March 11, 2016

Via Federal eRulemaking Portal (Docket NumberEPA-HQ-OAR-2015-0747)

Matthew Witosky
Sector Policies and Program Division (E143-05)
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

RE: Docket ID No. EPA-HQ-OAR-2015-0747 – Response to EPA Request for Information for Natural Gas Transmission and Storage NESHAP (40 CFR, Part 63, Subpart HHH)

Dear Mr. Witosky:

The Interstate Natural Gas Association of America (INGAA) appreciates the opportunity to submit the enclosed information in response to the Environmental Protection Agency's (EPA) request for information for the Natural Gas Transmission and Storage NESHAP (40 CFR, Part 63, Subpart HHH). EPA published the request for information on November 27, 2015, and a subsequent notice on January 26, 2016, extended the deadline for commenters to submit information to EPA until March 11, 2016.

INGAA member companies own and operate interstate transmission and storage (T&S) facilities. Our 24 members represent the vast majority of the interstate natural gas transmission pipeline companies, operating approximately 200,000 miles of pipelines across North America. The industry serves as a vital link between natural gas producers and consumers.

In November 2011, INGAA commented on proposed amendments. In response to final Subpart HHH amendments published in August 2012, INGAA submitted a request for reconsideration in September 2012. INGAA understands that EPA likely will amend Subpart HHH after evaluating new information received from interested stakeholders. In addition to responding to the request for information, this letter discusses several items related to clarifications and implementation issues that INGAA anticipates EPA will address in upcoming amendments to Subpart HHH. INGAA appreciates the opportunity to provide this response on Subpart HHH. If you have any questions or wish to discuss this further, please contact Terry Boss at tboss@ingaa.org or 202-216-5930.

Sincerely,

Terry Boss
Senior Vice President Safety & Environment
The Interstate Natural Gas Association of America

INGAA COMMENTS

Use of Natural Gas Dehydration Facilities on Interstate Natural Gas Transmission and Storage Systems

INGAA's members operate interstate pipeline facilities that transport natural gas under strict gas quality criteria posted in publicly available tariffs ("pipeline quality gas"). This pipeline quality gas enters the interstate pipeline system after it has been dehydrated and processed by gathering line companies and gas processing facilities. These gas quality specifications along the pipeline system are monitored in real time and the results are publicly posted under regulatory mandate by FERC to constantly demonstrate the quality of that gas at various points along the pipeline.

At certain locations along this pipeline path to the market, an underground storage facility may be used to store the natural gas that is used to balance the difference between supply and demand. This pipeline quality gas is injected into these underground geologic reservoirs when not needed by the market and then withdrawn from the reservoir at peak demand times. Since these reservoirs are natural geologic formations, it is very common for the gas to pick up moisture (water) from these formations. In some cases, these reservoirs are depleted hydrocarbon fields and have trace amounts of native hydrocarbons resident in the formation. The purpose of these gas storage dehydration units is to remove the water vapor from the gas stream coming from the reservoir to restore it back to pipeline quality gas. So, essentially, from the perspective of hydrocarbon extraction from gas, this would be the second time the natural gas would have been treated through a gas dehydration process and thus explains the low quantities of hydrocarbons (e.g., BTEX) extracted in the storage dehydration process. Based on that, INGAA has historically requested different criteria for these T&S dehydration facilities.

Information on Hazardous Air Pollutants (HAP) Emissions Other Than BTEX from Small Glycol Dehydrators Located in T&S Service

EPA has requested information on HAP emissions at small glycol dehydrators in transportation and storage (T&S) other than benzene, toluene, ethylbenzene, and xylenes (BTEX).[1,2] EPA also requested information on associated emission controls and whether BTEX control measures are also effective at reducing non-BTEX HAPs.

While there is a significant amount of real time analysis of natural gas quality, including C_{6+} analysis, the commercial requirements of these chromatograph readings do not address the very detailed questions that are being requested in this notice.

While there are tests conducted to address Subpart HHH requirements, there is limited information available on HAP emissions from T&S glycol dehydrators other than BTEX. Since natural gas is composed of hydrocarbons, natural gas may contain *trace* levels of organic HAPs (i.e., n-hexane and trimethylpentane).

As mentioned before, natural gas liquids and heavier hydrocarbons in vapor phase are removed initially from the natural gas stream before the gas enters the interstate pipeline system in order to

[1] 80 FR 74070
[2] BTEX is an acronym that standards for benzene, toluene, ethylbenzene and zylenes

meet the pipeline quality specifications. Consequently, only trace concentrations of those C_{6+} hydrocarbons would be present, or they may be non-detectable or "non-detect."

EPA has requested feedback regarding "whether BTEX control measures are an effective method for other non-BTEX HAP emitted by the units?". The common engineering understanding of emissions controls for BTEX indicates that technologies that reduce BTEX would also reduce other trace HAP emissions.

EPA Requests Information on Compliance Complications for Units with Low Inlet BTEX

For small dehydrators in T&S operations, EPA notes that the site-specific emission standards calculated from equations in § 63.1275(b)(3) may result in standards below the detection limit of the reference method used to demonstrate compliance. EPA requests source data showing BTEX inlet concentrations and an estimate of the number of units where this problem may occur. INGAA agrees with EPA there could be some scenarios where the site-specific emission standards calculated from equations in § 63.1275(b)(3) may result in standards below the detection limit of the reference method used to demonstrate compliance. Natural gas in T&S operations generally has relatively low BTEX concentrations and these concentrations are sometimes lower than BTEX detection limits. For some control options, Subpart HHH requires the use of EPA Method 18; the associated analytical method typically has a detection limit from about 1 ppmv down to 0.1 ppmv.

INGAA, however, cannot estimate the number of units or the prevalence where this design problem may occur. INGAA does note that in one case, gas analyses associated with design considerations for a new dehydrator showed several gas streams that could feed the facility, and the gas analysis results did not detect BTEX with a detection limit of 0.1 ppmv. Thus, EPA's emission standard computation would not be viable for this case. However, other than this example, INGAA does not have information about any other instances where this has occurred.

Most of the data INGAA collected showed BTEX concentrations marginally above detection limits (e.g., tens to low hundreds of ppmv BTEX in the inlet gas) and the computational problems raised by EPA do not occur. In addition, for common control options, performance tests are not required to demonstrate compliance – so an "outlet" measurement is not required. For example, in some cases GRI-GLYCalc software can be used to calculate emissions based on system parameters. Other control devices, such as flares, include requirements related to flare design and operating criteria. However, the requirements do not include performance tests and thus additional measurements of "outlet" or controlled BTEX are not required.

Additional INGAA Comments – Issues to Address in Subpart HHH Amendments

EPA has indicated that the request for information is a prelude to planned Subpart HHH amendments. INGAA asserts that Subpart HHH revisions are necessary to improve clarity and facilitate better implementation of Subpart HHH.

For instance, since about 2000, NESHAPs typically have included a tabular list of criteria, including emission standards, parametric limits, monitoring requirements, initial compliance criteria, ongoing compliance criteria, performance tests requirements, reporting and

recordkeeping. Those tables complement the regulatory text in a final rule. For example, see tables 1 through 7 in the Reciprocating Internal Combustion Engine (RICE) NESHAP (Part 63, Subpart ZZZZ). Subpart HHH was originally promulgated in 1999, before the tabular format was common in NESHAPs and does not include supplementary tables.

In addition, Subpart HHH is complex because a number of emission reduction technologies are included as control options. Compliance requirements can differ depending on whether the dehydrator is "large" or "small," and depending on which of several emissions control options is used. Subpart HHH requires the operator to track compliance criteria through multiple rule sections that address emission standards, control equipment requirements, test methods and compliance demonstrations, inspection and monitoring requirements, recordkeeping and reporting.

Further, when EPA's Subpart HHH regulation was amended in 2012 adding previously exempt "small dehydrators," EPA mistakenly omitted citations within Subpart HHH to subparagraphs that define a compliance pathway.

Collectively, these issues have caused implementation challenges and EPA should initiate promptly a rulemaking to correct these errors and omissions in Subpart HHH.

INGAA also requests that the upcoming revisions to Subpart HHH improve the clarity of its regulation:

1. **Clarify definition of previously exempt "small dehydrators" that reduced benzene emissions to less than 1 TPY.**

Under the 1999 rule, many existing dehydrators at major HAP sources installed federally required controls to reduce benzene emissions to less than one ton per year (TPY) – i.e., 0.90 megagram per year (Mg/yr) – prior to the June 2002 applicability date. Those units were exempt under the 1999 rule and that exemption remained until EPA regulated existing small dehydrators in the 2012 rule. Rule definition changes have caused some confusion, but EPA has indicated that its intent in the 2012 amendments is to categorize those units as "small dehydrators." That classification is not clear based on Subpart HHH definitions, and there have been instances where states have not been clear on that interpretation. The definitions for "large dehydrator" and "small dehydrator" require clarification, especially for existing dehydrators that were exempt from the 1999 rule because benzene emissions were reduced to <1 TPY prior to the June 2002 compliance deadline. This confusion is due in part to references to benzene emissions <1 TPY in both definitions. The following revisions to the definition are requested:

> "*Large glycol dehydration unit* means a glycol dehydration unit with an actual annual average natural gas flowrate equal to or greater than 283.0 thousand standard cubic meters per day and actual annual average benzene emissions equal to or greater than 0.90 Mg/yr, determined according to §63.1282(a). A glycol dehydration unit complying with the 0.9 Mg/yr control option under 63.1275(b)(1)(ii) is considered to be a large dehydrator. *Suggestion to add*: **A unit with federally enforceable controls to achieve emissions less than 0.90 Mg/yr that was exempt from this subpart prior to August 16, 2012 is not a large glycol dehydration unit.**"

"Small glycol dehydration unit means a glycol dehydration unit, located at a major source, with an actual annual average natural gas flowrate less than 283.0 thousand standard cubic meters per day or actual annual average benzene emissions less than 0.90 Mg/yr, determined according to § 63.1282(a). Suggestion to add this language: **An existing unit that used federally enforceable controls to achieve benzene emissions less than 0.90 Mg/yr prior to June 17, 2002 is a small glycol dehydration unit**."

2. Large dehydrators complying with 1TPY benzene limit.

The previous bullet discusses an exemption that was afforded existing units under the 1999 rule if benzene emissions were reduced to less than 1 TPY prior to the June 2002 compliance deadline. In addition, units subject to the rule could comply by reducing benzene emission to less than 1 TPY. During development of the 2012 amendments, EPA originally proposed to remove 1 ton per year (TPY) compliance option for certain large dehydrators. In response to these comments, EPA took steps to restore the compliance option in its August 2012 rule. Notwithstanding these steps by EPA, the final rule contained technical errors. Specifically, INGAA notes that §63.1275(b)(1) includes the 1 TPY compliance option for large hydrators in (b)(1)(ii). However, EPA revisions erroneously omitted reference to that section in the introductory sentence, which EPA has acknowledged in discussions with INGAA. The § 63.1275(b)(1) introductory sentence should be corrected, as follows:

(1) For each glycol dehydration unit process vent, the owner or operator shall control air emissions by either paragraph (b)(1)(i), (ii) or (iii) of this section.

3. Clarifying compliance requirements for small and large dehydrators.

The 1999 rule addressed larger glycol dehydration units, and the 2012 rule eliminated the exemption for smaller units at major sources, and thus introduced new definitions to differentiate large and small dehydrators, as discussed above. In some cases, compliance requirements appear to imply more rigorous requirements for small units than for large units. It is not clear if that is EPA's intent, and it would be logical for large dehydrators to have criteria that are analogous to, or more rigorous than, the criteria for small units. INGAA states that EPA should clarify this point in its amendments and points to the following two examples to illustrate the concern:

a. Control equipment requirements for small and large dehydrators.
Sections 63.1281(d)(1) and (f)(1) specify requirements for large dehydrators and small dehydrators, respectively. The control options are similar, but subsection (d)(1)(i)(A) – (C) includes more details and compliance verification options for large dehydrators (e.g., minimum operating temperature for a combustion device, percent reduction criteria) than the analogous section for small dehydrators (f)(1)(i)). NESHAPs typically afford small units as much or more compliance flexibility as large units, and § 63.1281(d)(1) options for demonstrating compliance for large units should be included in § 63.1281(f)(1) for small units.

b. Parameter monitoring for small and large dehydrators.
Sections 63.1283(d)(2)(i) and (ii) include exemptions from continuous parameter monitoring when vent streams are introduced to a boiler or process heater burner. The

regulatory text indicates, "Except for… small dehydration units…," but the intent is unclear – i.e., EPA may intend for that section to only apply to large dehydrators, with small dehydrator criteria defined in a separate paragraph. However, the text implies that small units have more rigorous requirements than large units, i.e., that the exemptions from continuous parameter monitoring are available only to large hydrators and not to small hydrators. This should be clarified, and an exemption from continuous parameter monitoring should also apply to small dehydrators that send the vent stream to a burner.

4. Compliance demonstration for small dehydrators.

Section 63.1275(b)(iii) includes equations for calculating site-specific emissions standards for small dehydrators. In some cases, it may be feasible to meet the standard without emission controls. When emission controls are used, control equipment requirements are specified in § 63.1281(f), which includes an option to use a combustion device for control. For this control scenario, the operator should be able to demonstrate compliance with *either* the mass-based emission standard from § 63.1275(b)(iii), or the control device standards specified in § 63.1281(f)(1)(i)(B). The regulation could be interpreted that compliance with both is required, and this should be clarified.

In addition, the regulatory text in § 63.1281(f)(1)(i)(A) is unclear because it refers to gases vented to the device. The text should clearly indicate that compliance is based on gases vented at the *outlet*. Therefore, § 63.1281(f)(1)(i)(A) should be revised, as follows:

> (A) The mass content of BTEX **meets the § 63.1275(b)(1)(iii) emission limit** ~~in the gases vented to the device is reduced~~ ~~in accordance with the requirements~~ **as determined using the procedures** of § 63.1282(d).

5. Recordkeeping.

Requirements in § 63.1284(d) refer to § 63.1274(d), which does not exist (it is reserved).

6. Tabular presentation to clarify Subpart HHH compliance requirements for different unit types and control options.

Subpart HHH would benefit greatly if a tabular summary of requirements was developed and included in the regulatory text, similar to the RICE NESHAP format discussed above.