November 14, 2019

Jayson Emmett
Stillwater Packing Company
42 Hersrud Road
Columbus, Montana 59019

Dear Mr. Emmett:

Montana Air Quality Permit #5235-00 is deemed final as of November 14, 2019, by the Department of Environmental Quality (Department). This permit is for an animal waste incinerator. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

Conditions: See attached.

For the Department,

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

Ed Warner
Lead Engineer – Permitting Services Section
Air Quality Bureau
(406) 444-2467

JM:EW
Enclosure

Montana Department of Environmental Quality
Air, Energy & Mining Division

Montana Air Quality Permit #5235-00

Stillwater Packing Company
42 Hersrud Road
Columbus, Montana 59019

November 14, 2019

MONTANA AIR QUALITY PERMIT

Issued To:
Stillwater Packing Company
42 Hersrud Road
Columbus, MT 59019

MAQP: #5235-00
Application Complete: 8/26/2019
Preliminary Determination Issued: 9/23/2019
Department's Decision Issued: 10/29/2019
Permit Final: 11/14/2019

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Stillwater Packing Company (SPC), 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

SPC proposes to install and operate an incinerator to eliminate offal generated from meat packing operations. The incinerator would be a multi-chamber design utilizing an afterburner in the secondary chamber to further combust components entrained in the exhaust gases during primary combustion.

B. Plant Location

The SPC facility is located in the SE¼ SE¼ Section 8, Township 2 South, Range 20 East, in Stillwater County. The coordinates are 45.668516, -109.276620.

Section II: Conditions and Limitations

A. Operational Requirements

1. SPC shall not incinerate any material other than animal remains and any corresponding animal remains container, unless otherwise approved by the Department of Environmental Quality (Department). SPC shall provide written notice to the Department and obtain approval from the Department if material other than what would normally be termed animal remains and/or animal remains container is to be incinerated (ARM 17.8.749).

2. The incinerator shall be equipped with auxiliary fuel burners. The auxiliary fuel burners shall be used to preheat the secondary chamber of the incinerator to the minimum required operating temperature prior to loading waste in the primary chamber. The operating temperatures shall be maintained during operation and for one-half hour after waste feed has stopped.

   The secondary chamber operating temperature of the incinerator shall be maintained above 1600°F for any one-hour averaging period (ARM 17.8.752).

3. SPC shall develop incinerator operation procedures, document those procedures in an operation procedures manual and require all personnel who operate the incinerator to familiarize themselves with the operating procedures. A copy of this manual shall be supplied to the Department upon request (ARM 17.8.749).

4. SPC shall not cause or authorize to be discharged to the atmosphere any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (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).

6. SPC shall not incinerate offal in the incinerator for more than 12 hours during any day and no for more than 5 days during any consecutive 7-day period (ARM 17.8.749).

B. Testing Requirements

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

2. The Department may require testing (ARM 17.8.105).

C. Monitoring Requirements

1. SPC shall install, calibrate, maintain, and operate continuous monitoring and recording equipment, or use another measurement/recording system as may be approved by the Department, on the incinerator to measure the secondary chamber exit gas temperature (ARM 17.8.749).

2. SPC shall record the daily hours of operation of the incinerator while incinerating offal (ARM 17.8.749).

D. Operation Reporting Requirements

1. SPC 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 (ARM 17.8.505).

2. SPC shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a 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 or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up 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(1)(d) (ARM 17.8.745).

3. All records compiled in accordance with this permit must be maintained by SPC 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).

4. SPC shall document, by day, the hours of operation of the incinerator. After each day of operation, SPC shall total the days of operation of the incinerator for the previous 7 days. This information will be used to demonstrate compliance with the hourly and successive days of operation limitations in Section II.A.6. This log of operating hours shall be submitted to the Department upon request (ARM 17.8.749).

E. Notification

SPC shall notify the Department in writing of the date of commencement of operation of the incinerator within 15 days of commencement of operation.

Section III: General Conditions

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

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

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving SPC 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 SPC 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 must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Stillwater Packing Company
MAQP #5235-00

I. Introduction/Process Description

Stillwater Packing Company (SPC) owns and operates a slaughter and meat packing facility. SPC proposes to install and operate an animal incinerator to eliminate animal wastes (offal). The SPC facility is located at 42 Hersrud Road, Columbus, Montana, 59019. The legal description of the site is in the SE¼ SE¼ Section 8, Township 2 South, Range 20 East, in Stillwater County. The coordinates are 45.668516, -109.276620.

A. Permitted Equipment

SPC proposes to operate an incinerator to process and eliminate offal generated from the meat packing process. The incinerator incorporates primary and secondary combustion chambers which are fueled by propane gas.

B. Source Description

The unit is a Hurikan 500 incinerator which is designed for managing the disposal of animal carcasses and slaughterhouse waste. This incinerator has a maximum incineration capacity of 500 kilograms per hour (1,102 pounds per hour (lb/hr)). The combined heat input capacity for the primary and secondary chamber burners is 1.769 million British thermal units per hour (MMBtu/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. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

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

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

SPC 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

SPC must maintain compliance with the applicable ambient air quality standards. As part of the risk assessment required for this project, the Department conducted AERMOD modeling, an EPA-approved air dispersion model. This analysis demonstrated that the proposed project would pose no more than a negligible risk to human health from hazardous air pollutant (HAP) emissions when complying with permit limitations on daily hours and successive days of operation.

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.

   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 (PM).

2. 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.

3. 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.

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

   SPC has applied for an MAQP pursuant to MCA 75-2-215 and ARM 17.8.770. MAQP #5235-00 requires a secondary chamber equipped with auxiliary burners and minimum temperature requirements in that secondary chamber. The MAQP also requires that visible emissions not exceed 10% over any 6 consecutive minutes. Under this operating scenario, emissions performance is expected to be less 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.

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

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

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

   a. 40 CFR 60 Subpart 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. SPC is not an affected facility under this subpart.

b. 40 CFR 60 Subpart Ea and Eb – Standards of Performance for Municipal Waste Combustors

SPC is permitted for use as an animal waste incinerator only. Therefore, the incinerator 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/Infectious Waste Incinerators

This subpart does not apply to the incineration of remains. SPC is permitted for use as an animal waste incinerator 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.

SPC is permitted for use as an animal waste incinerator only. Therefore, the incinerator 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.

SPC is permitted for use as an animal waste (pathological waste as defined in this regulation) incinerator only. Therefore, the incinerator 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. SPC is permitted for use as an animal waste (pathological waste as defined in this regulation) incinerator only and therefore is not an affected facility under this subpart.

8. 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.

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. SPC is permitted for use as an animal waste incinerator only. Therefore, it does not meet the definition of a hazardous waste combustor and is not an affected facility under this subpart.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. SPC 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 (TPY) of any pollutant. SPC 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 SPC 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. SPC 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. SPC submitted an affidavit of publication of public notice for the August 29, 2019 issue of the *Stillwater County News*, a newspaper of

general circulation in the Town of Columbus in Stillwater County, as proof of compliance with the public notice requirement.

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 SPC 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 since this facility is not a listed source and the facility's PTE is below 250 TPY of any pollutant (excluding fugitive emissions).

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

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

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

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

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

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #5235-00 for SPC, the following conclusions were made:

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

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

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

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

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

f. This source is not a Title IV affected source, 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 SPC is a minor source of emissions as defined under Title V.

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

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

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

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

1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators; therefore, SPC 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 Department determined that the information submitted in this application is sufficient to fulfill 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 proposal. Based on the results of the emission inventory, modeling, and the health risk assessment, the Department determined that SPC's proposal 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 proposed incinerator constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or modified source of emissions. SPC shall install on the new or modified source the maximum air pollution control capability that 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 animal waste incinerator operations is not commonly found to represent BACT as the additional cost is not warranted compared to the amount of emissions created.

Control of most 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 this animal waste incinerator, 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, NO_X, and SO_2 compared to other fuels.

A properly designed multichamber incinerator 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.

SPC has proposed an incinerator with a design capable of achieving these BACT concepts. The Department concurs it represents BACT for this source category with controls and control costs comparable to other recently permitted similar sources capable of achieving the appropriate emission standards.

IV. Emission Inventory

An emission inventory was completed for SPC. This emission inventory for criteria pollutants for the incinerator was based on emission factors from EPA AP-42 Compilation of Air Emission Factors Chapter 2.3 for medical waste incineration, as per Department policy. The application indicated that the fuel used would be propane gas; therefore, the Department also used emission factors from AP-42, Section 1.5, Liquified Petroleum Gas Combustion, to estimate project-specific emissions from the combustion of propane gas.

Further, because the incinerator is also subject to the requirements of MCA 75-2-215, the Department developed a HAP emission inventory using emission factors derived from human crematorium emissions testing. In accordance with the requirements of MCA 75-2-215, estimated HAP emissions from the incinerator will be used to demonstrate project compliance with negligible risk to human health and the environment. The Department considered only those HAPs for which an emission factor was available and that have been analyzed for other permitted similar sources. A detailed analysis and the results of the demonstration are contained here and in Section VI of the permit analysis.

EMISSION CALCULATIONS FOR CREMATORY				
Basis:			Constants:	
Maximum Propane Gas Firing Rate (10^3 gal/hr)	0.0193	<--- Include both primary and secondary chamber gas firing rates	Propane Heating Value (BTU/ft^3)	1020
Maximum Annual Bodies Cremated (body/yr)	22985		Average Body Weight (lbs)	150
Maximum Hourly Burn Rate (lb/hr)	1102		For EF conversion	
Annual Cremating Hours (hr/yr)	3129	12 hrs/day, 5 days/wk		

Propane Gas Combustion Emissions

Notes:

1. Emission factors from AP-42 for uncontrolled propane
gas combustion.
AP-42 Chapter 1.5 (Tables 1.5-1)
sulfur in propane national standard 0.54 gr/100 ft^3

PTE from Propane Gas Combustion			
		Annual	Annual

Pollutant	Emission Factor (lb/10^3 gal)	(lb/yr)	(Ton/yr)
PM10 & PM2.5 (including condensable)	0.7	42.27	0.02
NOx	13	784.96	0.39
CO	7.5	452.86	0.23
SO2	0.054	3.26	0.00
VOC	1	60.38	0.03

Cremation Emissions

Notes:

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

PTE from Cremation of Body (including case wrappings)			
Pollutant	Emission Factor (lb/150 lb body)	Annual (lb/yr)	Annual (Ton/yr)
PM10 &PM2.5 (including condensable)	8.50E-02	1953.69	0.98
NOx	2.57E-01	5907.03	2.95
CO	2.21E-01	5079.59	2.54
SO2	1.63E-01	3746.49	1.87
VOC	2.24E-01	5148.54	2.57

Toxic Emissions from Incinerator (including fuel)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf propane from AP-42 where not tested/reported in incinerator emissions)	CAS #	lb/yr	Fraction of all HAPS
Heavy Metals				
Antimony (less than)	1.51E-05	7440360	3.47E-01	0.0204%
Arsenic (less than)	1.50E-05	7440382	3.45E-01	0.0203%

Toxic Emissions from Incinerator (including fuel)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf propane from AP-42 where not tested/reported in incinerator emissions)	CAS #	lb/yr	Fraction of all HAPS
Beryllium	1.37E-06	7440417	3.15E-02	0.0019%
Cadmium	1.10E-05	7440439	2.53E-01	0.0149%
Chromium	2.99E-05	7440473	0.687238686	0.0405%
Chromium, hx	1.35E-05	18540299	0.310291714	0.0183%
Cobalt (less than)	8.75E-07	7440484	2.01E-02	0.0012%
Lead	6.62E-05	7439921	1.52E+00	0.0897%
Nickel	3.82E-05	7440020	8.78E-01	0.0517%
Selenium	4.36E-05	7782492	1.00E+00	0.0590%
Zinc	3.53E-04	7440666	8.11E+00	0.4781%
Polycyclic Organic Matter (POM)				
2-methylnaphthalene	2.40E-05	91576	1.30E-04	0.0000%
3-methylchloranthrene (less than)	9.00E-07	56495	4.87E-06	0.0000%
7,12 Dimethylbenz(a)anthracene	1.60E-05		8.67E-05	0.0000%
Anthracene (less than)	1.20E-06	120127	6.50E-06	0.0000%
Benzene	2.10E-03	71432	1.14E-02	0.0007%
Dichlorobenzene	1.20E-03	25321226	6.50E-03	0.0004%
Hexane	1.80E+00	110543	9.75E+00	0.5745%
Napthalene	6.10E-04	91203	3.30E-03	0.0002%
Phenanathrene	1.70E-05	85018	9.21E-05	0.0000%
Toluene	3.40E-03	108883	1.84E-02	0.0011%
Acenaphthene	1.11E-07	83329	2.55E-03	0.0002%
Acenaphthylene	1.22E-07	208968	2.80E-03	0.0002%
Benzo(a)anthracene (less than)	4.88E-09	56553	1.12E-04	0.0000%
Benzo(a)pyrene (less than)	1.46E-08	50328	3.34E-04	0.0000%
Benzo(b)fluoranthene (less than)	7.95E-09	205992	1.83E-04	0.0000%
Benzo(g,h,i)perylene (less than)	1.46E-08	191242	3.34E-04	0.0000%
Benzo(k)fluoranthene (less than)	7.10E-09	207089	1.63E-04	0.0000%
Chrysene (less than)	2.70E-08	218019	6.21E-04	0.0000%
Dibenzo(a,h)anthracene (less than)	6.35E-09	53703	1.46E-04	0.0000%
Fluorene	4.17E-07	86737	9.58E-03	0.0006%
Fluoranthene	2.05E-07	206440	4.71E-03	0.0003%
Indeno(1,2,3-cd)pyrene (less than)	7.70E-09	193395	1.77E-04	0.0000%
Phenanthrene	2.29E-06	85018	5.26E-02	0.0031%
Pyrene	1.62E-07	129000	3.72E-03	0.0002%
Dibenzofurans				
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	2.29E-09	67562394	5.25E-05	0.0000%
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)	1.39E-10	55673897	3.19E-06	0.0000%
1,2,3,4,7,8-Hexachlorodibenzofuran	9.53E-10	70648269	2.19E-05	0.0000%
1,2,3,6,7,8-Hexachlorodibenzofuran	8.52E-10	57117449	1.96E-05	0.0000%
1,2,3,7,8,9-Hexachlorodibenzofuran	1.67E-09	72918219	3.84E-05	0.0000%
2,3,4,6,7,8-Hexachlorodibenzofuran	3.44E-10	60851345	7.91E-06	0.0000%

Toxic Emissions from Incinerator (including fuel)				
HAP Category / Pollutant Name	Emission Factor (lb/150 lb body) - or - (lb/MMscf propane from AP-42 where not tested/reported in incinerator emissions)	CAS #	lb/yr	Fraction of all HAPS
1,2,3,7,8-Pentachlorodibenzofuran (less than)	1.47E-10	57117416	3.38E-06	0.0000%
2,3,4,7,8-Pentachlorodibenzofuran (less than)	4.43E-10	57117314	1.02E-05	0.0000%
2,3,7,8-Tetrachlorodibenzofuran	5.19E-10	51207319	1.19E-05	0.0000%
Listed Non-POM Organic HAPs				
Acetaldehyde	1.30E-04	75070	2.99E+00	0.1761%
Formaldehyde	3.40E-05	50000	7.81E-01	0.0460%
Listed Acids				
Hydrogen chloride	7.20E-02	7647010	1.65E+03	97.5067%
Hydrogen fluoride	6.60E-04	7664393	1.52E+01	0.8938%
Dioxins				
2,3,7,8-tetrachlorodibenzo-p-dioxin	7.94E-11	1746016	1.82E-06	0.0000%
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	3.79E-09	35822469	8.71E-05	0.0000%
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2.75E-10	39227286	6.32E-06	0.0000%
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	3.97E-10	57653857	9.12E-06	0.0000%
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	4.92E-10	19408743	1.13E-05	0.0000%
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2.33E-10	40321764	5.36E-06	0.0000%
		Totals =	1697.21	100.0000%
Note:		lb/hr=	0.54	
		g/s=	0.07	

V. Existing Air Quality

SPC is located in the SE¼ SE¼ Section 8, Township 2 South, Range 20 East, in Stillwater County. The coordinates are 45.668516, -109.276620. The physical address is 42 Hersrud Road, Columbus, Montana. This area is considered attainment/unclassifiable for all ambient air quality standards. The current permit action is not expected to have any negative effect on existing air quality because it is considered small by industrial standards.

VI. Ambient Air Impact Analysis

Potential emissions from the proposed facility are less than the Department's regulatory permitting threshold and impacts to ambient air quality from criterial pollutant emissions would be negligible.

As required by ARM 17.8.770, a human health risk analysis was conducted for the proposed incinerator. The EPA-approved ambient air modeling software AERMOD was used for estimates of ambient air impacts from HAP emissions. The AERMOD modeling estimated that the maximum combined HAP annual concentration would be 0.437 micrograms per cubic meter ($\mu g/m^3$).

Although not all pollutants were found to exceed the de minimis levels specified in Table 1 or Table 2 of ARM 17.8.770, the Department conducted a full risk assessment on the inhalation exposure pathway for those pollutants in which emissions factor data could be found.

Negligible Risk Assessment[1]:

HAP Category / Pollutant Name	CAS #	Fraction of all HAPS	Calculated HAP Concentration	ARM 17.8.770 De Minimis Levels			Cancer URF (2)	Cancer Risk (3)	CNCREL (4) (ug/m3)	CNCREL Quotient (5)
				Table 1 Cancer Annual	Table 2 Noncancer Chronic Annual	Table 2 Noncancer Acute Annual				
Heavy Metals										
Antimony (less than)	7440360	2.04E-04	8.94E-05	N/A	2.00E-03	N/A	N/A	N/A	N/A	N/A
Arsenic (less than)	7440382	2.03E-04	8.88E-05	2.33E-05	5.00E-03	N/A	0.0043	3.82E-07	0.015	5.92E-03
Beryllium	7440417	1.86E-05	8.11E-06	4.17E-05	N/A	N/A	0.0024	1.95E-08	0.02	4.05E-04
Cadmium	7440439	1.49E-04	6.51E-05	5.56E-05	N/A	N/A	0.0018	1.17E-07	0.01	6.51E-03
Chromium	7440473	4.05E-04	1.77E-04	8.33E-06	2.00E-05	N/A	N/A	N/A	N/A	N/A
Chromium, hx	18540299	1.83E-04	7.99E-05	N/A	N/A	N/A	0.012	9.59E-07	0.1	7.99E-04
Cobalt (less than)	7440484	1.18E-05	5.18E-06	N/A	N/A	N/A	N/A	N/A	0.1	5.18E-05
Lead	7439921	8.97E-04	3.92E-04	N/A	1.50E-02	N/A	N/A	N/A	0.15	2.61E-03
Nickel	7440020	5.17E-04	2.26E-04	3.85E-04	2.40E-03	1.00E-02	N/A	N/A	0.09	2.51E-03
Selenium	7782492	5.90E-04	2.58E-04	N/A	5.00E-03	2.00E-02	N/A	N/A	20	1.29E-05
Zinc	7440666	4.78E-03	2.09E-03	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Polycyclic Organic Matter (POM)										
2-methylnaphthalene	91576	7.66E-08	3.35E-08	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-methylchloranthrene (less than)	56495	2.87E-09	1.26E-09	N/A	N/A	N/A	0.0063	7.91E-12	N/A	N/A
7,12 Dibenz(a)anthracene (less than)		5.11E-08	2.23E-08	N/A	N/A	N/A	0.071	1.58E-09	N/A	N/A
Anthracene (less than)	120127	3.83E-09	1.67E-09	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	71432	6.70E-06	2.93E-06	1.20E-02	7.10E-01	N/A	7.8E-06	2.28E-11	30	9.76E-08
Dichlorobenzene	25321226	3.83E-06	1.67E-06	9.09E-03	8.00E+00	N/A	0.000011	1.84E-11	800	2.09E-09
Hexane	110543	5.74E-03	2.51E-03	N/A	2.00E+00	N/A	N/A	N/A	700	3.59E-06
Napthalene	91203	1.95E-06	8.51E-07	N/A	1.40E-01	N/A	0.000034	N/A	3	2.84E-07
Phenanathrene	85018	5.43E-08	2.37E-08	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	108883	1.09E-05	4.74E-06	N/A	4.00E+00	N/A	N/A	N/A	5000	9.48E-10
Acenaphthene	83329	1.50E-06	6.57E-07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	208968	1.65E-06	7.22E-07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene (less than)	56553	6.61E-08	2.89E-08	5.88E-05	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene (less than)	50328	1.97E-07	8.61E-08	5.88E-05	N/A	N/A	0.0011	9.47E-11	N/A	N/A
Benzo(b)fluoranthene (less than)	205992	1.08E-07	4.70E-08	5.88E-05	N/A	N/A	0.00011	5.18E-12	N/A	N/A
Benzo(g,h,i)perylene (less than)	191242	1.97E-07	8.61E-08	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene (less than)	207089	9.62E-08	4.20E-08	5.88E-05	N/A	N/A	0.00011	4.62E-12	N/A	N/A
Chrysene (less than)	218019	3.66E-07	1.60E-07	N/A	N/A	N/A	0.000011	1.76E-12	N/A	N/A
Dibenzo(a,h)anthracene (less than)	53703	8.60E-08	3.76E-08	5.88E-05	N/A	N/A	0.00011	4.13E-12	N/A	N/A
Fluorene	86737	5.65E-06	2.47E-06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	206440	2.78E-06	1.21E-06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene (less than)	193395	1.04E-07	4.56E-08	5.88E-05	N/A	N/A	0.00011	5.01E-12	N/A	N/A
Phenanthrene	85018	3.10E-05	1.36E-05	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	129000	2.19E-06	9.59E-07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenzofurans			4.35E-08	2.63E-09	3.50E-08	N/A				
1,2,3,4,6,7,8-Heptachlorodebenzofuran (less than)	67562394	3.09E-08	1.35E-08	N/A	N/A	N/A				
1,2,3,4,7,8,9-Heptachlofodibenzofuran (less than)	55673897	1.88E-09	8.23E-10	N/A	N/A	N/A				
1,2,3,4,7,8-Hexachlorodibenzofuran	70648269	1.29E-08	5.64E-09	N/A	N/A	N/A				
1,2,3,6,7,8-Hexachlorodibenzofuran	57117449	1.15E-08	5.04E-09	N/A	N/A	N/A				
1,2,3,7,8,9-Hexachlorodibenzofuran	72918219	2.26E-08	9.88E-09	N/A	N/A	N/A				
2,3,4,6,7,8-Hexachlorodibenzofuran	60851345	4.66E-09	2.04E-09	N/A	N/A	N/A				
1,2,3,7,8-Pentachlorodibenzofuran (less than)	57117416	1.99E-09	8.70E-10	N/A	N/A	N/A				
2,3,4,7,8-Pentachlorodibenzofuran (less than)	57117314	5.99E-09	2.62E-09	N/A	N/A	N/A				
2,3,7,8-Tetrachlorodibenzofuran	51207319	7.03E-09	3.07E-09	N/A	N/A	N/A				
Listed Non-POM Organic HAPs										
Acetaldehyde	75070	1.76E-03	7.69E-04	4.55E-02	9.00E-02	N/A	N/A	N/A	9	8.55E-05
Formaldehyde	50000	4.60E-04	2.01E-04	7.69E-03	3.60E-02	3.70E+00	0.000013	2.62E-09	9.8	2.05E-05
Listed Acids										
Hydrogen chloride (hydrochloric acid)	7647010	9.75E-01	4.26E-01	N/A	2.00E-01	3.00E+01	N/A	N/A	20	2.13E-02
Hydrogen fluoride	7664393	8.94E-03	3.91E-03	N/A	5.90E-02	5.80E+00	N/A	N/A	14	2.79E-04
Dioxins										
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	1.08E-09	4.70E-10	2.63E-09	3.5E-08	N/A	33	1.55E-08	0.00004	1.17E-05
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822469	5.13E-08	2.24E-08	N/A	N/A	N/A				
SUM of Hexachlorodibenzo-p-dioxin			6.89E-09	N/A	N/A	N/A	1.3	8.96E-09	N/A	N/A
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227286	3.72E-09	1.63E-09	N/A	N/A	N/A				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653857	5.38E-09	2.35E-09	N/A	N/A	N/A				
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408743	6.66E-09	2.91E-09	N/A	N/A	N/A				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321764	3.16E-09	1.38E-09	N/A	N/A	N/A				
								1.51E-06		0.040527

Footnotes:
(1) Source of chronic dose-response values is from USEPA Table 1: Prioritized Chronic Dose-Response Values for Screening Risk Assessments: https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposurehazardous-air-pollutants
(2) Cancer Chronic Inhalation Unit Risk Factor in units of 1/μg/m3
(3) Cancer Risk is unitless and is calculated by multiplying the predicted concentration by the URF
(4) Chronic Noncancer Reference Exposure Level (5) CNCREL Quotient Value is calculated by dividing the modeled concentration by the CNCRE

No individual pollutant concentration exceeds the Cancer Risk threshold of 1.00E-06 and the sum of all Cancer Risk concentrations does not exceed 1.00E-05. The sum of the Chronic Non-cancer Reference Exposure Level hazard quotients is less than 1.0. Therefore, the health risk assessment demonstrates a negligible risk to human health as defined in ARM 17.8.740(16). The impacts of existing emissions sources not owned or operated by SPC were not included in this analysis.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

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)

VIII. Environmental Assessment

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

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

ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Stillwater Packing Company
42 Hersrud Road
Columbus, Montana 59019

Montana Air Quality Permit number (MAQP): 5235-00

EA Draft: 9/23/2019
EA Final: 10/29/2019
Permit Final: 11/14/2019

1. *Legal Description of Site:* The Stillwater Packing Company (SPC) facility is located in the SE¼ SE¼ Section 8, Township 2 South, Range 20 East, in Stillwater County. The coordinates are 45.668516, -109.276620.

2. *Description of Project:* To install and operate an incinerator to eliminate offal generated from meat packing operations.

3. *Objectives of Project:* To dispose of offal generated from meat packing operations.

4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. This would deny SPC the authority to install and operate the incinerator in compliance with Montana air quality regulations and would have to seek other means for disposal of offal. However, SPC has complied with the requirements for applying for an MAQP for the incinerator. Therefore, the "no-action" alternative was eliminated from further consideration. Other alternatives considered were discussed in the BACT analysis, Section III, in the permit.

5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #5235-00.

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. *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*

The proposed project represents a small level of air emissions by industrial standards. Ground disturbance would occur to install a concrete pad upon which the incinerator would be installed; however, the disturbance would occur on private property at the existing SPC facility. No more than minor impacts to terrestrial and aquatic life and habitats would be expected.

B. *Water Quality, Quantity and Distribution*

The proposed project does not require any change to water quantity or distribution and is therefore not expected to have any impact on water quality.

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

Ground disturbance would occur to install a concrete pad upon which the incinerator would be installed; however, the disturbance would occur on private property at the existing SPC facility. No more than minor impacts to geology and soil quality, quantity, and moisture would be expected.

D. *Vegetation Cover, Quantity, and Quality*

Ground disturbance would occur to install a concrete pad upon which the incinerator would be installed; however, the disturbance would occur on private property at the existing SPC facility. No more than minor impacts to vegetation cover, quantity, and quality would be expected.

E. *Aesthetics*

The proposed installation locations for the incinerator would be outside of the main existing facility and would be visible. However, SPC is an existing facility which has been operating for decades. The size and nature of the project would have minor impacts on the aesthetics.

F. *Air Quality*

The proposed project represents a small level of air emissions by industrial standards. As a project subject to the Human Health Risk Assessment requirements of Administrative Rules of Montana 17.8.770, the hazardous air pollutant emissions from this source were assessed and found to be a negligible risk to the public health, safety, and welfare and to the environment. No more than minor impacts to air quality would be expected.

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

The proposed project would occur entirely within the private property boundary of an existing industrial source. The incinerator represents a small level of air emissions by industrial standards and has demonstrated a negligible risk to public health, safety, and welfare and to the environment. Any impacts to unique endangered, fragile, or limited environmental resources present in the area would be minor.

H. *Sage Grouse Executive Order*

The Department recognizes that the site location is not within a Greater Sage Grouse General Habitat Area as defined by Executive Order No. 12-2015.

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

The proposed project would not have impacts on the demand for water. The incinerator would be a small source of air emissions by industrial standards and would be required by MAQP #5235-00 to be operated in a manner which minimizes negative impacts to air resources. The incinerator would require propane fuel and electricity; however, it is considered small by industrial standards. No more than a minor impact to these environmental resources would be expected.

J. *Historical and Archaeological Sites*

According to the State Historic Preservation Office (SHPO), there have been no previously recorded sites within the designated search locale (Section 8, Township 2 South, Range 20 East). It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are to be altered and are over fifty years old, SHPO recommends that they be recorded and a determination of their eligibility be made. As long as there will be no disturbance or alteration to structures over fifty years of age, there is a low likelihood that cultural properties would be impacted.

K. *Cumulative and Secondary Impacts*

No more than minor impacts to the individual physical and biological considerations above would be expected. No more than minor cumulative and secondary impacts would be expected as a result of issuing MAQP #5235-00.

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

A. *Social Structures and Mores*

The project would be located at an existing industrial facility. No impacts to social structures or mores would be expected.

B. *Cultural Uniqueness and Diversity*

The project would be located at an existing industrial facility. No impacts to cultural uniqueness and diversity would be expected.

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

There would be no more than minor impacts to local and state tax base and revenue as a result of the proposed project. There may be additional tax revenue generated from additional employees hired as a result of the project.

D. *Agricultural or Industrial Production*

There are no impacts to agricultural or industrial production as a result of this project.

E. *Human Health*

The proposed project would be a small source of air emissions by industrial standards. As a project subject to the Human Health Risk Assessment requirements of Administrative Rules of Montana 17.8.770, the hazardous air pollutant emissions concentrations were assessed and found to be a negligible risk to the public health, safety, and welfare and to the environment. Impacts to human health would be minor.

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

There may be minor impacts to the access to and quality of recreational and wilderness activities as a result of this project. There would be noise associated with the operation of the incinerator.

G. *Quantity and Distribution of Employment*

The applicant has indicated that three employees may be added as a result of this project.

H. *Distribution of Population*

There may be minor impacts to the distribution of population as a result of this project due to the potential hiring of new employees.

I. *Demands for Government Services*

Issuance of MAQP #5235-00 requires some government services to review the application and draft the permit. In addition, government services would be required to conduct periodic inspections for verifying compliance with the MAQP. These demands are not expected to have more than a minor impact.

J. *Industrial and Commercial Activity*

The proposed project is not expected to have more than a minor impact on industrial and commercial activity. There would be construction activities associated with the installation of the incinerator; however, it is not expected to have more than a minor impact on industrial and commercial activity.

K. *Locally Adopted Environmental Plans and Goals*

The Department is not aware of any locally adopted environmental plans and goals which would be affected by MAQP #5235-00.

L. *Cumulative and Secondary Impacts*

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

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 an incinerator to dispose of offal generated from meat packing operations. MAQP #5235-00 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 – Montana Sage Grouse Conservation Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Quality Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Ed Warner
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