those procedures in a crematorium operation procedures manual, and require all personnel who operate the unit to familiarize themselves with the operating procedures. The operating procedures manual shall be readily available to all personnel who operate the unit. A copy of this manual shall be supplied to the Department upon request (ARM 17.8.752).

B. Emission Limitations

Duggan Dolan Mortuary shall not cause or authorize to be discharged into the atmosphere from the crematorium:

1. Visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752); and

2. Any particulate emissions in excess of 0.10 grains per dry standard cubic foot (gr/dscf) corrected to 12% carbon dioxide (CO_2) (ARM 17.8.752).

C. 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 may require further testing (ARM 17.8.105).

D. Monitoring Requirements

Duggan Dolan Mortuary shall install, calibrate, maintain, and operate continuous monitoring and recording equipment on the crematorium to measure the secondary chamber exit gas temperature. Duggan Dolan Mortuary shall also record the daily quantity of material incinerated/cremated and the daily hours of operation of the crematorium (ARM 17.8.749).

E. Operational Reporting Requirements

1. Duggan Dolan Mortuary 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. Duggan Dolan Mortuary 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 Duggan Dolan Mortuary 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).

F. Notification

Duggan Dolan Mortuary shall provide the Department with written notification of the actual start-up date of the crematorium within 15 days after the actual start-up date (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection – Duggan Dolan Mortuary 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 (CEMS, 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 Duggan Dolan Mortuary fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Duggan Dolan Mortuary 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 therefore, 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 Duggan Dolan Mortuary 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
Duggan Merrill Dolan Mortuary, Inc.
MAQP #4563-00

I. Introduction/Process Description

Duggan Merrill Dolan Mortuary, Inc. (Duggan Dolan Mortuary) owns and operates a human crematory (crematorium) with a maximum incineration capacity of 150 pounds per hour (lb/hr). The Duggan Dolan Mortuary is located at 1805 Meadowlark, Butte, Montana. The legal description of the site is Section 31, Township 3 North, Range 7 West, Silver Bow County, Montana.

A. Permitted Equipment

Duggan Dolan Mortuary proposes to operate a 2010 B & L Matthews Creation, IE-43 (Power Pak 11) multiple chamber human cremation unit with a maximum incineration capacity of 150 pounds per hour (lb/hr), and associated equipment. A complete description of the permitted equipment is contained in the permit analysis.

B. Source Description

The crematory is fired on natural gas and is capable of incinerating up to 150 lb/hr of human remains. Material (human remains) is loaded into the primary chamber. The after burner ignites and heats the secondary chamber to the required temperature. The secondary chamber temperature of 1500 degrees Fahrenheit (˚F), with no single reading less than 1400 °F, is maintained by a process controller that automatically modulates the gas flow to the afterburner. After the secondary chamber has been heated sufficiently, the cremator burner ignites and the cremation process is initiated.

Initial and supplementary combustion is provided by two natural gas-fired burners, one in the primary chamber and one in the secondary chamber, with a total maximum rated design capacity of 2,000 standard cubic foot per hour (scf/hr).

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

2. <u>ARM 17.8.105 Testing Requirements</u>. 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).

   Duggan Dolan Mortuary 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

Duggan Dolan Mortuary must maintain compliance with the applicable ambient air quality standards. As part of the risk assessment required for this project, the Department conducted SCREEN3 modeling, an Environmental Protection Agency (EPA)-approved air dispersion model. The screening analysis demonstrated that the proposed project would comply with all applicable ambient air quality standards and demonstrated negligible risk to human health as required for permit issuance.

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

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

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

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

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

5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes.

   While Duggan Dolan Mortuary is required to comply with the Emission Limitations specified in Section II.B of MAQP #4563-00, this particular rule does not apply to the crematorium because Duggan Dolan Mortuary has applied for and will operate under an MAQP in accordance with ARM 17.8.770 and MCA 75-2-215 for this unit.

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 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (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.

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. Duggan Dolan Mortuary 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. Duggan Dolan Mortuary does not have a PTE greater than 25 tons per year of any pollutant; however, in accordance with the MCA 75-2-215, an air quality permit must be obtained prior to the construction and operation of any incinerator, regardless of potential incinerator emissions. Because Duggan Dolan Mortuary must obtain an air quality permit, all normally applicable requirements apply in this case.

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

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

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Duggan Dolan Mortuary 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. Duggan Dolan Mortuary submitted an affidavit of publication of public notice for the May 25, 2010, issue of the *Montana Standard*, a newspaper of general circulation in the Town 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 Duggan Dolan Mortuary 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 17.8.762 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.

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

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

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

15. 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.

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 #4563-00 for Duggan Dolan Mortuary, 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 National Emission Standards for Hazardous Air Pollutants (NESHAP) standards.

   f. This source is not a Title IV affected source, or a solid waste combustion unit.

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

   Based on these facts, the Department determined that Duggan Dolan Mortuary will be a minor source of emissions as defined under the Title V operating permit program.

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

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

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

I. MCA 75-2-215, Solid or Hazardous Waste Incineration - Additional permit requirements:

1. MCA 75-2-215 requires air quality permits for all new solid waste incinerators; therefore, Duggan Dolan Mortuary must obtain an air quality permit.

2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants, from the incineration of solid waste. The information in the initial permit application fulfilled this requirement.

3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. The Department completed a health risk assessment, based on an emissions inventory and ambient air quality modeling, for this MAQP application. Based on the results of the emission inventory, modeling, and the health risk assessment, the Department determined that Duggan Dolan Mortuary complies with this requirement.

4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that the operating the proposed incinerator (crematorium) according to the manufacturer-recommended operation procedures constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source. Duggan Dolan Mortuary 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. In addition, MCA 75-2-215 requires a BACT determination for all pollutants resulting from the crematory operations, not only criteria pollutants.

Duggan Dolan Mortuary proposes to control the emissions from the crematorium with a secondary chamber designed specifically to reduce the amount of pollutants, including HAPs, emitted from the incinerator. Previous research conducted by the Department indicates crematoriums of this size have not been required to install additional air pollution control equipment beyond that provided by the controlled air design of the incinerator. With the estimated particulate matter emissions being less than 2 ton per year (TPY), the incremental cost per ton of additional control would be very high and not in line with control costs of other similar sources. In addition, the incinerator is limited by its MAQP to 0.10 grains per dry standard cubic foot for particulate matter and to 10% opacity (visible emissions). Furthermore, the health risk assessment shows negligible risks from the small amount of HAP emissions from this incinerator as is. Therefore, the Department determined that proper operation of the controlled air incinerator, and compliance with the operational conditions of MAQP #4563-00 constitutes BACT in this case.

BACT for products of combustion/incineration (carbon monoxide [CO], oxides of nitrogen [NO_x], volatile organic compounds [VOC], and oxides of sulfur [SO_x]) and HAPs resulting from crematorium operations is good combustion, including the requirement that the secondary chamber must be maintained at an operating temperature of 1500 ºF with no single reading less than 1400 °F. (ARM 17.8.752). The operating procedures and minimum operating temperature requirement contained in MAQP #4563-00 will ensure good combustion and constitutes BACT for this source.

Further, pipeline quality natural gas combustion inherently results in low emissions of air pollutants due to characteristics of the natural gas fuel fired. Potential PM_{10}, NO_x, CO, VOC, and SO_x emissions from the combustion of natural gas to operate the crematorium are 0.07 TPY, 0.88 TPY, 0.74 TPY, 0.05 TPY, and 0.01 TPY, respectively. Because potential emissions of all regulated pollutants resulting from pipeline quality natural gas combustion are low, incorporation of available pollutant-specific control technologies would result in high cost-effective (cost per ton removed) values thereby making pollutant-specific add-on controls for PM_{10}, NO_x, CO, VOC, and SO_x economically infeasible in this case. Therefore, the Department determined that combustion of

pipeline quality natural gas only and proper operation and maintenance of the crematorium with no additional control constitutes BACT for all regulated pollutants resulting from natural gas combustion, in this case.

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

IV. Emission Inventory

Criteria Pollutant Emissions (TPY)							
	ton/yr						
Source	**PM**	**PM-10**	**PM-2.5**	**NOx**	**VOC**	**CO**	**SOx**
Crematorium	1.53	1.53	-	1.17	0.99	0.97	0.71
Natural Gas Combustion	0.07	0.07	0.07	0.88	0.05	0.74	0.01
Total Criteria Pollutant Potential Emissions	**1.60**	**1.60**	**0.07**	**2.05**	**1.03**	**1.70**	**0.72**

Criteria Pollutant Emission Inventory

Crematorium

Maximum Capacity: 150 lbs/hr
Operating Hours: 8760 hrs/yr
Conversion: 150 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb = 657 TPY

PM Emissions

Emission Factor: 4.67E+00 lbs/ton (AP-42 Table 2.3-2, 07/93)
Calculations: 4.67 lbs/ton * 657 TPY * 0.0005 tons/lb = 1.53E+00 tons/yr

PM-10 Emissions

Emission Factor: 4.67E+00 lbs/ton (AP-42 Table 2.3-2, assume PM=PM10, 07/93)
Calculations: 4.67 lbs/ton * 657 TPY * 0.0005 tons/lb = 1.53E+00 tons/yr

NOx Emissions

Emission Factor: 3.56E+00 lbs/ton (AP-42 Table 2.3-1, 07/93)
Calculations: 3.56 lbs/ton * 657 TPY * 0.0005 tons/lb = 1.17E+00 tons/yr

VOC Emissions

Emission Factor: 3.00E+00 lbs/ton (AFSSCC 5-02-005-05, 03/90)
Calculations: 3 lbs/ton * 657 TPY * 0.0005 tons/lb = 9.86E-01 tons/yr

CO Emissions

Emission Factor: 2.95E+00 lbs/ton (AP-42 Table 2.3-1, 07/93)
Calculations: 2.95 lbs/ton * 657 TPY * 0.0005 tons/lb = 9.69E-01 tons/yr

SOx Emissions

Emission Factor: 2.17E+00 lbs/ton (AP-42 Table 2.3-1, 07/93)
Calculations: 2.17 lbs/ton * 657 TPY * 0.0005 tons/lb = 7.13E-01 tons/yr

Lead Emissions

Emission Factor:	7.28E-02	lbs/ton	(AP-42 Table 2.3-2, 07/93)		
Calculations:	0.0728 lbs/ton * 657 TPY * 0.0005 tons/lb =			2.39E-02	tons/yr

Natural Gas Combustion

Hours of Operation	8.76E+03	hrs/yr	
Max Fuel Combustion Rate	2.00E-03	MMscf/hr	**applicant information**

PM-10 Emissions (Assume all natural gas PM emissions are PM-10)

Emissions Factor:	7.60E+00	lbs/MMSCF	(AP-42 Table 1.4-2, 07/98)		
Calculations:	7.6 lbs/MMSCF * 0.002 MMscf/hr =			0.015	lbs/hr
	0.0152 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			0.07	tons/yr

NOx Emissions

Emissions Factor:	1.00E+02	lbs/MMSCF	(AP-42 Table 1.4-1, 07/98)		
Calculations:	100 lbs/MMSCF * 0.002 MMscf/hr =			0.200	lbs/hr
	0.2 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			0.88	tons/yr

VOC Emissions

Emissions Factor:	5.50E+00	lbs/MMSCF	(AP-42 Table 1.4-2, 07/98)		
Calculations:	5.5 lbs/MMSCF * 0.002 MMscf/hr =			0.011	lbs/hr
	0.011 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			0.05	tons/yr

CO Emissions

Emissions Factor:	8.40E+01	lbs/MMSCF	(AP-42 Table 1.4-1, 07/98)		
Calculations:	84 lbs/MMSCF * 0.002 MMscf/hr =			0.168	lbs/hr
	0.168 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			0.74	tons/yr

SOx Emissions

Emissions Factor:	6.00E-01	lbs/MMSCF	(AP-42 Table 1.4-2, 07/98)		
Calculations:	0.6 lbs/MMSCF * 0.002 MMscf/hr =			0.001	lbs/hr
	0.0012 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			0.01	tons/yr

HAP Emissions from Crematorium

HAP	TPY
Bromoform	9.53E-06
Carbon Tetrachloride	1.89E-05
Chloroform	1.79E-05
1,2-Dichloropropane	4.34E-04
Ethyl Benzene	5.29E-04
Naphthalene	3.81E-03
Tetrachloroethylene	1.32E-05
1,1,2,2-Tetrachloroethane	3.61E-05
Toluene	1.52E-03
Vinylidine Chloride	2.33E-05
Xylene	7.23E-04
Total HAP Potential Emissions	**7.13E-03**

HAP Emission Inventory: Crematorium (Montana DEQ Policy)

Maximum Design Capacity: 657 tons/yr

Bromoform

Emission Factor: 2.90E-05 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.000029 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 9.53E-06 tons/yr

Carbon Tetrachloride

Emission Factor: 5.74E-05 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.0000574 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 1.89E-05 tons/yr

Chloroform

Emission Factor: 5.45E-05 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.0000545 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 1.79E-05 tons/yr

1,2-Dichloropropane

Emission Factor: 1.32E-03 lbs/ton (AFSSCC 1-02-009-01)
Calculations: 0.00132 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 4.34E-04 tons/yr

Ethyl Benzene

Emission Factor: 1.61E-03 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.00161 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 5.29E-04 tons/yr

Naphthalene

Emission Factor: 1.16E-02 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.0116 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 3.81E-03 tons/yr

Tetrachloroethylene

Emission Factor: 4.03E-05 lbs/ton (AFSSCC 1-02-009-01)
Calculations: 0.0000403 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 1.32E-05 tons/yr

1,1,2,2-Tetrachloroethane

Emission Factor: 1.10E-04 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.00011 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 3.61E-05 tons/yr

Toluene

Emission Factor: 4.62E-03 lbs/ton (AFSSCC 5-02-005-05)
Calculations: 0.00462 lbs/ton * 657 tons/yr * 0.0005 tons/lb = 1.52E-03 tons/yr

Vinylidine Chloride

Emission Factor:	7.10E-05	lbs/ton	(AFSSCC 5-02-005-05)		
Calculations:	0.000071 lbs/ton * 657 tons/yr * 0.0005 tons/lb =			2.33E-05	tons/yr

Xylene

Emission Factor:	2.20E-03	lbs/ton	(AFSSCC 5-02-005-05)		
Calculations:	0.0022 lbs/ton * 657 tons/yr * 0.0005 tons/lb =			7.23E-04	tons/yr

HAP Emissions from Natural Gas Combustion

HAP	tons/yr
2-Methylnaphthalene	**2.10E-07**
3-Methylchloranthrene	**1.58E-08**
7,12-Dimethylbenz(a)anthracene	**1.40E-07**
Acenaphthene	**1.58E-08**
Acenaphthylene	**1.58E-08**
Anthracene	**2.10E-08**
Benzene	**1.84E-05**
Benz(a)anthracene	**1.58E-08**
Benzo(a)pyrene	**1.05E-08**
Benzo(b)fluoranthene	**1.58E-08**
Benzo(k)fluoranthene	**1.58E-08**
Benzo(g,h,i)perylene	**1.05E-08**
Chrysene	**1.58E-08**
Dibenzo(a,h)anthracene	**1.05E-08**
Dichlorobenzene	**1.05E-05**
Fluoranthene	**2.63E-08**
Fluorene	**2.45E-08**
Formaldehyde	**6.57E-04**
Hexane	**1.58E-02**
Indeno(1,2,3,c,d)pyrene	**1.58E-08**
Naphthalene	**5.34E-06**
Phenanthrene	**1.49E-07**
Pyrene	**4.38E-08**
Toluene	**2.98E-05**
Arsenic	**1.75E-06**
Beryllium	**1.05E-07**
Cadmium	**9.64E-06**
Chromium, total	**1.23E-05**
Cobalt	**7.36E-07**
Manganese	**3.33E-06**
Mercury	**2.28E-06**
Nickel	**1.84E-05**
Selenium	**2.10E-07**
Total	**1.65E-02**

HAP Emission Inventory

Natural Gas Combustion

Hours of Operation	8760	hrs/yr			
Maximum Rated Design Capacity	0.0020	MMscf/hr			
2-Methylnaphthalene					
Emission Factor	2.40E-05	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.000024 lbs/MMscf * 0.002 MMscf/hr =			4.80E-08	lbs/hr
	0.000000048 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**2.10E-07**	TPY
3-Methylchloranthrene					
Emission Factor	1.80E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =			3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.58E-08**	TPY
7,12-Dimethylbenz(a)anthracene					
Emission Factor	1.60E-05	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.000016 lbs/MMscf * 0.002 MMscf/hr =			3.20E-08	lbs/hr
	0.000000032 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.40E-07**	TPY
Acenaphthene					
Emission Factor	1.80E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =			3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.58E-08**	TPY
Acenaphthylene					
Emission Factor	1.80E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =			3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.58E-08**	TPY
Anthracene					
Emission Factor	2.40E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0000024 lbs/MMscf * 0.002 MMscf/hr =			4.80E-09	lbs/hr
	0.0000000048 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**2.10E-08**	TPY
Benzene					
Emission Factor	2.10E-03	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0021 lbs/MMscf * 0.002 MMscf/hr =			4.20E-06	lbs/hr
	0.0000042 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.84E-05**	TPY
Benz(a)anthracene					
Emission Factor	1.80E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =			3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.58E-08**	TPY
Benzo(a)pyrene					
Emission Factor	1.20E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)		
Calculations	0.0000012 lbs/MMscf * 0.002 MMscf/hr =			2.40E-09	lbs/hr
	0.0000000024 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =			**1.05E-08**	TPY

Benzo(b)fluoranthene				
Emission Factor	1.80E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =		3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.58E-08**	TPY
Benzo(k)fluoranthene				
Emission Factor	1.80E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =		3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.58E-08**	TPY
Benzo(g,h,i)perylene				
Emission Factor	1.20E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0000012 lbs/MMscf * 0.002 MMscf/hr =		2.40E-09	lbs/hr
	0.0000000024 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.05E-08**	TPY
Chrysene				
Emission Factor	1.80E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =		3.60E-09	lbs/hr
	0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.58E-08**	TPY
Dibenzo(a,h)anthracene				
Emission Factor	1.20E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0000012 lbs/MMscf * 0.002 MMscf/hr =		2.40E-09	lbs/hr
	0.0000000024 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.05E-08**	TPY
Dichlorobenzene				
Emission Factor	1.20E-03 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0012 lbs/MMscf * 0.002 MMscf/hr =		2.40E-06	lbs/hr
	0.0000024 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.05E-05**	TPY
Fluoranthene				
Emission Factor	3.00E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.000003 lbs/MMscf * 0.002 MMscf/hr =		6.00E-09	lbs/hr
	0.000000006 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**2.63E-08**	TPY
Fluorene				
Emission Factor	2.80E-06 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.0000028 lbs/MMscf * 0.002 MMscf/hr =		5.60E-09	lbs/hr
	0.0000000056 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**2.45E-08**	TPY
Formaldehyde				
Emission Factor	7.50E-02 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	0.075 lbs/MMscf * 0.002 MMscf/hr =		1.50E-04	lbs/hr
	0.00015 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**6.57E-04**	TPY
Hexane				
Emission Factor	1.80E+00 lbs/MMscf (AP42, Table 1.4-3, 7/98)			
Calculations	1.8 lbs/MMscf * 0.002 MMscf/hr =		3.60E-03	lbs/hr
	0.0036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.58E-02**	TPY

Indeno(1,2,3,c,d)pyrene					
	Emission Factor	1.80E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)	
	Calculations	0.0000018 lbs/MMscf * 0.002 MMscf/hr =		3.60E-09	lbs/hr
		0.0000000036 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.58E-08**	TPY
Naphthalene					
	Emission Factor	6.10E-04	lbs/MMscf	(AP42, Table 1.4-3, 7/98)	
	Calculations	0.00061 lbs/MMscf * 0.002 MMscf/hr =		1.22E-06	lbs/hr
		0.00000122 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**5.34E-06**	TPY
Phenanthrene					
	Emission Factor	1.70E-05	lbs/MMscf	(AP42, Table 1.4-3, 7/98)	
	Calculations	0.000017 lbs/MMscf * 0.002 MMscf/hr =		3.40E-08	lbs/hr
		0.000000034 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.49E-07**	TPY
Pyrene					
	Emission Factor	5.00E-06	lbs/MMscf	(AP42, Table 1.4-3, 7/98)	
	Calculations	0.000005 lbs/MMscf * 0.002 MMscf/hr =		1.00E-08	lbs/hr
		0.00000001 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**4.38E-08**	TPY
Toluene					
	Emission Factor	3.40E-03	lbs/MMscf	(AP42, Table 1.4-3, 7/98)	
	Calculations	0.0034 lbs/MMscf * 0.002 MMscf/hr =		6.80E-06	lbs/hr
		0.0000068 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**2.98E-05**	TPY
Arsenic					
	Emission Factor	2.00E-04	lbs/MMscf	(AP42, Table 1.4-4, 7/98)	
	Calculations	0.0002 lbs/MMscf * 0.002 MMscf/hr =		4.00E-07	lbs/hr
		0.0000004 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.75E-06**	TPY
Beryllium					
	Emission Factor	1.20E-05	lbs/MMscf	(AP42, Table 1.4-4, 7/98)	
	Calculations	0.000012 lbs/MMscf * 0.002 MMscf/hr =		2.40E-08	lbs/hr
		0.000000024 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.05E-07**	TPY
Cadmium					
	Emission Factor	1.10E-03	lbs/MMscf	(AP42, Table 1.4-4, 7/98)	
	Calculations	0.0011 lbs/MMscf * 0.002 MMscf/hr =		2.20E-06	lbs/hr
		0.0000022 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**9.64E-06**	TPY
Chromium, total					
	Emission Factor	1.40E-03	lbs/MMscf	(AP42, Table 1.4-4, 7/98)	
	Calculations	0.0014 lbs/MMscf * 0.002 MMscf/hr =		2.80E-06	lbs/hr
		0.0000028 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**1.23E-05**	TPY
Cobalt					
	Emission Factor	8.40E-05	lbs/MMscf	(AP42, Table 1.4-4, 7/98)	
	Calculations	0.000084 lbs/MMscf * 0.002 MMscf/hr =		1.68E-07	lbs/hr
		0.000000168 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =		**7.36E-07**	TPY

Lead				
	Emission Factor	5.00E-04 lbs/MMscf (AP42, Table 1.4-2, 7/98)		
	Calculations	0.0005 lbs/MMscf * 0.002 MMscf/hr =	1.00E-06	lbs/hr
		0.000001 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =	**4.38E-06**	TPY
Manganese				
	Emission Factor	3.80E-04 lbs/MMscf (AP42, Table 1.4-4, 7/98)		
	Calculations	0.00038 lbs/MMscf * 0.002 MMscf/hr =	7.60E-07	lbs/hr
		0.00000076 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =	**3.33E-06**	TPY
Mercury				
	Emission Factor	2.60E-04 lbs/MMscf (AP42, Table 1.4-4, 7/98)		
	Calculations	0.00026 lbs/MMscf * 0.002 MMscf/hr =	5.20E-07	lbs/hr
		0.00000052 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =	**2.28E-06**	TPY
Nickel				
	Emission Factor	2.10E-03 lbs/MMscf (AP42, Table 1.4-4, 7/98)		
	Calculations	0.0021 lbs/MMscf * 0.002 MMscf/hr =	4.20E-06	lbs/hr
		0.0000042 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =	**1.84E-05**	TPY
Selenium				
	Emission Factor	2.40E-05 lbs/MMscf (AP42, Table 1.4-4, 7/98)		
	Calculations	0.000024 lbs/MMscf * 0.002 MMscf/hr =	4.80E-08	lbs/hr
		0.000000048 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb =	**2.10E-07**	TPY

V. Existing Air Quality

Duggan Dolan Mortuary is located at 1805 Meadowlark in Butte, Silver Bow County, Montana. The city of Butte and some of the immediate surrounding area is classified as nonattainment for the EPA-established National Ambient Air Quality Standards (NAAQS) for PM_{10}. A nonattainment classification means that an area does not meet one or more of the primary or secondary NAAQS for the criteria pollutants designated in the FCAA. Duggan Dolan Mortuary is a source of PM_{10} emissions; however, the Department concludes that the PTE quantity of this pollutant is low enough that it does not negatively impact the ambient air quality in Butte. The screening analysis performed during the MAQP process demonstrated that the facility complies with all applicable ambient air quality standards and poses a negligible risk to human health as required for permit issuance. Additionally, MAQP #4563-00 contains operating and monitoring requirements to ensure that proper operation of the facility would not result in air emissions that violate any ambient air quality standards.

VI. Air Quality Impacts

The Department conducted SCREEN3 Modeling, an EPA-approved screening model, using the indicated inputs obtained from the permit application and a HAP emission rate of 2.05E-04 gram per second (g/s), which is the sum of all the HAP emissions from the proposed crematorium. The individual one-hour results for each pollutant were then calculated by multiplying the modeled impact of 4.87E-02 $\mu g/m^3$ by the percentage of each individual HAP making up the total of the HAP emissions. The maximum 1-hour concentrations were then converted to an annual average and used in the risk assessment. This process was repeated for the risk assessment of the HAPs emitted from the combustion of natural gas. The combined HAP emission rate from natural gas combustion is 4.76E-04 g/s and the SCREEN3 modeled impact was 1.06E-01 µg/m3.

As shown by the Health Risk Assessment of the following Section VI, 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. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. 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, and 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 may be considered) are less than the levels specified in Table 1 or Table 2 of ARM 17.8.770.

Duggan Dolan Mortuary's proposed incinerator has a stack height of 18 feet, a stack exit temperature of 1220 °F, and a flow rate of 1775 actual cubic feet per minute (ACFM) with a 1.66 foot diameter stack. Ambient air modeling was accomplished using Screen3 software; an EPA approved ambient air modeling software used for conservative modeling. Ambient air impacts were modeled for the hazardous air pollutants identified in the potential to emit calculations of Section IV. The emission inventory did not contain sufficient quantities of any pollutant on the Department's list of pollutants for which non-inhalation impacts must be considered; therefore, the Department determined that inhalation risk was the only necessary pathway to consider. No pollutants exceeded the levels specified in Table 1 or Table 2 of ARM 17.8.770. The Screen 3 Modeling results are shown below:

Crematorium HAPs Emissions Modeling
*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***
SIMPLE TERRAIN INPUTS:
SOURCE TYPE = POINT
EMISSION RATE (Gram/Second) = 2.05E-04
STACK HEIGHT (Meters) = 5.49
STK INSIDE DIAM (Meters) = 0.51
STK EXIT VELOCITY (Meters/Second) = 4.14
STK GAS EXIT TEMP (Kelvin) = 933.16
AMBIENT AIR TEMP (Kelvin) = 293.0000
RECEPTOR HEIGHT (Meters) = 0.0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (Meters) = 0.0000
MIN HORIZ BLDG DIM (Meters) = 0.0000
MAX HORIZ BLDG DIM (Meters) = 0.0000
THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 5 Meters: 0.2478E-01 ug/m3 at 70 meters.

LPG HAPs Emissions Modeling
All input parameters remained the same except the emissions rate shown below:
EMISSION RATE (Gram/Second) = 4.76E-04
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 5 Meters: 1.06E-01ug/m3 at 72 meters.

RISK ASESSMENT

Although no pollutants for which emissions factors are established exceeded the levels specified in Table 1 or Table 2 of ARM 17.8.770, the Department conducted a full risk assessment. The Department determined that the calculated Cancer Risks demonstrate a negligible risk to human health and the environment. As documented in the table below and in accordance with the Department's negligible risk requirement, no single HAP concentration results in a Cancer Risk greater than 1.00E-06 and the sum of all Cancer Risks are less than 1.00E-05. Further, the sum of the Chronic Non-cancer Reference Exposure Level (CNCREL) hazard quotients is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

NEGLIGIBLE RISK ASSESSMENT(1)

HAP	Modeled HAP Concentration	Cancer URF(2) $(\mu g/m^3)^{-1}$	Cancer Risk(3)	CNCREL(6) $\mu g/m^3$	CNCREL Quotient(7)	Notes
Bromoform	5.20E-06 ug/m3	1.10E-06	5.72E-12	ND	NA	(AFSSCC 5-02-005-05)
Carbon Tetrachloride	1.03E-05 ug/m3	6.00E-06	6.18E-11	1.00E+02	1.03E-07	(AFSSCC 5-02-005-05)
Chloroform	9.77E-06 ug/m3	ND	ND	9.80E+01	9.97E-08	(AFSSCC 5-02-005-05)
1,2-Dichloropropane(4)	2.37E-04 ug/m3	1.90E-05	4.50E-09	4.00E+00	5.92E-05	(AFSSCC 5-02-005-05)
Ethyl Benzene	2.89E-04 ug/m3	2.50E-06	ND	1.00E+03	2.89E-07	(AFSSCC 5-02-005-05)
Naphthalene	2.08E-03 ug/m3	3.40E-05	7.08E-08	3.00E+00	6.95E-04	(AFSSCC 5-02-005-05)
Tetrachloroethylene(5)	7.23E-06 ug/m3	5.90E-06	4.26E-11	2.70E+02	2.68E-08	(AFSSCC 5-02-005-05)
1,1,2,2-Tetrachloroethane	1.97E-05 ug/m3	5.80E-05	1.14E-09	ND	NA	(AFSSCC 5-02-005-05)
Toluene	8.28E-04 ug/m3	ND	ND	5.00E+03	1.66E-07	(AFSSCC 5-02-005-05)
Vinylidine Chloride	1.27E-05 ug/m3	ND	ND	2.00E+02	6.37E-08	(AFSSCC 5-02-005-05)
Xylene	3.95E-04 ug/m3	ND	ND	1.00E+02	3.95E-06	(AFSSCC 5-02-005-05)
2-Methylnaphthalene	1.35E-07 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
3-Methylchloranthrene	1.01E-08 ug/m3	0.0063	6.39E-11	ND	ND	(AP42, Table 1.4-3, 7/98)
12-Dimethylbenz(a)anthracene	9.01E-08 ug/m3	0.071	6.40E-09	ND	ND	(AP42, Table 1.4-3, 7/98)
Acenaphthene	1.01E-08 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Acenaphthylene	1.01E-08 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Anthracene	1.35E-08 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Benzene	1.18E-05 ug/m3	0.0000078	9.23E-11	3.00E+01	3.944E-07	(AP42, Table 1.4-3, 7/98)
Benzo(a)anthracene	1.01E-08 ug/m3	0.00011	1.12E-12	ND	ND	(AP42, Table 1.4-3, 7/98)
Benzo(a)pyrene	6.76E-09 ug/m3	0.0011	7.44E-12	ND	ND	(AP42, Table 1.4-3, 7/98)
Benzo(b)fluoranthene	1.01E-08 ug/m3	0.00011	1.12E-12	ND	ND	(AP42, Table 1.4-3, 7/98)
Benzo(k)fluoranthene	1.01E-08 ug/m3	0.00011	1.12E-12	ND	ND	(AP42, Table 1.4-3, 7/98)
Benzo(g,h,i)perylene	6.76E-09 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Chrysene	1.01E-08 ug/m3	0.000011	1.12E-13	ND	ND	(AP42, Table 1.4-3, 7/98)
Dibenz(a,h)anthracene	6.76E-09 ug/m3	0.0012	8.11E-12	ND	ND	(AP42, Table 1.4-3, 7/98)
1,4-Dichlorobenzene(p)	6.76E-06 ug/m3	0.000011	7.44E-11	8.00E+02	8.451E-09	(AP42, Table 1.4-3, 7/98)
Fluoranthene	1.69E-08 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Fluorene	1.58E-08 ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Formaldehyde	4.23E-04 ug/m3	5.50E-09	2.32E-12	9.80E+00	4.312E-05	(AP42, Table 1.4-3, 7/98)

Hexane	1.01E-02	ug/m3	ND	ND	7.00E+02	1.449E-05	(AP42, Table 1.4-3, 7/98)
Indeno(1,2,3,c,d)pyrene	1.01E-08	ug/m3	0.00011	1.12E-12	ND	ND	(AP42, Table 1.4-3, 7/98)
Naphthalene	3.44E-06	ug/m3	0	0.00E+00		ND	included in crematorium portion
Phenanthrene	9.58E-08	ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Pyrene	2.82E-08	ug/m3	ND	ND	ND	ND	(AP42, Table 1.4-3, 7/98)
Toluene	1.92E-05	ug/m3	ND	ND	5.00E+03	3.831E-09	(AP42, Table 1.4-3, 7/98)
Arsenic	1.13E-06	ug/m3	0.0043	4.85E-09	3.00E-02	3.756E-05	(AP42, Table 1.4-4, 7/98)
Beryllium	6.76E-08	ug/m3	0.0024	1.62E-10	2.00E-02	3.381E-06	(AP42, Table 1.4-4, 7/98)
Cadmium	6.20E-06	ug/m3	0.0018	1.12E-08	2.00E-02	0.0003099	(AP42, Table 1.4-4, 7/98)
Cobalt	4.73E-07	ug/m3	ND	ND	1.00E-04	0.0047327	(AP42, Table 1.4-4, 7/98)
Total Chromium	7.89E-06	Ug/m3	0.012	9.47E-08	1.08E-01	7.304E-05	(AP42, Table 1.4-4, 7/98) incl Chromium III & IV
Lead	2.82E-06	ug/m3	ND	ND	1.50E+00	1.878E-06	(AP42, Table 1.4-2, 7/98)
Manganese	2.14E-06	ug/m3	ND	ND	5.00E-02	4.282E-05	(AP42, Table 1.4-4, 7/98)
Mercury	1.46E-06	ug/m3	ND	ND	3.00E-01	4.883E-06	(AP42, Table 1.4-4, 7/98)
Nickel	1.18E-05	ug/m3	ND	ND	9.00E-02	0.0001315	(AP42, Table 1.4-4, 7/98)
Selenium	1.35E-07	ug/m3	ND	ND	2.00E+01	6.761E-09	(AP42, Table 1.4-4, 7/98)
TOTAL RISK				1.94E-07		6.15E-03	

(1) Source of chronic dose-response values is from Table 1: Prioritized Chronic Dose-Response Values for Screening Risk Assessments (4/27/2010), from www.epa.gov/ttn/atw/toxsource/table1.pdf.
(2) Cancer Chronic Inhalation Unit Risk Factor, units $1/\mu g/m^3$
(3) Cancer Risk is unitless and is calculated by multiplying the predicted concentration by the URF.
(4) AKA Propylene dichloride
(5) AKA Tetrachloroethene, perchloroethylene.
(6) Chronic Noncancer Reference Exposure Level
(7) CNCREL Quotient Value is calculated by dividing the modeled HAP concentration by the CNCREL.

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
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Duggan Merrill Dolan Mortuary, Inc.
P.O. Box 765
Butte, MT 59701

Montana Air Quality Permit Number: 4563-00

Preliminary Determination Issued: July 21, 2010
Department Decision Issued:
Permit Final:

1. *Legal Description of Site*: The Duggan Dolan Mortuary is located in Section 31, Township 03 North, Range 07 West, Silver Bow County, Montana

2. *Description of Project:* Duggan Dolan Mortuary proposes to operate a 2010 B & L Matthews Creation, IE-43 (Power Pak 11) multiple chamber human cremation unit with a maximum incineration capacity of 150 lb/hr, and associated equipment. The crematory is fired on natural gas. Material (human remains) is loaded into the primary chamber. The after burner ignites and heats the secondary chamber to the required temperature. The secondary chamber minimum temperature of 1500 ˚F, with no single reading less than 1400 °F, is maintained by a process controller that automatically modulates the gas flow to the afterburner. After the secondary chamber has been heated sufficiently, the cremator burner ignites and the cremation process is initiated.

   Initial and supplementary combustion is provided by two natural gas-fired burners, one in the primary chamber and one in the secondary chamber, with a total maximum rated design capacity of 2,000 scf/hr.

3. *Objectives of Project*: The objective of the project is to generate revenue and provide a safe means of disposal of human remains.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Duggan Dolan Mortuary demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #4563-00.

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. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

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 from the proposed project would affect terrestrial and aquatic life and habitats in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted.

Further, the proposed crematorium would require only a limited amount of construction and would operate within a building located in an area zoned as commercial and currently used as a church/mortuary. Overall, any impact to the terrestrial and aquatic life and habitats of the proposed project area would be minor.

B. Water Quality, Quantity and Distribution

The project would not be expected to affect water quantity or distribution in the project area. The crematorium operates within a building and does not discharge or use water during operation.

Emissions from the project may affect water quality in the project area due to air pollutant deposition. However, any emissions and resulting deposition impacts from the project would be very minor due to the low concentration of those pollutants emitted.

C. Geology and Soil Quality, Stability and Moisture

The project would not be expected to affect the geology, stability, and moisture of the project area. The proposed crematorium would require only a limited amount of construction and would operate within a building located in an area zoned as commercial and currently used as a church/mortuary.

Proper crematorium operation would result in minor air pollution emissions to the ambient environment. These pollutants would deposit on the soils in the surrounding area. However, any impact from deposition of these pollutants would be very minor due to dispersion characteristics and the low concentration of those pollutants emitted.

D. Vegetation Cover, Quantity, and Quality

Air emissions from the project may affect vegetation cover, quantity, and quality in the project area. However, any emissions and resulting impacts from the project would be minor due to the dispersion characteristics and the low concentration of those pollutants emitted.

Further, the crematorium operates within an existing building. Overall, any impact to the vegetation cover, quantity, and quality of the proposed project area would be minor.

E. Aesthetics

The project would result in a minor impact to the aesthetic nature of the project area. The crematorium would operate within a building. Further, visible emissions from the source would be limited to 10% opacity. Therefore, the project would result in only a minor impact to aesthetics of the area.

F. Air Quality

The project would result in the emissions of various criteria pollutants and HAPs to the ambient air in the project area. However, it has been demonstrated by air dispersion modeling that any air quality impacts from the project would be minor and would constitute negligible risk to human health and the environment.

The Department conducted air dispersion modeling to determine the ambient air quality impacts from HAPs that would be generated by the crematorium. The SCREEN3 model was selected for the air dispersion modeling. The full meteorology option was selected to provide a conservative result. Receptors were placed from 5 to 50,000 meters in a simple terrain array.

Stack parameters and emission rates used in the SCREEN3 model are contained in Section V of the permit analysis and are on file with the Department. Stack velocity and gas temperature were taken from data provided by the manufacturer of the crematorium. Due to the dispersion characteristics and low levels of pollutants that would be emitted from the proposed project the Department determined that any impacts to air quality would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The current permit action could result in minor impacts to any existing unique endangered, fragile, or limited environmental resource in the proposed area of operation. However, the proposed crematorium would require only a limited amount of construction and would operate within a building located in an area zoned as commercial thereby limiting the potential for impact to any unique endangered, fragile, or limited environmental resource in the proposed location.

Further, emissions from the proposed project could impact any existing unique endangered, fragile, or limited environmental resource located in the proposed project area. However, as detailed in Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted. Overall, any impact to this unique endangered, fragile, or limited environmental resource of the proposed project area would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed project would result in minor demands on environmental resources of water and air as discussed in Section 7.B and 7.F, respectively, of this EA. Further, as detailed in Section V and Section VI of the permit analysis, project impacts on air resources in the proposed project area would be minor due to dispersion characteristics and the low concentration of those pollutants emitted. Finally, because the project is small by industrial standards, little energy would be required for operation and the resulting impact on energy resources would be minor.

I. Historical and Archaeological Sites

The proposed project would not result in any impacts to historical and archaeological sites in the proposed project area because the crematorium would require only a limited amount of construction and would operate within a building located in an area zoned as commercial and currently used for such purposes. According to correspondence from the Montana State Historic Preservation Office, there is low likelihood of adverse disturbance to any known archaeological or historic site, given previous industrial disturbance within a given area. Therefore, the operation would have no effect on any known historic or archaeological site.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the environment in the immediate area would be minor. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as outlined in Permit #4563-00.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores			X			Yes
B	Cultural Uniqueness and Diversity			X			Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production				X		Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes

J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals					X	Yes
L	Cumulative and Secondary Impacts			X			Yes

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

A. Social Structures and Mores

The proposed project is to install a 150 lb/hr cremation incinerator for human remains at an existing place of business. The incinerator's emissions would be extremely low on an industrial scale and opacity limitations of MAQP #4563-00 would require 10% or less opacity while operating. Any change to social structures or mores would be minor, if any.

B. Cultural Uniqueness and Diversity

The proposed project would not cause a change in the cultural uniqueness and diversity of the area because the incinerator is proposed to be installed in an existing business; therefore, the land use would not be changing.

C. Local and State Tax Base and Tax Revenue

The proposed project may provide additional revenue for Duggan Dolan Mortuary However, no need for additional employees would be expected as a result of this project. Therefore, little, if any impacts to the local and state tax base and tax revenue are anticipated from this project.

D. Agricultural or Industrial Production

The proposed project would not result in a reduction of available acreage of any agricultural land. Furthermore, the potential-to-emit of the proposed project is extremely small. Based on the small amount of emissions and the dispersion of those emissions, no discernable amount of impact would be expected to agricultural or industrial production in the area.

E. Human Health

As described in Section VI of the Permit Analysis, modeling and analysis of hazardous air pollutants showed negligible risk to human health. Furthermore, the potential-to-emit of conventional pollutants would be extremely small. Impacts to human health would be minor, if any discernable amount at all.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project is to install the incinerator at an existing place of business. No change to access of recreational and wilderness activities would be expected. Permit conditions would require opacity of the emissions to be 10% or less while operating. The potential-to-emit of the proposed incinerator would be very small. Therefore, minor, if any impact to the quality of recreational and wilderness activities would be expected as a result of this project.

G. Quantity and Distribution of Employment

No need for a change in the number of employees would be expected as a result of this project. Therefore, no impacts to the quantity and distribution of employment would be expected.

H. Distribution of Population

No need for a change in the number of employees would be expected and no other factors affecting distribution of population would be expected to be present as a result of this project. The project proposes to install the incinerator in an existing place of business. Furthermore, opacity limitations in the permit would require a 10% or less opacity of emissions. Therefore, no impacts to the distribution of population would be expected.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel. Overall, demands for government services would be minor.

J. Industrial and Commercial Activity

The proposed project would result in only a minor impact on local industrial and commercial activity because the crematorium would require only a limited amount of new construction, would operate within a building located in an area zoned as commercial and currently used for such purposes, and would not result in additional industrial production. Overall, any impacts to industrial and commercial activity in the proposed area of operation would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals this project may impact. The state standards would be protective of the proposed project area.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social environment in the immediate area due to the relatively small size of the operation. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #4563-00.

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

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a crematorium (incinerator). MAQP #4563-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable 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

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

EA prepared by: Deanne Fischer
Date: 07/13/2010