

August 30, 2023

Michael Duplantis, HSE Director  
Crusoe Energy Systems, Inc.  
1641 California St., Suite 400  
Denver, CO 80202

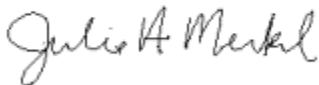
Sent via email: [mduplantic@crusoeenergy.com](mailto:mduplantic@crusoeenergy.com)

**RE: Final Permit Issuance for MAQP #5262-01**

Dear Mr. Duplantis:

Montana Air Quality Permit (MAQP) #5262-01 is deemed final as of August 25, 2023, by DEQ. This permit is for Crusoe Energy Systems, Inc. All conditions of the Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For DEQ,



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



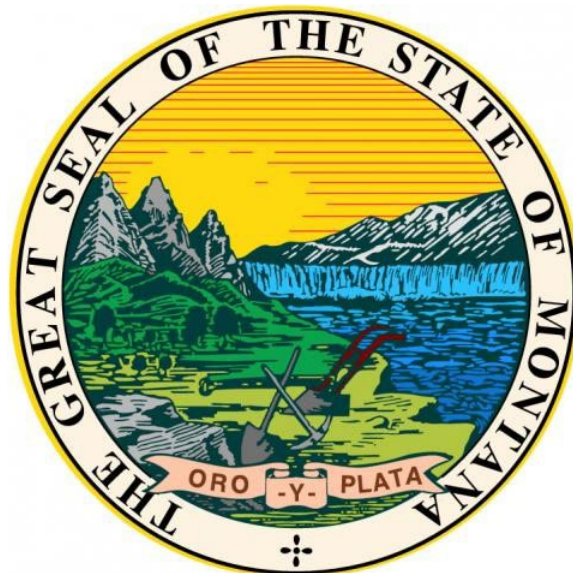
John P. Proulx  
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(406) 444-5391

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

Montana Air Quality Permit #5262-01

Crusoe Energy Systems, Inc.  
Kraken Central Site  
Section 8, Township 25 North, Range 59 East  
1641 California St. Suite 400  
Denver, CO 80202

August 25, 2023



## MONTANA AIR QUALITY PERMIT

Issued To: Crusoe Energy Systems, Inc.  
1641 California St., Suite 400  
Denver, CO 80202

MAPQ: #5262-01  
Application Complete: 06/14/2023  
Preliminary Determination Issued: 07/20/2023  
Department Decision Issued: 08/09/2023  
Permit Final: 08/25/2023

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Crusoe Energy Systems, Inc. (Crusoe), 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. Plant Location

Crusoe Energy Systems, Inc. owns and operates the facility, identified as Kraken Central Site, located approximately 15.2 miles northeast of Sidney, Montana, in Section 8, Township 25 North, Range 59 East, in Richland County, 47.93400°N, latitude and -104.13700°W, longitude.

#### B. Current Permit Action

On June 2, 2023, DEQ received an application for modification of the existing air quality permit proposing the installation of three (3) back up diesel generators and (5) five diesel storage tanks, and the removal of three (3) Waukesha engines. Crusoe also requested to change the emission factor for the Waukesha engines.

On June 14, 2023, DEQ received an additional request from Crusoe for an additional back up diesel generator and one (1) additional diesel storage tank (5,200 gallon) to be added. On June 30, 2023, DEQ received manufacturer specifications on the Waukesha engines.

The current action incorporates the proposed modifications, updates the rule references and language used by DEQ, and updates the emission inventory.

### Section II: Conditions and Limitations

#### A. Emission Limitations

1. Crusoe shall not have onsite more than seven (7) 2,500 brake horsepower (bhp) natural gas fired engines (ARM 17.8.749).
2. Emissions from the 2,500 bhp natural gas fired engines shall not exceed the following (ARM 17.8.749 and 17.8.752):

Total Particulate Matter (PM<sub>TOT</sub>) – 0.01 grams per brake horsepower-hour  
(g/bhp-hr)

PM with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) – 0.01 g/bhp-hr

PM with an aerodynamic diameter of 2.5 microns or less (PM<sub>2.5</sub>) – 0.01 g/bhp-hr  
Sulfur Dioxide (SO<sub>2</sub>) - 0.08 g/bhp-hr  
Oxides of Nitrogen (NO<sub>x</sub>) – 0.83 g/bhp-hr  
Carbon Monoxide (CO) – 1.65 g/bhp-hr  
Volatile Organic Compounds (VOC) – 0.06 pound per hour (lb/hr)  
Hazardous Air Pollutants (HAPs) – 0.24 lb/hr

3. Crusoe shall operate and maintain a non-selective catalytic reduction (NSCR) unit and an air/fuel ratio (AFR) controller on all 2,500 bhp engines, within the parameters recommended by the equipment manufacturer (ARM 17.8.752).

4. Crusoe shall not have onsite more than three (3) 500-kilowatt (kW) diesel fired generators (ARM 17.8.749).

5. Emission from each of the 500-kW diesel fired engines shall not exceed the following (ARM 17.8.752):

PM<sub>TOT</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> – 0.03 g/bhp-hr  
SO<sub>x</sub> – 0.014 pounds per hour (lb/hr)  
NO<sub>x</sub> – 4.60 g/bhp-hr  
CO – 0.60 g/bhp-hr  
VOC – 0.03 g/bhp-hr  
HAPs – 0.00133 pounds per million British thermal units (lb/MMBtu)

6. Hours of operation for each of the three (3) 500-kW diesel fired engine shall not exceed 900 hours per year (hr/yr) (ARM 17.8.749 and ARM 17.8.1204).

7. Crusoe shall not have onsite more than one (1) 1,099-kW diesel fired engine (ARM 17.8.749).

8. Emissions from the 1,099-kW diesel fired engine shall not exceed the following (ARM 17.8.752):

PM<sub>TOT</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> – 0.02 g/bhp-hr  
SO<sub>x</sub> – 0.0074 lb/hr  
NO<sub>x</sub> – 6.09 g/bhp-hr  
CO – 0.18 g/bhp-hr  
VOC – 0.01 g/bhp-hr  
HAPs – 0.00133 lb/MMBtu

9. Hours of operation for the 1,099-kW diesel fired engine shall not exceed 900 hr/yr (ARM 17.8.749 and ARM 17.8.1204).

10. Crusoe shall not have onsite more than 12,200-gallon storage capacity of horizontal diesel storage tanks (ARM 17.8.749).

11. Crusoe shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

12. Crusoe 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).
13. Crusoe shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions' limitation in Section II.A.12 (ARM 17.8.749).
14. Crusoe shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 60, Subpart(s) A, IIII, and JJJJ (ARM 17.8.340 and 40 CFR 60, Subpart A, IIII, and JJJJ).
15. Crusoe shall comply with all applicable standards and limitations, and the reporting, recordkeeping and notification requirements contained in 40 CFR 63, Subpart A, Subpart ZZZZ (ARM 17.8.342 and 40 CFR 63, Subpart(s) A and ZZZZ).

#### B. Testing Requirements

1. Following the calendar date of the initial compliance demonstration, compliance with the applicable emission limits shall be demonstrated via source testing for NO<sub>x</sub>, CO and VOCs simultaneously within 8,760 operating hours or 3 years, whichever comes first. Source testing shall follow the applicable methods defined in 40 CFR 60 Subpart JJJJ, or equivalent methods as approved in writing by the Department. Future compliance demonstration shall be required at this same frequency for EU04. (ARM 17.8.105, ARM 17.8.749, ARM 17.8.340, 40 CFR 60 Subpart JJJJ).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The DEQ may require further testing (ARM 17.8.105).

#### C. Operational Reporting Requirements

1. Crusoe shall notify the DEQ of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit***, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation.

The notice must be submitted to the DEQ, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

2. All records compiled in accordance with this permit must be maintained by Crusoe 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 DEQ, and must be submitted to the DEQ upon request. These records may be stored at a location other than the plant site upon approval by the DEQ (ARM 17.8.749).
3. Crusoe shall supply the DEQ with annual production information for all emission points, as required by the DEQ in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the DEQ by the date required in the emission inventory request. Information shall be in the units required by the DEQ. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). Crusoe shall submit the following information annually to the DEQ by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

4. Crusoe shall document, by month, the total hours operated for the engines listed in Section II.A.4 and Section II.A.7. By the 25<sup>th</sup> day of each month, Crusoe shall total the hours operated for the previous month. The monthly information will be used to verify compliance with the hourly limitations listed in Section II.A.6 and Section II.A.9. (ARM 17.8.749).
5. Crusoe shall annually certify that the Kraken Central Site actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207.

The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

### SECTION III: General Conditions

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

- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Crusoe 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 DEQ’s decision may request, within 15 days after the DEQ renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the DEQ’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the DEQ’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the DEQ’s decision on the application is final 16 days after the DEQ’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the DEQ at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Crusoe 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 Analysis  
Crusoe Energy Systems, Inc. – Kraken Central Site  
MAQP #5262-01

I. Introduction/Process Description

Crusoe Energy Systems, Inc., (Crusoe) owns and operates a natural gas compressor station. The facility is located 15 miles northeast of Sidney, Montana, in Section 8, Township 25 North, Range 59 East, in Richland County, 47. 93400°N, latitude and -104. 13700°W, longitude, and is referred to as the Kraken Central Site.

A. Permitted Equipment

Crusoe operates seven (7) 2,500 brake horsepower (bhp) Waukesha 9394 GSI generator engines, three (3) 500-kilowatt (kW) diesel fired engines, one (1) 1,099-kW diesel fired engine, two (2) 2,000-gallon (gal) horizontal diesel storage tanks, three (3) 1,000-gal horizontal diesel storage tank, and one (1) 5,200-gal horizontal diesel storage tank

B. Source Description

Crusoe owns and operates a natural gas compressor station used to power small data centers on site.

C. Permit History

On September 1, 2021, Montana Air Quality Permit (MAQP) #5262-00 was deemed final by the DEQ. The permit was for a Natural Gas Compressor Station, known as Kraken Central Site. In this permit, Crusoe was given the option to operate under two operating scenarios AOS1 or AOS2.

AOS1 would consist of two (2) 2,500 brake horsepower (bhp) Waukesha 9394 GSI generator engines (EU001), one (1) 484 bhp Waukesha VGF H24SE compressor engine (EU002), and one (1) 21,000 bhp Solar Titan 130 natural gas-fired compressor turbine (EU003).

AOS2 would consist of ten (10) 2,500 bhp Waukesha 9394 GSI generator engines (EU004).

On August 18, 2021, Crusoe notified the DEQ in writing of their intent to operate under AOS2, rendering AOS1 no longer an option.

D. Current Permit Action

On June 6, 2023, the DEQ received an application from Crusoe Energy Systems, Inc. The application requested the removal of the removal of three (3) 2,500 natural gas engines.

In addition to the removal of the engines, Crusoe requested to add one (1) 1,099-kilowatt (kW) US EPA rated Tier II Caterpillar C32 back-up diesel generator. Two (2) 500-kW US EPA Tier II Caterpillar C15 back-up diesel fire generators. One (1) 2,000-gallon (gal) horizontal diesel storage tanks, three (3) 1,000-gal horizontal diesel storage tanks.



DEQ received an additional request on June 14, 2023, to add an additional (1) 500 kW Tier II Caterpillar C15 back-up diesel generator, one (1) 2,000-gal horizontal diesel storage tank, and one (1) 5,200-gal horizontal diesel storage tank.

#### F. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

## II. Applicable Rules and Regulations

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

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

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the DEQ, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the DEQ.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the DEQ, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Crusoe 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 DEQ upon request.

4. ARM 17.8.110 Malfunctions. (2) The DEQ must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that

may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>
11. ARM 17.8.230 Fluoride in Forage

Crusoe must maintain compliance with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Crusoe shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.316 Incinerators. 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.

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). Crusoe 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 JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. The proposed engines will be ordered after June 12, 2006, and manufactured after either July 1, 2007 and July 2, 2008, as applicable based on horsepower. Therefore, the engines operated at this facility are subject to this regulation.
  - c. 40 CFR 60, Subpart IIII – Standard of Performance for Stationary Compression Ignition Internal Combustion Engines.  
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 Crusoe, the CI ICE equipment to be used under MAQP #5262-01 may be subject to this subpart because the proposed backup diesel engines are manufactured after the applicable date.
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 a NESHAP Subpart as listed below:
  - b. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Subpart ZZZZ applies to the new reciprocating engines but compliance with Subpart ZZZZ is demonstrated by compliance with 40CFR 60 Subpart JJJJ.

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 DEQ. Crusoe 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 DEQ by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the DEQ. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The DEQ may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Crusoe has a PTE greater than 25 tons per year of Oxides of Nitrogen (NO<sub>x</sub>), Carbon Monoxide (CO), Volatile Organic Compounds (VOCs); therefore, an air quality permit is required.
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. Crusoe 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.

Crusoe submitted an affidavit of publication of public notice for the June 7<sup>th</sup>, 2023, issue of the *Sidney Herald*, a newspaper of general circulation in the Town of Sidney in Richland County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the DEQ must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the DEQ at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Crusoe 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 DEQ's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the DEQ's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's

emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

15. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the DEQ.
16. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the DEQ for incineration facilities subject to 75-2-215, Montana Code Annotated (MCA).
17. ARM 17.8.771 Mercury Emission Standards for Mercury-Emitting Generating Units. This rule identifies mercury emission limitation requirements, mercury control strategy requirements, and application requirements for mercury-emitting generating units.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

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

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
  - a. PTE > 100 tons/year of any pollutant;
  - b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the DEQ may establish by rule; or
  - c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) in a serious PM<sub>10</sub> 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 #5262-01 for Crusoe, 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<sub>10</sub> nonattainment area.
- d. This facility is subject NSPS (40 CFR 60, Subparts A, III, JJJJ).
- e. This facility is subject to NESHAP standards (40 CFR 63, Subparts 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.

Crusoe requests federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

- h. As allowed by ARM 17.8.1204(3), the DEQ may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's potential to emit.
  - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the DEQ that the source's potential to emit, does not require the source to obtain an air quality operating permit.
  - ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

The DEQ determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness.

Crusoe shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, the DEQ determined that Crusoe 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, Crusoe will be required to obtain a Title V Operating Permit.

### III. BACT Determination

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

A BACT analysis was submitted by Crusoe in permit application #5262-01, addressing some available methods of controlling pollutant emissions from the Kraken Central Site. The following control options have been reviewed by the DEQ to make the following BACT determination.

BACT analysis for the 500-kW and 1,099kW engines are EPA-certified Tier II, respectively and are only used for back-up purposes. The diesel fuel storage tanks are uncontrolled due to low throughputs and expected emissions. Any additional evaluation for controls would be financially infeasible due to intermittent and infrequent operation of these units.

Crusoe shall use good combustion practices and low sulfur diesel fuel as BACT for the 500-kW and 1,099-kW engines.

### IV. Emission Inventory

<b>CONTROLLED</b>	<b>tons/year</b>							
	<b>Emission Source</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>	<b>SO<sub>x</sub></b>
2500 bhp Waukesha 9394 GSI	11.65	11.65	11.65	25.29	50.59	1.69	2.45	7.36
500kW Engine	0.05	0.05	0.05	8.15	1.06	0.05	0.02	1.37
1,099kw Engine	0.04	0.04	0.04	6.83	0.89	0.04	0.01	0.89
<b>Total Emissions</b>	<b>11.75</b>	<b>11.75</b>	<b>11.75</b>	<b>40.27</b>	<b>52.54</b>	<b>1.78</b>	<b>2.48</b>	<b>9.62</b>

Calculations:

#### 2,500 hp engines

Note: Emissions are based on the power output of the engine (7 hp).

Operational Capacity of Engine = 7 engines 7 engines  
 Hours of Operation = 8,760.00 hours 8760 hours

PM Emissions:

PM Emissions = 11.65 ton/yr (Assume all PM < 1.0 um) 11.65 ton/yr

PM-10 Emissions:

Emission Factor = 0.38 lb/hr (BACT) 0.38 lb/hr  
 Calculation: ((7 engines) \* (8,760 hours) \* (0.38 lb/hr) \* (8,760 hours) \* (ton/2000 lb) = 11.651 ton/yr 11.65 ton/yr

PM2.5 Emissions

Emission Factor = 0.38 lb/hr (BACT) 0.38 lb/hr  
 Calculation: ((7 engines) \* (8,760 hours) \* (0.38 lb/hr) \* (8,760 hours) \* (ton/2000 lb) = 11.651 ton/yr 11.65 ton/yr

NOx Emissions:

Emission Factor = 0.825 lb/hr (BACT) 0.825 lb/hr  
 Calculation: ((7 engines) \* (8,760 hours) \* (0.825 lb/hr) \* (8,760 hours) \* (ton/2000 lb) = 25.29 ton/yr 25.29 ton/yr



CO Emissions:  
 Emission Factor = 1.65 lb/hr (BACT) 1.65 **lb/hr**  
 Calculation: ((7 engines) \* (8,760 hours) \* (1.65 lb/hr) \* (8,760 hours) \* (ton/2000 lb) = 50.59 ton/yr 50.59 **ton/yr**

VOC Emissions:  
 Emission Factor = 0.055 lb/hr (BACT) 0.06 **lb/hr**  
 Calculation: ((7 engines) \* (8,760 hours) \* (0.06 lb/hr) \* (8,760 hours) \* (ton/2000 lb) = 1.686 ton/yr 1.69 **ton/yr**

SOx Emissions:  
 Emission Factor = 0.08 lb/hr (BACT) 0.08 **lb/hr**  
 Calculation: ((7 engines) \* (8,760 hours) \* (0.08 lb/hr) \* (8,760 hours) \* (ton/2000 lb) = 2.453 ton/yr 2.45 **ton/yr**

HAPs Emissions  
 Emission Factor = 0.24 lb/hr 0.24 **lb/hr**  
 Calculation: ((7 engines) \* (8,760 hours) \* (7.36 ton/yr) \* (8,760 hours) \* (ton/2000 lb) = 2.453 ton/yr 7.36 **ton/yr**

**595 hp engine (500-kW)**

Note: Emissions are based on the power output of the engine (3 hp).

Operational Capacity of Engine = 3 engines 3 **engines**  
 Hours of Operation = 900.00 hours 900 **hours**  
 Engine Horsepower Rating 595 **hp**  
 Conversion of grams to pounds 0.002205 **lbs**  
 MMBtu per Gallon of Diesel fuel 19300 **Btu/gal**  
 Gallons per hour 35.7 **gal/hr**

PM Emissions:  
 PMTOT Emissions = 0.05 ton/yr (Assume all PM < 1.0 um) 0.05 **ton/yr**

PM-10 Emissions:  
 Emission Factor = 0.03 g/bhp-hr (BACT) 0.03 **g/bhp-hr**  
 Calculation: ((3 engines) \* (0.03 g/bhp-hr) \* (595 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.053 ton/yr 0.05 **ton/yr**

PM-2.5 Emissions  
 Emission Factor = 0.03 g/bhp-hr (BACT) 0.03 **g/bhp-hr**  
 Calculation: ((3 engines) \* (0.03 g/bhp-hr) \* (595 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.053 ton/yr 0.05 **ton/yr**

NOx Emissions:  
 Emission Factor = 4.6 g/bhp-hr (BACT) 4.6 **g/bhp-hr**  
 Calculation: ((3 engines) \* (4.60 g/bhp-hr) \* (595 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 8.147 ton/yr 8.15 **ton/yr**

CO Emissions:  
 Emission Factor = 0.6 g/bhp-hr (BACT) 0.6 **g/bhp-hr**  
 Calculation: ((3 engines) \* (0.60 g/bhp-hr) \* (595 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 1.063 ton/yr 1.06 **ton/yr**

VOC Emissions:  
 Emission Factor = 0.03 g/bhp-hr (BACT) 0.03 **g/bhp-hr**  
 Calculation: ((3 engines) \* (0.03 g/bhp-hr) \* (595 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.053 ton/yr 0.05 **ton/yr**

SOx Emissions:  
 Emission Factor = 0.014 lb/hr (BACT) 0.01400 **lb/hr**

Calculation: ((3 engines) \* (0.014 lb/hr) \* (900 hours) \* (ton/2000 lb) = 0.019 ton/yr 0.02 ton/yr

HAPs Emissions

Emission Factor = 0.00133 lb/MMBtu 0.00133 lb/MMBtu

Calculation: ((3 engines) \* (0.00 lb/MMBtu) \* (595 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 1.375 ton/yr 1.37 ton/yr

**1497 hp engine (1,099-kW)**

Note: Emissions are based on the power output of the engine (1 hp).

Operational Capacity of Engine = 1 engine 1 engine

Hours of Operation = 900.00 hours 900 hours

Engine Horsepower Rating 1497 hp

Conversion of grams to pounds 0.002205 lbs

MMBtu per Gallon of Diesel fuel 19300 Btu/gal

Gallons per hour 69.4 gal/hr

PM Emissions:

PMTOT Emissions = 0.04 ton/yr (Assume all PM < 1.0 um) 0.04 ton/yr

PM-10 Emissions:

Emission Factor = 0.03 g/bhp-hr (BACT) 0.03 g/bhp-hr

Calculation: ((1 engine) \* (0.03 g/bhp-hr) \* (1,497 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.045 ton/yr 0.04 ton/yr

PM-2.5 Emissions

Emission Factor = 0.03 g/bhp-hr (BACT) 0.03 g/bhp-hr

Calculation: ((1 engine) \* (0.03 g/bhp-hr) \* (1,497 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.045 ton/yr 0.04 ton/yr

NOx Emissions:

Emission Factor = 4.6 g/bhp-hr (BACT) 4.6 g/bhp-hr

Calculation: ((1 engine) \* (4.60 g/bhp-hr) \* (1,497 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 6.833 ton/yr 6.83 ton/yr

CO Emissions:

Emission Factor = 0.6 g/bhp-hr (BACT) 0.6 g/bhp-hr

Calculation: ((1 engine) \* (0.60 g/bhp-hr) \* (1,497 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.891 ton/yr 0.89 ton/yr

VOC Emissions:

Emission Factor = 0.03 g/bhp-hr (BACT) 0.03 g/bhp-hr

Calculation: ((1 engine) \* (0.03 g/bhp-hr) \* (1,497 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.045 ton/yr 0.04 ton/yr

SOx Emissions:

Emission Factor = 0.014 lb/hr (BACT) 0.01400 lb/hr

Calculation: ((1 engine) \* (0.014 lb/hr) \* (900 hours) \* (ton/2000 lb) = 0.006 ton/yr 0.01 ton/yr

HAPs Emissions

Emission Factor = 0.00133 lb/MMBtu 0.00133 lb/MMBtu

Calculation: ((1 engine) \* (0.00 lb/MMBtu) \* (1,497 hp) \* (900.00 hours) \* (1 lb/453.53 g) \* (1 ton/2000 lb) = 0.891 ton/yr 0.89 ton/yr

V. Existing Air Quality

Richland County is currently designated as attainment/unclassifiable for all pollutants.

VI. Air Quality Impacts

This permit contains conditions and limitations that would protect air quality for the site and surrounding area.

VII. Ambient Air Impact Analysis

The DEQ determined, based on MAQP #5262-01, that the impacts from this permitting action will be minor. The DEQ believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the DEQ conducted a private property taking and damaging assessment which is located in the attached environmental assessment.

IX. Environmental Assessment

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



**Crusoe Energy Systems, LLC**  
**Draft Environmental Assessment for**  
**Montana Air Quality Permit #5262-01**  
**Air Quality Bureau**

<b>APPLICANT:</b> Crusoe Energy Systems, LLC (Crusoe)		
<b>SITE NAME:</b> Kraken Central Site		
<b>PROPOSED PERMIT NUMBER:</b> Montana Air Quality Permit (MAQP) #5262-01		
<b>APPLICATION RECEIVED:</b> 06/02/2023		
<b>APPLICATION DEEMED COMPLETE:</b> 06/14/2023		
<b>LOCATION:</b> Section 8, Township 25 North, Range 59 East		<b>COUNTY:</b> Richland
<b>PROPERTY OWNERSHIP:</b>	FEDERAL ___ STATE ___ PRIVATE <u>X</u> ___	
<b>EA PREPARER:</b>	John P. Proulx, Air Quality Engineer	
<b>EA Draft Date</b>	<b>EA Final Date</b>	<b>Permit Final Date</b>
07/20/2023	08/09/2023	08/25/2023

**COMPLIANCE WITH THE MONTANA ENVIRONMENTAL POLICY ACT**

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

## COMPLIANCE WITH THE CLEAN AIR ACT OF MONTANA

The state law that regulates air quality permitting in Montana is the Clean Air Act of Montana (CAA), §§ 75-2-101, *et seq.*, Montana Code Annotated (MCA). DEQ may not approve a proposed action contained in an application for an air quality permit unless the project complies with the requirements set forth in the CAA and the administrative rules adopted thereunder, ARMs 17.8.101 *et seq.* The project is subject to approval by the DEQ Air Quality Bureau (AQB) as the potential project emissions exceed the 5 tons per year threshold of regulated pollutants for modifications of permitted facilities (ARM 17.8.743). DEQ's approval of an air quality permit application does not relieve Crusoe from complying with any other applicable federal, state, or county laws, regulations, or ordinances. Crusoe is responsible for obtaining any other permits, licenses, or approvals (from DEQ or otherwise) that are required for any part of the proposed action. Any action DEQ takes at this time is limited to the pending air quality permit application currently before DEQ's AQB and the authority granted to DEQ under the Clean Air Act of Montana. This action is not indicative of any other action DEQ may take on any future (unsubmitted) applications made pursuant to any other authority (*e.g.* Montana's Water Protection Act). DEQ will decide whether to issue the pending air quality permit pursuant to the requirements of the CAA alone. DEQ may not withhold, deny, or impose conditions on the permit based on the information contained in this Environmental Assessment. § 75-1-201(4), MCA.

### SUMMARY OF THE PROPOSED ACTION

Crusoe has applied for a MAQP modification under the CAA to request an adjustment in emissions at the Kraken Central Site. Crusoe proposes to remove three (3) Waukesha 9394 GSI natural gas engines, add four (4) back-up diesel engines and six (6) horizontal diesel storage tanks. Crusoe requests that the back-up diesel engines be permitted to not operate more than 900 hours per year, as they will solely be used in event the natural gas generators and grid power goes down. The Waukesha engines will combust gas from a nearby oil and gas facility, that would otherwise be flared, as a fuel source to provide electricity to data farms.

This Crusoe permit action has been assigned MAQP #5262-01 and will allow for the continued operation of the natural gas compressor station as in permit version MAQP #5262-00. The proposed change will result in a facility-wide net decrease in carbon monoxide (CO), volatile organic compounds (VOCs), particulate matter (PM10/PM2.5), sulfur dioxide (SO2), and hazardous air pollutant (HAP) emissions. There is a net increase of nitrogen oxides (NOx), but the increase is less than 8 tons/year, which keeps this Crusoe permit action as a minor permit modification.

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

**Table 1: Proposed Action Details**

Proposed Action	
General Overview	The proposed modification to MAQP #5262-00 is being requested by Crusoe at the Kraken Central Site in this action: Crusoe intends to remove the following equipment:

	<ul style="list-style-type: none"> <li>• Three (3) Waukesha 9394 GSI natural gas engines</li> </ul> <p>Crusoe intends to add following equipment:</p> <ul style="list-style-type: none"> <li>• Four (4) back-up diesel generators <ul style="list-style-type: none"> <li>○ one (1) 1,099-kilowatt (kW) Tier II Caterpillar C32 back-up diesel generator operating no more than 900 hours per year.</li> <li>○ three (3) 500 kW Tier II Caterpillar C15 back-up diesel generators operating no more than 900 hours per year each.</li> </ul> </li> <li>• Six (6) horizontal diesel storage tanks (<b>EU07</b>) <ul style="list-style-type: none"> <li>○ two (2) 2,000-gal horizontal diesel storage tanks</li> <li>○ three (3) 1,000-gal horizontal diesel storage tanks</li> <li>○ one (1) 5,200-gal horizontal diesel storage tanks.</li> </ul> </li> </ul>
Disturbance	<p>The existing Kraken Central Site is located on private land owned by Kittleson Family Partnership LP and broadly used as agricultural land, with existing oil and gas infrastructure. There will be minimal new disturbance for the additional equipment proposed by Crusoe. All new equipment will be placed on land within the confines of the existing project area of the Kraken Central Site.</p>
<b>Proposed Action</b>	
Duration	<p><b>Construction:</b> Construction or commencement for the new or modified sources must start within three years of issuance of the final air quality permit, otherwise the authority to construct expires.</p> <p><b>Operational Life:</b> Although equipment may have functional lives of 20 to 30 years depending on equipment maintenance efforts, Kraken Central Site would be expected to remain operational as long as economic conditions are favorable.</p>
Construction Equipment	<p>The proposed actions would have minimal effects on geology, soil quality, stability, and moisture due to the removal and installation of the engines and tanks. The minimal impacts include slight ground preparation and some minor heavy equipment travel while conducting the actions within this modification. Construction equipment and operations would only be present in the short term, and no newly disturbed areas will be created with this modification. All operations will occur on previously disturbed land that has been graveled for ease of equipment setup and to provide additional stability.</p>

Personnel Onsite	<p><b>Construction:</b> No staff increase for the construction process will be seen. Construction will only be thru completion of the engine installation.</p> <p><b>Operations:</b> No change in staff is necessary to accommodate this modification.</p>
Location and Analysis Area	<p><b>Location:</b> The proposed action is located at Crusoe’s Kraken Central Site property. This facility is located approximately 15.2 miles northeast of Sidney, Montana, in Section 8, Township 25 North, Range 59 East, in Richland County, 47.93400°N, latitude and -104.13700°W, longitude.</p> <p><b>Analysis Area:</b> The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered. The proposed actions will take place within the already disturbed area, that measures approximately 4.5 acres.</p>
Air Quality	<p>The Draft EA will be attached to the Preliminary Determination Air Quality Permit which would include all enforceable conditions for operation of the emitting units. Any revisions to the EA would be addressed and included in the Final EA attached to the DEQ’s Decision.</p>
Conditions Incorporated into the Proposed Action	<p>The conditions developed in the Preliminary Determination of the MAQP dated _____, set forth in Sections II.A-D.</p>

**Figure 1: Map of the Crusoe's Kraken Central Site, Richland County, MT (June 2023). Red outline notes current developed area (approx. 4.5 acres), and location in which the proposed actions will occur.**

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## **PURPOSE AND BENEFIT FOR PROPOSED ACTION**

DEQ's purpose in conducting this environmental review is to act upon Crusoe's air quality permit application No. 5262-01 to remove three natural gas Waukesha engines, add four back-up diesel generators, and add six horizontal diesel storage tanks.



The benefits of the proposed action, if approved, include: facility-wide net decrease in carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM10/PM2.5), sulfur dioxide (SO2), and hazardous air pollutant (HAP) emissions. The addition of the back-up generators and diesel storage tanks will provide Crusoe resiliency.

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

## **REGULATORY RESPONSIBILITIES**

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

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

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

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

The duration of an impact is quantified as follows:

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

The severity of an impact is measured using the following:

- **No Impact:** There would be no change from current conditions.
- **Negligible Impact:** An adverse or beneficial effect would occur but would be at the lowest levels of detection.

- **Minor Impact:** The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate Impact:** The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major Impact:** The effect would alter the resource.

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

The Kraken Central Site is located 15.2 miles northeast of Sidney, MT in Richland County. The elevation is approximately 2,048 ft as referenced by the nearest topographic map on the Montana DEQ GIS website. Prior to use as the Kraken Central Site, the location was used as agricultural grounds, and most of the land surrounding the site is still used as such. There are also existing oil and gas production facilities scattered near the project area.

The existing soils at the project site are deep, nearly level and gently sloping, well-drained loams and clay loams. The project site is graveled for ease of equipment setup and to provide additional stability.

**Direct Impacts:** None of the planned disturbance at the site for this modification is considered first time disturbance. Soils would be disturbed during construction and operation of the proposed action, all within the confines of previously disturbed and then stabilized lands. There is no impact expected to topography and geology.

**Secondary Impacts:** No secondary impacts to topography, geology, stability, and moisture would be expected because the modification actions will be located within the existing Kraken Central Site property.

## 2. WATER QUALITY, QUANTITY, AND DISTRIBUTION:

No wetlands have been identified on the site or within the project boundaries. A perennial stream, North Fork Fourmile Creek, is located at the closest distance approximately 300 feet to the east of the project boundaries but spanning the length of the east border. Additionally, an unnamed intermittent stream, approximately 100 feet to the southwest and spanning the southern boundary of the project area (see fig. 2), flows into the North Fork Fourmile Creek. The proposed actions are not expected to have any effect on the water quality, quantity, or distribution.

**Direct Impacts:** No impacts to water quality and quantity, which are resources of significant statewide and societal importance are expected with the current permit action.

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

### 3. AIR QUALITY:

Crusoe's modification will lead to a decrease in emissions of all pollutants, except NO<sub>x</sub>.

**Direct Impacts:** Air quality standards, set by the federal government and DEQ are enforced by the AQB and allow for pollutants at the levels permitted within the MAQP. Once the proposed actions are complete, project emissions would include particulate matter (PM) species, oxides of NO<sub>x</sub>, CO, sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOCs). These emissions come from fuel combustion, and tank losses.

Air pollution control equipment must be operated at the maximum design for which it is intended ARM 17.8.752(2). Limitations would be placed on the allowable emissions for the new emission sources. As part of the air quality permit application, Crusoe submitted a Best Available Control Technology (BACT) analysis for each emitting unit. These proposed limits were reviewed by DEQ and incorporated into MAQP #5262-01 as enforceable conditions. These permit limits cover NO<sub>x</sub>, CO, SO<sub>2</sub>, VOCs, PM, and CO with associated ongoing compliance demonstrations, as determined by DEQ.

During installation and removal of equipment, fugitive dust may be generated from ground preparation and from construction vehicle activity. Pursuant to ARM 17.8.304(2), fugitive dust emissions would need to meet an operational visible opacity standard or 20 percent or less averaged over 6 consecutive minutes. Pursuant to ARM 17.8.308(1), Crusoe is required to take reasonable precautions to control emissions of airborne particulate matter from all phases of operation. Air quality standards are regulated by the federal Clean Air Act, 42 U.S.C. 7401 *et seq.*, and CAA, § 50-40-101 *et seq.* MCA, and are implemented and enforced by DEQ's AQB. As stated above, Crusoe is required to comply with all applicable state and federal laws. Minimal air quality impacts would be anticipated for the proposed action.

**Secondary Impacts:** Impacts from the proposed actions are to be restricted by an MAQP and therefore should have minor secondary air quality impacts.

### 4. VEGETATION COVER, QUANTITY AND QUALITY:

The proposed action is located at the existing Kraken Central Site in a rural agricultural area. Prior to this site being used as the Kraken Central Site, it was used for agricultural purposes. No new vegetation will be impacted with the proposed actions of this modification and all activities will be conducted inside the perimeter of the existing project.

**Direct Impacts:** The information provided above is based on the information that DEQ had available to it at the time of completing this EA and provided by the applicant. Available information includes the permit application, analysis of aerial photography, topographic maps, geologic maps, soil maps, and other research tools. As the proposed action would be located within the Kraken Central Site, the vegetation is very limited at the site. No impacts on vegetation cover, quantity and quality are expected.

**Secondary Impacts:** No secondary impacts are expected since land disturbance at the Kraken Central Site for the proposed modifications are minimal.

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

**Direct Impacts:** The potential impact (including cumulative impacts) to terrestrial, avian, and aquatic life and habitats would be negligible, due to the location of the proposed actions being in an already existing and fully developed site.

**Secondary Impacts:** No secondary impacts to terrestrial, avian and aquatic life and habitats stimulated or induced by the direct impacts analyzed above or from the operation of the Kraken Central Site would be expected.

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

The amount of allowable emissions permitted by MAQP #5262-01 would be small on an industrial scale. The site location is an existing oil and gas development site. No significant impacts to unique endangered, fragile, or limited environmental resources would be expected from the normal operations emissions from the facility.

To identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS) on the original permit application. The area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone.

The Species of Concern Data Report include one species occurrence of Whooping Crane, along with other observed species of Hayden's Shrew, Baird's Sparrow, Swift Fox, Sharptailed Grouse, Blue Sucker, Brook Stickleback, Burbot, Creek Chub, Iowa Darter, Northern Redbelly Dace, Paddlefish, Pallid Sturgeon, Sauger, Sickle fin Chub, and Sturgeon Chub. There were numerous other potential species identified which match the type of habitat in the selected area.

**Direct Impacts:** The potential impact (including cumulative impacts) to species would be negligible.

**Secondary Impacts:** No secondary impacts to unique, endangered, fragile, or limited environmental resources.

## 7. HISTORICAL AND ARCHAEOLOGICAL SITES:

The Montana State Historic Preservation Office (SHPO) was contacted to conduct a file search for historical and archaeological sites within Section 8 Township 25 North, Range 59 East. SHPO provided a letter dated June 23, 2023, that indicated there have been no recorded historical or archaeological sites within the designated search location.

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 within the Area of Potential Effect, and are over fifty years old, SHPO recommends that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place.

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

**Direct Impacts:** SHPO report indicates no sites within the proposed area, no impacts to historical and archeological sites would be expected.

**Secondary Impacts:** No secondary impacts to historical and archaeological sites are anticipated since the proposed action is located on land currently disturbed and in use by Crusoe.

## **8. SAGE GROUSE EXECUTIVE ORDER:**

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

## **9. AESTHETICS:**

The site is located in an area mostly surrounded by private property in rural, agricultural setting. The proposed action would occur on private land. The nearest residents to the proposed action reside to the southwest at a distance of approximately 4,150 feet. It is not expected that the nearest residences to the proposed site would experience any noticeable change in noise levels. The noise levels at the property boundary would not be expected to change.

**Direct Impacts:** There would be temporary construction activities including ground preparation and delivery and removal of equipment. Equipment planned for construction could include cranes, backhoes, graders/dozers, passenger trucks, delivery trucks and various other types of smaller equipment. Once the proposed action is constructed, no discernable change in noise level would be expected. The Kraken Central Site profile would change slightly with the erection of new tanks and equipment, and the removal of some equipment. Impacts would be negligible and short-term. Noise levels are not expected to change beyond site boundary.

**Secondary Impacts:** The proposed actions would not be expected to have an impact on the aesthetics because it would be situated on property currently in use and its noise would not be expected to differ any from the existing operations.

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

The site is located in a rural area characterized by agricultural zoning and scattered areas of oil and gas operations.

**Direct Impacts:** During initiation of the proposed action there would be a minor increase in energy use to deliver and remove the noted equipment and tanks. Once the new equipment is put into service, energy and electric demands would continue for the duration of the facility's lifetime at or near current levels provided the oil and gas wells have adequate vented gas. See the Air Quality and Water Quality sections of the EA to review the potential impacts from the proposed action regarding air and water resources.

**Secondary Impacts:** No secondary impacts to environmental resources of land, water, air or energy are anticipated because the proposed action is located on land currently disturbed and in use by Crusoe.

#### **11. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:**

The site is surrounded by agricultural lands and oil and gas sites.

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

**Secondary Impacts:** No secondary impacts to other environmental resources are anticipated as a result of the proposed action.

#### **12. HUMAN HEALTH AND SAFETY:**

The applicant would be required to adhere to all applicable state and federal safety laws. The access to the public would continue to be restricted to this property.

**Direct Impacts:** Minor impacts to human health and safety are anticipated as a result of this proposed action with the increase in NO<sub>x</sub>.

**Secondary Impacts:** No secondary impacts to human health and safety are anticipated because of the proposed action.

#### **13. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION:**

The site is currently zoned agricultural, but there is an existing oil and gas development at the site, and others near the site. Agricultural activities are active near and around the site area as it is rural and mostly agricultural area with oil and gas developments sprinkled in the area.

**Direct Impacts:** The proposed action would not impact the amount of land associated with Kraken Central Site. Much of the Kraken Central Site property is already disturbed and stabilized with gravel for easy of moving and setting equipment. After initial increase of delivery traffic to set new equipment, no increase in employment or traffic is anticipated. Impacts on the agricultural activities and production in the area would be negligible.

**Secondary Impacts:** No secondary impacts to agricultural activities and production are anticipated as a result of the proposed action at Kraken Central Site.

#### **14. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:**

**Direct Impacts:** The proposed action would be expected to have no impact on the overall distribution of employment for Crusoe at the Kraken Central Site.

**Secondary Impacts:** No secondary impact is expected on long-term employment from the proposed action.

#### **15. LOCAL AND STATE TAX BASE AND TAX REVENUES:**

The proposed action would be expected to have minor impacts on the local and state tax base and tax revenue.

**Direct Impacts:** Local, state, and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, from the companies, employees, or landowners benefiting from this operation. A minor impact is expected on the tax base and revenue with the proposed action.

**Secondary Impacts:** No secondary impacts to local and state tax base and tax revenues are anticipated because of the proposed action.

#### **16. DEMAND FOR GOVERNMENT SERVICES:**

The proposed action is in a rural agricultural area with existing oil and gas operations and is currently a permitted site.

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

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

#### **17. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:**

**Direct Impacts:** Crusoe's proposed action is on property which is already an existing oil and gas development. No impacts from the proposed action would be expected relative to any locally adopted community planning goals.

**Secondary Impacts:** No secondary impacts on the locally adopted environmental plans and goals are anticipated as a result of the proposed action at Kraken Central Site.

#### **18. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:**

The current site of the proposed action is in an area of agricultural use. No recreation opportunities are located near the project area. No wilderness areas or other recreational sites are in the vicinity.

**Direct Impacts:** There would be no impacts to the access to wilderness activities as none are in the vicinity of the proposed action.

**Secondary Impacts:** No secondary impacts to access and quality of recreational and wilderness activities are anticipated as a result of the proposed action which is wholly contained within the boundary of the Kraken Central Site.

## **19. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**

**Direct Impacts:** The project would not add to the population or require additional housing, therefore, no impacts to density and distribution of population and housing are anticipated.

**Secondary Impacts:** No secondary impacts on density and distribution of population and housing are anticipated as a result of the proposed action.

## **20. SOCIAL STRUCTURES AND MORES:**

Based on the required information provided by Crusoe, DEQ is not aware of any native cultural concerns that would be affected by the proposed action on this existing facility.

**Direct Impacts:** The proposed action is located on an existing industrial site, no disruption of native or traditional lifestyles would be expected, therefore, no impacts to social structure and mores are anticipated.

**Secondary Impacts:** No secondary impacts to social structures and mores are anticipated as a result of the proposed operations or on existing Kraken Central Site.

## **21. CULTURAL UNIQUENESS AND DIVERSITY:**

Based on the required information provided by Crusoe, DEQ is not aware of any unique qualities of the area that would be affected by the proposed actions.

**Direct Impacts:** No impacts to cultural uniqueness and diversity are anticipated from this project.

**Secondary Impacts:** No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action at the Kraken Central Site.

## **22. PRIVATE PROPERTY IMPACTS:**

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

There is a private residence in the area of the proposed action. The closest residence is located approximately 4,150 feet to the southeast from the southeast property boundary.



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 DEQ determined there are no taking or damaging implications associated with this permit action.

### 23. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

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

### ADDITIONAL ALTERNATIVES CONSIDERED:

**No Action Alternative:** In addition to the analysis above for the proposed action, DEQ is considering a “no action” alternative. The “no action” alternative would deny the approval of the proposed action. The applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur. The no action alternative forms the baseline from which the impacts of the proposed action can be measured.

**Other Ways to Accomplish the Action:**

Crusoe is proposing to remove equipment that would equate to a net decrease in most pollutants.

If the applicant demonstrates compliance with all applicable rules and regulations as required for approval, the “no action” alternative would not be appropriate. Pursuant to, § 75-1-201(4)(a), (MCA) DEQ “may not withhold, deny, or impose conditions on any permit or other authority to act based on” an environmental assessment.

**CUMULATIVE IMPACTS:**

This project would support data centers in the area. MAQP #5262-01 would require control of these emissions, with the resulting amount of allowable emissions being minor on an industrial scale. Any impacts as a result of air emissions which would be authorized in MAQP #5262-01 would be expected to be minor, if any discernable amount at all.

**PUBLIC INVOLVEMENT:**

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

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

- Montana State Historic Preservation Office
- Montana DEQ
- Montana Natural Heritage Program
- Montana Cadastral Mapping Program

A fifteen-day public comment period occurs along with the Preliminary Determination on MAQP #5262-01 and is posted to the DEQ website.

**OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION:**

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

**NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL**

## IMPACTS

Under ARM 17.4.608, DEQ is required to determine the significance of impacts associated with the proposed action.

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

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

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

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

2. The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur.
3. Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts.
4. The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values.
5. The importance to the state and to society of each environmental resource or value that would be affected.
6. Any precedent that would be set as a result of an impact of the proposed action that would commit the DEQ to future actions with significant impacts or a decision in principle about such future actions.
7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts with moderate or major severity may be determined to be not significant if the duration of the impacts is considered to be short-term.

As another example, however, moderate or major impacts of short-term duration may be considered to be significant if the quantity and quality of the resource is limited and/or the resource is considered to be unique or fragile.

As a final example, moderate or major impacts to a resource may be determined to be not significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Preparation of an EA is the appropriate level of environmental review under MEPA if statutory requirements do not allow sufficient time for an agency to prepare an environmental impact statement, pursuant to ARM 17.4.607.

An agency determines whether sufficient time is available to prepare an environmental impact statement by comparing statutory requirements that establish when the agency must make its decision on the proposed action with the time required to obtain public review of an environmental impact statement plus a reasonable period to prepare a draft environmental review and, if required, a final environmental impact statement.

## **SIGNIFICANCE DETERMINATION**

The severity, duration, geographic extent, and frequency of the occurrence of the primary, secondary, and cumulative impacts associated with the proposed action would be limited. Crusoe proposes to modify operations at the site referred to as Kraken Central Site. The modification will occur completely on the Kraken Central Site property and will support the operations at Crusoe's facility. The site will be located on private land, within Richland County, Montana. The estimated construction disturbance will be minimal and all be contained within the existing disturbance area of Crusoe's site.

DEQ has not identified any significant impacts associated with the proposed action for any environmental resource. Approving Crusoe's air quality permit application would not set precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions.

DEQ's issuance of a modified MAQP to Crusoe for this proposed operation also does not set a precedent for DEQ's review of other applications, including the level of environmental review. A decision of on the appropriate level of environmental review is made based on case-specific considerations of the criteria set forth in ARM 17.4.608.

DEQ does not believe that the proposed action has any growth-inducing or growth-inhibiting aspects or that it conflicts with any local, state, or federal laws, requirements, or formal plans. Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed state action is not predicted to significantly impact the quality of the human environment. Therefore, at this time, preparation of an EA is determined to be the appropriate level of environmental review under MEPA.

**Environmental Assessment and Significance Determination Prepared By:**

<u>John P. Proulx</u>	<u>Air Quality Engineer</u>
Name	Title

**EA Reviewed By:**

<u>Julie Merkel</u>	<u>Section Supervisor</u>
Name	Title

## References

Air Quality Permit Application Received June 14, 2021  
Montana State Historical Preservation Office (SHPO) Report Received June 23, 2021  
Montana Natural Heritage Program (Website Search Downloads)  
Montana Cadastral GIS Layer – Through-Out Project Up Until Decision Issuance  
Air Quality Bureau Permitted Source List-GIS Layer  
Air Quality Permit MAQP #5262-00

## **ABBREVIATIONS and ACRONYMS**

AQB – Air Quality Bureau  
ARM - Administrative Rules of Montana  
BACT – Best Available Control Technology  
BMP - Best Management Practices  
CAA – Clean Air Act of Montana  
CFR - Code of Federal Regulations  
CO - carbon monoxide  
DEQ – Department of Environmental Quality  
DNRC – Department of Natural Resources and Conservation  
EA – Environmental Assessment  
EIS – Environmental Impact Statement  
EPA - U.S. Environmental Protection Agency  
FCAA Federal Clean Air Act  
MAQP – Montana Air Quality Permit  
MCA – Montana Code Annotated  
MEPA – Montana Environmental Policy Act  
MPDES - Montana Pollutant Discharge Elimination System

MTNHP - Montana Natural Heritage Program  
NO<sub>x</sub> - oxides of nitrogen  
PM - particulate matter  
PM<sub>10</sub> - particulate matter with an aerodynamic diameter of 10 microns and less  
PM<sub>2.5</sub> - particulate matter with an aerodynamic diameter of 2.5 microns and less  
PPAA - Private Property Assessment Act  
Program - Sage Grouse Habitat Conservation Program  
PSD - Prevention of Significant Deterioration  
SHPO - Montana State Historic Preservation Office  
SOC - Species of Concern  
SO<sub>2</sub> - sulfur dioxide  
tpy – tons per year  
U.S.C. - United States Code  
VOC - volatile organic compound