



December 8, 2015

Dr. Jerry Ren
Envent Corporation
3220 East 29th Street
Long Beach, CA 90806-2321

Dear Dr. Ren:

Montana Air Quality Permit #5148-00 is deemed final as of December 8, 2015, by the Department of Environmental Quality (Department). This permit is for a portable thermal oxidizer. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

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

A handwritten signature in black ink that reads "John P. Proulx".

John P. Proulx
Environmental Science Specialist
Air Quality Bureau
(406) 444-1277

JM:JP
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #5148-00

Envent Corporation
3220 East 29th Street
Long Beach, CA 90806-2321

December 8, 2015



MONTANA AIR QUALITY PERMIT

Issued To: Envent Corporation
3220 East 29th Street
Long Beach, CA 90806-2321

Montana Air Quality Permit: #5148-00
Application Complete: 10/06/2015
Preliminary Determination Issued: 10/14/2015
Department's Decision Issued: 11/20/2015
Permit Final: 12/8/2015
AFS #: 777-5148

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Envent Corporation (Envent), pursuant to Sections 75-2-204 and 211 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

A natural gas or propane-assisted Thermal Oxidizer (TO) enclosed flare with a maximum rated combustion fuel rate of 1,000 standard cubic feet per minute (scfm) and a 57 horsepower (hp) diesel generator.

B. Plant Location

Envent operates a portable Thermal Oxidizer (TO), at various locations throughout Montana. MAQP #5148-00 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department) approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Envent shall install, operate, and maintain the portable TO to provide the maximum air pollution control for which it was designed (ARM 17.8.752).
2. Envent shall not cause or authorize to be discharged into the atmosphere from the TO enclosed flare:
 - a. Any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752); and
 - b. Any particulate matter emissions in excess of 0.10 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.752).

3. Envent shall install and continuously operate a thermocouple and an associated recorder or any other equivalent device on the TO enclosed flare to detect the presence of a flame (ARM 17.8.749).
4. Envent shall not operate diesel engines/generators associated with the portable TO with maximum combined capacity in excess of 57-horsepower (hp) (ARM 17.8.749).
5. Envent shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968 other than the portable TO that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
6. Envent shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
7. If the permitted equipment is used in conjunction with any other equipment owned or operated by Envent, at the same site, shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
8. Envent shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

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

C. Operational Reporting Requirements

1. If this portable TO is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move.

If the proposed location is in response to an immediate threat to human health or the environment, Envent may commence operation prior to the issuance of the public notice. In such emergency situations, Envent shall provide the Intent to Transfer and post the Public Notice of the change in location as soon as reasonably practical. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Envent 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).

3. Envent 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).
4. All records compiled in accordance with this permit must be maintained by Envent as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

D. Notification

1. Envent shall provide the Department with written notification of the actual start-up date(s) of the TO within 15 days after the actual start-up date(s) (ARM 17.8.749).
2. Within 15 days of the actual start-up of any NSPS-affected equipment, Envent shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and 40 CFR 60, Subpart III).
3. Envent shall provide the Department with notification of an emergency response as soon as reasonably practical. The notification may be written, oral, or another form as approved by the Department (ARM 17.8.744).

SECTION III: General Conditions

- A. Inspection – Envent 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 emissions 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 Envent fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Envent of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA.

The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Envent 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
Envent Corporation
MAQP #5148-00

I. Introduction/Process Description

Envent Corporation (Envent) proposes to operate a portable thermal oxidizer (TO) capable of handling up to 1,000 standard cubic feet per minute (scfm) of waste gas. When operating at full capacity, the vapors will be combusted in the TO at approximately 1400° Fahrenheit (F) to achieve a 99% destruction of VOC and HAPs. The facility is portable and may be located at various locations throughout Montana.

A. Permitted Equipment

- EMTOS-1000 Unit Thermal Oxidizer (TO)
- WhisperWatt DH-0480I 57 horsepower diesel generator (hp)

B. Source Description

The portable TO is capable of treating various waste gas streams to destroy volatile organic compounds (VOC) and some hazardous air pollutants (HAP). The anticipated initial project for the portable TO facility will be to receive vapors generated from the neutralization of acid soluble oil (ASO). The vapors from the ASO are a mixture of light hydrocarbons in the distillate range with isobutene. The vapors will be siphoned off of the process tanks and routed through the TO. Once inside the TO, the process gas will be mixed with either Nitrogen (N₂) or natural gas (CH₄) at approximately 20 cubic feet per minute (CFM) in order to maintain a low oxygen atmosphere. After the process gas is mixed with either N₂ or CH₄, the mixture will be combusted at approximately 1400 to 1600 ° Fahrenheit (F) with a minimum residence time of 1.5 seconds to achieve a 99% destruction of VOCs and HAPs. After the gas mixture is combusted, the exhaust gas will be vented to the atmosphere through a 13.5 foot tall by 2 foot diameter exhaust stack.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary

equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

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

Montana-Dakota 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 PM₁₀

Montana-Dakota must maintain compliance with the applicable ambient air quality standards.

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

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

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter (PM). (2) Under this rule, Montana-Dakota shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere PM 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 Envent is required to comply with the Emission Limitations specified in Section II.B of MAQP #5148-00 for the TO enclosed flare, this particular rule does not apply to the flare because Envent 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 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
8. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). The XXX thermal oxidizer facility is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.
 - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
 - b. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11,

2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Envent, the CI ICE equipment to be used under MAQP #5148-00 *may be subject to this subpart if it remains in one location for longer than twelve consecutive months*. Enneberg may substitute compression ignition internal combustion engine(s), therefore applicability to this subpart may apply to engines in the future and shall be dependent upon the date of construction and/or manufacture of the diesel-fired engine.

9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
 - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
 - b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Based on the information submitted by Envent, the RICE equipment to be used under MAQP #5148-00 may be subject to this subpart because Envent is considered an area source of HAP emissions and operates RICE equipment. The engine is potentially subject to this subpart depending upon the location, nature, and duration of operation. Since the RICE to be used under MAQP #5148-00 is intended to be portable, Envent may not be required to comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ. However, this subpart would become applicable if Envent constructed and operated a RICE that remains in a location for more than 12 consecutive months.

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. Envent 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. The portable TO does not have PTE greater than 25 TPY; however, Envent must obtain an MAQP prior to operation because the source meets the MCA 75-2-103 definition of an incinerator and must obtain an MAQP in accordance with the requirements of MCA 75-2-215.
 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. Envent 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.

Since Envent did not have a secured initial project location at the time of MAQP application submittal, the Department instructed Envent to post public notices in newspapers in five different areas where they would potentially operate. Envent submitted an affidavit of publication of public notice for the September 29, 2015 issue of the *Billings Gazette*, a newspaper of general circulation in the City of Billings in Yellowstone County, as proof of compliance with the public notice requirements. In addition, Envent submitted an affidavit of publication of public notice in the Glendive Ranger in the city of Glendive in Dawson County, Montana (10/1/2015), the Havre Daily News in the city of Havre in Hill County, Montana (9/30/2015), the Miles City Star in the city of Miles City in Custer County, Montana (10/2/2015), and the Great Falls Tribune in the city of Great Falls in Cascade County, Montana (9/30/2015).

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 Montana-Dakota 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. (1) This rule states that an MAQP may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) 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 (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 TPY of any pollutant;
 - b. PTE > 10 TPY of any one hazardous air pollutant (HAP), PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 TPY of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #4479-00 for Montana-Dakota, the following conclusions were made:
 - a. The facility's PTE is less than 100 TPY for any pollutant.
 - b. The facility's PTE is less than 10 TPY for any one HAP and less than 25 TPY for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is potentially subject to a current NSPS (A and IIII)
 - e. This facility is potentially subject to a current NESHAP (A and ZZZZ).
 - 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 the Envent Portable Thermal Oxidizing facility will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Envent may be required to obtain a Title V Operating Permit for the Portable Thermal Oxidizing facility.

- H. MCA 75-2-103, Definitions provided, in part, as follows:
 1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.
 2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes, including, but not limited to...air pollution control facilities...
- I. MCA 75-2-215, Solid or hazardous waste incineration - additional permit requirements:
 1. MCA 75-2-215 requires air quality permits for all new commercial solid waste incinerators; therefore, Envent 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 the initial MAQP application was 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 MAQP application. Based on the results of the emission inventory, modeling, and the health risk assessment, the Department determined that Envent complies with this requirement.

III. BACT Determination

A BACT determination is required for each new or modified source. Envent 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.

Enclosed TO Flares

Enclosed TO flares combust the waste gas stream at ground level within an enclosed stack. The enclosure isolates the combustion zone from atmospheric disturbances, increases the residence time of the waste gas in the combustion zone, and promotes turbulent mixing of the waste gas stream with the assist fuel to facilitate a complete oxidation reaction. Envent has proposed a TO flare with auxiliary propane or natural gas as assist fuel as BACT for the emission control of the production gases. The proposed TO flare has a maximum rated combustion fuel rate of 1,000 scfm at 15% CH₄ concentration. The waste gas stream is then combusted at approximately 1400 to 1600 °F with a minimum residence time of 1.5 seconds to achieve a 99% destruction of VOC and HAPs. Other incinerators permitted by the Department pursuant to ARM 17.8.770 and MCA 75-2-215 are generally limited to 0.10 grains per dry standard cubic feet (gr/dscf) of flue gas adjusted to 12% CO₂ and calculated as if no auxiliary fuel had been used for PM and to 10% opacity averaged over six consecutive minutes. The CO₂ correction factor is a way to standardize combustion emissions due to the variability associated with operation such as percentage of excess air or differences in elevation. The Department concurs that the proposed TO flare offers adequate VOC destruction efficiency and operating the unit to provide the maximum air pollution control for which it was designed constitutes BACT.

IV. Emission Inventory

Emissions:

CONTROLLED Emission Source	ton per year (ton/yr)									
	NOx	CO	PM-T	PM10	PM2.5	SO2	TOC	VOC	CO2	HAPs
Thermal Oxidizing Unit	0.438	0.368	0.033	0.033	0.033	0.003	0.048	0.024	525.60	--
Propane Pilot Light	0.740	0.427	0.011	0.011	0.011	0.006	0.057	0.046	711.75	0.0229
Diesel Generator	5.992	2.036	2.020	2.020	2.020	2.020	--	0.627	287.11	0.0065
Total Emissions	7.170	2.831	2.064	2.064	2.064	2.028	0.105	0.696	1524.459	0.029

or

CONTROLLED	ton per year (ton/yr)									
	Emission Source	NOx	CO	PM-T	PM10	PM2.5	SO2	TOC	VOC	CO2
Thermal Oxidizing Unit	0.438	0.368	0.033	0.033	0.033	0.003	0.048	0.024	525.60	--
Natural Gas Pilot Light	0.526	0.442	0.040	0.040	0.040	0.003	0.058	0.029	630.72	0.0509
Diesel Generator	5.992	2.036	2.020	2.020	2.020	2.020	--	0.627	287.11	0.0065
Total Emissions	6.955	2.846	2.093	2.093	2.093	2.026	0.106	0.680	1443.429	0.057

<u>Constants of Calculation</u>			
Maximum Operating Hours Per Year	8760	hr/yr	Standard for PTE
Maximum Process Rate Per Year	1000	scf/hr	Supplied by permittee
Max Propane consumption Rate Per Hour	13	gal/hr	Supplied by permittee
	467.6	scf/hr	Conversion by Department
Max Natural Gas consumption Rate Per Hour	20	scf/min	Supplied by permittee
	1200	scf/hr	Conversion by Department
Engine Horsepower	57	hp	Supplied by permittee
Diesel Fuel consumption Rate Per Hour	1.6	gal/hr	Supplied by permittee

Calculations:

<u>Thermal Oxidizer Emissions Calculations based on AP 42, 1.4-1, Small boiler</u>												
1.0×10^{-4}	$\frac{\text{lb}}{\text{scf NOx}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.438	$\frac{\text{ton}}{\text{year}}$	of NOx
8.4×10^{-5}	$\frac{\text{lb}}{\text{scf CO}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.368	$\frac{\text{ton}}{\text{year}}$	of CO
7.6×10^{-6}	$\frac{\text{lb}}{\text{scf PM T}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.033	$\frac{\text{ton}}{\text{year}}$	of PM T
5.7×10^{-6}	$\frac{\text{lb}}{\text{scf PM C}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.025	$\frac{\text{ton}}{\text{year}}$	of PT C
1.9×10^{-6}	$\frac{\text{lb}}{\text{scf PM F}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.008	$\frac{\text{ton}}{\text{year}}$	of PM F
$.6 \times 10^{-6}$	$\frac{\text{lb}}{\text{scf SO2}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.003	$\frac{\text{ton}}{\text{year}}$	of SO2
1.1×10^{-5}	$\frac{\text{lb}}{\text{scf TOC}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.048	$\frac{\text{ton}}{\text{year}}$	of TOC
5.5×10^{-6}	$\frac{\text{lb}}{\text{scf VOC}}$	X	1000	$\frac{\text{scf}}{\text{hour}}$	X	8760 $\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.024	$\frac{\text{ton}}{\text{year}}$	of VOC

Thermal Oxidizer Emissions Calculations based on AP 42, 1.4-1, Small boiler

$$1.2 \times 10^{-1} \frac{\text{lb}}{\text{scf CO}_2} \times 1000 \frac{\text{scf}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 525.6 \frac{\text{ton}}{\text{year}} \text{ of CO}_2$$

Propane Gas Pilot Flame Emissions Calculations based on AP 42, 1.5-1

$$1.30\text{E-}02 \frac{\text{lb}}{\text{gal NO}_x} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 1.856 \frac{\text{ton}}{\text{year}} \text{ NO}_x$$

$$7.50\text{E-}03 \frac{\text{lb}}{\text{gal CO}} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 1.071 \frac{\text{ton}}{\text{year}} \text{ CO}$$

$$2.00\text{E-}04 \frac{\text{lb}}{\text{gal PM T}} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.029 \frac{\text{ton}}{\text{year}} \text{ of PM T}$$

$$1.00\text{E-}04 \frac{\text{lb}}{\text{gal SO}_2} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.014 \frac{\text{ton}}{\text{year}} \text{ of SO}_2$$

$$1.00\text{E-}03 \frac{\text{lb}}{\text{gal TOC}} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.143 \frac{\text{ton}}{\text{year}} \text{ of TOC}$$

$$8.00\text{E-}04 \frac{\text{lb}}{\text{gal VOC}} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.114 \frac{\text{ton}}{\text{year}} \text{ of VOC}$$

$$1.25\text{E+}01 \frac{\text{lb}}{\text{gal VOC}} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 1784.85 \frac{\text{ton}}{\text{year}} \text{ of CO}_2$$

$$4.02\text{E-}04 \frac{\text{lb}}{\text{gal VOC}} \times 32.6 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.06 \frac{\text{ton}}{\text{year}} \text{ of HAPs}$$

Propane Gas Pilot Flame Emissions Calculations based on AP 42, 1.5-1

$$1.30\text{E-}02 \frac{\text{lb}}{\text{gal NO}_x} \times 13 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.740 \frac{\text{ton}}{\text{year}} \text{ NO}_x$$

$$7.50\text{E-}03 \frac{\text{lb}}{\text{gal CO}} \times 13 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.427 \frac{\text{ton}}{\text{year}} \text{ CO}$$

$$2.00\text{E-}04 \frac{\text{lb}}{\text{gal PM T}} \times 13 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.011 \frac{\text{ton}}{\text{year}} \text{ of PM T}$$

$$1.00\text{E-}04 \frac{\text{lb}}{\text{gal SO}_2} \times 13 \frac{\text{gal}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 0.006 \frac{\text{ton}}{\text{year}} \text{ of SO}_2$$

1.00E-03	$\frac{\text{lb}}{\text{gal TOC}}$	X	13	$\frac{\text{gal}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.057	$\frac{\text{ton}}{\text{year}}$	of TOC
8.00E-04	$\frac{\text{lb}}{\text{gal VOC}}$	X	13	$\frac{\text{gal}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.046	$\frac{\text{ton}}{\text{year}}$	of VOC
1.25E+01	$\frac{\text{lb}}{\text{gal VOC}}$	X	13	$\frac{\text{gal}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	711.75	$\frac{\text{ton}}{\text{year}}$	of CO2
4.02E-04	$\frac{\text{lb}}{\text{gal VOC}}$	X	13	$\frac{\text{gal}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.02	$\frac{\text{ton}}{\text{year}}$	of HAPs

Natural Gas Pilot Flame Emissions Calculations based on AP 42, 1.4-1, Small boiler

1.0 x 10 ⁻⁴	$\frac{\text{lb}}{\text{scf NOx}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.5255	$\frac{\text{ton}}{\text{year}}$	of NOx
8.4 x 10 ⁻⁵	$\frac{\text{lb}}{\text{scf CO}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.4415	$\frac{\text{ton}}{\text{year}}$	of CO
7.6 x 10 ⁻⁶	$\frac{\text{lb}}{\text{scf PM T}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.0399	$\frac{\text{ton}}{\text{year}}$	of PM T
5.7 x 10 ⁻⁶	$\frac{\text{lb}}{\text{scf PM C}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.0300	$\frac{\text{ton}}{\text{year}}$	of PT C
1.9 x 10 ⁻⁶	$\frac{\text{lb}}{\text{scf PM F}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.0100	$\frac{\text{ton}}{\text{year}}$	of PM F
.6 x 10 ⁻⁶	$\frac{\text{lb}}{\text{scf SO2}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.0032	$\frac{\text{ton}}{\text{year}}$	of SO2
1.1 x 10 ⁻⁵	$\frac{\text{lb}}{\text{scf TOC}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.0578	$\frac{\text{ton}}{\text{year}}$	of TOC
5.5 x 10 ⁻⁶	$\frac{\text{lb}}{\text{scf VOC}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.0289	$\frac{\text{ton}}{\text{year}}$	of VOC
1.2 x 10 ⁻¹	$\frac{\text{lb}}{\text{scf CO2}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	630.7	$\frac{\text{ton}}{\text{year}}$	of CO2
9.68E-06	$\frac{\text{lb}}{\text{scf CO2}}$	X	1200	$\frac{\text{scf}}{\text{hour}}$	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	5.1E-02	$\frac{\text{ton}}{\text{year}}$	of HAPs

Diesel Generator Emissions Calculations based on AP 42, Table 3.3-1

2.40E-02	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	5.9918	$\frac{\text{ton}}{\text{year}}$	of NO _x
8.16E-03	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	2.0365	$\frac{\text{ton}}{\text{year}}$	of CO*
8.09E-03	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	2.0197	$\frac{\text{ton}}{\text{year}}$	of SO _x
6.61E-04	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.1651	$\frac{\text{ton}}{\text{year}}$	of PM ₁₀
6.61E-04	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.1651	$\frac{\text{ton}}{\text{year}}$	of PM ₁₀
8.09E-03	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	2.0197	$\frac{\text{ton}}{\text{year}}$	of PM _{2.5}
2.51E-03	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	0.6266	$\frac{\text{ton}}{\text{year}}$	of VOC
1.15E+00	$\frac{\text{lb}}{\text{hr} * \text{hp}}$	X	57	hp	X	8760	$\frac{\text{hours}}{\text{year}}$	X	$\frac{\text{ton}}{2000 \text{ lbs}}$	=	287.1090	$\frac{\text{ton}}{\text{year}}$	of CO ₂

V. Existing Air Quality

MAQP 5148-00 authorizes Envent to operate the portable TO in various locations throughout Montana, except areas having a Department-approved permitting program, areas considered tribal lands, or areas in or within 10 km of certain PM₁₀ nonattainment areas. While Envent did not have a secured initial project location at the time of MAQP application submittal, the anticipated initial project would be in the Billings area in Yellowstone County. The Billings area is designated as an attainment area with a Limited Maintenance Plan for CO and an area of concern for SO₂ nonattainment. The Billings/Laurel area is currently under State Implementation Plan (SIP) provisions for SO₂ control because of the Laurel SO₂ nonattainment area and modeled violations of the SO₂ standard in Billings. In addition, some facilities are subject to Federal Implementation Plan (FIP) provisions for SO₂. The FIP is intended to complement the SIP to maintain compliance with national and state ambient air quality standards for SO₂. In the view of the Department the amount of controlled emissions from this facility, including CO and SO₂, will not violate any ambient air quality standard or contribute to any violation in any areas of the areas contemplated for operation.

VI. Ambient Air Impact Analysis

The Department conducted SCREENVIEW, an EPA-approved screening model, using the indicated inputs obtained from the permit application and the emission rates located in Summary of Screen View Model Results, from the proposed TO flare. The individual one-hour results for each pollutant were then calculated by multiplying the modeled impact of the different $\mu\text{g}/\text{m}^3$ concentrations 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. The results are contained in Section VI, Health Risk Assessment, of the permit analysis

TO Flare: SCREENVIEW Model Run

Simple Terrain Inputs:

Source Type = POINT
 Emission Rate (G/S) = variable
 Stack Height (M) = 4.1148
 Stack Inside Diam (M) = 0.6096
 Stack Exit Velocity (M/S) = 8.1497
 Stack Gas Exit Temp (K) = 1033.15
 Ambient Air Temp (K) = 293
 Receptor Height (M) = 0.0000
 Urban/Rural Option = RURAL

Stack exit velocity was calculated using a volumetric flow rate of 5040 ACFM which was provided in the application.

Summary of Screen View Model Results

Calculation Procedure	Maximum 1 Hour Concentration ($\mu\text{g}/\text{m}^3$)	Distance of Maximum (M)	Terrain Height (M)
Simple Terrain	0.02304 (Natural Gas)	95	0
Simple Terrain	0.02602 (Propane)	95	0
Simple Terrain	0.01923 (ASO)	95	0

<i>Negligible Risk Assessment</i> <i>for HAPs⁽¹⁾</i>	Modeled ¹	Modeled ²	Modeled ³	Cancer					CNCREL ¹	CNCREL ²	CNCREL ³
	Concentration	Concentration	Concentration	CIRF ⁽²⁾	Cancer ¹	Cancer ²	Cancer ³	CNCREL ⁽⁶⁾	Hazard	Hazard	Hazard
	(mg/m ³)	(mg/m ³)	(mg/m ³)	(mg/m ³) ⁻¹	Risk ⁽³⁾	Risk ⁽³⁾	Risk ⁽³⁾	(mg/m ³)	Quotient ⁽⁷⁾	Quotient ⁽⁷⁾	Quotient ⁽⁷⁾
HAP Species											
2-Methylnaphthalene	4.57039E-09	4.43E-09	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
3-Methylchloranthrene	3.42779E-10	3.32E-10	N/A	6.30E-03	2.16E-12	2.09E-12	N/A	ND	ND	ND	N/A
7,12-Dimethylbenz(a)anthracene	3.04693E-09	2.95E-09	N/A	7.10E-02	2.16E-10	2.10E-10	N/A	ND	ND	ND	N/A
Acenaphthene	3.42779E-10	3.32E-10	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Acenaphthylene	3.42779E-10	3.32E-10	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Anthracene	4.57039E-10	4.43E-10	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Benz(a)anthracene	3.42779E-10	3.32E-10	N/A	1.10E-04	3.77E-14	3.65E-14	N/A	ND	ND	ND	N/A
Benzene	3.99909E-07	3.87E-07	1.51E-03	7.80E-06	3.12E-12	3.02E-12	1.18E-08	3.00E+01	1.33E-08	1.29E-08	5.03E-05
Benzo(a)pyrene	2.2852E-10	2.21E-10	N/A	1.10E-03	2.51E-13	2.44E-13	N/A	ND	ND	ND	N/A
Benzo(b)fluoranthene	3.42779E-10	3.32E-10	N/A	1.10E-04	3.77E-14	3.65E-14	N/A	ND	ND	ND	N/A
Benzo(g,h,i)perylene	2.2852E-10	2.21E-10	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Benzo(k)fluoranthene	3.42779E-10	3.32E-10	N/A	1.10E-04	3.77E-14	3.65E-14	N/A	ND	ND	ND	N/A
Chrysene	3.42779E-10	3.32E-10	N/A	1.10E-05	3.77E-15	3.65E-15	N/A	ND	ND	ND	N/A
Dibenzo(a,h)anthracene	2.2852E-10	2.21E-10	N/A	1.20E-03	2.74E-13	2.66E-13	N/A	ND	ND	ND	N/A
Dichlorobenzene	2.2852E-07	2.21E-07	N/A	1.10E-05	2.51E-12	2.44E-12	N/A	8.00E+02	2.86E-10	2.77E-10	N/A
Fluoranthene	5.71299E-10	5.53E-10	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Fluorene	5.33212E-10	5.17E-10	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Formaldehyde	1.42825E-05	1.38E-05	N/A	5.50E-09	7.86E-14	7.61E-14	N/A	9.80E+00	1.46E-06	1.41E-06	N/A
Hexane	0.000342779	3.32E-04	N/A	ND	ND	ND	N/A	7.00E+02	4.90E-07	4.74E-07	N/A
Indeno(1,2,3,c,d)pyrene	3.42779E-10	3.32E-10	N/A	1.10E-04	3.77E-14	3.65E-14	N/A	ND	ND	ND	N/A
Naphthalene	1.16164E-07	1.13E-07	2.90E-05	3.40E-05	3.95E-12	3.83E-12	9.87E-10	3.00E+00	3.87E-08	3.75E-08	9.67E-06
Phenanthrene	3.23736E-09	3.14E-09	N/A	ND	ND	ND	N/A	ND	ND	ND	N/A
Propane	N/A	2.95E-04	N/A	ND	N/A	ND	N/A	ND	N/A	ND	N/A
Pyrene	N/A	9.22E-10	N/A	ND	N/A	ND	N/A	ND	N/A	ND	N/A
Toluene	N/A	6.27E-07	N/A	ND	N/A	ND	N/A	5.00E+03	N/A	1.25E-10	N/A
	Natural Gas ¹	Propane ²	Acid Soluble Oil ³		2.29E-10	2.22E-10	1.28E-08		2.00E-06	1.94E-06	6.00E-05

A copy of the Screen View modeling conducted for this project is on file with the Department.

- (1) Source of chronic dose-response values is from Table 1: Prioritized Chronic Dose Response Values for Screening Risk Assessments (www.epa.gov/ttn/atw/toxsource/table1.pdf, 6/12/07).
- (2) Cancer Chronic Inhalation Risk Factor (1/mg/m³).
- (3) Cancer Risk is unitless and is calculated by multiplying the predicted concentration by the CIRF.
- (4) AKA Propylene dichloride.
- (5) AKA Tetrachloroethene, Perchloroethylene.
- (6) Chronic Noncancer Reference Exposure Level.
- (7) The CNCREL hazard quotient is determined by calculating the modeled HAP concentration by the CNCREL.

ND Not Determined because no value is provided in Table 1: Prioritized Chronic Dose Response Values for Screening Risk Assessments (www.epa.gov/ttn/atw/toxsource/table1.pdf, 6/12/07).

The Department determined that the risks estimated in the risk assessment for the TO Flare are in compliance with the requirement to demonstrate negligible risk to human health and the environment. As documented in the above table and in accordance with the negligible risk requirement, no single HAP concentration results in Cancer Risk greater than 1.00E-06 and the sum of all HAPs results in a Cancer Risk of less than 1.00E-05. Further, the sum of the Chronic Noncancer Reference Exposure Level (CNCREL) hazard quotient is less than 1.0 for all HAP sources, as required to demonstrate compliance with the negligible risk requirement.

VII. Health Risk Assessment

A health risk assessment was conducted to determine if the proposed TO complies with the negligible risk requirement of MCA 75-2-215. 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. Only those hazardous air pollutants for which there were established emission factors were considered in the emission inventory.

The Department determined that the risks estimated in the risk assessment for the TO Flare are in compliance with the requirement to demonstrate negligible risk to human health and the environment. As documented in the above table and in accordance with the negligible risk requirement, no single HAP concentration results in Cancer Risk greater than 1.00E-06 and the sum of all HAPs results in a Cancer Risk of less than 1.00E-05. Further, the sum of the Chronic Noncancer Reference Exposure Level (CNCREL) hazard quotient is 2.79E-02, which is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

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.

VIII. Environmental Assessment

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

Analysis Prepared By: John P. Proulx
Date: 10/7/2015

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Quality Bureau
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FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Envent Corporation

Montana Air Quality Permit Number: 5148-00

Preliminary Determination Issued: **10/14/2015**

Department Decision Issued: **11/20/2015**

Permit Final: **12/08/2015**

1. *Legal Description of Site:* Envent plans to operate a Portable Thermal Oxidizer in various locations throughout Montana at currently permitted sites. Copies of site specific permits are on file with the Department.
2. *Description of Project:* Envent Corporation (Envent) proposes to operate a portable thermal oxidizer (TO) capable of handling up to 1,000 standard cubic feet per minute (scfm) of vapors that are produced for the neutralization of acid soluble oil (ASO) with potassium hydroxide. When operating at full capacity, the vapors will be siphoned from the process tanks and combusted in the TO at approximately 1400° Fahrenheit (F) to achieve a 99% destruction of VOC and HAPs.
3. *Objectives of Project:* The objective of the project is to capture process gas that is produced from the neutralization of Acid Soluble Oil and destroy it in the thermal oxidizer.
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 Envent 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 #5148-00.
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 – due to only minor amounts of max potential emissions and predicted operation at existing industrial facilities, no impacts to Terrestrial and Aquatic Life and Habitats
- B. Water Quality, Quantity and Distribution – due to only minor amounts of max potential emissions and predicted operation at existing industrial facilities, no impacts to Water Quality, Quantity and Distribution
- C. Geology and Soil Quality, Stability and Moisture – due to only minor amounts of max potential emissions and predicted operation at existing industrial facilities, no impacts to Geology and Soil Quality, Stability, and Moisture
- D. Vegetation Cover, Quantity, and Quality

The Envent Thermal Oxidizing facility would be considered a minor source of emissions and would result in a slight increase in NO_x, CO, VOC, SO₂, and PM₁₀. However, the facility would be located within and immediately adjacent to an existing facility. Therefore, only minor effects on vegetation cover, quantity, and quality would be expected as a result of the proposed facility.

- E. Aesthetics

The TO facility would be initially located in an already established facility site. Activity within the facility would create noise while operating at the proposed site. Since the site is already established, there would be minor impacts to the aesthetics of the existing facility.

F. Air Quality

The air quality impacts from the facility would be minor because MAQP #5148-00 would include conditions limiting emissions of regulated pollutants. The thermal oxidizer would be located at an existing facility with no new construction.

In addition, the facility would be considered a minor source of air pollution by industrial standards and would be located in an area where good air dispersion would occur. Therefore, air quality impacts would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

No impacts to endangered, fragile, or limited environmental resources would be expected based on the predicted operation at existing industrial facilities.

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

The proposed facility would require a 57 horsepower diesel generator to power the TO. The facility could also potentially utilize some water for dust control on access roads. The demands on environmental resources of water, air, and energy would be minor because the project would be considered small by industrial standards and would be producing its own energy requirements during normal operation.

I. Historical and Archaeological Sites

The Department has determined that the TO would be used on pre-established facilities where Historical and Archaeological surveys would have already been completed if they were warranted. No ground disturbance is required for the operation of the portable TO. There would be no anticipated impacts to historical and archaeological sites from the operation of the TO.

J. Cumulative and Secondary Impacts

Cumulative or secondary impacts are expected to be minor as a result of the proposed project. The facility would be considered a minor source of emissions by industrial standards and not expected to have more than a minor cumulative and secondary impacts.

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	X		Yes
D	Agricultural or Industrial Production			X	X		Yes
E	Human Health			X	X		Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes

		Major	Moderate	Minor	None	Unknown	Comments Included
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 operation would cause no disruption to the native or traditional lifestyles or communities of an area because anticipated operation of the TO would be at an existing facility. No current native or traditional lifestyles or communities would be likely to exist at those locations.

B. Cultural Uniqueness and Diversity

The operation would have no impact on the cultural uniqueness and diversity of an area because anticipated operation of the TO would be at an existing facility. No current culturally unique or diverse activities would be likely to exist at those locations.

C. Local and State Tax Base and Tax Revenue

The project would have a no effect on the local and state tax base and revenue due to the taxes generated from the purchase of supplies and the employee payroll.

D. Agricultural or Industrial Production

The proposed project would not displace or otherwise affect any agricultural land or practices because the anticipated operation of the TO would be at an existing facility.

E. Human Health

MAQP #5148-00 would incorporate conditions to ensure that the facility would be operated in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed operations would not affect any access to or aesthetic attribute of recreational and wilderness activities in the area.

G. Quantity and Distribution of Employment

The proposed project would employ two full time employees to operate and maintain the proposed system. The impact to the quantity and distribution of employment in the local community would be minor.

H. Distribution of Population

The proposed operations would not disrupt the normal population distribution in the area because the anticipated operation of the TO would be at an existing facility. No employees would need to permanently relocate to the project areas to support operations.

I. Demands for Government Services

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

J. Industrial and Commercial Activity

The level of industrial or commercial activity would experience a minor increase as a result of the proposed facility's intent to reduce the levels of Volatile Organic Compounds (VOC) and Hazardous Air Pollutants (HAPs).

K. Locally Adopted Environmental Plans and Goals

The Billings area is designated as an attainment area with a Limited Maintenance Plan for CO and certain industrial sources are subject to control provisions under the Billings/Laurel SO₂ control plan. The Department believes that Envent would be expected to operate in compliance with all applicable state rules and regulations as outlined in MAQP #5148-00 which are designed to be protective of air quality standards. The proposed facility is a minor source of all regulated air pollutants and would not be expected to interfere with the CO and SO₂ plans in that area. The Department is unaware of any other locally adopted plans or goals in areas that would be impacted by the operation of the TO.

L. Cumulative and Secondary Impacts

Overall, the revenue generated with this project would result in minor cumulative or secondary impacts that affect the economic and social environment in the immediate area. Air pollution from the facility would be controlled by Department determined BACT and conditions in MAQP #5148-00. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #5148-00.

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 Thermal Oxidizing facility. MAQP #5148-00 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, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: John P. Proulx
Date: 10/7//2015