west virginia department of environmental protection

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Response to Public Comments

TransGas Development Systems, LLC
Ammonia Production Facility

Permit Application No. R13-3622
Facility ID No. 059-00102

Date: March 26, 2024

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BACKGROUND INFORMATION

On January 3, 2024, the West Virginia Division of Air Quality (DAQ) provided notice to the public of an open comment period for Permit Number R13-3622 in reference to TransGas Development Systems, LLC's (TransGas') proposed construction of an Ammonia Production Facility located off of Right Fork Ben's Creek Road near Wharncliffe, Mingo County, WV, at latitude 37.61577 and longitude -81.92736. At that time, the Draft Permit and Engineering Evaluation/Fact Sheet (EE/FS) were made available to the public for review. The permit application (the original and final version) had previously been made available for public review and remained so during the public comment period.

As required by WV Legislative Rule 45CSR13, the DAQ's legal advertisement was published in *The Williamson Daily News* on January 3, 2024, which began a 30-day public comment period that was scheduled to end at 5:00 P.M. on February 2, 2024. After receiving three (3) requests for a public meeting and the Director's subsequent determination that, pursuant to §45-13-9.1, a public meeting was warranted, an additional legal ad was published in *The Williamson Daily News* on February 14, 2024 notifying the public that the DAQ was going to conduct a virtual public meeting on February 21, 2024. This advertisement also stated that the public comment period was being extended until 5:00 P.M. on February 28, 2024. Both public advertisements were Class I Legal Advertisements that ran in *The Williamson Daily News*, a newspaper of general circulation in Mingo County. On February 21, 2024, the DAQ held a virtual public meeting for permit application R13-3622 to provide information and to accept the submission of oral comments. A full recording of the virtual public meeting can be accessed on the DAQ (AX) database or accessed directly at the following location:

https://drive.google.com/file/d/1MMFigJm0uV_DK409mQjONtTQ-wfL5Q83/view.

The transcript of the public meeting can be accessed at the following location:

https://dep.wv.gov/daq/permitting/Documents/2024-02--Transgas-Development-Ammonia/TransGas%20-%20Transcript.pdf.

OVERVIEW OF COMMENTS RECEIVED

From the date of the DAQ's first public notice (January 3, 2024) until the conclusion of the public comment period (February 28, 2024), the DAQ received thirty-one (31) comments (including comment period extension requests and public meeting requests) from various individuals and organizations concerning the proposed facility. This number is inclusive of multiple or duplicate comments made by the same individuals and organizations given as both submitted written comments and orally at the public meeting. Of the 31 comments, the DAQ received three (3) public meetingrequests and five (5) comment period extension requests which were previously responded to via email on January 11, 2024 and February 2, 2024. An inventory of all comments received is included as Attachment A to this document.

Most public comments were non-technical and non-regulatory in nature either in general support of issuance of the permit or against it. All of the generally supportive comments referenced the potential positive economic impacts of the proposed facility while many of the non-technical

comments that were explicitly non-supportive expressed concern over the potential environmental or other detrimental impacts of the facility without providing a technical or regulatory basis for a reconsideration of the DAQ's preliminary determination. Specific technical and regulatory questions/comments were also submitted, including a large number in a package submitted by Earth Justice and the WV Chapter of the Sierra Club. Additional comments were given and questions asked during the public meeting. Pursuant to §45-13-8.8, all submitted comments received during the public comment period have been reviewed and are addressed in this document. All written public comments are available on the DAQ (AX) database or directly at the following location:

https://dep.wv.gov/daq/permitting/Documents/2024-02--Transgas-Development-Ammonia/3622%20Public%20Comments%20(all).pdf

ORGANIZATION OF COMMENT RESPONSE

The DAQ's response to the submitted comments includes both a general and specific response section. The General Response to Comments section defines issues over which the DAQ has authority and by contrast, identifies 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, DAQ Compliance/Enforcement Procedures, details the current status of the ambient air quality of Mingo County and how that is determined, discusses the minor source determination, the regulation of greenhouse gases, and addresses the status of ammonia under the minor source permitting program.

The Specific Response to Comments section lists each relevant non-general comment that falls within the purview of the DAQ and provides a response to it (if it requires a response). Due to the size and number of the comments, this document does not reproduce the comments here. For a complete understanding of submitted comments, please see the original documents in the file. Both the written comments and, as noted above, a recording of the public meeting are available on the DAQ (AX) database at the links given above. The DAQ responses, however, are directed to the entirety of the comments and not just to what is summarized. 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 TransGas permit application or an air quality-related issue).

GENERAL RESPONSE TO COMMENTS

Statutory Authority of the DAQ

The statutory authority of the 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 WV Legislative Rule 45CSR13 (45CSR13), does not take into consideration substantive non-air quality issues such as job creation, economic viability of proposed project, strategic energy issues, non-air quality environmental impacts, nuisance issues, *etc*.

Statutory Basis for Permit Denial

The basis for issuance or denial of an air quality permit is given under 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 the APCA and 45CSR13 is to circumscribe 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 TransGas' proposed construction are outlined in the DAQ's EE/FS made public on January 3, 2024. The issues covered under that document represent the extent of the substantive air quality issues over which the DAQ has authority to evaluate under 45CSR13 and the APCA as relating to TransGas' Permit Application R13-3622.

DAQ Compliance/Enforcement Procedures

It is important to note here 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, a Monitoring Section, a Planning Section, *etc.* to accomplish this. Most pertinent to the permitting process, the C/E Section inspects permitted sources to determine the compliance status of the facility including compliance with all performance testing, parametric monitoring, record-keeping, and reporting requirements. These inspections are scheduled by the C/E Section taking into consideration such issues as the size and compliance history of the source, resource management and inspector workloads, and program applicability.

When inspecting a facility, the inspectors will, in addition to visually inspecting the facility, generally review all required certified record-keeping to determine compliance with required monitoring. When violations are discovered, the C/E Section has the authority to issue a Notice of Violation (NOV) and a Cease and Desist Order (C&D) to compel facilities to stop operating the equipment/process responsible for the violation. Finally, a negotiated Consent Order may be entered into between the DAQ and the violator that lays out a finding of facts, a path back into compliance for the violator, and often includes a monetary penalty as determined on a case-by-case basis.

Additionally, the C/E Section investigates citizen complaints directed against a facility (including odor complaints), reviews monitoring reports submitted to the DAQ (again with the authority to issue violations based on the submitted reports), reviews performance test protocols submitted to the DAQ, and will often observe performance tests at the facility site. All records and documents submitted to the DAQ for compliance purposes must be certified as accurate (and subject to criminal penalties if knowingly inaccurate) by a properly designated "responsible official." All of these documents - including C/E documents such as NOVs, C&Ds, and COs - when in final form, and minus any confidential information, are available to the public via a FOIA request (for older documents) or (for new facilities) are available on the DAQ (AX) database.

Ambient Air Quality Status of Mingo County

The quality of the air of a defined local area - in this case for Mingo County - is determined by its status with respect to the National Ambient Air Quality Standards (NAAQS). The Clean Air Act, which was last amended in 1990, requires the Environmental Protection Agency (EPA) to set NAAQS for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The EPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for six principal pollutants, which are called criteria pollutants: Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NO_x), Ozone, Particulate Matter (PM_{10} and $PM_{2.5}$), and Sulfur Dioxide (SO_2). The standards are listed at:

https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Counties that are known to be violating these standards are, for specific pollutants, designated by the EPA as in "non-attainment" with the NAAQS. Counties that are not known to be violating these standards are, for specific pollutants, designated by the EPA as in "attainment/unclassifiable" with respect to the NAAQS. It is important to note that while some counties have no on-site air monitoring, EPA will still designate these area as in "attainment/unclassifiable" based on a variety of submitted data. These areas are still properly called "attainment areas." TransGas' Ammonia Plant is proposed to be located in Mingo County, WV. Mingo County has not been designated as "non-attainment" or as "unclassifiable" and is, therefore, designated as an attainment area.

Minor Source Determination

45CSR14 establishes and adopts a preconstruction permit program for the construction of major stationary sources and major modifications in areas of attainment with the NAAQS. Mingo County is currently classified as in attainment/unclassifiable with the NAAQS and, therefore, a proposed new major stationary source in Mingo County would be subject to the provisions of 45CSR14. It is within 45CSR14 (or under 45CSR19 for a source in a non-attainment area) that a "major stationary source" is defined. When a source does not meet this definition, the source is then considered a "minor stationary source" and permitted as applicable under 45CSR13.

The proposed TransGas Ammonia Plant is defined as a source listed under §45-14-2.43.a ("Chemical Process Plants") and, therefore, pursuant to 2.43(b), would be defined as a "major stationary source" if any regulated pollutant has a potential-to-emit (PTE) in excess of 100 TPY. The proposed facility, however, does not, according to the information submitted in the permit application and, as determined by the DAQ to be reasonable, have a PTE of any regulated pollutant in excess of 100 TPY. Therefore, the proposed facility is not defined as a major stationary source and is instead subject to the provisions of 45CSR13. Specific comments relating to emissions calculations that challenge this determination are addressed under the specific comments section.

As with any other minor source, in no case would a facility be knowingly allowed to operate out of compliance with permitted emission limits at levels that would make the facility a *de facto* major source when permitted as a minor source. If the C/E Section would determine that the facility was in violation of permitted emission limits, most likely a path back to compliance would be required under the enforceability of a Consent Order. If the source could not ultimately operate within the limits of the permit and remain a minor source, the source would have to modify the permitted limits and operate at a reduced capacity to remain a minor source or undergo major source permitting prior to operating at any capacity that would result in emissions at major source levels.

Greenhouse Gas Emissions

Pursuant to §45-13-2.24(b), 45CSR13 specifically excludes GHGs from the emission thresholds that are used to define a "stationary source." As noted above, the proposed TransGas facility has been determined to meet the definition of a minor stationary source based on the PTE of the criteria pollutants. Without a state or federal statutory basis or any relevant state or federal air quality standards, the DAQ does not require minor stationary sources to quantify emissions of GHGs or propose or implement a GHG control strategy (including CCS).

It is also important to note that on June 23, 2014, in *Utility Air Regulatory Group v. Environmental Protection Agency*, the Supreme Court of the United States (SCOTUS) ruled that GHGs alone could no longer define a source as a "major stationary source" for the purposes of triggering Prevention of Significant Deterioration (PSD) review. This ruling effectively removed the requirement for the applicant to quantify the PTE of GHGs in minor source permit applications. The only exception to this is a voluntary request to limit the emissions of GHGs to levels that would maintain the facility at minor source levels for GHGs under 45CSR14 if another pollutant had already triggered major source status.

Ammonia Emissions

TransGas has proposed the construction of an ammonia manufacturing facility. As such, vaporous and liquid ammonia will be present in the back end of the process. As the sellable product, TransGas will be highly incentivized to minimize any loss of ammonia from the transport and storage until the custody transfer point. Concerning ammonia, it is important to note that:

- Ammonia has no National Ambient Air Quality Standard (NAAQS) set for the compound;
- Ammonia is not defined as a Hazardous Air Pollutant (HAP) by the USEPA;
- There are no federal air quality regulations that apply to ammonia manufacturing plants;
- There are no emission thresholds of ammonia that would define a facility as a major source under either New Source Review (NSR) or Title V regulations; and
- Ammonia is not defined as a regulated pollutant under WV Legislative Rule 45CSR13 (§45-13-2.20).

Based on the above, the DAQ does not require potential ammonia emissions to be quantified and included in the facility's PTE and does not require ammonia emissions mitigation requirements. However, the DAQ will, using the authority under WV Legislative Rule 45CSR4 - "To Prevent and Control the Discharge of . . . Objectionable Odor or Odors," respond to complaints involving objectionable odors from ammonia if confirmed while the facility is operating, and may require mitigation at that time to reduce the odor potential of the ammonia source. An objectionable odor must be determined by the DAQ in the course of an inspection or investigation of an actual odor, and is not possible to prove quantitatively, pursuant to 45CSR4, that an objectionable odor will be present before a facility is in operation. In addition, concerns (acute irritation, explosion risk, etc.) over the effects of ammonia handling and storage within the plant boundary are beyond the authority of the DAQ to regulate (see Statutory Authority of the DAQ above).

General Response Summary

In summary:

- In response to all comments that referenced substantive non-air quality issues, the APCA and 45CSR13 do not grant the DAQ the authority to take into consideration such issues in determining whether to issue or deny the permit;
- The requirements of 45CSR13 require the DAQ to, when denying a permit, explicitly state the reason pursuant to the allowable conditions under §45-13-5.7;
- An issued permit is the beginning of the involvement of the DAQ with a source. After issuance, a facility will be subject to inspections to determine compliance with the requirements as outlined in the applicable permit;

- With respect to the quality of the ambient air of Mingo County, the EPA has designated the county as in attainment/unclassifiable with all the NAAQS which are set by EPA and designed to protect the public health and welfare;

- The DAQ has determined that the proposed TransGas facility is properly defined as a minor stationary source;

- As a proposed minor source, there are no state or federal requirements for GHGs applicable to the TransGas facility; and

- The DAQ does not require potential ammonia emissions to be quantified and included in the facility's PTE and does not require ammonia emissions mitigation requirements.

SPECIFIC RESPONSES TO COMMENTS

The following section provides responses to the specific comments that were not considered to be answered under the General Response to Comments section. The section is split into three parts, (1) those comments that were received prior to the public meeting notice date and previously responded to, (2) those received after that date, and (3) those comments that were received orally (and were not just summaries of comments also submitted in written form) at the public meeting.

Pre-Public Meeting Notice Date Written Comments

Prior to the public meeting notice date, the DAQ received five (5) comments that requested both a public meeting and an extension to the public comment period. The DAQ responded to these requests/comments via e-mail on January 11, 2024 and February 2, 2024. As noted, the Director granted the request for a public meeting and one was held virtually on February 21, 2024. In addition, in order to accommodate the public meeting, the public comment period was extended to February 28, 2024.

Post-Public Meeting Notice Date Written Comments

After the public meeting notice date and prior to the conclusion of the public comment period, the DAQ received fourteen (14) comment letters submitted via e-mail. Of these comments, all but the following five (5) are considered either to not require a response or fully responded to in the General Response to Comments section.

WV Chapter of the Sierra Club

On February 2, 2024 (letter is dated February 1, 2024) and February 28, 2024, the WV Chapter of the Sierra Club (WVSC) submitted comments via e-mail concerning R13-3622. The comments were numbered (1) through (11) in the first submission, with an additional (7) in the second submission. The questions/comments are numbered as presented in the comment documents for convenience.

February 2, 2024 Comment Letter

(1) ***We object to the decision by WV-DAQ to reject our Jan. 8, 2024 request to extend the comment period for this permit.***

DAQ Response

As stated in the DAQ response (on January 11, 2024) to the original request made by WVSC prior to the public meeting, the statutory authority governing the review and determination of a permit application concerning a minor source of air pollution is given under WV Legislative Rule 45CSR13. There is no support in the statuary language of 45CSR13 (or under the Air Pollution Control Act - West Virginia Code §22-5-1) for an extension of a public comment period for considerations that are beyond either the primary air impacts of the source in question, or beyond the scope of the applicable air quality rules and regulations. In this case, the reasons provided for requesting an extension were beyond both of these thresholds. Further, as stated in the public meeting, the DAQ is bound to act in accordance with West Virginia Code §22-5-1, *et. seq.* - which states that "*[t]o these ends it is the purpose of this article to provide for a coordinated statewide program of air pollution prevention, abatement and control . . . to assure the economic competitiveness of the state by providing for the timely processing of permit applications. . .*"

In addition, under §45-13-5.7(a), it states that "*[t]he Secretary shall issue a permit for all construction or modifications and operation of a stationary source within a reasonable time not to exceed ninety (90) calendar days, after the date the Secretary determines the application is complete. The Secretary may extend this time by thirty (30) calendar days to allow for public comment...*"

Generally, the DAQ has interpreted these two statutes to limit public comment extensions, provided proper notification was made, to a maximum of thirty (30) calendar days. In the case of R13-3622, it is important to note that the extension of the comment period to February 28, 2024 (a 26 day extension one week after the date of the public meeting) was to accommodate the public meeting and was not granted in response to the issues raised in your letter of January 6, 2024.

(2) ***We are concerned about the inappropriate segmentation of the air emissions from facilities related to this permit . . . We recommend that the draft permit be withdrawn until a complete analysis of all air emissions from the site can be complied and circulated for public comment.***

DAQ Response

The ancillary processes mentioned in your comment (methane supply, carbon sequestration, and ammonia shipping) are properly not included in the TransGas PTE for two reasons. The first reason is that the processes you mention do not have any emissions of regulated pollutants. Methane is specifically exempted under the definition of VOCs (§45-13-2.27, 40 CFR Part 51.100(s)) and is not defined as a regulated pollutant under 45CSR13; the potential future sequestration of carbon dioxide will not reasonably have any emissions of regulated pollutants (CO_2 is not a regulated pollutant under 45CSR13); and ammonia, as stated in the general response to comments above, is also not a regulated pollutant under 45CSR13.

In addition to the above, TransGas has indicated that these processes will be done by other entities and the definition of "potential to emit" limits the emissions to the stationary source in question (§45-13-2.27). The definition of "stationary source" (§45-13-2.24) is defined to mean ". . . *any building, structure, facility, installation, or emission unit or combination thereof. . .*" While "building, structure, facility, installation" is not defined under 45CSR13, it is defined under 45CSR14, and pursuant to §45-13-2.28, the definition under 45CSR14 is used to define this phrase for applicability determinations under 45CSR13. Under §45-14-2.13, "[b]uilding, Structure, Facility or Installation" is defined to mean "*all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties,* ***and*** *are under the control of the same person (or persons under common control). . .* [emphasis added]."

Therefore, even if the ancillary processes will emit regulated pollutants, the lack of common control would prohibit the emissions from these operations from being included in the PTE of the proposed TransGas Ammonia Production Facility. It is important to note though that any change in the design of the proposed facility or addition of emission units that fall under the stationary source definition will require TransGas to modify the permit. Under no scenario will TransGas be allowed to increase the PTE of the proposed stationary source prior to operation over major source levels without first obtaining a permit under 45CSR14 (PSD).

(3) ***We oppose issuance of the permit if it does not require control of those greenhouse gases.***

DAQ Response

See the *Greenhouse Gas Emissions* discussion under the General Response to Comments above.

(4) ***Given that carbon dioxide is an asphyxiant at high concentrations, the permit should at least specify discharge points (stack height, etc.) and monitoring requirements to avoid human health effects for on-site workers and visitors.***

DAQ Response

See the *Greenhouse Gas Emissions* discussion under the General Response to Comments above. Additionally, there is no evidence that the proposed TransGas facility would cause exposure levels anywhere near these asphyxiant levels (4.0% - CO_2 or 40,000 ppm) at the facility boundary or beyond. Worker safety within the plant boundary of the facility falls under the purview of the Occupational Safety and Health Administration (OSHA).

(5) ***The permit should assume the maximum Potential To Emit and estimate emissions from storage and trucking.***

DAQ Response

See the *Ammonia Emissions* discussion under the General Response to Comments above.

(6) ***We recommend that the permit be revised to include emissions limits for hydrogen sulfide for both the operations phase as well as during start-ups and shutdowns.***

DAQ Response

The DAQ has asked for additional clarification on the disposal of the trace amounts of sulfur removed from the natural gas feedstocks. The following was provided by TransGas:

"*The sulfur from the gas stream will be stripped out using a zinc oxide (ZnO) absorbent . When the gas stream comes into contact with the absorbent the sulfur reacts with the ZnO and becomes zinc sulfide (ZnS). The sulfur remains on the absorbent, which has a pickup capacity of about 30 wt% - 30 lbs of S is picked up for each 100 lbs of ZnO. Sulfur levels in gas do not justify further processing to prepare a sulfur product. Therefore, there is no plan to further process the sulfur to recover it from the absorbent. Instead, the absorbent is used and replaced. Based on the current information on the gas stream and the expected sizing of the zinc oxide absorbent reactors, absorbent replacement may occur approximately once per year per line. This is an estimate because the sulfur content in the natural gas can vary, and the absorbent reactor size is not yet fixed at the current level of design. Better information will be available after further design and sizing is completed for the facility.*

For each line there will be around 80 tons of material to be removed when replacing the absorbent. Of that weight it is expected that 30% of it will be the sulfur that has reacted onto the catalyst. The remaining weight will be the weight of the absorbent itself. Catalyst replacement will be scheduled as needed. Most likely each line will have the absorbent replaced at different times."

It's important to note that, although the sulfur amount in the feedstock natural gas is extremely small, the sulfur must be removed from the syngas for the ammonia synthesis process to run effectively. Therefore, TranGas is highly incentivized to remove even the small amount of sulfur from the gas. However, it is important to note that the sulfur concentration is limited to 100 ppb (v/v) in any process gas sent to the Process Flares (4.1.7(b)), and testing is required to verify this level under 4.3.3. to validate the removal of the trace amounts of sulfur from the feedstock gas.

(7) ***[W]e recommend that the permit include appropriate monitoring requirements to validate the assumptions of no [HAP, Ammonia, or Hydrogen] leaks.***

DAQ Response

The potential for emissions of compounds defined as Hazardous Air Pollutants (HAPs) from the proposed TransGas facility is very low. Most of the (already low) amounts of HAPs present in the natural gas feedstock are degraded into their constituent carbon and hydrogen components in the ATR. Therefore, during steady state operation, there is no reasonable engineering estimate that HAPs will be present in the various gas streams in any substantive amounts. There is the potential for a small amount of HAPs from the combustion of diesel in the Startup and Emergency Generators, but these units are limited to operating 100 hours/yr (these emissions are limited under 4.1.8(b) of the draft permit). Additionally, HAP emissions may be present from the PNG combustion during startup in the Pre-Heaters. These emissions are limited under 4.1.6(c) of the draft permit.

Fugitive emissions from piping component losses are discussed in the Engineering Evaluation on page 9, and the only *regulated pollutant* (ammonia and hydrogen are not regulated pollutants) that will be a concern from this source is CO. Emissions are quantified and listed in the Engineering Evaluation and are included in the facility-wide PTE. Generally, fugitive emissions limits are not included in the permit. However, to address your comment, the facility-wide limitation of CO emissions from the piping component losses will be added to requirement 4.1.9(a) of the final permit.

(8) ***We recommend that explicit emissions limits for ammonia and hydrogen be established.***

DAQ Response

See the *Ammonia Emissions* discussion under the General Response to Comments above. In addition, hydrogen is not defined as a regulated pollutant under 45CSR13.

(9) ***The use of AP-42 emissions factors likely underestimates the true emissions rates . . . We recommend that the emissions be estimated as a worst case scenario.***

DAQ Response

The DAQ maintains that using the AP-42 database of emission factors (maintained by the USEPA) for new sources, in the absence of vendor data, along with reasonable monitoring and performance testing requirements, is an appropriate method for determining maximum PTE for individual emission units and processes. As the "Introduction to AP-42" states:

> Data from source-specific emission tests or continuous emission monitors are usually preferred for estimating a source's emissions because those data provide the best representation of the tested source's emissions. However, test data from individual sources are not always available and, even then, they may not reflect the variability of actual emissions over time. Thus, emission factors are frequently the best or only method available for estimating emissions, in spite of their limitations. [https://www3.epa.gov/ttn/chief/ap42/c00s00.pdf]

Thus, while it is acknowledged that the AP-42 emission factors are of varying quality and in certain situations not the preferred calculation methodology, in the absence of other data and used correctly, they represent the "best or only method available for estimating emissions, in spite of their limitations." The usage of AP-42 emission factors in this way is conventional in air permitting and it is noted that the EPA has not, to the best of the writers' knowledge, previously made any comments to the DAQ that usage of AP-42 emission factors is disallowed. This is true for both minor and major source permits, Title V permits, and air impacts analyses sent to EPA for review as required under 45CSR13, 45CSR14, 45CSR19, and 45CSR30. Further, it is important to note that AP-42 is also conventionally used to estimate emissions even after facilities are constructed and emission units are in operation. In these situations, due to the expense and complexity of emissions testing, AP-42 is still often considered the most reasonable and practical emissions estimation method taking into consideration the size and nature of the existing emission units in question.

It is also important to note that the facility-wide PTE calculated for the proposed TransGas facility was based on all six (6) plants operating continuously for 8,760 hours/yr at maximum

production levels. This basis for calculating emissions self-evidently represents an extremely conservative estimate and, with respect to potential air emissions from the facility, represents the "worst case scenario."

(10) ***We expect that truck traffic and equipment deliveries may result in significant emissions, and we recommend that the permit address fugitive dust from the facility.***

DAQ Response

TransGas' proposed Ammonia manufacturing facility will use as a feedstock only natural gas brought into the facility by pipeline and will remove chilled liquid ammonia by pipeline (it is noted that the engineering evaluation incorrectly stated on page 3 that ammonia would be removed by truck). TransGas has not identified any other significant and regular track traffic that would trigger the need to quantify haul road emissions under AP-42, Chapter 13. The DAQ is aware that there will be on-going maintenance activity (including removal of the absorption materials, spent catalysts, etc.) and non-production related deliveries. However, DAQ does not generally require quantifying emissions from these sources and limits use of the Chapter 13 emission calculations to substantive haulroad activities. However, in response to this comment, additional language was added to 4.1.2 requiring produced ammonia to be piped from the facility.

(11) ***[W]e recommend that the permit be subject to reopeners, with appropriate public review and comment, to incorporate additional pollution controls and emissions limits.***

DAQ Response

The DAQ does not have the authority to require a re-opening of an issued permit for reasons that are beyond the air quality reasons as specified under 45CSR13.

<u>February 28, 2024 Comment Letter</u>

(1) We appreciate the decision by WV-DAQ to extend the comment period after initially rejecting our Jan. 8, 2024 request to extend the comment period for this permit.

DAQ Response

See the response to comment number 1 of your February 1, 2024 letter above.

(2) ***We remain concerned about the inappropriate segmentation of the air emissions from facilities related to this permit.***

DAQ Response

See the response to comment number 2 of your February 1, 2024 letter above.

(3) ***We support and endorse the comments from People Over Petro Coalition, et al. which provide many excellent technical analyses and further justify our concern that this facility is being inappropriately permitted as a Minor source.***

DAQ Response

The DAQ has determined that the PTE as calculated by TransGas and detailed in the permit application is reasonable and practically enforceable in the final permit. You provided no specific examples of errors or inaccuracies in the calculation of the PTE in this comment. See the responses to the EarthJustice comments for additional information.

(4) ***We urge WV-DAQ to assert its moral and statutory responsibility to protect human health and the environment by requiring a permit that regulates all relevant greenhouse gas emissions.***

DAQ Response

See the *Greenhouse Gas Emissions* discussion under the General Response to Comments above and the response to comment numbers 3 and 4 of your February 1, 2024 letter above. Additionally, the DAQ continues to maintain that there is no evidence that CO_2 is directly toxic at current ambient levels, and as stated in the Health Hazard Sheet from the USDA: "*The primary health effects caused by CO_2 are the result of its behavior as a simple asphyxiant. A simple asphyxiant is a gas which reduces or displaces the normal oxygen in breathing air*." While you are correct that at levels of 4.0% (40,000 ppm) CO_2, humans in this environment are in danger, it is important to point out that current average atmospheric levels of CO_2 are around 400 ppm (0.04%). Therefore, unless exposed in very confined spaces or in unique work environments, CO_2 would not be reasonably considered a direct threat to human health. There is no evidence that the proposed TransGas facility would cause exposure levels anywhere near these asphyxiant levels at the facility boundary or beyond.

(5) ***We recommend that the PM2.5 limits be specified explicitly, and that emissions estimates incorporate secondary PM2.5 formation. Ammonia emissions estimates must include contributions from storage and transportation, not just the production facilities.***

DAQ Response

Particulate Matter ($PM_{2.5}$/PM_{10}/PM) emissions are explicitly limited in the draft permit under 4.1.6(c), 4.1.7(e), and 4.1.8(b). You provided no information that would indicate these emissions were calculated incorrectly. These limitations represent potential worst case emissions from the SCR stack, the Process Flare (during startup events), and the Emergency Generator. None of these sources contain any detectable levels of ammonia in there potential emissions. Therefore, as discussed in the General Response to Comments, the only potential ammonia emissions will be from ammonia handling and storage, and these emissions would be expected to be very small. While atmospheric ammonia can be a precursor to $PM_{2.5}$ formation, and may be required to be analyzed as such in some air impacts modeling analyses, there is no requirement to limit direct ammonia emissions under a minor (or a major) stationary source and no indication the potential minor ammonia emissions from the proposed TransGas facility will have any significant impact on downstream $PM_{2.5}$ formation.

(6) ***We recommend that Continuous Emissions Monitors for criteria pollutants, and explicit, enforceable requirements for monitoring HAPs, be required at the facility.***

DAQ Response

Other than during required performance testing as given under Section 4.3 of the draft permit, direct measurement of actual emissions from the proposed TransGas facility is not required (and for many sources of air emissions not practicable). Instead, the DAQ uses the concept of parametric monitoring to show compliance with the emission limits. Parametric monitoring uses the monitoring of other variables used in the calculation process as opposed to using continuous or predictive real-time actual emissions monitoring. This is generally the most practical and efficient way to determine compliance with emission limits and is conventional in air permitting.

In the draft permit, TransGas is subject to extensive parametric monitoring (not just maximum design capacity limitations as you claim) of this type with associated record-keeping and reporting requirements to show compliance with the monitoring requirements (see Section 4.2 of the draft permit "Monitoring, Compliance Demonstration, Recording and Reporting Requirements"). TransGas is required to do this monitoring and all information and records submitted to the DAQ for compliance purposes must be certified as accurate (and subject to criminal penalties if knowingly inaccurate) by a properly designated "responsible official."

Further, after the proposed TransGas facility begins operation it will receive periodic on-site inspections from the C/E Section to determine compliance with all the permitting requirements. See the DAQ C/E section in the General Response to Comments for more information on what occurs if a violation is discovered and the availability of this information to the public.

The potential for emissions of compounds defined as Hazardous Air Pollutants (HAPs) from the proposed TransGas facility is very low. Most of the (already low) amounts of HAPs present in the natural gas feedstock are degraded into their constituent carbon and hydrogen components in the ATR. Therefore, during steady state operation, there is no reasonable engineering estimate that HAPs will be present in the various gas streams in any substantive amounts. There is the potential for a small amount of HAPs from the combustion of diesel in the Startup and Emergency Generators, but these units are limited to operating 100 hours/yr. The other potential HAP emissions from natural gas combustion in the Pre-Heaters at startup is nominal. These small amounts of HAP emissions are in no way high enough to reasonably require the use of a Continuous Emission Monitoring System (CEMS) on these sources - and CEMS for these compounds either do not exist are not practical for these applications.

Fugitive emissions from piping component losses are discussed in the Engineering Evaluation on page 9, and the only regulated pollutant that will be a concern from this source is CO. Emissions are quantified and listed in the EE/FS and are included in the facility-wide PTE. Generally, fugitive emissions limits are not included in the permit. However, to address your comment, the facility-wide limitation of CO emissions from the piping component losses will be added to requirement 4.1.9(a) of the final permit.

(7) ***We also recommend that the permit include requirements for notifying, equipping, and training of first responders in the event of an accident.***

DAQ Response

The authority of the DAQ does not extend beyond the air quality issues as outlined under the General Response to Comments above.

EarthJustice

On February 28, 2024, EarthJustice (on behalf of People Over Petro Coalition, and with Earthworks, Center for International Environmental Law (CIEL), Climate Reality Project, and Center for Coalfield Justice) submitted comments via e-mail concerning R13-3622. The comments, after introductory chapters, were grouped under four main topics (Roman Numerals IV through VII). Further, more specific comments were then provided under these larger topic groupings. Finally, additional comments/observations were provided in an exhibit (appendix) as from Dr. Ranajit (Ron) Sahu. Most of Dr. Sahu's comments/observations were similar to those given in the body of the document, but they will addressed individually where applicable. For clarity, the following response to these comments will use the comment designation as presented in the comment document.

(IV) ***DAQ IMPROPERLY EXEMPTS THE FACILITY FROM TITLE V PERMIT REQUIREMENTS***

DAQ Response

The controlling language for applicability is the same under 40 CFR 60, Subpart Db (potential applicability for Super-Heater) and Subpart Dc (potential applicability for Pre-Heater). In each rule, "process heater" is defined as "*a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.*" The proposed TransGas facility is defined under as a "Chemical Manufacturing Plant" under Standard Industrial Classification (SIC) Code 28. The primary process involves the purification and breaking down of the natural gas feedstock, inducing chemical shift reactions, and then synthesizing the hydrogen with the supplied nitrogen to form ammonia. The heat provided by the Pre-Heater and the Super-Heater are a critical component of this process and is used to heat materials (feedstock and synthesis gas) and to initiate and promote chemical reactions (often in the presence of catalysts). Therefore, the DAQ continues to believe it is appropriate to define these units as "process heaters," which are exempt from the applicable Subparts.

It is important to note that applicability to Subparts Db and/or Dc would not require TransGas to apply for a Title V Permit. As a non-major Title V applicable source, TransGas would not be required to obtain a new Title V permit for the facility and would be considered a "deferred" source. However, in that scenario, TransGas would have to pay fees under the Title V Program.

(V) *THE APPLICATION UNDERESTIMATES THE FACILITY'S POTENTIAL TO EMIT*

(A) *The Application Relies on Unsupported Claims and Faulty Emissions Factors to Underestimate the Facility's Potential to Emit*

(1) The Application assumes an unrealistic and unsupported destruction efficiency for the SCR Unit.

DAQ Response

TransGas has proposed 2-Unit Selective Catalytic Reduction (SCR) in series for each individual plant module. It is this 2-unit series design that provides the basis for the 99% NO_x reduction capability. The design, as illustrated on page M4 of the permit application, uses two separate catalyst beds in series to achieve the high reduction rate as noted on the document provided by the vendor Umicore. There is no reasonable engineering prohibition on a dual unit design achieving a 99% reduction rate on the units as proposed. At startup, pursuant to 4.1.11 of the permit, the formal vendor guarantee is required to maintained on-site and available. However, to further strengthen the NO_x performance testing requirement (Table 4.3.2), additional language has been added to clarify that the testing will require inlet and outlet testing on the NO_x emissions to determine the reduction rate in the SCR. Note that the existing performance testing requirement mandates that NO_x performance testing being undertaken for each plant module that comes on line.

(2) The Application inappropriately relies on AP-42 emission factors for numerous emissions scenarios.

DAQ Response

See the response to the Sierra Club comment (9) above. In addition to that response, in the November 2020 EPA Enforcement Alert that is referenced by Dr. Sahu, it is noted that some preferred alternatives to using AP-42 include: stack testing, vendor guarantees, and material balance calculations. It is important to stress that these alternatives are in fact used for compliance demonstrations in Draft Permit R13-3622. However, for new units that do not have vendor guarantees available and where material balance calculations are not feasible, AP-42 emission factors remain the best methodology for determining potential emissions. And as is stressed in the EPA document, AP-42 emission factors are most vulnerable in setting short-term emission limits and were instead primarily developed for "*for use in developing area-wide annual or triannual inventories.*" Therefore, when used for annual PTE calculations (used to determined major source status) confidence in the emission factors reasonably increases.

The document also echos the AP-42 Introduction quoted above in the Sierra Club response that "[w]hen source-specific emissions or other more reliable approaches are unavailable, AP-42 emission factors may be the only way to estimate emissions." And finally, the document makes clear in the disclaimer that "[n]othing in this Alert revises or replaces any regulatory provisions, any other part of the Code of Federal Regulations, the Federal Register, or the Clean Air Act." Therefore, while the EPA Enforcement Alert is a reminder that, where available, AP-42 emission factors should

be used with consideration, especially when setting short-term limits or in determining compliance with short-term limits, in the absence of alternatives, AP-42 often remains the only way to estimate PTE.

(3) The Application underestimates emissions from the flares because it overestimates flare destruction efficiency and fails to account for all NOx emissions.

DAQ Response

The role of the Process Flare at each individual plant module is to control process gases during startup, before the facility operates in steady-state mode and begins to synthesize ammonia, and during a shutdown situation when the remaining gases need to be purged from the system. One startup cycle will last 40 hours and one shutdown cycle will last 1 hour. Facility-wide, TransGas has stated that there will be one startup and one shutdown cycle per plant per year (these events are limited under 4.1.3(d) of the draft permit). For this reason, the aggregate plant-wide annual emissions from flaring are relatively low due to the infrequency of these events.

During startup events, no ammonia will be in the process gas stream sent to the flare as the plant will not have achieved a steady state operation where ammonia is being produced. However, NO_x emissions will be (primarily) created from thermal NO_x (emissions created from nitrogen present in ambient air) created at the point of flare combustion. The NO_x emissions from the startup operations were based on post-flaring concentration values provided by the vendor and not on AP-42 emission factors (see page N9 of the permit application). This analysis produced a high short-term maximum NO_x emission rate of 167.5 pounds-NO_x/hr and a full startup event emission rate of 1.79 tons-NO_x. Total gas volumes sent to the flare during startup are limited under 4.1.7(b) of the draft permit.

During shutdown events, gases from the Ammonia Synthesis Unit will be purged and sent to the Process Flare. Combustion of these gases were accounted for in the calculations provided on page N11 of the permit application. They do show a much higher potential for NO_x emissions over the short-term length of the shutdown event. A maximum of 171.70 pounds of NO_x are estimated to be emitted from burning off the ammonia from the Ammonia Synthesis Unit alone during this event. The emissions from this event were also provided by the vendor. However, as the event only lasts an hour, the contribution of NO_x emissions to the facility-wide PTE from these shutdown events are low.

With respect to the destruction and removal efficiency of the Process Flares, it is important to note that this vendor guaranteed CO and hydrocarbon destruction rate of 98.5% (as explicitly required under 4.1.7(c)) was not directly used to calculate the emissions from the flare. As the process gas during startup and shutdown will contain very little VOCs (very quickly broken down into their constituent components in the pre-reforming and reforming process), these emissions were very conservative based on emission factors taken from AP-42, Section 1.4. during the early steps of the startup process. While CO emissions are present in the process gases both during startup and shutdown events, the controlled emissions for CO are based on post-combustion vendor data as shown in the permit application. This scenario is in contrast to a scenario where a high concentration VOC was gas stream with high potential pass-through emissions is sent to a flare for control.

The DRE limit given under 4.1.7(c) was included, however, as a minimum performance requirement to explicitly codify the DRE as given in the permit application and there is no evidence that achieving a 98.5% DRE at the flare is not achievable. In fact, In the EPA document "Parameters for Properly Designed and Operated Flares, page 1-1" it states: "Based on a series of flare performance studies conducted in the early 1980s, the EPA concluded that properly designed and operated flares achieve good combustion efficiency (e.g., greater than 98 percent conversion of organic compounds to carbon dioxide)." While it is also understood that weather conditions can cause short-term disruptions to the flare's combustion zone, there is an expectation that over any significant averaging period, the DRE will be at least 98.5 % or even higher, as the process gases during startup will contain a significant and increasing amount of highly combustible and high temperature burning hydrogen.

For the reasons stated above, the DAQ maintains the maximum flaring emissions are reasonable, based on sound engineering estimates, and are representative of conventional air permitting methodology.

(4) The Application underestimates fugitive emissions.

DAQ Response

The calculation methodology for the equipment leaks - as based on document EPA-453/R-95-017 - "Protocol for Equipment Leak Emission Estimates" Table 2-5 - is conventional in air permitting, is accepted by EPA as appropriate and represents the best method available for estimating the annual PTE of component leaks from a large population of components at a source that has not been constructed. The SOCMI factors are used for a variety of facility types and there is no indication that the factors would be any less valid for ammonia manufacturing facility. These factors are intended for use over a long period as was used in the TransGas permit application to produce annual emissions associated with component leaks. It is important to note that no substantive amount of VOCs are present in the gas/liquid streams during steady-state operation. The only potential regulated pollutant potentially emitted from these sources is CO.

However, in a review of the emission factors chosen for this permitting action, the DAQ has determined that in the absence of a federal LDAR requirement, to validate the screening values used in the component leak calculations, an LDAR requirement will be added under 4.1.9(b) that will require 10,000 ppm screening.

(B) ***The Application is Incomplete and Therefore Cannot Be Used to Determine PTE***

DAQ Response

Due to the long lead times required for air permitting, it is conventional and understood some facility engineering is on-going during the permit application review. In the case of the Process Flares, the application contained the needed specifications to reasonably predict and permit the units. It is noted that the permit (4.1.7(a)) contains a requirement that the flares "shall be non-assisted, shall not exceed a design capacity of 216,273 scf/min, and shall be designed and operated according to the

requirements specified in 40 CFR 60, Section §60.18" These design and operating requirements, along with the other requirements under given under 4.1.7, are sufficient to permit the flare. It is further noted that there is no second ammonia flare - each plant module has one Process Flare (the reference to the ammonia flare was removed in the revised and final versions of the permit application) - and that particulate matter limits are provided for the flares during startup operations under Table 4.1.6(c). No particulate matter emissions were estimated during the short duration one hour plant shutdown operation as the gases being flared will be hydrogen-rich process gas or ammonia flared off from the ammonia synthesis unit. Neither of these process gases would be expected to contain the heavier organics that would result in any substantive particulate matter emissions.

As for plant upsets, and the subsequent shutdown sequence of the facility, they have been quantified, and the permit (4.1.3(d)) is very explicit in limiting the facility-wide number of these events to "six (6) shutdown cycles on a facility-wide basis (from all plants) per rolling twelve (12) month period." More events (as required to be monitored and recorded under Table 4.2.3) than this limitation would place the facility in a non-compliance situation. Additionally, under 4.1.7(b) of the permit, the total volume of gases sent to the Process Flare is limited, and monitoring/recording of this data is required under Table 4.2.3. These conventional and practically enforceable limitations provide a reasonable compliance demonstration for the flaring at the facility.

There was no quantitative evidence given that the calculated PTE of the proposed facility is under calculated or even not conservative in nature.

(VI) *THE DRAFT PERMIT DOES NOT ENSURE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT*

(A) *Unregulated CO2 Emissions from the Facility Risk Injury to Human Health and the Environment*

DAQ Response

The authority of the DAQ does not extend beyond the air quality issues as outlined under the General Response to Comments above. Also see the discussion on GHG emissions under the General Response to Comments above.

(A) *Unregulated Ammonia Production, Storage, and Transportation Risks Injury to Human Health and the Environment*

DAQ Response

The authority of the DAQ does not extend beyond the air quality issues as outlined under the General Response to Comments above. Also see the discussion on ammonia under the General Response to Comments above. The DAQ notes that the EE/FS was in error where it stated that ammonia would be trucked from the facility. All ammonia will be piped from the facility, and additional language has been added under the permit explicitly requiring this under 4.1.2.

(VII) *DAQ SHOULD TAKE ADDITIONAL MEASURES TO PROTECT THE SURROUNDING COMMUNITIES FROM ENVIRONMENTAL JUSTICE HARMS AND PROVIDE FOR ADDITIONAL PUBLIC PARTICIPATION*

DAQ Response

While an Environmental Justice (EJ) review is not required under either WV Legislative Rule 45CSR13 or 45CSR14 (the minor and major source permitting rules, respectively), the DAQ did review EJ data when reviewing the TransGas permit application. To this end, the DAQ utilized EJScreen (Version 2.2) to determine percentiles for Environmental Justice Indexes (EJI) based on the following latitude/longitude: 37.613579/-81.925845. Two (2) EJScreen reports were generated based on the location, one report based on the 1-mile radius and another based on the 10-mile radius. The DAQ believes that the 10-mile radius is a much better indicator than the 1-mile radius due to the low population density and rural nature of the proposed location of the TransGas facility, and that the national EJ Indexes (EJI) percentiles are more appropriate to use as concern thresholds. Using the EJIs given under the first graph of the 10-mile report (combining data on low income and people of color populations with a single environmental indicator), no USA or State Percentiles exceeded a "concern" level of 80%. It is noted that one EJI percentile does exceed 80% when examining the supplemental indexes (combining data on percent low-income, percent linguistically isolated, percent less than highschool education, percent unemployed, and low life expectancy with a single environmental indicator) for the proposed location - wastewater discharge national percentile. Specific to the wastewater discharge, while the regulation of wastewater is beyond the authority of the DAQ, it is noted that TransGas has stated that there will no wastewater discharge from the plant.

Examining individual data given, it is further noted that similar to many locations in rural areas in the southern West Virginia coal fields, there are longstanding issues of poor health and low income relative to national averages. For these reasons, additional consideration was given to facilitating public outreach. It is noted that the original legal advertisement for this facility ran in the local Mingo County newspaper on October 11, 2023 and the first DAQ legal advertisement ran on January 3, 2024 in the same newspaper. And importantly, after only three (3) requests for a public meeting on the proposed facility (only two of which were from citizens residing locally), the Director of the DAQ determined that it was appropriate to hold a virtual public meeting to facilitate continued engagement with the public on this proposed facility. This public meeting represented a significant allocation of resources and required an extension of the public comment period for an additional 26 days. Another legal advertisement notifying the public of this public meeting ran on February 14, 2024 in the same newspaper. A number of local citizens took the opportunity to ask questions and provide comments during the public meeting.

Therefore, based on the above, the DAQ believes the review process as undertaken was undertaken with EJ considerations in mind, and that the permit was written with the necessary practical enforceability to limit the emissions and air impacts as required under all air quality rules and regulations to maintain Mingo County in attainment with all National Ambient Air Quality Standards (NAAQS) - designed to protect the public health and welfare.

Issues Noted with the Proposed TransGas Ammonia Production Facility, Mingo County, WV (Application No. R13-3622, Plant ID: 059-00102) - Dr. Ranajit (Ron) Sahu

1. ***The Application contains a substantial number of pages with information redacted so no review of those pages was possible. It is not clear if the redacted information was provided to the WVDEP and if so, if the DEP relied on that information in issuing the Draft Permit. There is no mention of redacted information in the DEP Engineering Evaluation/Fact Sheet.***

DAQ Response

TransGas provided a hard copy to the DAQ that contained all the information redacted in the public version of the permit application.

2. ***The Application notes, at multiple instances, in the DEP forms that the design of the facility is not complete and many details are simply not available. Thus, developing a Draft Permit with substantial process design information simply missing makes no sense.***

DAQ Response

See the response to EarthJustice Comment V(B) above.

3. ***Emissions Estimation deficiencies***

(i) SCR reduction guarantee.

DAQ Response

See the response to EarthJustice Comment V(A)(1) above.

(ii) Flare particulate matter emissions.

DAQ Response

See the response to EarthJustice Comment V(A)(3) above. The Process Flare proposed for each plant module is an elevated flare, not an enclosed flare. The reference to an enclosed flare and the use of a second ammonia flare was removed in the revised and final permit application that replaced the original permit application. And AP-42, Section 13 was not used to determine emissions from the Process Flare, Section 1.4 was used, however, for some calculations related to the Process Flare. The reference to Section 13 was removed in final permit application that replaced the original permit application.

(iii) Flare destruction efficiency.

DAQ Response

See the response to EarthJustice Comment V(A)(3) above. There is no separate ammonia flare proposed for the facility, the proposed Process Flare will handle all flaring for each plant module.

(iv) Additional fugitive emissions.

DAQ Response

With respect to fugitive emissions of haulroads, see the response to the Sierra Club comment (10) above. Also see the discussion on ammonia under the General Response to Comments above.

(v) Plant malfunctions.

DAQ Response

See the response to EarthJustice Comment V(B) above.

(vi) Process Flare NO_x emissions.

DAQ Response

As noted above, AP-42, Section 13 was not used to determine emissions from the Process Flare.

(vii) NO_x emissions from the ammonia flare.

DAQ Response

The reference to the use of a second ammonia flare was removed in the revised and final permit application that replaced the original permit application. See the response to EarthJustice Comment V(A)(3) above concerning NO_x emissions from the combustion of ammonia during a shutdown event.

(vi-x) Emissions estimates are unsupported.

DAQ Response

The emissions calculations provided in Attachment N of the permit application were based on systems modeling, available emission factors, mass balance equations, etc. and determined to be reasonable. The emission limits based on these calculations were placed in the permit and appropriate monitoring, recording, and record-keeping was included to provide practical enforceability of the emission limits including NO_x testing from the SCR stack, startup/shutdown event monitoring, and waste gas volumetric flow monitoring. No evidence has been provided that the PTE of the referenced emission units is not correct or that conventional air permitting methods were not used.

(xi) Component counts unsupported.

DAQ Response

The minor source permitting program administered under 45CSR13 is effectively a pre-construction permitting program. A permit is required to be issued before most substantive construction and all operation activities are authorized. Due to the time required for air permit application preparation, regulatory review, public review procedures, *etc*., the application is often being prepared and revised simultaneously with various aspects of the project engineering. For that practical reason, and with an understanding that the number of components may change as the facility is constructed, language was included in the permit under 4.1.9(a) that requires the permittee to submit a modification to the permit if the component count increases in a way that causes the emissions of CO to increase over the facility-wide limit of 8.79 tons/yr.

(xii) Fugitive emission factors not developed for ammonia plants.

DAQ Response

See the response to EarthJustice Comment V(A)(4).

4. ***The entire Attachment G, Process Description, appears to be a copy-and-paste document, containing a mix of detail that may or may not be relevant to the specific project at issue. It also contains substantial material of a marketing nature, with many unsupported claims about lower Capex and Opex costs, etc. At Application pdf p. 29 (of 244), the description notes that "…CO is reduced to carbon dioxide…" which makes no sense whatsoever.***

DAQ Response

The process description, along with the other parts of the final permit application, was deemed to be reasonable and sufficient to provide the necessary information to deem the permit application complete.

Dustin White

On February 28, 2024, Dustin White submitted comments concerning R13-3622. The questions/comments (that require a response and that are not answered under the Response to General Comments Section) are summarized and responses provided as follows:

TransGas underestimates the PTE of the facility.

DAQ Response

The DAQ maintains that the calculated PTE of the proposed TransGas facility meets the definition as given under §45-13-2.19 and no specifics were given to change that determination. Please see many of the responses to the Sierra Club and EarthJustice comments above on specifics relating to emissions calculations.

The flares cannot achieve a 98% destruction efficiency.

DAQ Response

No specific study was provided showing that the Process Flares proposed for the TransGas facility would not be able to achieve the minimum required destruction and removal efficiency (DRE). See the response to EarthJustice Comment V(A)(3) above.

Fugitive emissions are ignored.

DAQ Response

See the response to EarthJustice Comment V(A)(4) above.

TransGas's air permit application is incomplete.

DAQ Response

See the response to EarthJustice Comment V(B) above.

Ammonia is not regulated.

DAQ Response

See the discussion on ammonia under the General Response to Comments above.

Concerns on impacts on the local community.

DAQ Response

See the response to EarthJustice Comment VII above.

Moms Clean Air Force

On February 21, 2024, Lucia Valentine, the Field Organizer for Moms Clean Air Force, submitted comments concerning R13-3622. The comments have mostly been answered in other sections of this document. Specifically, see the discussions on the Statutory Authority of the DAQ, Ammonia, and GHGs under the General Response to Comments above. Further, however, the permit does contain control technology requirements, monitoring, record-keeping, and performance testing requirements to practically enforce the PTE as presented in the permit application. There was no specific evidence provided that impacts from the proposed facility would be harmful and no specific information relating to air quality permitting was identified as being missing from the permit application.

West Virginia Rivers Coalition

On February 28, 2024, Heather Sprouse, the Interim Executive Director for the West Virginia Rivers Coalition, submitted comments concerning R13-3622. The questions/comments (that require a response and that are not answered under the Response to General Comments Section) are summarized and responses provided as follows:

Heaters are not defined as "Process Heaters."

DAQ Response

See the response to EarthJustice Comment IV above.

Potential to emit of the facility is too low.

DAQ Response

The DAQ maintains that the calculated PTE of the proposed TransGas facility meets the definition as given under §45-13-2.19 and no specifics were given to change that determination. Please see many of the responses to the Sierra Club and EarthJustice comments above on specifics relating to emissions calculations.

Continuous Emission Monitoring Systems (CEMS) on NO_x.

DAQ Response

There was no statutory basis for requiring NO_x CEMS (on the SCR stack controlling the steady-state emissions from the process heaters) at the proposed TransGas facility and it was determined that the nature (steady-state combustion of hydrogen-rich process gas) of the emissions did not warrant a permit requirement to install CEMS. It was determined that the operational requirements on the heaters and the SCRs, with the associated parametric monitoring and NO_x performance testing requirements, were sufficient to provide practical enforceability for the SCR Main Plant Stack (1E-X) NO_x emission limits. See the response to WVSC comment (6) of the February 28, 2024 Comment Letter for additional information.

Fenceline NO_x Monitoring.

DAQ Response

The widespread use of source-specific fenceline monitors is impractical. The cost of purchasing, installation, maintenance, quality control, increase of staff, etc. needed for the use of fenceline monitors for the proposed TransGas facility and other similar facilities is far beyond the reasonable capability of the DAQ. In addition, the DAQ believes the use of source-specific fenceline monitors to be unnecessary in this case. The emissions thresholds in 45CSR14 that are used to define a source as "major" - and therefore, subject the source to a required air impacts analysis - are used as a screening method to determine those sources that have a greater potential to cause or contribute to a NAAQS violation. As stated under the General Response to Comments section, for most source

types, the major source threshold for each individual pollutant is 250 TPY, much higher than the 100 TPY major source threshold for the proposed TransGas facility. So even with the lower threshold, the proposed TransGas facility is defined as a minor source. The listed sources with the lower major source threshold is due to a regulatory artifact and does not necessarily mean that a listed source is more likely to cause or contribute to a NAAQS violation.

Oral Questions/Comments Received at Public Meeting

Oral Questions

During the question/answer portion of the public meeting, several questions were asked. All questions were considered answered at that time, and a transcript of the public meeting and a recording of the meeting is available on the DAQ website as noted above in this document. With respect to the question concerning the cutoff portion of the last sentence on page G-12 of the permit application, a corrected version was sent to the interested party and placed on the DAQ website on February 22, 2024. With respect to contact information concerning water discharge permitting, please see the following:

West Virginia Department of Environmental Protection
Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0495
https://dep.wv.gov/WWE/Pages/default.aspx

Oral Comments

There were twelve (12) oral comments presented at the public meeting. All of the comments were either generally in favor of the proposed TransGas facility, generally in opposition to the facility, or were similar to the written comments submitted via e-mail by the party in question (that were addressed above either in the General or Specific Response to Comments section).

RESPONSE TO COMMENTS CONCLUSION

As given in this document, and pursuant to §45-13-8.8, all relevant comments received during the public comment period have been reviewed and are appropriately addressed in this document. A full listing of all commentors is included as Attachment A to this document. See the "Final Determination" for discussion of the final determination concerning Permit Application R13-3622.

Joseph Kessler

Digitally signed by: Joseph Kessler
DN: CN = Joseph Kessler email = joseph.r.kessler@wv.gov C = US O = WV Department of Environmental Protection OU = Division of Air Quality
Date: 2024.03.26 11:01:50 -04'00'

Joe R. Kessler, PE
Engineer

Response to Comments: Attachment A
Permit Application: R13-3622: Facility ID: 059-00102
Comments Inventory

Number	Date	Name & Affiliation (if applicable)	Medium	Notes
Public Meeting& Comment Period Extension Requests				
1	1/06/24	Jim Kotcon WV Chapter of the Sierra Club	E-mail (w/ attachment)	Comment Period Extension Request Responded via e-mail (1/11/24)
2	1/26/24	Elizabeth Nawrocki Big Laurel Learning Center	E-mail (w/ attachment)	Public Meeting& Comment Period Extension Request Responded via e-mail (2/02/24)
3	1/29/24	Nina McCoy	E-mail	Public Meeting& Comment Period Extension Request Responded via e-mail (2/02/24)
4	1/30/24	Grace Williams Big Laurel Learning Center	E-mail	Public Meeting& Comment Period Extension Request Responded via e-mail (2/02/24)
5	1/31/24	Rev. Bradley G. Davis Welch Charge of the United Methodist Church	E-mail	Comment Period Extension Request Responded via e-mail (2/02/24)
Written Comments				
1	2/02/24	Jim Kotcon WV Chapter of the Sierra Club	E-mail (w/ attachment)	Specific
2	2/21/24	Lucia Valentine Moms Clean Air Force	E-mail (w/ attachment)	Specific
3	2/21/24	Mitchell Bias Regional Church of God	E-mail (w/ attachment)	General (in support)
4	2/25/24	Melissa Corbett WV Conference-United Women in Faith	E-mail	General (in opposition)
5	2/25/24	Albert Totten	E-mail	General (in support)
6	2/26/24	Rev. Amber Baker, MDiv. Fairview United Methodist Church	E-mail	General (in opposition)
7	2/27/24	Caitlin Ware	E-mail	General (in opposition)
8	2/28/24	Jim Kotcon WV Chapter of the Sierra Club	E-mail (w/ attachment)	Specific (Additional Comments)
9	2/28/24	Autumn Crowe West Virginia Rivers Coalition	E-mail (w/ attachment)	Specific

Response to Comments: Attachment A
Permit Application: R13-3622: Facility ID: 059-00102
Comments Inventory

Number	Date	Name & Affiliation (if applicable)	Medium	Notes
10	2/28/24	Dustin White	E-mail (w/ attachment)	Specific
11	2/28/24	Jill Hunkler, Director Ohio Valley Allies	E-mail	General (in opposition)
12	2/28/24	James Yskamp Earth Justice (obo People Over Petro)	E-mail (w/ attachment)	Specific
13	2/28/24	Greta Curry Mingo Co. Redevelopment Authority	E-mail	General (in support)
14	2/28/24	Elizabeth Nawrocki Big Laurel Learning Center	E-mail	General (in opposition)
Comments at the Public Meeting				
1	2/21/24	Mitchell Bias Regional Church of God	Oral	General (in support)
2	2/21/24	Adam Victor TransGas	Oral	General (in support)
3	2/21/24	Grace Williams o/b/o Pete Runyon Friends of the Tug Fork River	Oral	Comments on potential water impacts.
4	2/21/24	Leasha Johnson Mingo County Redevelopment Authority	Oral	General (in support)
5	2/21/24	Jim Kotcon WV Chapter of the Sierra Club	Oral	
6	2/21/24	Lucia Valentine Moms Clean Air Force	Oral	Same as E-mail Comment
7	2/21/24	Heather Sprouse West Virginia Rivers Coalition	Oral	
8	2/21/24	Seth Pearman Flandreau Santee Sioux Tribe of South Dakota	Oral	General (in support)
9	2/21/24	Elizabeth Nawrocki Big Laurel Learning Center	Oral	

Response to Comments: Attachment A
Permit Application: R13-3622: Facility ID: 059-00102
Comments Inventory

Number	Date	Name & Affiliation (if applicable)	Medium	Notes
10	2/21/24	Dan Grotsky Groundwork BioAg	Oral	General (in support)
11	2/21/24	Rev. Bradley G. Davis Welch Charge of the United Methodist Church	Oral	General (in opposition)
12	2/21/24	Patrick Bergin Flandreau Santee Sioux Tribe of South Dakota	Oral	General (in support)