



west virginia department of environmental protection

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Response to Public Comment And Final Determination

R13-3207A (Shirley Compressor Station)

Cone Midstream Partners, LP

Date: December 30, 2015

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BACKGROUND INFORMATION

On August 10, 2015, the Division of Air Quality (DAQ) received an application to modify a permit registration (R13-3207) for the Shirley Station located at 9425 Middle Road, Alma, Tyler County, West Virginia. The Applicant is Cone Midstream Partners, LP (Cone). Cone is a limited partnership that is comprised of one-third (1/3) Noble Energy, Inc., one-third (1/3) Consol Energy, Inc. and one-third (1/3) Public.

On August 12, 2015, pursuant to §45-13-8, Cone Midstream Partners, LP provided notice to the public of the proposed modification to their Shirley natural gas compressor Station located near Middlebourne, Tyler County, WV.

The Applicant proposes to increase the current liquid loading throughputs and increase the existing dehydration unit capacity (from 150 to 200 million standard cubic feet per day), as well as install one (1) additional dehydration unit with associated reboiler and ground flare, one (1) compressor engine, one (1) microturbine generator, one (1) Hot Oil Heater associated with a condensate stabilizer, three (3) storage tanks, one (1) blowdown flare and one (1) backup vapor destruction unit [VDU].

On October 28, 2015, pursuant to §45-13-8, the West Virginia Division of Air Quality (DAQ) provided notice to the public of a preliminary determination to issue Permit Number R13-3207A to Cone Midstream Partners, LP for the modification of the Shirley natural gas compressor Station. At this time, the draft permit and Engineering Evaluation/Fact Sheet were made available to the public for review.

Both public notices were followed by a public comment period (required to be a minimum of 30 days under §45-13-8) scheduled to end at 5:00 P.M. on September 11, 2015 (Applicant) and November 30, 2015 (DAQ). During the public comment period, the DAQ accepted comments on the Applicant's proposed modification and our preliminary determination to issue permit R13-3207A to Cone and on all documents related thereto.

OVERVIEW OF COMMENTS RECEIVED

The DAQ received written comments during the Applicant's public comment period and no written comments during the DAQ public comment period. The DAQ received one (1) written comment for the Shirley Compressor Station that contained 44 signatures. Pursuant to §45-13-8.8, all submitted comments received during the public comment period have been reviewed and are appropriately addressed in this document.

ORGANIZATION OF COMMENT RESPONSE

The DAQ's response to the submitted comments includes both a general and specific response section. The general response defines issues over which the DAQ has authority and by contrast, identify those issues that are beyond the purview of the DAQ. The general response also describes the statutory basis for the issuance/denial of a permit, discusses the role of the pre-

construction permitting process in the larger divisional goal of maintaining air quality in WV, and details the current status of the ambient air quality of Tyler County.

The specific response summarizes each relevant non-general comment that falls within the purview of the DAQ and provides a response to it. Each comment is summarized and key points are listed. The DAQ makes no claim that the summaries are complete; they are provided only to place the responses in a proper context. For a complete understanding of submitted comments, please see the original documents available for review in the R13-3207A files). Comments that are not directly identified and responded to in the specific response section of this document are assumed to be answered under the general response section (or not relevant to the Cone application or an air quality-related issue).

GENERAL RESPONSE TO COMMENTS

Statutory Authority of the DAQ

The statutory authority of the DAQ is given under the Air Pollution Control Act (APCA) - West Virginia Code §22-5-1, *et. seq.* - which states, under §22-5-1 (“Declaration of policy and purpose”), that:

It is hereby declared the public policy of this state and the purpose of this article to achieve and maintain such levels of air quality as will [underlining and emphasis added] protect human health and safety, and to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state and facilitate the enjoyment of the natural attractions of this state.

Therefore, while the code states that the intent of the rule includes the criteria outlined in the latter part of the above sentence, it is clear by the underlined and bolded section of the above sentence that the scope of the delegated authority does not extend beyond the impact of air quality on these criteria. Based on the language under §22-5-1, *et. seq.*, the DAQ, in making determinations on issuance or denial of permits under 45CSR13, does not take into consideration substantive non-air quality issues such as job creation, economic viability of proposed product, energy independence, nuisance potential (noise, sight line obstruction, traffic), non-air quality environmental impacts, grant eligibility, etc. Beyond the DAQ’s position that the code does not grant us the authority to take into consideration such issues, it is also self-evident that these issues are beyond the expertise of the Division of Air Quality and that most are regulated by other bodies with the mandates and expertise to do so.

Statutory Basis for Permit Denial

Pursuant to §22-5-4 (“Powers and duties of director; and legal services; rules”), the DAQ is authorized:

To promulgate legislative rules . . . providing for . . . [p]rocedures and requirements for permit application, transfers and modifications and the review thereof;

This authorization is effected under WV Legislative Rule 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." Pursuant to §45-13-5.7, the DAQ shall issue a permit unless:

a determination is made that the proposed construction, modification, registration or relocation will violate applicable emission standards, will interfere with attainment or maintenance of an applicable ambient air quality standard, cause or contribute to a violation of an applicable air quality increment, or be inconsistent with the intent and purpose of this rule or W. Va. Code §22-5-1 et seq., in which case an order denying such construction, modification, relocation and operation shall be issued. The Secretary shall, to the extent possible, give priority to the issuance of any such permit so as to avoid undue delay and hardship.

It is clear under 45CSR13 that denial of a permit must be based on one of the above explicitly stated criteria or, as noted, is inconsistent with the intent of 45CSR13 or §22-5-1, *et seq.* As is stated above, it is the DAQ's position that the intent of both of the APCA and 45CSR13 is to limit the authority of the DAQ to air quality issues as outlined in the APCA and in West Virginia's State Implementation Plan (SIP).

The air quality issues evaluated relating to Cone's application to modify a natural gas compressor Station are outlined in the DAQ's Engineering Evaluation/Fact Sheet made public on October 28, 2015. The issues covered under those documents represent the extent of the substantive air quality issues over which the DAQ believes it has authority to evaluate under 45CSR13 and the APCA as relating to Cone's permit application R13-3207A.

DAQ Permitting Process in Context

It is important to note that the DAQ permitting process is but one part of a system that works to meet the intent of the APCA in WV. The DAQ maintains a Compliance/Enforcement (C/E) Section, an Air Monitoring Section, a Planning Section, *etc.* to effect this. Most pertinent to the permitting process, the C/E Section regularly inspects permitted sources to determine the compliance status of the facility including compliance with all testing, monitoring, record-keeping, and reporting requirements.

General Response Conclusion

In conclusion, when responding to comments that reference substantive non-air quality issues, the APCA and 45CSR13 does not grant the DAQ the authority to take into consideration such issues in determining to issue or deny the permit. Further, the requirements of 45CSR13 require the DAQ to, when denying a permit, explicitly state the reason pursuant to §45-13-5.7. Additionally, the permit is but the beginning of the involvement of the DAQ with a source. After issuance, the facility will receive regular inspections to determine compliance with the requirements as outlined in the applicable permit.

SPECIFIC RESPONSES TO COMMENTS

Comment #1

The public expressed great concern for two main reasons. The first was in regards to the amount of hazardous air pollutants (HAPs) that Cone will be allowed to emit from the Shirley Compressor Station. The concern that the HAPs which are known carcinogens, may affect the quality of air they breathe, the unknown health conditions that may result over time and the effort to lessen the amount of pollutants being discharged by installing any kind of scrubbing devices.

DAQ Response

It is the public policy of this state, and the purpose of Article 5 (Air Pollution Control Act) of the West Virginia Code, to achieve and maintain such levels of air quality as will protect human health and safety, and to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state and facilitate the enjoyment of the natural attractions of this state.

Cone has proposed air pollution control devices on their reciprocating internal combustion engines (RICE), glycol dehydration units, storage tanks, and product loadout. As stated above, pursuant to §45-13-5.7, the DAQ shall issue a permit unless a determination is made that the proposed construction, modification, registration or relocation will violate applicable emission standards, will interfere with attainment or maintenance of an applicable ambient air quality standard, cause or contribute to a violation of an applicable air quality increment, or be inconsistent with the intent and purpose of this rule or W. Va. Code §22-5-1 et seq., in which case an order denying such construction, modification, relocation and operation shall be issued. Therefore, all air permit applications must be reviewed to determine if all applicable standards are met.

The United States Environmental Protection Agency (EPA) has established a 'major source' threshold of HAP emissions to be 10 tpy of any one (1) HAP or 25 tpy of a combination of HAPs. If a facility is determined to be 'major' under these EPA thresholds, they would be required to obtain a Title V permit and implement maximum achievable control technology (MACT). This is required of all 'major' sources and a limited number of smaller sources, called 'area' sources. Source categories have been developed to target the pollutants of concern from that particular industry.

Over the past decade, a significant number of new rules have been adopted that specifically apply to area sources. For area sources within each source category, the Clean Air Act allows U.S. EPA to develop standards or requirements which provide for the use of generally available control technologies (GACT) or management practices rather than the MACT required for major sources. MACT requirements apply to major sources of HAPs or area sources, and these standards are congressionally mandated. GACT standards apply to some area sources, and they are considered to be an optional alternative approach to MACT.

The Shirley Station is not considered 'major' for HAPs. 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 draft permit established emission limits for the following HAPs: Benzene and Formaldehyde. The following table lists each HAP's carcinogenic risk (as based on analysis provided in the Integrated Risk Information System [IRIS]):

HAP	Type	Known/Suspected Carcinogen	Classification
Formaldehyde	VOC	Yes	Category B1 - Probable Human Carcinogen
Benzene	VOC	Yes	Category A - Known Human Carcinogen

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 pollutants*. For a complete discussion of the known health effects of each compound refer to the IRIS database located at www.epa.gov/iris.

After modification, the Shirley Compressor Station will have a total HAP emission rate of 14.10 tons per year (tpy). The proposed modification will result in a reduction of HAP emissions of approximately 4.85 tpy. The majority of the HAP emissions at the Shirley Compressor Station consist of those from the Caterpillar G3608 Compressor engines – 13.24 tpy and glycol dehydration units – 0.19 tpy. These sources constitute 95.3% of all HAP emissions from the facility.

EPA has established federal standards for RICEs as will be installed at the Shirley Station. Cone's compressor engines are subject to 40CFR60 Subpart JJJJ, which sets forth emission limits (for nitrogen oxides, carbon monoxide, and volatile organic compounds), fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine. This rule requires the permittee to either install engines that were certified by EPA to meet the required emission standard or perform the required performance testing. Engines of this size normally are not certified and are required to conduct performance testing.

The existing Caterpillar G3608 Compressor engines (S1 – S4) are not EPA Certified and will require performance testing. The existing engines have been retrofitted with a three way catalyst (ECL International, 3-DC64-20/24 HGS+, Hospital Grade Catalytic Silencer) for NOx, CO and VOC control. The retrofitted oxidation catalysts provide a 100% emission capture efficiency and a guaranteed minimum control efficiency of 93% for carbon monoxide (CO), a 9% improved minimum control efficiency (61% to 70%) for volatile organic compounds (VOCs) and a

minimum control efficiency of 81% for Formaldehyde. The proposed, additional Caterpillar G3608 Compressor engine (S7) will utilize the three way catalyst as well. In addition, the Cummins 8.3 emergency generator (EPA Certified) has been retrofitted with a 3-Way Catalyst that provides a guaranteed minimum control efficiency of 53.5% for carbon monoxide (CO) and a guaranteed minimum control efficiency of 84.6% for nitrogen oxides (NO_x).

The highest individual HAP proposed to be emitted at the Shirley Station is formaldehyde at a rate of 5.80 tpy. The five (5) compressor engines are responsible for 5.65 tpy of the total.

Cone will be required to perform the following monitoring and/or testing:

- Test all of their RICEs (that are not EPA Certified) within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours of operation or 3 years, whichever comes first, thereafter to demonstrate compliance. This includes the submittal and subsequent approval of an EPA approved performance testing protocol for NO_x, CO and VOC.
- Demonstrate compliance with the HAP emissions for the glycol dehydration unit thresholds.
- Monitor the visible emissions of the reboilers utilizing EPA Method 9.
- Monitor and inspect all closed vent requirements on the vapor recovery units of the storage tanks.
- Monitor and inspect all closed vent requirements on the vapor recovery units of the product loadout rack.
- Monitor and replace all compressor rod packing on a pre-determined interval.

Cone must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Additionally, the glycol dehydration units (proposed and existing) at the facility are also subject to 'area' source requirements mandated by EPA. This requires Cone to demonstrate on an ongoing basis that their actual annual average of benzene emissions are below federally established thresholds in order to minimize emissions to the atmosphere. The actual average benzene emissions from the glycol dehydration units are well below 0.90 megagram per year (1.0 ton/year) and therefore exempt from any requirements other than to maintain records of actual average flowrate of natural gas to demonstrate a continuous exemption status.

The Shirley Station meets both the requirements of the RICE GACT and the glycol dehydration GACT.

The following is provided for informational purposes only: As compounds are emitted into the air, dispersion occurs in which the compounds become less concentrated. Additionally, compounds decompose to simpler compounds over time. Half-life refers to the time it takes for

a compound to decompose to half of its original amount in the environment. The following is the half-life of each and more detailed information on each HAP:

- Benzene – 8 days -13.4 days in atmosphere
(<http://www.atsdr.cdc.gov/ToxProfiles/tp3.pdf>,
<http://www.epa.gov/ogwdw000/pdfs/factsheets/voc/tech/benzene.pdf>)
- Formaldehyde - 1.6-19 hours in sunlit atmosphere
(<http://www.atsdr.cdc.gov/ToxProfiles/tp111.pdf>)

The DAQ requires Cone to install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to prevent any substantive fugitive escape of regulated air pollutants. Any above-ground piping, valves, pumps, etc. that shows signs of excess wear and that have a reasonable potential for substantive fugitive emissions of regulated air pollutants shall be replaced.

Comment #2

Another huge concern of ours is the noise levels have grown progressively worse as the existing facility has been brought on line. Again no one at this facility has done anything to lessen the level of noise.

DAQ Response

The Director of the DAQ only has those authorities specifically granted in the West Virginia Code and supporting regulations promulgated thereunder for air emissions. DAQ does not have the authority to regulate noise.

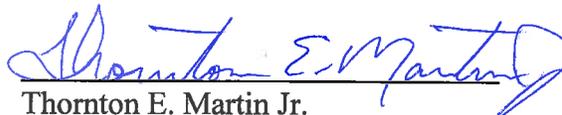
The DAQ takes these citizen concerns very seriously and required Cone to provide a response as to what steps would be taken to mitigate this noise. The following steps will be taken to mitigate noise at the Shirley facility:

Cone shall install the following noise abatement equipment prior to operation:

- a. An ECL International 3-DC64-20/24 Hospital Plus GR Catalytic Silencer designed for an insertion loss of 40-52 dBA or equivalent on each Caterpillar 3608 reciprocating internal combustion engine (S1 – S4, S7).
- b. The exhaust piping from the engine to the inlet of the muffler shall be insulated on each Caterpillar 3608 reciprocating internal combustion engine (S1 – S4, S7).
- c. Each engine cooling fan shall include an even number of blades.
- d. The two existing (C3 and C6) natural gas-fired Vapor Recovery Units (VRU) shall be replaced with electric VRU's.
- e. The permittee shall plan scheduled engine and/or Station blowdown events to take place only during daylight hours.
- f. The permittee shall plan scheduled auxiliary generator test-runs to take place only during daylight hours.
- g. The above noise abatement equipment shall be employed during any and all operation of the noise emitting sources at the facility. Further, the noise abatement equipment shall be operated and maintained in accordance with the manufacturer's specifications.

FINAL DETERMINATION

Pursuant to §45-13-8.8, all submitted relevant comments received during the R13-3207A public comment periods have been reviewed and are appropriately addressed in this document. It is the view of the DAQ that, after consideration of all comments received and revisions to the draft permit as noted above, the available information indicates Cone's proposed modification of the Shirley Compressor Station will meet the emission limitations and conditions set forth in the permit and should comply with all currently applicable state and federal air quality management rules and standards.



Thornton E. Martin Jr.
Permit Engineer

December 30, 2015
Date