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-IN146270001-13

February 1, 2013

Ron Chamness
Emery Refining, L.L.C.
4265 San Felipe Street
Houston, TX 77027

Dear Mr. Chamness:

Re: Intent to Approve: Petroleum Processing Plant
Project Number: N146270001

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an Approval Order. An invoice will follow upon issuance of the final Approval Order.

Future correspondence on this Intent to Approve 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. Tim DeJulis, who may be reached at (801) 536-4012.

Sincerely,

Timothy R Andrus, Manager
New Source Review Section

TRA:AH:dn

cc: Southeastern Utah District Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Petroleum Processing Plant

Prepared by: Mr. Tim DeJulis, Engineer
Phone: (801) 536-4012
Email: tdejulis@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN146270001-13

Date: February 1, 2013

Emery Refining, L.L.C.
Green River Oil Refinery

Source Contact:
Ron Chamness, Environmental Contact
Phone: (713) 654-0912

Timothy R Andrus, Manager
New Source Review Section
Utah Division of Air Quality

ABSTRACT

Emery Refining, LLC has requested an AO to establish a new petroleum processing plant. The new plant will be located in Green River, Emery County. The processing plant will consist of two separate processing facilities: fuels; and solvents, lubricants, and waxes. The processing plant will consist of distillation towers, process heaters, boilers, storage tanks, centrifuges, wax crystallizers, a flare device, material unloading/loading racks, and various pollution control devices. The entire plant will be capable of processing up to 20,000 barrels of various oils feedstock per day.

Emery County is an attainment area of the NAAQS for all pollutants. NSPS, NESHAP, and MACT regulations and Title V of the 1990 Clean Air Act apply to this source.

The emissions, in tons per year, will be as follows:

PM_{10} = 5.54, $PM_{2.5}$ = 5.54, NO_x = 21.09, SO_2 = 1.15, CO = 73.20, VOC = 36.02, HAPs = 2.71, CO_2e = 80,307

$PM_{2.5}$ is a subset of PM_{10}.

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Director of the Utah Division of Air Quality.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Emery County Progress on February 5, 2013. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing within 15 days of publication, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

Name of Permittee:

Emery Refining, L.L.C.
4265 San Felipe Street
Houston, TX 77027

Permitted Location:

Green River Oil Refinery
5 miles west of Green River
Emery County, UT

UTM coordinates: 564,747 m Easting, 4,316,525 m Northing, UTM Zone 12
SIC code: 2911 (Petroleum Refining)

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 AO, 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: Unavoidable 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 **Petroleum Processing Plant**
Emery Refining, LLC

II.A.2 **Water Treatment**
consisting of:
Two separate oil/water and salt separation systems

II.A.3 **Boilers (3)**
Capacity: 1.5 MMBtu/hr
Fuel: natural gas

II.A.4 **Boilers (3)**
Capacity: three (3) MMBtu/hr
Fuel: natural gas

II.A.5 **Cooling Towers**
30,000 gpm capacity (combined).

Listed for information purposes.

II.A.6 **Flare System**
One (1) industrial flare device for emergency use only (50,000 Btu/hr pilot fueled by pipeline-quality natural gas).

II.A.7 **Fire System Pump Engine**
Capacity: 334 hp
Fuel: diesel or fuel oil

II.A.8 **Emergency Generator Engine**
Capacity: one (1) MW
Fuel: diesel or fuel oil

II.A.9 **Material Transfer Equipment (2)**
Crude oil, kerogen oil, tar sands oil receiving and diesel fuel, marine fuel oil, heavy fuel oil, naphtha solvents, kerosene, asphalt, and liquid petroleum gas product transfer equipment.

II.A.10 **Atmospheric Distillation Heater**
Capacity: 36 MMBtu/hr
Fuel: natural gas

II.A.11 **Vacuum Distillation Heater**
Capacity: five (5) MMBtu/hr
Fuel: natural gas

II.A.12 **Wax Plant Distillation Heaters (2)**
Capacity: 51 MMBtu/hr each
Fuel: natural gas
Attached equipment: SCR, ammonia reagent

II.A.13 **Fuel Distillation Unit**
Salt separator
Oil/water separator (see II.A.2)
Atmospheric fractionation tower
Vacuum fractionation tower
Fired heaters (see II.A.10 and II.A.11)
Storage tanks (see tanks D350-1 through D20000-5)
Product loading rack (see II.A.9)

II.A.14 **Wax Plant Unit**
Salt separator
Oil/water separator (see II.A.2)
Atmospheric fractionation towers
Fired heaters (see II.A.12)
Storage tanks (see tanks W2500-1 through W20000-12)
Evaporators
Crystallizers
Rotary filters
Slabber, priller, pelletizer
Product loading rack (see II.A.9)

II.A.15 **Storage Tanks**
Four (4) pressurized storage tanks

Two (2) in LNG fuel (process) service
Two (2) in LPG products service

Listed for information purposes.

II.A.16 **Storage Tank (D350-1)**
One (1) internal floating roof tank, 14,700 gallon capacity, in crude oil or water service

II.A.17 **Storage Tanks (D500-1 and D500-2)**
Two (2) internal floating roof tanks, 21,000 gallon capacity each, in naphtha service

II.A.18 **Storage Tanks (D2500-1 through D2500-8)**
Eight (8) vertical fixed roof tanks, 89,890 gallon capacity each, in diesel, heavy fuel oil, or marine fuel oil service

II.A.19 **Storage Tanks (D5000-1 through D5000-8)**
Eight (8) internal floating roof tanks, 210,000 gallon capacity each, in naphtha service

II.A.20 **Storage Tank (D5000-9)**
One (1) vertical fixed roof tank, 272,610 gallon capacity, in kerosene service

II.A.21 **Storage Tanks (D10000-1 through D10000-11)**
11 vertical fixed roof tanks, 390,114 gallon capacity each, in kerosene, heavy fuel oil service, or marine fuel oil service

II.A.22 **Storage Tanks (D20000-1 through D20000-5)**
Five (5) internal floating roof tanks, 840,000 gallon capacity each, in crude oil or water service

II.A.23 **Storage Tanks (W2500-1 through W2500-4)**
Four (4) internal floating roof tanks, 105,000 gallon capacity each, in naphtha service

II.A.24 **Storage Tank (W2500-5)**
One (1) vertical fixed roof tank, 89,890 gallon capacity, in lube oil service

II.A.25 **Storage Tanks (W5000-1 through W5000-7)**
Seven (7) vertical fixed roof tanks, 272,610 gallon capacity each, in diesel, lube oil, or water service

II.A.26 **Storage Tanks (W10000-1 through W10000-17)**
17 vertical fixed roof tanks, 390,114 gallon capacity each, in diesel, lube oil, or wax oil service

II.A.27 **Storage Tanks (W20000-1 through W20000-3)**
Three (3) vertical fixed roof tanks, 554,620 gallon capacity each, in wax oil service

II.A.28 **Storage Tanks (W20000-4 through W20000-12)**
Eight (8) internal floating roof tanks, 840,000 gallon capacity each, in crude oil or water service

II.B Requirements and Limitations

II.B.1 **The Emery Refining LLC Petroleum Processing Plant shall be subject to the following**

II.B.1.a Visible emissions from any stationary point or fugitive emission source associated with the source or with the control facilities shall not exceed 10% opacity, unless specified elsewhere. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. [R307-401-8]

II.B.1.b The owner/operator shall develop and implement a written leak-detection-and-repair (LDAR) plan consistent with 40 CFR 60.482-2a (g)(2), 60.482-7a (g)(2) & (3), 60.482-10a (j)(2) & (3), and 60.482-11a (e)(2). [40 CFR 60.482]

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

30,660,000 gallons of naphtha per rolling 12-month period
7,741,650 gallons of solvents per rolling 12-month period
82,170,000 gallons of kerosene and diesel fuel per rolling 12-month period
72,051,000 gallons of asphalt, marine fuel oil, and heavy fuel oil per rolling 12-month period
37,740,000 gallons of lube oils per rolling 12-month period
244,050 tons of wax products per rolling 12-month period

[R307-401-8]

II.B.1.c.1 A new 12-month total shall be calculated on a monthly basis by summing the monthly totals from the previous consecutive 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month. Records of each production shall be kept for all periods when the plant is in operation. The finished production shall be determined by examination of company and/or customer billing records in each case. The records of each production shall be kept on a daily basis. [R307-401-8]

II.B.1.d Emery Refining, LLC shall notify the Executive Secretary in writing when the installation of the items appearing in the equipment list is complete and is operational. To ensure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section. If the construction and/or installation is not complete within 18 months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation. If a continuous program of construction, installation, modification, relocation, or establishment is not proceeding, the Executive Secretary may revoke the AO. [R307-401-18]

II.B.2 **The In-Plant Haul Roads shall be subject to the following conditions**

II.B.2.a The facility shall comply with all applicable requirements of R307-205 for Fugitive Emission and Fugitive Dust sources. [R307-205]

II.B.2.b Visible fugitive dust emissions from haul-road traffic and mobile equipment in operational areas shall not exceed 20% opacity at any point. Visible emission determinations shall use

procedures similar to Method 9. The normal requirement for observations to be made at 15-second intervals over a six-minute period, however, shall not apply. Visible emissions shall be measured at the densest point of the plume but at a point not less than 1/2 vehicle length behind the vehicle and not less than 1/2 the height of the vehicle. [R307-401-8]

II.B.2.c The in-plant haul roads shall be paved, and shall be periodically swept, or sprayed clean as dry conditions warrant or as determined necessary by the Executive Secretary. Records of cleaning paved roads shall be kept for periods the plant is in operation. The records shall include the following items:

1. Date of cleaning(s)
2. Time of day that cleaning(s) were performed.

[R307-401-8]

II.B.3 **The Oil Water Separators shall be subject to the following**

II.B.3.a In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, NSPS Subpart QQQ, found at 40 CFR 60.690 to 60.699 (Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems) and 40 CFR 61, NESHAP Subpart FF, found at 40 CFR 61.340 to 61.359 (National Emission Standard for Benzene Waste Operations) apply to this installation. [40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF]

II.B.3.b A monitoring device capable of monitoring and recording the VOC concentration shall be installed and operated in accordance with 40 CFR 60.695 and 40 CFR 61.354. [40 CFR 60 Subpart QQQ, 40 CFR 61 Subpart FF]

II.B.4 **The Process Boilers shall be subject to the following**

II.B.4.a The owner/operator shall use process off-gas or natural gas as fuel in the crude distillation process boilers. [R307-401-8]

II.B.4.b The boilers shall comply with the following emission limits:

SO_2 emissions less than or equal to 20 ppmvd, corrected to 0% O_2, 3-hour rolling average and SO_2 emissions less than or equal to 8 ppmvd, corrected to 0% O_2, 365-day rolling average;

or

H_2S concentration in process off-gas less than or equal to 162 ppmv, 3-hour rolling average and,
H_2S concentration in process off-gas less than or equal to 40 ppmv, 365-day rolling average.

[40 CFR 60.102a (g)(1)(i), 40 CFR 60.102a (g)(1)(ii)]

II.B.4.b.1 Emery Refining, LLC shall install, calibrate, maintain, and operate a continuous monitoring system to measure the effluent SO_2 emissions from the distillation process boilers, or

Emery Refining, LLC shall install, calibrate, maintain, and operate a continuous monitoring system to measure the H_2S content in the process off-gas supplied to the distillation process boilers, depending on which limit is chosen by Emery Refining, LLC. The monitoring system shall comply with all applicable sections of R307-170 and 40 CFR 60, Appendix B.

[40 CFR 60.102a (g)(1)(i), 40 CFR 60.102a (g)(1)(ii), R307-170]

II.B.5 **The Flare System shall be subject to the following**

II.B.5.a The owner/operator shall not allow flow to the flare during normal operations of more than:

250,000 standard cubic feet per day (scfd) on a 30-day rolling average.

[40 CFR 60.102a (g)(3)]

II.B.5.a.1 The flow to the flare device shall be determined by use of a flow meter. Flow measurement shall occur at least once every hour. The accuracy of the monitoring device must be certified by the manufacturer. The monitoring device shall be accurate within plus or minus five (5) percent of the design gas flow rate and must be calibrated on an annual basis according to the manufacturer's instructions. [R307-401-8]

II.B.5.b The flare system shall comply with the following emission limits at all times except during unavoidable process upsets or plant emergency:

SO_2 emissions less than or equal to 20 ppmvd, corrected to 0% O_2, 3-hour rolling average and SO_2 emissions less than or equal to 8 ppmvd, corrected to 0% O_2, 365-day rolling average;

or

H_2S concentration in process off-gas in excess of 162 ppmv, 3-hour rolling average and, H_2S concentration in process off-gas in excess of 40 ppmv, 365-day rolling average.

[40 CFR 60.102a (g)(1)(ii), R307-401-8]

II.B.5.b.1 Emery Refining, LLC shall install, calibrate, maintain, and operate a continuous monitoring system to measure the effluent SO_2 emissions from the flare device, or

Emery Refining, LLC shall install, calibrate, maintain, and operate a continuous monitoring system to measure the H_2S content in the process off-gas supplied to the flare device, depending on which limit is chosen by Bridgehouse Refining, LLC. The monitoring system shall comply with all applicable sections of R307-170 and 40 CFR 60, Appendix B.

[40 CFR 60.102a (g)(1)(ii), R307-170]

II.B.6 **The Internal Combustion Engines shall be subject to the following**

II.B.6.a In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, NSPS Subpart A, found at 40 CFR 60.1 to 60.18 (General Provisions), Subpart IIII, found at 40 CFR 60.4200 to 60.4219 (Standards of Performance for Stationary Compression Ignition Internal

Combustion Engines), as well as all applicable provisions of Subpart ZZZZ, found at 40 CFR 63.6580 to 63.6675 (National Emission Standard for Reciprocating Internal Combustion Engines) apply to this facility. [40 CFR 60 Subpart IIII, 40 CFR 60 Subpart ZZZZ]

II.B.6.b The owner/operator shall not allow visible emissions from the emergency generators and fire pump engines to exceed 20 percent opacity. [R307-201-3]

II.B.6.c The sulfur content shall not exceed:

0.0015 percent by weight for diesel fuels consumed in the internal combustion engines.

[40 CFR 60.4207 (b)]

II.B.6.c.1 The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of diesel fuels shall be either by Bridgehouse Refining's own testing or test reports from the fuel marketer. [R307-401-8]

II.B.7 **The Material Transfer Equipment shall be subject to the following**

II.B.7.a The product loading rack shall be equipped with a vapor collection system. Collected gases shall be routed to the process boilers. [R307-401-8]

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), A: General Provisions
NSPS (Part 60), Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007
NSPS (Part 60), Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
NSPS (Part 60), GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006
NSPS (Part 60), QQQ: Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems
NSPS (Part 60), IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
NESHAP (Part 61), A: General Provisions
NESHAP (Part 61), FF: National Emission Standard for Benzene Waste Operations
MACT (Part 63), A: General Provisions
MACT (Part 63), ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

PERMIT HISTORY

The final AO will be based on the following documents:

Incorporates	Additional information dated December 13, 2012
Incorporates	Additional information dated December 11, 2012
Is Derived From	NOI dated November 19, 2012

ADMINISTRATIVE CODING

The following information is for UDAQ internal classification use only:

Emery County
CDS B
MACT (Part 63), NESHAP (Part 61), Attainment Area, NSPS (Part 60),

ACRONYMS

The following lists commonly used acronyms 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