



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: R13-2896B
Plant ID No.: 051-00142
Applicant: Blue Racer Natrium, LLC (Blue Racer)
Facility Name: Natrium Extraction and Fractionation Processing Plant (NPP)
Location: Proctor, Marshall County
NAICS Code: 211112
Application Type: Modification
Received Date: August 21, 2013
Engineer Assigned: Jerry Williams, P.E.
Fee Amount: \$2,000.00
Date Received: August 21, 2013
Complete Date: October 31, 2013
Due Date: January 29, 2014
Applicant Ad Date: September 6, 2013
Newspaper: *Moundsville Daily Echo*
UTM's: Easting: 512.1 km Northing: 4,400.8 km Zone: 17
Description: Modification application to replace the existing flare, add two (2) process heaters and two (2) vapor recovery units (VRU).

DESCRIPTION OF PROCESS

Blue Racer is proposing to modify the existing flare at the NPP as a result of the Consent Order (CO-R13-E-2013-12) issued to Dominion Natrium, LLC on July 31, 2013. Permit R13-2896 was transferred by the Division of Air Quality (DAQ) from Dominion Natrium, LLC to Blue Racer on September 24, 2013. This permit transfer was the result of a joint venture between Caiman Ohio Midstream, LLC and Dominion Natrium Holdings, Inc. to create Blue Racer Natrium, LLC.

The following process description was taken from Permit Application R13-2896B:

Blue Racer is proposing to modify the existing flare at the NPP. The modified flare will be a pressure assisted flare. In a pressure assisted flare, the vent steam pressure is used to promote mixing at the burner tip in lieu of air or steam. The flare will continue to control emissions for emergency conditions and maintenance events from multiple operations within the NPP. A comprehensive list of equipment that is routed to the flare is included in Permit Application R13-2896B and listed in Attachment G.

Blue Racer is also proposing to add a VRU to recover vapors from the Gasoline Storage Tank (S005). In addition to collecting emissions from operation of the Gasoline Storage Tank, emissions from the rail car and truck loading operations (S008) are vapor balanced with the Gasoline Storage Tank (i.e., the emissions from loading are returned to the tank) and the glycol reflux drum (UT-607) is vented to the Gasoline Storage Tank. The VRU will comprise of an electric motor driven compressor to route vapors back to the plant inlet for processing. An additional VRU will be added to route emergency relief venting from the slop oil tank to the flare.

In the original permit application (R13-2896), it was proposed that the second cryogenic train would utilize steam from a nearby facility for required heat. However, Blue Racer is proposing to add two (2) natural gas fired heaters for required heat duty in the second cryogenic train. The units include a 9.7 MMBTU/hr regeneration gas heater and a 26.3 MMBTU/hr cryogenic hot medium oil (HMO) heater. The regeneration gas heater will be used to regenerate the molecular sieve beds which remove moisture from the incoming natural gas. The wet gas liberated from the regenerating beds will be routed back to the inlet drying beds. The cryogenic HMO heater is used to heat the heat transfer medium of triethylene glycol and water providing the energy required for the physical processes of extracting and fractionating the raw natural gas and associated liquids.

In addition, on September 21, 2013 there was a fire that occurred at this facility. Due to the fire, some of the components in the Natrium I Demethanizer Unit will be replaced with 'like' components. No changes to any of the other existing emission sources are proposed.

SITE INSPECTION

A site inspection was conducted on July 2, 2013 by Douglas Hammell of the DAQ Enforcement Section. The facility was found to be out of compliance for not constructing and operating the NPP in accordance with the plans and specifications filed in Permit Application R13-2896. In addition, the flare was being operated out of compliance with the visible emission requirements. Dominion Natrium, LLC was required through Consent Order (CO-R13-E-2013-12) issued on July 31, 2013 to update the current permit in order to comply with all standards. In addition, they were required to implement operating procedures to minimize future visible emission events. Permit R13-2896 was transferred by the Division of Air Quality (DAQ) from Dominion Natrium, LLC to Blue Racer on September 24, 2013. Therefore, Blue Racer has assumed this responsibility and submitted the required permit application.

Latitude: 39.757031
Longitude: -80.858747

Directions as given in the permit application are as follows:

From Charleston I-77N to Exit 179 to WV Route 2. Travel approximately 53 miles north on WV Route 2. Facility is located at 14787 Energy Road, Proctor, WV.



ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this modification application consist of the emissions from the modified flare (S004), regenerative gas heater (P012), cryogenic HMO heater (P013), and the reduced emissions from the slop oil tank and gasoline storage tank with the addition of the vapor recovery units. Fugitive emissions for the facility are based on calculation methodologies presented in EPA Protocol for Equipment Leak Emission Estimates. The following table indicates which methodology was used in the emissions determination:

Emission Unit ID#	Emission Point ID#	Process Equipment	Calculation Methodology
S004	P004	Flare	EPA AP-42 Emission Factors / Vendor Data
S012	P012	9.7 MMBTU/hr Regenerative Gas Heater	EPA AP-42 Emission Factors / Vendor Data
S013	P013	26.3 MMBTU/hr Cryogenic HMO Heater	EPA AP-42 Emission Factors / Vendor Data
FUG	FUG	Fugitive Equipment Leaks	EPA AP-42 Emission Factors

The total facility PTE for the NPP is shown in the following table:

Pollutant	Facility Wide PTE (tons/year)
Nitrogen Oxides	34.35
Carbon Monoxide	24.10
Volatile Organic Compounds	31.03
Particulate Matter-10	5.94
Sulfur Dioxide	0.45
Total HAPs	2.87
Carbon Dioxide Equivalent	95,201

Maximum detailed controlled point source emissions were calculated by Blue Racer and checked for accuracy by the writer and are summarized in the table on the next page.

Blue Racer Natrium, L.L.C. – NPP (R13-2896B)

Emission Point ID#	Source	NO _x		CO		VOC		PM-10/2.5		SO ₂		Total HAPs		CO ₂ e	
		lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year
P001	216.7 MMBTU/hr Hot Oil Heater	5.63	16.23	3.25	9.36	0.37	1.06	1.60	4.61	0.13	0.36	0.40	1.14	25302	72849
P002	Fire Pump #1	5.31	1.33	2.18	0.55	0.08	0.02	0.30	0.08	0.01	<0.01	<0.01	<0.01	813	203
P003	Fire Pump #2	5.31	1.33	2.18	0.55	0.08	0.02	0.30	0.08	0.01	<0.01	<0.01	<0.01	813	203
P004*	Flare	1.00	0.14	3.00	0.77	1.00	0.27	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	940	160
P005	Amine System	-	-	-	-	<0.01	0.01	-	-	-	-	-	-	687	3012
P012	Regen Gas Heater	0.94	4.13	0.79	3.47	0.05	0.23	0.07	0.31	<0.01	0.02	0.02	0.08	1135	4971
P013	Cryogenic HMO Heater	2.56	11.19	2.15	9.40	0.14	0.62	0.19	0.85	0.02	0.07	0.05	0.21	3077	13478
FUG	Fugitive Equipment Leaks	-	-	-	-	NA	28.80	-	-	-	-	NA	1.44	NA	325
Total	Total Facility PTE	20.75	34.35	13.55	24.10	1.72	31.03	2.46	5.94	0.17	0.45	0.47	2.87	32766	95201

* Flare (P004) emissions are those emissions that exist under routine/planned activities.

The total PTE after this proposed modification are shown in the following table:

Pollutant	Maximum Pre-Modification Annual Facility Wide Emissions (tons/year)	Maximum Post-Modification Annual Facility Wide Emissions (tons/year)	Net Facility Wide Emissions Changes (tons/year)
Nitrogen Oxides	23.94	34.35	10.41
Carbon Monoxide	37.97	24.10	-13.87
Volatile Organic Compounds	89.51	31.03	-58.48
Particulate Matter-10/2.5	4.76	5.94	1.18
Sulfur Dioxide	0.37	0.45	0.08
Total HAPs	7.96	2.87	-5.09
Greenhouse Gas (CO ₂ e)	85,062	95,201	10,139

REGULATORY APPLICABILITY

The following rules apply to this modification:

45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)

The purpose of 45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers) is to establish emission limitations for smoke and particulate matter which are discharged from fuel burning units. 45CSR2 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat input of the proposed Regeneration Gas Heater (S012) is below 10 MMBTU/hr. Therefore, this unit is exempt from the aforementioned sections of 45CSR2.

45CSR2 classifies the Cryogenic HMO Heater (S013) as a 'type b' unit. The allowable PM emission rate for this unit would be the product of 0.09 and the total design heat input of the heater.

Emission Unit	Total Design Heat Input (MMBTU/hr)	45CSR2 Multiplier	Allowable PM Emission Rate (lb/hr)	Proposed PM Emission Rate (lb/hr)
S013	26.3	0.09	2.37	0.19

As shown in the table above, Blue Racer would meet this rule.

Blue Racer also would be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average.

45CSR6 (To Prevent and Control Air Pollution from the Combustion of Refuse)

The purpose of this rule is to prevent and control air pollution from combustion of refuse.

Blue Racer has a flare at the facility. The facility will demonstrate compliance by maintaining the amount of natural gas consumed by the flare and the hours of operation. The facility will also monitor the flame of the flare and record any malfunctions that may cause no flame to be present during operation. In addition, the facility will also monitor visible emissions from the flare on a monthly basis.

45CSR10 (To Prevent and Control Air Pollution from the Emissions of Sulfur Oxides)

The purpose of this rule is to establish standards for emissions of sulfur oxides from fuel burning units, manufacturing operations and gas streams. 45CSR10 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 3 (weight emission standard), 6 (registration), 7 (permits), and 8 (testing, monitoring, recordkeeping, reporting). However, failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date.

The individual heat input of the proposed Regeneration Gas Heater (S012) is below 10 MMBTU/hr. Therefore, this unit is exempt from the aforementioned sections of 45CSR10.

45CSR10 classifies the Cryogenic HMO Heater (S013) as a 'type b' unit. The allowable SO₂ emission rate for this unit would be the product of 3.1 and the total design heat input of the heater.

Emission Unit	Total Design Heat Input (MMBTU/hr)	45CSR2 Multiplier	Allowable SO₂ Emission Rate (lb/hr)	Proposed SO₂ Emission Rate (lb/hr)
S013	26.3	3.1	81.53	0.015

As shown in the table above, Blue Racer would meet this rule.

Furthermore, 45CSR10A exempts fuel burning units that combust natural gas from testing and monitoring requirements.

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 facility was found to out of compliance for not constructing and operating the NPP in accordance with the plans and specifications filed in Permit Application R13-2896. In addition, the flare was being operated out of compliance with the visible emission requirements. Dominion Natrium, LLC was required through Consent Order (CO-R13-E-2013-12) issued on July 31, 2013 to update the current permit in order to comply with all standards. In addition, they were required to implement operating procedures to minimize future visible emission events. Permit R13-2896 was transferred by the Division of Air Quality (DAQ) from Dominion Natrium, LLC to Blue Racer on September 24, 2013. Therefore, Blue Racer has assumed this responsibility and submitted the required permit application.

Blue Racer paid the appropriate application fee and published the required legal advertisement for a permit modification.

45CSR16 (Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60)

45CSR16 applies to this source by reference of 40CFR60, Subparts Kb, Db, Dc, KKK and OOOO.

45CSR30 (Requirements for Operating Permits)

Blue Racer is a nonmajor source subject to 45CSR30. Therefore, the facility is not subject to the permitting requirements of 45CSR30 and is classified as a deferred source.

40CFR60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

This rule applies to steam generating units with a heat input capacity of 100 MMBTU/hr or less, but greater than or equal to 10 MMBTU/hr for which construction commenced after June 9, 1989. The following emission unit that Blue Racer proposes to install will be subject to this rule.

Emission Unit ID#	Emission Unit Description	Total Design Heat Input (MMBTU/hr)
S013	Cryogenic HMO Heater	26.3

Blue Racer is subject to all applicable notifications, recordkeeping, and reporting requirements present in 40CFR60 Subpart Dc. In accordance with 40CFR60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, the applicant shall conduct compliance testing of this unit within 180 days after initial startup.

40CFR60 Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels)

The affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) (19,813 gallons) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa. This subpart also does not apply to pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere. The Gasoline Storage Tank (S005) is the only tank subject to this rule.

The Gasoline Storage Tank (S005) is equipped with a closed vent system and control device, therefore, Blue Racer is required to comply with the applicable monitoring, testing, recordkeeping and reporting as prescribed in 40CFR60 Subpart Kb.

40CFR60 Subpart KKK (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants)

40CFR60 Subpart KKK applies to onshore natural gas processing plants that commenced construction after January 20, 1984, and on or Before August 23, 2011. The NPP began construction prior to August 23, 2011, therefore Blue Racer would be subject to this rule. However, due to the fire that occurred on September 21, 2013 in the Natrium I Demethanizer Unit, the equipment in this unit had to be replaced. Therefore, 'reconstruction' of this equipment occurred. Therefore, the equipment in this unit would be subject to the Leak Detection and Repair (LDAR) requirements of 40CFR60 Subpart OOOO and not this rule. However, the rest of the applicable equipment at the Natrium Facility will be subject to the LDAR requirements of 40CFR60 Subpart KKK.

40CFR60 Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution)

EPA published in the Federal Register new source performance standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. 40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO₂) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The following affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this subpart:

The group of all equipment, except compressors, within a process unit is an affected facility.

- Addition or replacement of equipment for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.

- Equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage vessel, field gas gathering system, or liquefied natural gas unit is covered by §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart if it is located at an onshore natural gas processing plant. Equipment not located at the onshore natural gas processing plant site is exempt from the provisions of §§60.5400, 60.5401, 60.5402, 60.5421 and 60.5422 of this subpart.
- The equipment within a process unit of an affected facility located at onshore natural gas processing plants and described in paragraph (f) of this section are exempt from this subpart if they are subject to and controlled according to subparts VVa, GGG or GGGa of this part.

Due to the fire that occurred on September 21, 2013 in the Natrium I Demethanizer Unit, the equipment in this unit had to be replaced. Therefore, ‘reconstruction’ of this equipment occurred. Therefore, the equipment in this unit would be subject to the Leak Detection and Repair (LDAR) requirements of 40CFR60 Subpart OOOO.

‘Reconstruction’ is defined under 60.15 as the replacement of components of an existing facility to such an extent that:

1. *The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and*
2. *It is technologically and economically feasible to meet the applicable standards set forth in this part.*
3. *“Fixed capital cost” means the capital needed to provide all the depreciable components.*

‘Existing facility’ is defined under 60.2 as:

Existing facility means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this part, and the construction or modification of which was commenced before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type before the date of proposal of that standard; or any apparatus which could be altered in such a way as to be of that type.

Therefore, it does not apply to the cost of the Natrium facility as a whole. It would only apply to any apparatus of the type for which a standard is promulgated in this part (affected facility). This would be all equipment, except compressors, within a process unit. 40CFR60 Subpart OOOO defines ‘equipment’ under 60.5430 as:

Equipment means each pump, pressure relief device, open-ended valve or line, valve, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this subpart.

Therefore, 'reconstruction' of this equipment did occur.

The Natrium I Demethanizer Unit was reconstructed after August 23, 2011. Therefore, Leak Detection and Repair (LDAR) requirements for onshore natural gas processing plants would apply to this equipment.

The following rules do not apply to this modification:

Non-applicable sections of 40CFR60 Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution)

EPA published in the Federal Register new source performance standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. 40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO₂) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The following affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this subpart:

- a. Each gas well affected facility, which is a single natural gas well.

There are no gas wells at this facility. Therefore, all requirements regarding gas well affected facilities under 40 CFR 60 Subpart OOOO would not apply.

- b. Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals that is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. For the purposes of this subpart, your centrifugal compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

There are no centrifugal compressors at the NPP. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOO would not apply.

- c. Each reciprocating compressor affected facility, which is a single reciprocating compressor located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. For the purposes of this subpart, your reciprocating compressor is considered to have commenced construction on the date the compressor is installed (excluding relocation) at the facility. A reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this subpart.

There are no reciprocating compressors at the NPP. Therefore, all requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOO would not apply.

d. Pneumatic Controllers

Each pneumatic controller affected facility, which is a single continuous bleed natural gas-driven pneumatic controller which commenced construction after August 23, 2011, and is located at a natural gas processing plant.

There are no continuous bleed gas-driven pneumatic controllers at the NPP. All pneumatic controllers at the NPP are air driven. Therefore, there are no applicable requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOO that would apply.

e. Each storage vessel affected facility, which is a single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment.

40CFR60 Subpart OOOO defines a storage vessel as a unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of liquids or other materials. The following are not considered storage vessels:

- Vessels that are skid-mounted or permanently attached to something that is mobile (such as trucks, railcars, barges or ships), and are intended to be located at a site for less than 180 consecutive days. If the source does not keep or are not able to produce records, as required by §60.5420(c)(5)(iv), showing that the vessel has been located at a site for less than 180 consecutive days, the vessel described herein is considered to be a storage vessel since the original vessel was first located at the site.
- Process vessels such as surge control vessels, bottoms receivers or knockout vessels.
- Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

This rule requires that the permittee determine the VOC emission rate for each storage vessel affected facility utilizing a generally accepted model or calculation methodology within 30 days of startup, and minimize emissions to the extent practicable during the 30 day period using good engineering practices. For each storage vessel affected facility that emits more than 6 tpy of VOC, the permittee must reduce VOC emissions by 95% or greater within 60 days of startup. The compliance date for applicable storage vessels is October 15, 2013.

The storage vessels located at the NPP emit less than 6 tpy of VOC. Therefore, Blue Racer is not required by this section to reduce VOC emissions by 95%.

- f. Sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.
- Each sweetening unit that processes natural gas is an affected facility; and
 - Each sweetening unit that processes natural gas followed by a sulfur recovery unit is an affected facility.
 - Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H₂S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423(c) but are not required to comply with §§60.5405 through 60.5407 and paragraphs 60.5410(g) and 60.5415(g) of this subpart.
 - Sweetening facilities producing acid gas that is completely reinjected into oil-or-gas-bearing geologic strata or that is otherwise not released to the atmosphere are not subject to §§60.5405 through 60.5407, 60.5410(g), 60.5415(g), and 60.5423 of this subpart.

There are no sweetening units at the NPP. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.

40CFR60 Subpart 60.18 (General Control Device and Work Practice Requirements)

40CFR60 Subpart 60.18 contains requirements for control devices when they are used to comply with applicable subparts of 40CFR60 and 40CFR61. The flare that Blue Racer has proposed is not used to comply with one of these rules. The purpose of the flare is to control emissions from the tanks and components that are routed to it. However, 40CFR60.18 regulates flares that are assisted, non-assisted, and steam assisted. The flare that Blue Racer has proposed is a pressure assisted flare, therefore, they are not subject to this standard.

45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants)

45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment)

On September 30, 2013, EPA approved a redesignation request and State Implementation Plan (SIP) revision submitted by the State of West Virginia. The West Virginia Department of Environmental Protection (WVDEP) requested that the West Virginia portion of the Wheeling, WV–OH fine particulate matter (PM_{2.5}) nonattainment area (“Wheeling Area” or “Area”) be redesignated as attainment for the 1997 annual PM_{2.5} national ambient air quality standard (NAAQS).

The NPP is located in Marshall County, which is located in this metropolitan statistical area and is an attainment county for all pollutants. Therefore the NPP is not subject to 45CSR19.

As shown in the table below, Blue Racer is not subject to 45CSR14 or 45CSR19 review.

Pollutant	PSD (45CSR14) Threshold (tpy)	NANSR (45CSR19) Threshold (tpy)	NPP PTE (tpy)	45CSR14 or 45CSR19 Review Required?
Carbon Monoxide	250	NA	34.35	No
Nitrogen Oxides	250	NA	24.10	No
Sulfur Dioxide	250	NA	0.45	No
Particulate Matter-2.5	250	NA	5.94	No
Ozone (VOC)	250	NA	31.03	No
Greenhouse Gas	100,000	NA	95,201	No

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There will be small amounts of various non-criteria regulated pollutants emitted from the combustion of natural gas. However, due to the concentrations emitted, detailed toxicological information is not included in this evaluation.

AIR QUALITY IMPACT ANALYSIS

Modeling was not required of this source due to the fact that the facility is not subject to 45CSR14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) as seen in the table listed in the Regulatory Discussion Section.

SOURCE AGGREGATION

“Building, structure, facility, or installation” is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.

The NPP will extract natural gas liquids (NGL) from natural gas received via pipeline, and import NGL by truck from other liquids extraction processing facilities nearby. The plant will be designed so that residue gas and propane can be transported into pipeline, as well as designing provisions for future transport of ethane via pipeline. Propane, i-butane, n-butane and natural gasoline will be shipped by rail car, truck, and/or barge.

1. The NPP will operate under SIC code 1321 (Natural Gas Liquid Extraction), while the existing nearby Burch Ridge Compressor Station operates under SIC Code 4922 (Pipeline Transmission of Natural Gas). Therefore, the two (2) facilities do not belong to the same industrial grouping.

2. Both the NPP and Burch Ridge are owned and operated by Dominion. The NPP is owned by Blue Racer but is part of a joint venture with Caiman and Dominion. Therefore, they are under common control.
3. The NPP will be located approximately 5 miles from an existing Dominion compressor station called Burch Ridge. This is not considered to be on contiguous or adjacent property as Dominion, Caiman, or Blue Racer does not own the land in between the facilities. Additionally, the operations at the NPP and the Burch Ridge Compressor Station are not mutually dependent upon one another. The NPP and the Burch Ridge Compressor Station have entirely separate processes and products, and each facility can operate without the other.

The NPP and Burch Ridge Compressor Station do have the same industrial grouping and are owned by the same company and are under common control. However, the two (2) facilities are not considered “contiguous or adjacent”. The facilities are separated by 5 miles and no company involved in this joint venture owns the land in between the facilities in question. Furthermore, the facilities are not mutually dependent. In addition, the NPP also has the capability of operating without the Burch Ridge Compressor Station.

Because of the reasons listed above, the emissions from these two (2) facilities should not be aggregated in determining major source or PSD status.

MONITORING OF OPERATIONS

Blue Racer will be required to perform the following monitoring:

1. Monitor and record quantity of natural gas consumed for all combustion sources.
2. Monitor and record quantity of natural gas routed through the process flare.
3. Monitor the presence of the flare pilot flame with a thermocouple or equivalent.
4. Establish a Leak Detection and Repair (LDAR) program for all equipment in VOC or wet gas service according to 40CFR60 Subparts KKK and OOOO (Natrium I Demethanizer Unit).
5. Monitor and record quantity of natural gas treated in the amine unit.
6. Monitor and record quantity of constituents transferred from the storage tanks.

Blue Racer will be required to perform the following recordkeeping:

1. Maintain records of the amount of natural gas consumed and hours of operation for each heater.
2. Maintain records of the amount of natural gas treated in the amine unit.
3. Maintain records of the amount of constituents transferred from the storage tanks.
4. Maintain records of the flare design evaluation.
5. Maintain records of testing conducted in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location
6. Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.

7. Maintain records of the visible emission opacity tests conducted per the permit.
8. Maintain a record of all potential to emit (PTE) HAP calculations for the entire facility. These records shall include the natural gas compressor engines and ancillary equipment.
9. The records shall be maintained on site or in a readily available off-site location maintained by Blue Racer for a period of five (5) years.

CHANGES TO PERMIT R13-2896

R13-2896B will supersede and replace R13-2986 that was issued on December 19, 2012. Dominion Natrium submitted Permit Application R13-2896A on June 10, 2013 and it was withdrawn on July 23, 2013. Permit R13-2896 was transferred by the Division of Air Quality (DAQ) from Dominion Natrium, LLC to Blue Racer on September 24, 2013. This permit transfer was the result of a joint venture between Caiman Ohio Midstream, LLC and Dominion Natrium Holdings, Inc. to create Blue Racer Natrium, LLC.

Blue Racer is proposing to modify the existing flare at the NPP. The flare currently permitted at this facility is a non-assisted flare. The modified flare will be a pressure assisted flare. In a pressure assisted flare, the vent steam pressure is used to promote mixing at the burner tip in lieu of air or steam. The flare will continue to control emissions for emergency conditions and maintenance events from multiple operations within the NPP. A comprehensive list of equipment that is routed to the flare is included in Permit Application R13-2896B and listed in Attachment G.

Blue Racer is also proposing to add a VRU to recover vapors from the Slop Oil Tank and Gasoline Storage Tank. The VRU will comprise of an electric motor driven compressor to route vapors back to the plant inlet for processing.

In the original permit application, it was proposed that the second cryogenic train would utilize steam from a nearby facility for required heat. However, this permitting action will add two (2) natural gas fired heaters for required heat duty in the second cryogenic train.

As a result of the fire that occurred at this facility on September 21, 2013, the Natrium I Demethanizer Unit will be required to meet the LDAR requirements under 40CFR60 Subpart OOOO.

Since the issuance of the original permit DAQ has taken delegation of the area source provisions of 40CFR63 Subparts HH and ZZZZ and the applicable regulatory requirements were added to the permit.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates that Blue Racer meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the NPP should be granted a 45CSR13 modification for their facility.

Jerry Williams, P.E.
Engineer

Date