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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	G70-A001A
Plant ID No.:	017-00072
Applicant:	Noble Energy, Inc. (Noble)
Facility Name:	Oxford 1 (OXFD1) Production Facility
Location:	Oxford, Doddridge County
NAICS Code:	211111
Application Type:	G70-A Construction
Received Date:	August 18, 2014
Engineer Assigned:	Jerry Williams, P.E.
Fee Amount:	$1,500.00
Date Received:	August 18, 2014
Complete Date:	October 14. 2014
Due Date:	November 28, 2014
Applicant Ad Date:	September 9, 2014
Newspaper:	*The Herald Record*
UTM's:	Easting: 515.067 km Northing: 4,343.72 km Zone: 17
Lat/Long:	Latitude: 39.24278 Longitude: -80.82542
Description:	This permitting action proposes a modification to ensure a design adequate to handle increased production. The well pad consists of six (6) natural gas wells, six (6) gas production units and heaters, ten (10) condensate storage tanks, eleven (11) produced water storage tanks, two (2) truck loadouts, one (1) low pressure separator, two (2) flash gas compressor vapor recovery unit (VRU) engines, one (1) vapor combustor, and one (1) natural gas fired pilot to ensure constant flame for the combustor. One (1) process flare with associated pilot flame will also be installed for upset conditions.

DESCRIPTION OF PROCESS

The following process description was taken from Registration Application G70-A001A:

The OXFD1 facility is an oil and natural gas production facility. Condensate, gas and water come from six (6) natural gas wells to six (6) gas production units (4S-GPU1-6), where the first separation occurs. The gas from the GPUs will exit the facility via a gas sales pipeline. Liquids (condensate and produced water) from the GPUs are sent to a low pressure separator (5S-LP) where the flash will be compressed to a higher pressure by one (1) natural gas fired vapor recovery unit (VRU), and then exit the facility via the gas sales pipeline. The VRU is powered by one (1) four-stroke rich burn 674 hp Caterpillar G3508 compressor engine (3S-ENG) equipped with a selective catalytic reduction (SCR) catalyst.

Condensate from the low pressure separator flows to ten (10) 400 barrel (bbl) condensate storage tanks (1S-TK1-10). Produced water from the separators flows into eleven (11) 400 bbl produced water storage tanks (2S-TK11-21). Condensate and produced water are transported off site via tanker truck. Emissions from this truck loading operation are shown as two sources (6S-TL1 and 7S-TL2). Produced water loading emissions will not be controlled but condensate truck loading emissions will be routed to a vapor combustor (8S-COMB). Working, breathing and flashing emissions from the condensate and produced water storage tanks will be routed to a second VRU driven by a smaller natural gas fired engine (3S-ENG2). This gas will be routed to the inlet of the larger VRU and to the sales line. The vapor combustor (8S-COMB) will be utilized to control tank flash vapors when the VRU is down for maintenance or malfunction. The vapor combustor will have a natural gas fired pilot (9S-Pilot). A process flare (10S-COMB) will be utilized when the larger VRU powered by 3S-ENG1 is down for maintenance or malfunction. Maximum downtime for this purpose for each VRU is estimated at 37 days or 10%.

The production estimate at this facility is 1,400 bbl/day of condensate and 2,500 bbl/day of produced water.

SITE INSPECTION

A site inspection was conducted by Doug Hammell of the DAQ Enforcement Section on November 5, 2013. Mr. Hammell stated that the site is appropriate for the facility. The nearest residence is approximately 2,000 feet away.

Directions to the proposed facility are as follows:

I-77 Exit 176. Turn right onto US-50 East. Travel 40.6 miles on US-50 East and turn right onto CR11. Travel 0.5 mile and stay on CR11. Travel 2.4 miles to site.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this construction application consist of ten (10) condensate storage tanks (1S – TK1-10), eleven (11) produced water tanks (2S – TK11-21), two (2) flash gas VRU engines (3S – ENG1, ENG2), six (6) gas production units (4S – GPU1-6), one (1) low pressure separator (5S – LP), condensate truck loadout (6S – TL1), produced water truck loadout (7S – TL2), one (1) vapor combustor (8S – COMB), one (1) vapor combustor pilot (9S – Pilot), backup process flare (10S-COMB) and fugitive emissions.

The following table indicates which methodology was used in the emissions determination:

Emission Unit ID#	**Process Equipment**	**Calculation Methodology**
1S-TK1-10	Ten (10) 400 bbl (16,800 gal) Condensate Storage Tanks	HYSYS Process Simulation, EPA Tanks 4.09d
2S-TK11-21	Eleven (11) 400 bbl (16,800 gal) Produced Water Storage Tanks	HYSYS Process Simulation, EPA Tanks 4.09d
3S-ENG1	674 hp Caterpillar 3508B Engine	Manufacturer's Data, EPA AP-42 Emission Factors
3S-ENG2	46 hp GasJack GJ230 Engine	Manufacturer's Data, EPA AP-42 Emission Factors

4S-GPU1-6	Six (6) 1.0 MMBTU/hr Gas Processing Unit (GPU) Burners	EPA AP-42 Emission Factors
5S-LP	0.50 MMBTU/hr LP Separator Heater	EPA AP-42 Emission Factors
6S-TL1	Condensate Truck Loading (21,462,000 gal/yr)	EPA AP-42 Emission Factors
7S-TL2	Produced Water Truck Loading (38,325,000 gal/yr)	EPA AP-42 Emission Factors
8S- COMB	Vapor Combustor	EPA AP-42 Emission Factors
9S-PILOT	Vapor Combustor Pilot	EPA AP-42 Emission Factors
10S-COMB	Flare	EPA AP-42 Emission Factors
11S-PILOT	Flare Pilot	EPA AP-42 Emission Factors
12S-TE Gen	Thermoelectric Generator	EPA AP-42 Emission Factors

Fugitive emissions for the facility are based on calculation methodologies presented in EPA Emission Factors.

The following table indicates the control devices that are required for this facility:

Emission Unit	Control Device
Ten (10) Condensate Storage Tanks (1S-TK1-10)	Vapor Combustor (8C-COMB)
Eleven (11) Produced Water Storage Tanks (2S-TK11-21)	Vapor Combustor (8C-COMB)
Engine (3S-ENG1)	Selective Catalytic Reduction (SCR)
Engine (3S-ENG2)	Non Selective Catalytic Reduction (NSCR)
Condensate Truck Loading (6S-TL1)	Vapor Combustor (8C-COMB)

The total facility potential to emit (PTE) for the OXFD1 Production Facility is shown in the following table:

Pollutant	Facility Wide PTE (tons/year)
Nitrogen Oxides	13.94
Carbon Monoxide	39.35
Volatile Organic Compounds	93.23
Particulate Matter-10/2.5	0.45
Sulfur Dioxide	0.01
Total HAPs	14.27
Carbon Dioxide Equivalent	15,139

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

Noble Energy – OXFD1 Production Facility (G70-A001A)

Emission	Source	NO_x		CO		VOC		PM-10/2.5		SO_2		Total HAPs		CO_2e
Unit ID#		lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	ton/year
1S-TK1-10	10 Condensate Tanks	-	-	-	-	8S-COMB	8S-COMB	-	-	-	-	8S-COMB	8S-COMB	8S-COMB
2S-TK11-21	11 Produced Water Tanks	-	-	-	-	8S-COMB	8S-COMB	-	-	-	-	8S-COMB	8S-COMB	8S-COMB
3S-ENG1	Compressor Engine	1.49	6.51	2.97	13.02	1.04	4.56	0.05	0.22	<0.01	0.01	0.12	0.53	3353
3S-ENG2	Compressor Engine	0.20	0.89	0.41	1.78	0.10	0.44	<0.01	0.02	<0.01	<0.01	0.01	0.03	236
4S-GPU1-6	6 Gas Processing Units	0.48	2.16	0.42	1.80	0.03	0.12	0.05	0.18	<0.01	<0.01	0.01	0.06	2586
5S-LP	Low Pressure Separator	0.04	0.18	0.03	0.15	<0.01	0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	216
6S-TL1	Condensate Truck Loadout	-	-	-	-	6.48	28.39	-	-	-	-	1.10	4.80	0
7S-TL2	Produced Water Truck Loadout	-	-	-	-	0.39	1.69	-	-	-	-	0.01	0.05	0
8S-COMB	Vapor Combustor	0.50	0.22	2.74	1.22	7.38	3.28	<0.01	<0.01	<0.01	<0.01	0.71	0.32	1418
9S-PILOT	Vapor Combustor Pilot	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	7
10S-COMB	Flare	0.90	3.92	4.87	21.35	6.73	29.49	<0.01	<0.01	<0.01	<0.01	1.30	5.68	6806
11S-PILOT	Flare Pilot	0.01	0.03	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	32
12S-TE GEN	Thermoelectric Generator	<0.01	0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	17
Total Point Source PTE		**3.62**	**13.94**	**11.44**	**39.35**	**22.15**	**67.98**	**0.10**	**0.45**	**<0.01**	**0.01**	**3.26**	**11.47**	**14670**
FUG	Fugitive Emissions	0.00	0.00	0.00	0.00	5.77	25.25	0.00	0.00	0.00	0.00	0.64	2.80	469
Total Fugitive PTE		**0.00**	**0.00**	**0.00**	**0.00**	**5.77**	**25.25**	**0.00**	**0.00**	**0.00**	**0.00**	**0.64**	**2.80**	**469**
Total Sitewide PTE		**3.62**	**13.94**	**11.44**	**39.35**	**27.92**	**93.23**	**0.10**	**0.45**	**<0.01**	**0.01**	**3.90**	**14.27**	**15139**

REGULATORY APPLICABILITY

The following rules apply to the facility:

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 fuel burning units (4S-GPU1-6, 5S-LP) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR2. However, Noble 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)

45CSR6 prohibits open burning, establishes emission limitations for particulate matter, and establishes opacity requirements. Sources subject to 45CSR6 include completion combustion devices, enclosed combustion devices, and flares.

The facility-wide requirements of the general permit include the open burning limitations §§45-6-3.1 and 3.2.

All completion combustion devices, enclosed combustion devices, and flares are subject to the particulate matter weight emission standard set forth in §45-6-4.1; the opacity requirements in §§45-6-4-3 and 4-4; the visible emission standard in §45-6-4.5; the odor standard in §45-6-4.6; and the testing standard in §§45-6-7.1 and 7.2. Sections 5.0, 6.0 and 14.0 of the G70-A general permit include requirements for 45CSR6.

Enclosed combustion control devices and flares that are used to comply with emission standards of NSPS, Subpart OOOO are subject to design, operational, performance, recordkeeping and reporting requirements of the NSPS regulation that meet or exceed the requirements of 45CSR6.

Noble has two (2) enclosed combustion devices at the OXFD1 Production Facility. The enclosed combustion device has negligible particulate matter emissions. Therefore, the facility's enclosed combustion device should demonstrate compliance with this section. The facility will demonstrate compliance by maintaining records of the amount of natural gas consumed by the enclosed combustion device and the hours of operation. The

facility will also monitor the flame of the enclosed combustion device and record any malfunctions that may cause no flame to be present during operation.

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

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 fuel burning units (4S-GPU1-6, 5S-LP) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR10.

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)

45CSR13 applies to this source due to the fact that Noble is defined as a "stationary source" under 45CSR13 Section 2.24.a, which states that an owner or operator is subject to any substantive requirement of an emission control rule promulgated by the Secretary. Noble's enclosed combustion device is subject to 45CSR6, and the production facility's operation is subject to 40CFR60 Subpart OOOO. Noble has published the required Class I legal advertisement notifying the public of their permit application, and paid the appropriate application fee.

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

45CSR16 applies to this source because they are subject to 40CFR60 Subpart JJJJ and OOOO.

45CSR22 (Air Quality Management Fee Program)

This facility is a minor source and not subject to 45CSR30. Noble is required to keep their Certificate to Operate current.

40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines)

40CFR60 Subpart JJJJ sets forth nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compound (VOC) emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine.

40CFR60.4230 states that a source that commenced construction after June 12, 2006 whose SI ICE was less than 500 hp and was manufactured on or after July 1, 2008 is subject to this rule. Since one of the SI ICE that Noble will install (3S-ENG1) was manufactured after January 1, 2011, Noble is subject to this rule. Engine 3S-ENG2 was manufactured on July 16, 2004, therefore, 3S-ENG2 is not subject to this rule.

The proposed 674 hp compressor engine (3S-ENG1) will be subject to the following emission standards:

NO_x: 1.0 g/HP-hr (1.49 lb/hr)
CO: 2.0 g/HP-hr (2.97 lb/hr)
VOC: 0.7 g/HP-hr (1.04 lb/hr)

The proposed engine meets these standards.

Because this engine will not be certified by the manufacturer, Noble will be required to perform an initial performance test within 180 days from startup, and subsequent testing every 8,760 hours or 3 years, whichever comes first.

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 (SO_2) 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.

The gas wells that exist at the OXFD1 Production Facility were drilled principally for the production of natural gas and were done so after August 23, 2011. Therefore, these wells would be considered affected facilities under this subpart. The compliance date for these hydraulically fractured wells is October 15, 2012. Noble is required under §60.5410 to submit an initial notification, initial annual report, maintain a log of records for each well completion, and maintain records of location and method of compliance. §60.5420 requires Noble

demonstrate continuous compliance by submitting reports and maintaining records for each completion operation.

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 OXFD1 Production Facility. 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 two (2) reciprocating internal combustion engines located at the OXFD1 Production Facility. These engines will be delivered after the effective date of this rule. However, §60.5365(c) states that 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. 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 operating at a natural gas bleed rate greater than 6 scfh which commenced construction after August 23, 2011, and is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment and not located at a natural gas processing plant.

- 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 with bleed rates greater than 6 standard cubic feet per hour (scfh) at the OXFD1 Production

Facility. 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 OXFD1 Production Facility are controlled by an enclosed combustion device and emit less than 6 tpy of VOC. Therefore, Noble is not required by this section to further reduce VOC emissions by 95%. Noble will be subject to Section 14 of General Permit G70-A for control devices not subject to 40CFR60 Subpart OOOO.

f. 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.

The OXFD1 Production Facility is not a natural gas processing plant. Natural gas processing plants are not covered under General Permit G70-A.

g. 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 (H_2S) 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 OXFD1 Production Facility. Sweetening uints are not covered under General Permit G70-A.

40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national emission limitations and operating limitations for HAPs emitted from stationary RICE located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. The engines at the OXFD1 Production Facility are subject to the area source requirements for non-emergency spark ignition engines.

The applicability requirements for new four stroke lean burn stationary engines (3S-ENG1) that are located at an area source of HAPs is to meet the requirements of 40CFR60 Subpart JJJJ. These requirements were outlined above. The proposed engine meets these standards.

Because this engine will not be certified by the manufacturer, Noble will be required to perform an initial performance test within 180 days from startup, and subsequent testing every 8,760 hours or 3 years, whichever comes first.

The applicability requirements for existing four stroke rich burn stationary engines (3S-ENG2) less than 100 hp that are located at an area source of HAPs is to minimize idle time at startup, and change engine oil and filter, inspect spark plugs, and inspect/replace as necessary all hoses and belts every 1,440 hours or annually (whichever comes first).

The following rules do not apply to the facility:

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

40CFR60 Subpart Kb does not apply to storage vessels with a capacity less than 75 cubic meters. The tanks that Noble has proposed to install are 63.60 cubic meters each. Therefore, Noble would not be subject to this rule. In addition, 40CFR60 Subpart Kb is not covered under General Permit G70-A.

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 facility was constructed after August 23, 2011 and is not a natural gas processing plant, therefore, Noble would not be subject to this rule. In addition, 40CFR60 Subpart KKK is not covered under General Permit G70-A.

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)

The OXFD1 Production Facility is located in Doddridge County, which is an unclassified county for all criteria pollutants, therefore this facility is not applicable to 45CSR19.

As shown in the following table, Noble is not a major source subject to 45CSR14 or 45CSR19 review. According to 45CSR14 Section 2.43.e, fugitive emissions are not included in the major source determination because it is not listed as one of the source categories in Table 1. Therefore, the fugitive emissions are not included in the PTE below.

Pollutant	**PSD (45CSR14) Threshold (tpy)**	**NANSR (45CSR19) Threshold (tpy)**	**OXFD1 PTE (tpy)**	**45CSR14 or 45CSR19 Review Required?**
Carbon Monoxide	250	NA	39.35	No
Nitrogen Oxides	250	NA	13.94	No
Sulfur Dioxide	250	NA	0.01	No
Particulate Matter 2.5	250	NA	0.45	No
Ozone (VOC)	250	NA	67.98	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 OXFD1 Production Facility is located in Doddridge County and will be operated by Noble.

1. "Contiguous or Adjacent" determinations are made on a case by case basis. These determinations are proximity based, and it is important to focus on this and whether or not it meets the common sense notion of a plant. The terms "contiguous" or "adjacent" are not defined by USEPA. Contiguous has a dictionary definition of being in actual contact; touching along a boundary or at a point. Adjacent has a dictionary definition of not distant; nearby; having a common endpoint or border.

   The OXFD1 Production Facility and Cone Gathering's Oxford Compressor Station are located less than 0.20 miles from each other. An access road that leads from these facilities has been constructed. There is no other way to access the two facilities without the access road that was non-existent prior to this development. There is no other development or housing associated with this access road. It is the opinion of the writer that these facilities are located on 'adjacent' properties.

2. The OXFD1 Production Facility will operate under SIC code 1311 (Crude Petroleum and Natural Gas Extraction). Cone Gathering's Oxford Compressor Station has an SIC code of 4922 that has been filed with the SEC. Cone's Oxford Compressor Station has the ability to accept gas from several other wellpads in the area.

3. Noble is the sole operator of the OXFD1 Production Facility. Cone Gathering is the operator of the Oxford Compressor Station. However, CNX Gas and Noble both own a significant partnership interest in CONE MLP. Therefore, the partnership that exists between these facilities lends itself to common control.

The facilities in question are located on contiguous or adjacent property and are under common control. However, they do not share the same two digit major SIC code. Therefore, the emissions from these two (2) facilities should not be aggregated in determining major source or PSD status.

MONITORING OF OPERATIONS

Noble will be required to perform the following monitoring associated with this permit application:

1. Monitor and record quantity of natural gas consumed for all combustion sources.
2. Monitor the presence of the vapor combustor pilot flame with a thermocouple or equivalent.
3. Monitor opacity from all fuel burning units.
4. Monitor the tanks to ensure that all vapors are sent to a vapor combustor.

Noble will be required to perform the following recordkeeping associated with this modification application:

1. Maintain records of the amount of natural gas consumed in each combustion source.
2. 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
3. Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
4. Maintain records of the visible emission opacity tests conducted per the permit.
5. Maintain a record of all PTE HAP calculations for the entire facility.
6. The records shall be maintained on site or in a readily available off-site location maintained by Noble for a period of five (5) years.
7. Monitor the tanks to ensure that the tank vapors will be sent to the vapor combustor.
8. Monitor the condensate and produced water truck loadout throughput.

RECOMMENDATION TO DIRECTOR

The information provided in the registration application indicates Noble's OXFD1 site meets all the requirements of applicable regulations. Therefore, impact on the surrounding area should be minimized and it is recommended that the Doddridge County location should be granted a G70-A Registration for this proposed permitting action.

Jerry Williams, P.E.
Engineer

NOV 5 2014
Date