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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2896D
Plant ID No.:	051-00142
Applicant:	Blue Racer Midstream, LLC (Blue Racer)
Facility Name:	Natrium Extraction and Fractionation Plant
Location:	Near Proctor, Marshall County
NAISC/SIC Code:	211112/1321
Application Type:	Modification
Received Date:	April 17, 2015
Engineer Assigned:	Joe R. Kessler
Fee Amount:	$2,000
Date Received:	April 22, 2015
Complete Date:	June 15, 2015
Due Date:	September 12, 2015
Applicant Ad Date:	May 11, 2015
Newspaper:	*Moundsville Daily Echo*
UTM's:	Easting: 512.1 km Northing: 4,400.8 km Zone: 17
Latitude/Longitude:	39.75996/-80.86101
Description:	Pursuant to the requirements of Consent Order CO-R13-E-2015-3, this permit application addresses the replacement of the existing elevated flare with a ground flare system.

On December 19, 2011 Dominion Natrium, LLC (Dominion) was issued Permit Number R13-2896 for the construction of the 400 mmscf-natural gas/day Natrium Extraction and Fractionation Plant. The facility began operation on May 15, 2013. Since that time, the facility has been the subject of the following permitting and compliance/enforcement actions:

- On June 10, 2013, permit application R13-2896A was submitted for the installation of two (2) heaters and a Vapor Recovery Unit (VRU). However, this application was withdrawn on July 23, 2013 due to its submission by Blue Racer Natrium, LLC, who had not previously transferred the permit into their name;

- On July 31, 2013, Dominion agreed to a Consent Order (CO-R13-E-2013-12) concerning (primarily) the operation of a flare. As part of the Orders for Compliance, Dominion was required to submit a permit application to "correct all deficiencies and violations with Permit R13-2896;"

- On September 24, 2013, Permit Number R13-2896 was transferred to "Blue Racer Natrium, LLC;"

- On December 26, 2013, Permit Number R13-2896B was issued to Blue Racer Natrium, LLC to replace the existing flare and make other changes pursuant to requirements of CO-R13-E-2013-12. Additionally, and unrelated to the Consent Order, the permit authorized installation of two (2) process heaters; and

- On February 21, 2014 the permit was transferred to "Blue Racer Midstream, LLC." Formed in December 2012, Blue Racer Midstream is a joint venture between Caiman Energy II, LLC and Dominion;

- On February 26, 2014 Blue Racer Midstream, LLC submitted permit application R14-0031 to relax the Greenhouse Gases (GHGs) synthetic minor limits that were part of R13-2896. This required Blue Racer to undergo Prevention of Significant Deterioration (PSD) review under 45CSR14 for the requested changes. However, on June 23, 2014, in *Utility Air Regulatory Group v. Environmental Protection Agency*, the Supreme Court (SCOTUS) ruled that GHGs alone could no longer define a source as a "major stationary source" or a modification as a "major modification" for the purposes of PSD review. Therefore, consistent with EPA guidance and with the concurrence of the DAQ, on August 7, 2014, Blue Racer withdrew permit application R14-0031 and resubmitted a request for the changes under permit application R13-2896C as a minor modification; and

- On November 6, 2014, Permit Number R13-2896C was issued to Blue Racer for the removal of the annual fuel usage limit on the 216.7 mmBtu/hr Hot Oil Heater (S001) and addition of the following: four (4) new 61.6 mmBtu/hr heaters, a second fractionation train consisting of two (2) de-ethanizer towers, an ethane amine treating unit, a depropanizer, and a debutanizer, and increasing various facility storage capacities. This modification increased the capacity of the plant to 460 million standard cubic feet per day (mmscfd); and

- On January 16, 2015, Blue Racer agreed to a Consent Order (CO-R13-E-2015-3) to replace the existing elevated flare with a ground flare system to correct the on-going visible emissions problems with the existing flare. As part of the Orders for Compliance, Blue Racer was required to "submit a technically and administratively complete permit application (Rule 13 and/or Rule 14) for the construction, installation, and operation of a ground flare system within ninety (90) days of the effective date of this Order." This Consent Order allowed Blue Racer to begin construction of the new ground flare prior to issuance of a pre-construction permit.

DESCRIPTION OF PROCESS/MODIFICATIONS

Existing Facility

The Natrium Extraction and Fractionation Processing Plant is an existing 460 mmscfd natural gas processing plant with natural gas liquids (NGL) processing capability located approximately four (4) miles northwest of Proctor, Marshall County, WV. The facility has the

capability to both process large amounts of raw natural gas (by separating out the liquids, drying it, and removing impurities) and to fractionate NGLs into usable components. NGLs are generally defined to be the lighter liquid components entrained in the gas stream as opposed to "condensate" which is the heavier (and with a higher boiling point) organic compounds that are easily separated at the well-head and usually sent to a refinery. NGLs - both after separation from gas pipelined to the Natrium facility, as well as NGLs sent to the site via pipeline, truck, railcar, or barge - are separated (or "fractionated") into their constituent organic compounds. The compounds ethane, propane, butane, i-butane, and natural gasoline are produced by the fractionation process.

Proposed Modifications

Blue Racer is proposing to make the following substantive modifications at the Natrium facility:

- Pursuant to the requirements of Consent Order CO-R13-E-2015-3, replacement of the existing elevated John Zink Company, KMI Model 12-26 Multipoint Tip pressure-assisted flare (S004) with a non-assisted Callidus CAL-MP staged, multi-point ground flare system (S004A). There are no proposed changes to the emissions sources connected to the flare for control or the volume of gases sent to the flare for control during non-emergency operations;

- Recalculation of VOC pass-through emissions at the existing and new flare at a destruction and removal efficiency (DRE) of 98.0% as opposed to 99.5% that was used previously; and

- Removal of emergency secondary flare (S021) from the permit.

Flaring Operations Process Description

As noted above, on January 16, 2015, Blue Racer agreed to a Consent Order (CO-R13-E-2015-3) to replace the existing elevated flare with a ground flare system to correct the on-going visible emissions problems with the existing flare. As part of the Orders for Compliance, Blue Racer was required to "submit a technically and administratively complete permit application (Rule 13 and/or Rule 14) for the construction, installation, and operation of a ground flare system within ninety (90) days of the effective date of this Order." This Consent Order, however, allowed Blue Racer to begin construction of the new ground flare prior to issuance of a pre-construction permit. Further, the Consent Order required that the new ground flare system shall be installed by November 30, 2015.

However, as it is possible that the modified permit may be issued prior to the decommissioning of the existing flare, the draft permit shall include requirements for both flares. Additionally, due to the C/E concerns, the Consent Order will not be replaced in the event of the issuance of R13-2896D.

Therefore, the modified permit will consist of two Main Flares (with the exception of a shakedown period, only one will operate at any one time): (1) the existing 376.5 foot, 19,800,000 scf/hr John Zink Company, KMI Model 12-26 Multipoint Tip pressure-assisted elevated flare (S004)

and (2) the new non-assisted 19,800,000 scf/hr Callidus CAL-MP staged, multi-point ground flare system (S004A). As with the existing flare, the new flare shall be used to both control continuous emissions of organic material as well as non-routine emergency events. These non-emergency VOC sources are defined as emissions from maintenance events, equipment blowdowns, and pressure relief valves. Both the existing flare and the new flare shall have a minimum permitted DRE of 98.0% (lowered from 99.5% used previously). The new flare will utilize sixteen (16) natural gas-fired pilot lights for a total pilot light MDHI of 1.399 mmBtu/hr.

SITE INSPECTION

On September 17, 2014, the writer conducted an announced site inspection of the Natrium Extraction and Fractionation Plant. The primary contact at the facility was Mr. Sean Wilson, Director EHS for Caimen Energy. Observations from the inspection include:

- No significant odors were detected in walking through the plant;
- Site preparation and foundation work for the new fractionation train (permitted under R13-2896C) was observed taking place. All site activities underway appeared to be within the limitations allowed pursuant to Section 5 of 45CSR13;
- The existing flare was observed combusting sweep gas. There was no visible opacity from the flare; and
- A water truck was observed on-site wetting down the gravel near the construction site to mitigate any excessive dust generated by vehicle traffic.

AIR EMISSIONS AND CALCULATION METHODOLOGIES

Blue Racer, in Attachment N of the permit application, provided a post-modification facility-wide potential-to-emit (PTE) for the Natrium facility and calculations for all equipment and processes at the facility. The following section will detail the air emissions and emissions calculation methodologies used by Blue Racer to calculate the potential-to-emit *of new or modified emission units only*.

New Main Flare

Three sources of emissions are generated at the new Main Flare (not including the uncombusted pass-through emissions from waste gases sent to the flare that remain unchanged as a result of this modification other than being recalculated using a DRE of 98%): (1) the products of combustion of the pilot lights, (2) the products of combustion of the purge gas, and (3) the products of combustion of the waste gases. Pass-through (uncombusted) emissions of waste gases sent to the flare for destruction are also emitted at the flare but are attributed to the PTE of the source of the waste gases. The following will discuss the combustion exhaust emissions generated at the flare.

Products of Combustion of Pilot Light

The emissions of pollutants associated with combustion of natural gas in the flare's pilot light were based on emission factors (NO_x, CO) as given in Texas Commission on Environmental Quality's (TCEQ) "Flares and Vapor Oxidizers" Report (RG-109: pp. 19) and as given in AP-42 (AP-42 is a database of emission factors maintained by USEPA), Section 1.4 (particulate matter, SO_2, and VOCs). The TCEQ emission factors are generally accepted for estimating products of combustion from flares at oil and gas processing facilities when combusting high BTU gas streams. Hourly emissions were based on the maximum design heat input (MDHI) of the pilot light (0.77 mmBtu/hr) and annual emissions were based on 8,760 hours of operation. A natural gas heat content of 1,029 Btu/scf was used in the calculations.

Products of Combustion of Sweep Gases

The emissions of pollutants associated with combustion of the purge gas (natural gas) is based on emission factors (NO_x, CO) as given in TCEQ's "Flares and Vapor Oxidizers" Report (RG-109: pp. 19) and as given in AP-42, Section 1.4 (particulate matter, SO_2, and VOCs). Hourly emissions were based on the maximum hourly purge gas usage of 117 scf/hr and annual emissions were based on 8,760 hours of operation. A natural gas heat content of 1,029 Btu/scf was used in the calculations.

Products of Combustion of Waste Gases

The emissions of pollutants associated with combustion of the waste gases (process gases from maintenance events, equipment blowdowns, and pressure relief valves) is based on emission factors (NO_x, CO) as given in TCEQ's "Flares and Vapor Oxidizers" Report (RG-109: pp. 19) and as given in AP-42, Section 1.4 (particulate matter, SO_2, and VOCs). Maximum hourly and annual emissions are based on plant experience and engineering estimates of the maximum short-term and long term amount of gases (and associated heat contents) sent to the flare for destruction.

Emissions Summary

The post-modification short-term (hourly) potential-to-emit (PTE) of the Natrium Extraction and Fractionation Plant is given in the following table:

Table 1: Facility-Wide Hourly (lb/hr) Criteria Pollutant PTE Summary.

Source	Emission Point	CO	NO_x	$PM_{2.5}$	PM_{10}	PM	SO_2	VOCs	HAPs
Hot Oil Heater	P001	3.25	5.63	1.61	1.61	1.61	0.16	0.37	0.40
Hot Oil Heater	P016	3.63	1.48	0.46	0.46	0.46	0.04	0.33	0.11
Hot Oil Heater	P017	3.63	1.48	0.46	0.46	0.46	0.04	0.33	0.11
Hot Oil Heater	P018	3.63	1.48	0.46	0.46	0.46	0.04	0.33	0.11

Hot Oil Heater	P019	3.63	1.48	0.46	0.46	0.46	0.04	0.33	0.11
Glycol Reboiler	P020	0.25	0.29	0.02	0.02	0.02	~0.00	0.02	0.01
Regen Gas Heater	P022	0.80	0.95	0.07	0.07	0.07	0.01	0.05	0.02
Regen Gas Heater	P012	0.80	0.95	0.07	0.07	0.07	0.01	0.05	0.02
Cryo HMO Heater	P013	2.15	2.56	0.19	0.19	0.19	0.02	0.14	0.05
Fire Pump #1	P002	2.18	5.31	0.30	0.30	0.30	0.01	0.08	0.01
Fire Pump #2	P003	2.18	5.31	0.30	0.30	0.30	0.01	0.08	0.01
Fug Area 1 Leaks[1]	n/a	0.00	0.00	0.00	0.00	0.00	0.00	6.58	0.32
Fug Area 2 Leaks[1]	n/a	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.02
Main Flare[2]	P004	2.56	1.28	0.07	0.07	0.07	~0.00	0.05	~0.00
Waste Gases[3]	P004	0.00	0.00	0.00	0.00	0.00	0.00	2.26	0.00
Amine Regen Vent	P005	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Amine Regen Vent	P006	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
Unpaved Roads	n/a	0.00	0.00	0.17	1.66	6.22	0.00	0.00	0.00
Facility-Wide Totals →		**28.69**	**28.20**	**4.64**	**6.13**	**10.69**	**0.38**	**12.35**	**1.30**

(1) Does not include plant relief valves that are sent to the flare for control.
(2) Products of combustion only.
(3) Pass-through (uncombusted) emissions from waste gases sent to flare for control only.

The post-modification long-term (annual) PTE of the Natrium Extraction and Fractionation Plant is given in the following table:

Table 2: Facility-Wide Annual (tons/yr) Criteria Pollutant/GHG PTE Summary.

Source	Emission Point	CO	NO_x	$PM_{2.5}$	PM_{10}	PM	SO_2	VOCs	HAPs[4]
Hot Oil Heater	P001	14.24	24.68	7.07	7.07	7.07	0.69	1.61	1.75
Hot Oil Heater	P016	15.91	6.47	2.01	2.01	2.01	0.20	1.46	0.50
Hot Oil Heater	P017	15.91	6.47	2.01	2.01	2.01	0.20	1.46	0.50
Hot Oil Heater	P018	15.91	6.47	2.01	2.01	2.01	0.20	1.46	0.50
Hot Oil Heater	P019	15.91	6.47	2.01	2.01	2.01	0.20	1.46	0.50
Glycol Reboiler	P020	1.08	1.29	0.10	0.10	0.10	0.01	0.07	0.02
Regen Gas Heater	P022	3.50	4.17	0.32	0.32	0.32	0.03	0.23	0.08
Regen Gas Heater	P012	3.50	4.17	0.32	0.32	0.32	0.03	0.23	0.08
Cryo HMO Heater	P013	9.40	11.19	0.85	0.85	0.85	0.07	0.62	0.22

Fire Pump #1	P002	0.11	0.27	0.02	0.02	0.02	<0.01	<0.01	<0.01
Fire Pump #2	P003	0.11	0.27	0.02	0.02	0.02	<0.01	<0.01	<0.01
Fug Area 1 Leaks(1)	n/a	0.00	0.00	0.00	0.00	0.00	0.00	28.80	1.40
Fug Area 2 Leaks(1)	n/a	0.00	0.00	0.00	0.00	0.00	0.00	5.22	0.08
Main Flare(2)	P004	2.06	1.03	0.06	0.06	0.06	~0.00	0.01	~0.00
Waste Gases(3)	P004	0.00	0.00	0.00	0.00	0.00	0.00	0.14	~0.00
Amine Regen Vent	P005	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00
Amine Regen Vent	P006	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00
Unpaved Roads	n/a	0.00	0.00	0.41	4.05	15.20	0.00	0.00	0.00
Facility-Wide Totals →		**97.64**	**72.95**	**17.21**	**20.85**	**32.00**	**1.65**	**43.51**	**5.65**

(1) Does not include plant relief valves that are sent to the flare for control.
(2) Products of combustion only.
(3) Pass-through (uncombusted) emissions from waste gases sent to flare for control only.
(4) As the PTE of all individual HAPs are less than 10 TPY and the PTE of total HAPs is less than 25 TPY, the Natrium Extraction and Fractionation Plant is defined as a minor (area) source of HAPs for purposes of 40 CFR 61, 40CFR63, and Title V.

The change in annual facility-wide PTE as a result of the modifications evaluated herein is given in the following table:

Table 3: Change In Facility-Wide Annual PTE

Pollutant	R13-2896C(1)	R13-2896D	Change
	tons/year	tons/year	tons/year
CO	98.72	97.64	-1.08
NO_X	72.57	72.95	0.38
$PM_{2.5}$	17.21	17.21	0.00
PM_{10}	20.85	20.85	0.00
PM	32.00	32.00	0.00
SO_2	1.65	1.65	0.00
VOCs	44.09	43.51	-0.58
HAPs	5.65	5.65	0.00

(1) Emissions taken from R13-2896C Fact Sheet (as corrected).

REGULATORY APPLICABILITY

The Blue Racer Natrium Extraction and Fractionation Plant is subject to a variety of substantive state and federal air quality rules and regulations. These include the following state rules: 45CSR2, 45CSR6, 45CSR10, 45CSR13, 45CSR14, and 45CSR30. Substantive Federal regulations that apply to the facility include: 40 CFR 60 - Subpart Db, Subpart Dc, and Subpart Kb, Subpart KKK, Subpart IIII, and Subpart OOOO; and 40 CFR 63, Subpart HH, Subpart ZZZZ, Subpart DDDDD, and Subpart JJJJJJ. Each applicable rule, and Blue Racer's proposed compliance thereto, will be discussed in detail below *with respect only to those emission units added or modified as part of this permitting action.* Additionally, those rules that have questionable applicability but have been determined to not apply will also be discussed.

45CSR6: To Prevent and Control Particulate Air Pollution from Combustion of Refuse

The proposed new Main Flare meets the definition of an "incinerator" under 45CSR6 and is, therefore, subject to the requirements therein.

Emission Standards for Incinerators - Section 4.1

Section 4.1 limits PM emissions from incinerators to a value determined by the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated in Table I below:

Table I: Factor, F, for Determining Maximum Allowable Particulate Emissions

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

Based on the maximum capacity of the proposed new Main Flare of 19,800,000 scf/hr, and using the density of methane (0.0422 lb/scf) as a reasonable surrogate, the capacity of the Main Flare in lbs/hr would be approximately 835,560 lbs/hour (418 tons/hr). Using this value in the above equation produces a PM emission limit of 1,134 lb/hr. When operating correctly, there is expected to be only trace amounts of particulate matter from the flare. The writer is aware that smoking events at the existing Main Flare (indicative of particulate matter emissions) have been the cause of violations issued to Blue Racer by the DAQ's Compliance and Enforcement (C/E) Section and is the result of the proposed installation of the new flare. However, when operating correctly - as the C/E actions are designed to enforce - there should be no to only trace amounts of particulate matter from the proposed new Main Flare.

To be conservative, using the calculation methodology as described above, Blue Racer estimated a particulate matter emission rate from the flare of 0.06 lbs/hr during non-emergency operation. This is but an insignificant trace of the 45CSR6 limit.

Opacity Limits for Incinerators - Section 4.3, 4.4

Pursuant to Section 4.3, and subject to the exemptions under 4.4, the proposed new Main Flare has a 20% limit on opacity during operation. Proper design and operation of the flare should prevent any significant opacity from the flares. The writer is aware that the existing Main Flare has experienced opacity problems from the flare and been issued violations for this reason. The DAQ C/E Section has ordered the construction of the proposed new Main Flare to correct this problem.

45CSR13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed changes at Blue Racer's Natrium Extraction and Fractionation Plant do not have the potential to increase the PTE in excess of six (6) lbs/hour and ten (10) TPY of a regulated pollutant. However, Blue Racer was required to submit a "a technically and administratively complete permit application (Rule 13 and/or Rule 14) for the construction, installation, and operation of a ground flare system" under Consent Order CO-R13-E-2015-3. Blue Racer chose to comply with this requirement by submitting a permit application for a modification (as opposed to a Class II Administrative Update).

Therefore, as required under §45-13-8.3 ("Notice Level A"), Blue Racer placed a Class I legal advertisement in a "newspaper of *general circulation* in the area where the source is . . . located." The ad ran on May 11, 2015 in *Moundsville Daily Echo* and the affidavit of publication for this legal advertisement was submitted on June 2, 2015.

45CSR14: Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration - (NON APPLICABILITY)

The Natrium Extraction and Fractionation Plant is located in Marshall County, WV. Marshall County is classified as "in attainment" with all National Ambient Air Quality Standards (NAAQS) except for, in certain tax districts, SO_2. The Franklin Tax District, where the Natrium facility is located, is classified as "non-attainment" for SO_2. Therefore, applicability to major New Source Review (NSR) for all pollutants except for SO_2 is determined under 45CSR14.

Previously, as the facility was determined to include a "listed source" under §45-14-2.43 ("Fossil Fuel Boilers (or combinations thereof) Totaling More than 250 Million Btu/hour Heat Input"), the facility-wide per-pollutant major source applicability threshold for all criteria pollutants was believed to be 100 TPY. However, after further review of major NSR guidance, it has been determined that a "nested source" - in this case the fossil-fuel fired boilers - must inclusively have a PTE in excess of 100 TPY of a PSD pollutant to trigger major source status for that nested source only. The location of a nested source does not, as previously determined, reset the major source threshold for the entire facility at 100 TPY. The PTE threshold (including, however, the PTE contributed from the nested source) remains at the non-listed threshold of 250 TPY. As shown in Table 2 above, the PTE of the all the heaters at the facility (which are defined as "Fossil Fuel Boilers" do not have an aggregate PTE over 100 TPY of any PSD pollutant and the facility-wide

PTE (including the heaters/boilers) does not have an aggregate PTE over 250 TPY of any PSD pollutant. Therefore, neither the entire facility or the nested source is defined as a "major stationary source" under 45CSR14 and PSD does not apply to the modifications reviewed herein.

45CSR19: Requirements fo Pre-Construction Review, Determination of Emission Offsets for Proposed New or Modified Stationary Sources of Air Pollutants and Emission Trading for Intrasource Pollutants - (NON APPLICABILITY)

Pursuant to §45-19-3.1, 45CSR19 "applies to all major stationary sources and major modifications to major stationary sources proposing to construct anywhere in an area which is designated non-attainment." As noted above, the Natrium Extraction and Fractionation Plant is located in Marshall County, WV which is classified as in attainment with all NAAQS with the exception of SO_2 in the areas defined as the Clay, Washington, and Franklin (where the source is located) Tax Districts. Pursuant to §45-14-2.35, the individual major source applicability threshold for the specific non-attainment pollutant is 100 TPY. As given above in Table 2, the facility-wide post-modification SO_2 PTE of the Natrium Extraction and Fractionation Plant is less than 100 TPY. Therefore, the facility is not defined as a "major stationary source" under 45CSR19.

45CSR30: Requirements for Operating Permits

45CSR30 provides for the establishment of a comprehensive air quality permitting system consistent with the requirements of Title V of the Clean Air Act. The modified Natrium Extraction and Fractionation Plant does not meet the definition of a "major source under §112 of the Clean Air Act" as outlined under §45-30-2.26 and clarified (fugitive policy) under 45CSR30b. The post-modification facility-wide PTE (see Table 2 above) of any regulated pollutant does not exceed 100 TPY. Additionally, the facility-wide PTE does not exceed 10 TPY of any individual HAP or 25 TPY of aggregate HAPs.

However, as there are emissions sources at the facility subject to requirements promulgated under §111 or §112(r) of the Clean Air Act (specifically 40 CFR 60, Subparts Db, Dc, and Kb) that do not have a specific exemption from Title V permitting, the facility is considered a non-major "area" source subject to Title V. Sources in this classification are not required to get a Title V permit.

TOXICITY ANALYSIS OF NON-CRITERIA REGULATED POLLUTANTS

This section provides an analysis for those regulated pollutants that have a potential to be emitted from the Natrium Extraction and Fractionation Plant and that are not classified as "criteria pollutants." Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NO_x), Ozone, Particulate Matter (PM), Particulate Matter less than 10 microns (PM_{10}), Particulate Matter less than 2.5 microns ($PM_{2.5}$), and Sulfur Dioxide (SO_2). These pollutants have National Ambient Air Quality Standards (NAAQS) set for each that are designed to protect the public health and welfare. Other pollutants of concern, although designated as non-criteria and without national concentration standards, are regulated through various federal and state programs

designed to limit their emissions and public exposure. These programs include federal source-specific Hazardous Air Pollutants (HAPs) limits promulgated under 40 CFR 61 (NESHAPS) and 40 CFR 63 (MACT). Any potential applicability to these programs were discussed above under REGULATORY APPLICABILITY.

No new, or increases in existing, non-criteria regulated pollutants will be emitted as a result of the modification evaluated herein.

AIR QUALITY IMPACT ANALYSIS

The estimated maximum emissions of the modified facility are less than applicability thresholds that would define the proposed facility as "major" under 45CSR14 and, therefore, no air quality impacts modeling analysis was required pursuant to that rule. Additionally, an air quality impacts modeling analysis pursuant to 45CSR13, Section 7 was deemed not necessary.

MONITORING, COMPLIANCE DEMONSTRATIONS, REPORTING, AND RECORDING OF OPERATIONS

The following changes to substantive monitoring, compliance demonstration, and record-keeping requirements shall be required relevant to the emission units/sources modified at the Natrium Extraction and Fractionation Plant:

- Pursuant to the requirements of Consent Order CO-R13-E-2015-3, Blue Racer shall be required to use a video camera to continuously record the existing Main Flare (S004) exhaust until such time that the existing Main Flare (S004) is replaced by the new ground flare system (S004A). Blue Racer shall be required to use a video camera to continuously record the new ground flare system for a minimum of ninety (90) days. If at the end of this ninety (90) day period the new ground flare operates in continuous compliance, then Blue Racer may cease video camera recording. The video camera recording shall be maintained for a minimum period of one (1) week and be available for review by the DAQ upon request.

PERFORMANCE TESTING OF OPERATIONS

There was no changes to, or additions of, performance testing as a result of this permitting action.

CHANGES TO PERMIT R13-2896B

The substantive changes made to Permit R13-2896C are:

- The new Main Flare has been added to the Emission Units Table 1.0 and to the Control Devices Table 1.1;

- The minimum control efficiency of both the proposed new and existing Main Flare has been lowered from 99.5% to 98.0%;
- The pass-through emissions of VOCs at the Main Flare has been removed from the emission limit table under 13.1.2(a) and placed under 13.1.2(c);
- The combustion exhaust emission limits of the proposed new flare were added under 13.1.2(b);
- Requirement 13.1.3. was revised to include natural gas combustion limits for the proposed new flare; and
- Pursuant to the requirements of Consent Order CO-R13-E-2015-3, a requirement to video operation of the existing Main Flare was added.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-2896D indicates that compliance with all applicable federal and state air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of a Permit Number R13-2896D to Blue Racer Midstream, LLC for the modifications discussed herein at the Natrium Extraction and Fractionation Plant located near Proctor, Marshall County, WV.

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Joe Kessler, PE
Engineer

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Date

- The minimum control efficiency of both the proposed new and existing Main Flare has been lowered from 99.5% to 98.0%;
- The pass-through emissions of VOCs at the Main Flare has been removed from the emission limit table under 13.1.2(a) and placed under 13.1.2(c);
- The combustion exhaust emission limits of the proposed new flare were added under 13.1.2(b);
- Requirement 13.1.3. was revised to include natural gas combustion limits for the proposed new flare; and
- Pursuant to the requirements of Consent Order CO-R13-E-2015-3, a requirement to video operation of the existing Main Flare was added.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-2896D indicates that compliance with all applicable federal and state air quality regulations will be achieved. Therefore, I recommend to the Director the issuance of a Permit Number R13-2896D to Blue Racer Midstream, LLC for the modifications discussed herein at the Natrium Extraction and Fractionation Plant located near Proctor, Marshall County, WV.

Joe Kessler, PE
Engineer

9-14-15
Date