



**west virginia** department of environmental protection

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**ENGINEERING EVALUATION / FACT SHEET**

BACKGROUND INFORMATION

Application No.:	R13-3208A	ID #	<u>017-00102</u>
Plant ID No.:	017-00102	Reg	<u>R13-3208A</u>
Applicant:	CONE Midstream Partners LP (CONE)	Company	<u>CONE MIDSTREAM</u>
Facility Name:	Oxford Station	Facility	<u>OXFORD</u> Initials <u>JW</u>
Location:	West Union, Doddridge County		
NAICS Code:	486210 (Natural Gas Transmission)		
Application Type:	Modification		
Received Date:	March 16, 2015		
Engineer Assigned:	Jerry Williams, P.E.		
Fee Amount:	\$4,500.00		
Date Received:	March 16, 2015		
Complete Date:	June 12, 2015		
Due Date:	September 10, 2015		
Applicant Ad Date	April 3, 2015		
Newspaper:	<i>The Herald Record</i>		
UTM's:	Easting: 515.4689 km      Northing: 4,343.7048 km      Zone: 17		
Description:	Modification of a natural gas gathering facility.		

DESCRIPTION OF PROCESS

The following process description was taken from Permit Application R13-3208A:

CONE is proposing to increase the current permit limits of the existing dehydration station (50 million standard cubic feet per day (MMSCD) to 67 MMSCFD and facility wide throughputs, in addition to installing the following equipment: one (1) electric vapor recovery unit (VRU), one (1) blowdown flare, two (2) natural gas fired microturbine generators (each rated at 200 kW), one (1) 67 MMSCFD dehydration unit with associated reboiler and enclosed ground flare, and three (3) miscellaneous storage tanks.

Natural gas from the field comes into the pig receiver area. In non-pigging situations, the gas bypasses the pig receiver and flows through a meter and then through the discharge scrubber. When pigging, the gas goes through the pig receiver and liquids drop and go to a 6,000 gallon storage tank. From the discharge scrubber, the gas goes through an inlet filter and then through the glycol contactor bottom to top, coming into contact with lean glycol travelling from the top down, with the glycol absorbing the water in the gas. The gas leaves the contactor going through a glycol/gas exchanger, cooling the lean glycol coming in. The gas then goes through an after contactor coalescer removing any entrained glycol, after which the gas goes into sales.

The rich glycol leaves the bottom of the contactor, goes into the low pressure side of the Kimray pump, pumped through the still column exchanger for preheat, then makes one pass through the glycol exchanger, then flows through the flash tank where gas is flashed off (gas used for dehy fuel, excess goes to enclosed vapor combustor), then through a charcoal filter, then four (4) passes through glycol exchanger and into the reboiler.

The lean glycol comes out of the reboiler after the water has been evaporated off into the still column, goes through the glycol exchanger, makes five (5) passes onto a sock filter, into the high pressure side of the Kimray pump where lean glycol is then pumped through the glycol/gas exchanger and then into the top contactor. Water is vaporized in the reboiler, leaves the vapor stack, travels to the enclosed vapor combustor, where it is burned along with the flash gas and supplemental fuel. Hydrocarbons in the vapor, flash, and fuel are destroyed at a 98% efficiency.

The natural gas stream from the contact tower flows into the pipeline to be transported further along the pipeline system. The station will be equipped with one (1) produced water tank, one (1) condensate storage tank, and one (1) gun barrel tank. Emissions from the gun barrel tank will be controlled by an electric VRU with vapor destructive unit (VDU) backup while emission from the condensate and produced water storage tanks are controlled by either the VRU or VDU. Once the tanks (condensate and produced water) are filled, the contents are loaded into trucks for transport. Truck loading is vapor balanced and controlled by the VDU.

#### 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 turn on CR11/3. Travel 2.4 miles to site.*

**ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER**

Emissions associated with this modification application consist of a gun barrel tank (Tank-1a), Condensate Storage Tank (Tank-2), Produced Water Storage Tank (Tank-3), blowdown flare (BDF-1), enclosed vapor combustor (CMB-2), glycol dehydration unit (SV-2), dehydrator reboiler (BLR-2) and two (2) microturbine generators (TRB-1, TRB-2). Additionally, there is an increased throughput for the existing glycol dehydration unit (SV-1) and liquids loading (BL-1).

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:

<b>Emission Unit ID#</b>	<b>Process Equipment</b>	<b>Calculation Methodology</b>
Tank-1a	18,900 gallon (450 bbl) Gun Barrel Storage Tank	ProMax Process Simulation (Working, Breathing & Flashing)
Tank-2	16,800 gallon (400 bbl) Condensate Storage Tank	ProMax Process Simulation (Working, Breathing & Flashing)
Tank-3	16,800 gallon (400 bbl) Produced Water Storage Tank	ProMax Process Simulation (Working, Breathing & Flashing)
BDF-1	Emergency Blowdown Flare	EPA AP-42 Emission Factors
CMB-2	6 MMBTU/hr Enclosed Vapor Combustor	EPA AP-42 Emission Factors
SV-2	67 MMSCFD Glycol Dehydration Unit (Still Vent and Flash Tank)	EPA AP-42 Emission Factors, GRI-GlyCalc 4.0
BLR-2	1 MMBTU/hr Glycol Dehydration Unit Reboiler	EPA AP-42 Emission Factors
TRB-1	200 kW Microturbine Generator	Manufacturer's Data, EPA AP-42 Emission Factors
TRB-2	200 kW Microturbine Generator	Manufacturer's Data, EPA AP-42 Emission Factors
SV-1	67 MMSCFD Glycol Dehydration Unit (Still Vent and Flash Tank)	EPA AP-42 Emission Factors, GRI-GlyCalc 4.0
BL-1	2,300,000 gal/yr Liquids Loading Product Loadout Rack	ProMax Process Simulation

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

Emission Unit	Pollutant	Control Device	Control Efficiency
67 mmscfd TEG Dehydrator Still Vents (SV-1, SV-2)	Volatile Organic Compounds	Vapor Combustors (CMB-1, CMB-2)	98 %
	Hazardous Air Pollutants		98 %
Gun Barrel Storage Tank (Tank-1a)	Volatile Organic Compounds	Vapor Destruction Unit (VDU-1)	95 %
	Hazardous Air Pollutants		95 %
Condensate Storage Tank (Tank-2)	Volatile Organic Compounds	Vapor Destruction Unit (VDU-1)	95 %
	Hazardous Air Pollutants		95 %
PW Storage Tank (Tank-3)	Volatile Organic Compounds	Vapor Destruction Unit (VDU-1)	95 %
	Hazardous Air Pollutants		95 %
Liquids Loading Rack (L1)	Volatile Organic Compounds	Vapor Destruction Unit (VDU-1)	96.7 %
	Hazardous Air Pollutants		96.7 %

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

Pollutant	R13-3208 PTE (tons/year)	R13-3208A PTE (tons/year)	PTE Change (tons/year)
Nitrogen Oxides	9.16	12.28	3.12
Carbon Monoxide	7.43	22.37	14.94
Volatile Organic Compounds	6.41	98.03	91.62
Particulate Matter-10/2.5	0.68	0.74	0.06
Sulfur Dioxide	0.04	0.10	0.06
Formaldehyde	0.04	0.06	0.02
Total HAPs	0.22	10.21	9.99
Carbon Dioxide Equivalent	8,923	15,515	6,592

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

## CONE Midstream Partners LP – Oxford Station (R13-3208A)

Emission Point ID#	Source	NO <sub>x</sub>		CO		VOC		PM-10/2.5		SO <sub>2</sub>		Formaldehyde		Total HAPs		CO <sub>2e</sub> 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	lb/hr	ton/year	
VRU-1/VDU-1	Gas Barrel Storage Tank	0.74	3.24	0.62	2.72	17.48	76.55	0.06	0.24	<0.01	0.02	0.01	0.02	1.65	7.23	80
VRU-1/VDU-1	Condensate/PW Storage Tank	-	-	-	-	0.58	2.56	-	-	-	-	-	-	0.04	0.16	-
VDU-1	Tank Loading	-	-	-	-	0.06	0.27	-	-	-	-	-	-	<0.01	0.01	-
BDF-1	Blowdown Flare	11.80	2.95	53.79	13.45	11.59	2.90	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.46	0.11	5080
VS-1	Dehydrator Reboiler	0.08	0.35	0.07	0.29	<0.01	0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	513
VS-2	Dehydrator Reboiler	0.08	0.35	0.07	0.29	<0.01	0.02	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	513
VS-3	Emergency Generator	1.78	0.45	0.50	0.12	0.36	0.09	0.06	0.02	<0.01	<0.01	0.15	0.04	0.16	0.05	93
CMB-1	Dehy Unit w/ Vapor Combustor	0.48	2.12	0.41	1.79	1.26	5.49	0.04	0.16	<0.01	0.01	<0.01	<0.01	0.30	1.30	3255
CMB-2	Dehy Unit w/ Vapor Combustor	0.48	2.12	0.41	1.79	1.26	5.49	0.04	0.16	<0.01	0.01	<0.01	<0.01	0.30	1.30	3255
VS-4	Microturbine	0.08	0.35	0.22	0.96	0.02	0.09	0.02	0.07	<0.01	0.03	<0.01	<0.01	<0.01	0.01	1167
VS-5	Microturbine	0.08	0.35	0.22	0.96	0.02	0.09	0.02	0.07	<0.01	0.03	<0.01	<0.01	<0.01	0.01	1167
<b>Total Point Source</b>		<b>15.60</b>	<b>12.28</b>	<b>56.31</b>	<b>22.37</b>	<b>32.63</b>	<b>93.57</b>	<b>0.24</b>	<b>0.74</b>	<b>0.02</b>	<b>0.10</b>	<b>0.16</b>	<b>0.06</b>	<b>2.91</b>	<b>10.18</b>	<b>15123</b>
Fugitive	Component Leaks	0.00	0.00	0.00	0.00	1.02	4.46	0.00	0.00	0.00	0.00	0.00	0.00	<0.01	0.03	392
<b>Total Fugitive</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.02</b>	<b>4.46</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>&lt;0.01</b>	<b>0.03</b>	<b>392</b>
<b>Total Sitewide</b>		<b>15.60</b>	<b>12.28</b>	<b>56.31</b>	<b>22.37</b>	<b>33.65</b>	<b>98.03</b>	<b>0.24</b>	<b>0.74</b>	<b>0.02</b>	<b>0.10</b>	<b>0.16</b>	<b>0.06</b>	<b>2.45</b>	<b>10.21</b>	<b>15515</b>

## 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 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 reboilers (VS-1, VS-2) are below 10 MMBTU/hr. Therefore, these units are exempt from the aforementioned sections of 45CSR2.

CONE would also 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.

CONE has proposed to have one (1) vapor combustor and one (1) blowdown flare at the facility. These units are subject to section 4, emission standards for incinerators. The vapor combustor and blowdown flare have negligible hourly particulate matter emissions. Therefore, these units should demonstrate compliance with this section. The facility will demonstrate compliance by maintaining records of the amount of natural gas consumed by these units and the hours of operation. The facility will also monitor the flame of these units 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)**

The purpose of 45CSR10 is to establish emission limitations for sulfur dioxide which are discharged from fuel burning units. 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 reboilers (VS-1, VS-2) 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 CONE exceeds the regulatory emission threshold for criteria pollutants of 6 lb/hr and 10 ton/year, and they are also subject to a substantive requirement of an emission control rule promulgated by the Secretary (45CSR6, 40CFR60 Subparts IIII and OOOO, 40CFR63 Subpart HH).

CONE paid the appropriate application fee and published the required legal advertisement for a construction permit application.

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

45CSR16 applies to this source by reference of 40CFR60, Subparts JJJJ and OOOO. These requirements are discussed under that rule below.

**45CSR22 (Air Quality Management Fee Program)**

CONE is not subject to 45CSR30. The Oxford Station is subject to 40CFR60 Subparts JJJJ and OOOO, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source.

CONE is required to pay the appropriate annual fees and keep their Certificate to Operate current.

**40CFR60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE))**

40CFR60 Subpart IIII establishes emission standards for applicable CI ICE.

The 326 hp Cummins RICE (VS-3) is subject to EPA Tier 3 exhaust emission standards. According to the data sheet submitted by CONE, these standards will be met.

**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<sub>2</sub>) 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: 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.*

- a. 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 Oxford Station. Therefore, all requirements regarding centrifugal compressors under 40 CFR 60 Subpart OOOO would not apply.*

- b. 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 internal combustion engines located at the Oxford Station. Therefore, all requirements regarding reciprocating compressors under 40 CFR 60 Subpart OOOO would not apply.*

- c. 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.

*All pneumatic controllers at the facility will be air driven. Therefore, there are no applicable pneumatic controllers which commenced construction after August 23, 2011. Therefore, all requirements regarding pneumatic controllers under 40 CFR 60 Subpart OOOO would not apply.*

- d. 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 non-earthen 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 condensate and produced water storage vessels located at the Oxford Station will be controlled by a VRU/VDU which will reduce the potential to emit to less than 6 tpy of VOC. Therefore, CONE is not required by this section to further reduce VOC emissions by 95%.*

*The gun barrel storage vessel emits greater than 6 TPY. Therefore, CONE is required by this section to reduce VOC emissions by 95% for this storage vessel. CONE has proposed to install a VRU/VDU that reduces the emissions by 95%.*

- e. 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 Oxford Station is not a natural gas processing plant. Therefore, Leak Detection and Repair (LDAR) requirements for onshore natural gas processing plants would not apply.*

- 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 (H<sub>2</sub>S) 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 Oxford Station. Therefore, all requirements regarding sweetening units under 40 CFR 60 Subpart OOOO would not apply.*

**40CFR63 Subpart HH** (National Emission Standards for Hazardous Air Pollutants for Oil and Natural Gas Production Facilities)

Subpart HH establishes national emission limitations and operating limitations for HAPs emitted from oil and natural gas production facilities located at major and area sources of HAP emissions. The glycol dehydration units at the Oxford are subject to the area source requirements for glycol dehydration units. However, because the facility is an area source of HAP emissions and the actual average benzene emissions from the glycol dehydration units are below 0.90 megagram per year (1.0 tons/year) it is exempt from all requirements of Subpart HH except to maintain records of actual average flowrate of natural gas to demonstrate a continuous exemption status.

**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 Oxford Station are subject to the area source requirements for non-emergency spark ignition engines.

The applicability requirements for new CI ICE (VS-3) that are located at an area source of HAPs is to meet the requirements of 40CFR60 Subpart III. These requirements were outlined above. The proposed engines meet these standards.

The following rules do not apply to the facility:

**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 Oxford Compressor Station is located in Doddridge County, which is an unclassified county for all criteria pollutants, therefore the Oxford Station is not applicable to 45CSR19.

As shown in the following table, CONE 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.

<b>Pollutant</b>	<b>PSD (45CSR14) Threshold (tpy)</b>	<b>NANSR (45CSR19) Threshold (tpy)</b>	<b>Oxford PTE (tpy)</b>	<b>45CSR14 or 45CSR19 Review Required?</b>
Carbon Monoxide	250	NA	22.37	No
Nitrogen Oxides	250	NA	12.28	No
Sulfur Dioxide	250	NA	0.10	No
Particulate Matter 2.5	250	NA	0.74	No
Ozone (VOC)	250	NA	93.57	No

**45CSR30 (Requirements for Operating Permits)**

CONE is not subject to 45CSR30. The Oxford Station is subject to 40CFR60 Subparts III and OOOO, however they are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided they are not required to obtain a permit for a reason other than their status as an area source.

**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 largest tank that CONE has proposed to install is 71.53 cubic meters (18,900 gallons). Therefore, CONE would not be subject to this rule.

**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 Oxford Station is not a natural gas processing facility, therefore, CONE is not subject to this rule.

## TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows or suspects may cause cancer or other serious human health effects. The following HAPs are common to this industry. The following table lists each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System (IRIS)):

HAPs	Type	Known/Suspected Carcinogen	Classification
Formaldehyde	VOC	Yes	Category B1 - Probable Human Carcinogen
Benzene	VOC	Yes	Category A - Known Human Carcinogen
Ethylbenzene	VOC	No	Inadequate Data
Toluene	VOC	No	Inadequate Data
Xylenes	VOC	No	Inadequate Data

All HAPs have other non-carcinogenic chronic and acute effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at [www.epa.gov/iris](http://www.epa.gov/iris).

## 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) or 45CSR19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment) as shown in the table listed in the Regulatory Discussion section under 45CSR14/45CSR19.

## 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.

- “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 Noble’s OXFD1 Production Facility and CONE’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.

- Noble’s OXFD1 Production Facility will operate under SIC code 1311 (Crude Petroleum and Natural Gas Extraction). CONE’s Oxford Compressor Station has an SIC code of 4925 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.
- Noble is the sole operator of the OXFD1 Production Facility. CONE 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

CONE will be required to perform the following monitoring:

- Monitor and record quantity of natural gas consumed for all combustion sources.
- Monitor all applicable requirements of 40CFR60 Subparts IIII and OOOO, 40CFR63 Subpart HH.
- Monitor the presence of the vapor combustor and blowdown flare pilot flame with a thermocouple or equivalent.

CONE will be required to perform the following recordkeeping:

- Maintain records of the amount of natural gas consumed and hours of operation for all combustion sources.
- 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
- Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
- Maintain records of the visible emission opacity tests conducted per the permit.
- 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.
- Maintain records of all applicable requirements of 40CFR60 Subparts IIII and OOOO, 40CFR63 Subpart HH.
- Maintain records of the vapor combustor and blowdown flare design evaluation.
- The records shall be maintained on site or in a readily available off-site location maintained by CONE for a period of five (5) years.

## RECOMMENDATION TO DIRECTOR

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

  
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Jerry Williams, P.E.  
Engineer

*JUN 12. 2015*  
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Date

