State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQE-AN102510004-13

October 1, 2013

Rick York
Intrepid Potash - Moab, LLC
P. O. Box 1208
Moab, UT 84532

Dear Mr. York:

Re: Approval Order: Approval Order Modification to Change Equipment
Project Number: N10251-0004

The attached document is the Approval Order for the above-referenced project. Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is Mr. Maung Maung, who may be reached at (801) 536-4153.

Sincerely,

Bryce C. Bird
Director

BCB:MM:kw

cc: Mike Owens
Southeastern Utah District Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

APPROVAL ORDER: Approval Order Modification to Change Equipment

Prepared By: Mr. Maung Maung, Engineer
Phone: (801) 536-4153
Email: mmaung@utah.gov

APPROVAL ORDER NUMBER

DAQE-AN102510004-13

Date: October 1, 2013

Intrepid Potash - Moab, LLC
Salt & Potash Production Facility

Source Contact:
Rick York
Phone: (435) 259-7171
Email: rick.york@intrepidpotash.com

Bryce C. Bird
Director

Abstract

Intrepid Potash-Moab, LLC (IPM) produces potash and industrial salt north of Moab in Grand County, an attainment area for all pollutants. IPM requested modification to its existing AO to effect the following changes: relocate three existing Engart dust extractors, install a new Engart dust extractor in the storage warehouse, replace packaging venturi scrubber with a new Engart dust extractor, remove the existing railcar loadout baghouse, install two new well heaters, remove the existing Inpro heater and add the existing 58 hp emergency firewater pump engine in the approved equipment list of the AO.

NSPS (40 CFR 60) Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units and Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants apply to this source. The source is also subject to NESHAP (40 CFR part 63) Subparts CCCCCC - NESHAPs for Source Category: Gasoline Dispensing Facilities and ZZZZ - NESHAPs for Reciprocating Internal Combustion Engines. Title V of the 1990 Clean Air Act applies to this source as an area source. This facility is classified as a synthetic minor source.

PTE totals will change as follows, in TPY: PM_{10} = -5.55, $PM_{2.5}$ (a subset of PM_{10}) = -0.37, NO_x = +28.13, SO_2 = +0.18, CO = +23.46, VOC = +0.63, HAPs = -1.31, CO_2 (equivalent) = +47,119 (previously unaccounted).

The emissions, in TPY, will be as follows: PM_{10} = 35.01, $PM_{2.5}$ (a subset of PM_{10}) = 5.17, NO_x = 52.23, SO_2 = 0.33, CO = 43.70, VOC = 2.88, HAPs = 0.98, and CO_2(e) = 47,119.

This air quality AO authorizes the project with the following conditions and failure to comply with any of the conditions may constitute a violation of this order. This AO is issued to, and applies to the following:

Name of Permittee:

Intrepid Potash - Moab, LLC
P. O. Box 1208
Moab, UT 84532

Permitted Location:

Salt & Potash Production Facility
Potash Road
Moab, UT 84532

UTM coordinates: 622,800 m Easting, 4,273,600 m Northing, UTM Zone 12
SIC code: 1474 (Potash, Soda, & Borate Minerals)

Section I: GENERAL PROVISIONS

I.1 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

I.2 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]

I.3 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]

I.4 All records referenced in this AO or in other applicable rules, which are required to be kept by the owner/operator, shall be made available to the Director or Director's representative upon

request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401-8]

I.5 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]

I.6 The owner/operator shall comply with UAC R307-107. General Requirements: Breakdowns. [R307-107]

I.7 The owner/operator shall comply with UAC R307-150 Series. Inventories, Testing and Monitoring. [R307-150]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

II.A.1 **Salt and Potash Production Facility**
Source Wide

II.A.2 **Engart Dust Extractors (DS01,DS02,DS03,DS04,DS05)**
Five (5) Engart dust extractors control emissions from the Sizing and Compacting Plant Building, Packaging Warehouse and Rail Car Loadout, and Bulk Warehouse/Truck Loadout Building (Stockpile Building)

Model:	Type 27 Dust Extractor
Air Flow Rate:	18,000 acfm
Spray Water Operating Flow Rate:	9 gpm
Scrubber Medium:	Water

II.A.3 **Sizing and Compacting Plant Building**
One (1) compactor
One (1) crusher
One (1) nanosizer
Three (3) screens
Seven (7) bucket elevators
Nine (9) conveyor belts
Two (2) drag conveyers
One (1) scalping screen
One (1) rotary kiln/tumbler (tumbler dryer stack C-2)
Each of the items listed above is controlled by an Engart dust extractor (DS-03)

Four (4) production classifiers controlled by two (2) Engart dust extractors (DS-01& DS-02)

II.A.4 **Packaging Warehouse**
Four (4) storage bins
Belt conveyor
Double deck screen
Bagger
Retractable chute

Controlled by an Engart dust extractor (DS-04) (new)

II.A.5 **Brine Heater (C-5a)**
Fuel Type: Natural gas fired
Manufacturer: Burner Combustion Systems
Rating: 44.0 MMBtu/hr
Control: Autoflame combustion system

II.A.6 **Rail Car Loadout**
Emissions from the rail car loadout are controlled by Engart dust extractor (DS04) (new)

II.A.7 **Fuel Storage Tank #1**
One (1) vertical diesel storage tank with a capacity of 20,000 gallons and an annual throughput of approximately 52,000 gallons per year.

Grandfathered - Installed prior to November 29, 1969

II.A.8 **Fuel Storage Tank #2**
One (1) vertical diesel storage tank with a capacity of 10,000 gallons and an annual throughput of approximately 37,500 gallons per year. The tank is equipped with an eight-inch LL10 pressure/vacuum relief valve. Tank installed in 2004.

II.A.9 **Fuel Storage Tank #3**
One (1) vertical gasoline storage tank with a capacity of 10,000 gallons and an annual throughput of approximately 35,000 gallons per year. This tank is equipped with an eight-inch LL10 pressure/vacuum relief valve. Tank installed in 2004.

II.A.10 **Product Dryer (C-1)**
Rating: 33.0 MMBtu/hr
Control: FMC Type TI Model 30K dual throat venturi scrubber (P-2)

Grandfathered - Installed prior to November 29, 1969

II.A.11 **Bulk Warehouse/Truck Loadout Buildings**
Two (2) trippers
Eight (8) belt conveyors
Two (2) drag/screw conveyors
One (1) scalping screen
Two (2) front-end loaders
One (1) bucket elevator
One (1) truck loading conveyor

Grandfathered - Installed prior to November 29, 1969
Controlled by an Engart dust extractor (DS-05)

II.A.12 **Well 40 and 43 heaters (new)**
Two heaters rated at 33.6 MMBtu per hour each, manufactured by Arizona Boiler Co. Inc.

II.A.13 **Emergency Fire Pump Engine**
Diesel-fired engine, manufactured by Detroit Diesel, model number 353 (model year 1995) rated at 58 hp installed in 2001. It is an existing engine but added into the AO in 2013.

II.B Requirements and Limitations

II.B.1 Source Wide

II.B.1.a IPM shall notify the Director in writing when the equipment has been installed and has become operational. To ensure proper credit when notifying the Director, send your correspond to the Director, attn: Compliance section. If the installation has not been completed within 18 months from the date of this AO, the Director shall be notified in writing on the status of the installation. At that time, the Director shall require documentation of the continuous installation of the operation and may revoke the AO. [R307-401-18]

II.B.1.b The following production limits shall not be exceeded:

1. The Packaging Warehouse and associated equipment (controlled by Engart dust extractor DS-04) shall not exceed 6,000 hours of operation per rolling 12-month period.

2. Rail car loadout facility (controlled by Engart dust extractor DS-04) shall not exceed 3,000 hours of operation per rolling 12-month period.

3. Sizing and compacting plant (controlled by Engart dust extractor DS-03) shall not exceed 7,200 hours of operation per rolling 12-month period.

4. The 10,000 gallon diesel storage Tank #2 throughput shall not exceed 37,500 gallons per rolling 12-month period.

5. The 10,000 gallon gasoline storage Tank #3 throughput shall not exceed 35,000 gallons per rolling 12-month period.

Compliance with the annual limitations shall be determined on a rolling 12-month total. No later than 20 days after the end of each month, the owner/operator shall calculate a new 12-month total using data from the previous 12 months. Records of hours of operation shall be kept for all periods when the plant is in operation. Records of hours of operation shall be made available to the Director or representative upon request and shall include a period of two years ending with the date of the request. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log. Throughput shall be determined by fuel purchasing records. Purchasing records shall be kept for all periods the plant is in operation. [R307-401-8]

II.B.1.c The owner/operator shall use natural gas as a primary fuel in its facility. [R307-401-8]

II.B.1.d Visible emissions from the following emission points shall not exceed the following opacity values:

1. Natural gas combustion - 10% opacity

2. All scrubbers and dust extracators - 15% opacity

3. All other sources - 20% opacity

Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. Visible emissions from mobile sources and

intermittent sources shall use procedures similar to Method 9, but the requirement for observations to be made at 15-second intervals over a six-minute period shall not apply. [R307-201-3]

II.B.1.e The owner/operator shall comply with all applicable requirements for statewide fugitive emission and fugitive dust sources. [R307-205]

II.B.1.f The owner/operator shall comply with the most current FDCP approved by the Director. [R307-401]

II.B.2 **Dust Extractors Limitations**

II.B.2.a Engart dust extractor units 1, 2,3 and 5 stacks shall vent vertically unrestricted with no obstruction beyond the opening of the stack from a height of no less than 35 feet as measured from the ground level. [R307-401-8]

II.B.2.b Engart dust extractor unit number 4 stack shall vent vertically unrestricted with no obstruction beyond the opening of the stack from a height of no less than 25 feet as measured from ground level. [R307-401-8]

II.B.2.c Five (5) Engart dust extractors

The following operating parameters shall be maintained for each Engart dust extractor:

1. The liquid flow rate shall not be less than nine (9) gallons per minute.

The owner/operator shall install, calibrate, maintain and operate a monitoring device for the continuous measurement of the liquid flow rate through the dust extractors. The monitoring device must be certified by the manufacturer and must be calibrated on an annual basis according to the manufacturer's instruction. Continuous recording for the monitoring device is not required, however, daily records of readings shall be maintained. They shall be monitored with equipment located such that an inspector/operator can safely read the output any time.

2. The dust extractor motor must be powered at all times the plant is operating to ensure the fan impeller rotates at synchronous motor speed.

Records documenting when the dust extractor motors are not operating while the plant is in operation shall be kept in a log for all periods when the plant is in operation. The log shall include the date, duration of time the motor(s) was not operating, and why the motor(s) was not operating. Records shall be kept for all periods the plant is in operation. [R307-401-8]

II.B.2.d Five (5) Engart dust extractors

Emissions to the atmosphere from each of the five (5) Engart dust extractors shall not exceed the following rates and concentrations:

Pollutant	lb/hr	grains/dscf (100º F, 29.92 in Hg)
PM_{10}	2.05	0.013

[R307-165]

II.B.2.d.1 Testing: Initial compliance testing is required on all Engart dust extractors, units DS-01, DS-02, DS-03, DS-04 and DS-05. The initial test shall be performed as soon as possible and in no case later than 180 days after the start up of each unit.

A compliance test shall be done on each emission source with established emission limitations at least once every five years subsequent to the initial compliance test. The Director may require testing at any time. If an existing source is modified, a compliance test is required on the modified emission point that has an emission rate limit. [R307-165]

II.B.2.d.2 Notification: The Director shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ.

The source test protocol shall be approved by the Director prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Director. [R307-165]

II.B.2.d.3 Sample Location: The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other EPA approved methods acceptable to the Director. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location. [R307-165]

II.B.2.d.4 Calculations: To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Director, to give the results in the specified units of the emission limitation. [R307-165]

II.B.2.d.5 New Source Operation: For a new source/emission point, the production rate during all compliance testing shall be no less than 90% of the production rate listed in this AO. If the maximum AO allowable production rate has not been achieved at the time of the test, the following procedure shall be followed:

1) Testing shall be at no less than 90% of the production rate achieved to date.

2) If the test is passed, the new maximum allowable production rate shall be 110% of the tested achieved rate, but not more than the maximum allowable production rate. This new allowable maximum production rate shall remain in effect until successfully tested at a higher rate.

3) The owner/operator shall request a higher production rate when necessary. Testing at no less than 90% of the higher rate shall be conducted. A new maximum production rate (110% of the new rate) will then be allowed if the test is successful. This process may be repeated until the maximum AO production rate is achieved.

[R307-165]

II.B.2.d.6 Existing Source Operation: For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years. [R307-165]

II.B.2.d.7 Volumetric Flow Rate: 40 CFR 60, Appendix A, Method 2 or other EPA approved testing methods acceptable to the Director. [R307-165]

II.B.2.d.8 PM_{10}: For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201, 201a, or other EPA approved testing methods acceptable to the Director. The back half condensibles shall also be tested using the method specified by the Director. All particulate captured shall be considered PM_{10}.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods

shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate, or other EPA approved testing methods acceptable to the Director. The back half condensibles shall also be tested using the method specified by the Director. The portion of the front half of the catch considered PM_{10} shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Director.

The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes. [R307-165]

Section III: APPLICABLE FEDERAL REQUIREMENTS

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

NSPS (Part 60), Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
NSPS (Part 60), OOO: Standards of Performance for Nonmetallic Mineral Processing Plants
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
MACT (Part 63), CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
Title V (Part 70) area source

PERMIT HISTORY

This AO is based on the following documents:

Supersedes	DAQE-AN102510003-12 dated September 24, 2012
Is Derived From	NOI dated March 15, 2013
Is Derived From	Additional Information dated April 2, 2013
Is Derived From	Additional Information dated June 20, 2013
Is Derived From	Additional Information dated July 31, 2013

ADMINISTRATIVE CODING

The following information is for UDAQ internal classification use only:

Grand County
CDS SM
MACT (Part 63), Title V (Part 70) area source, Attainment Area, NSPS (Part 60),

ACRONYMS

The following lists commonly used acronyms and associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CMS	Continuous monitoring system
CO	Carbon monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent - 40 CFR Part 98, Subpart A, Table A-1
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
FDCP	Fugitive dust control plan
GHG	Greenhouse Gas(es) - 40 CFR 52.21 (b)(49)(i)
GWP	Global Warming Potential - 40 CFR Part 86.1818-12(a)
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
LB/HR	Pounds per hour
MACT	Maximum Achievable Control Technology
MMBTU	Million British Thermal Units
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
TPY	Tons per year
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds