Pennsylvania
Department of
Environmental Protection

January 13, 2025 **VIA EMAIL (Hanh.Duong@energytransfer.com)**

Hanh Duong – Staff Engineer E&C Environmental
ETC Northeast Pipeline, LLC
6051 Wallace Road Extension, Suite 300
Wexford, PA 15090

Re: Identification of Technical Deficiencies
ETC Northeast Pipeline, LLC – Revolution Cryogenic Plant
Application for Plan Approval PA-63-01001A
APS No. 1117262, AUTH No. 1491252
Smith Township, Washington County

Dear Hanh Duong:

After conducting an initial technical review of the above referenced application for plan approval, which was received on June 25, 2024, and determined to be administratively complete on July 8, 2024, the Department of Environmental Protection ("Department") has determined that the application is technically deficient. The specific technical deficiencies are based on applicable laws and regulations, including 25 Pa. Code §127.12(a)(2, 3, 4, 5, and 10), which specify that an application for plan approval shall:

(2) Contain information that is requested by the Department and is necessary to perform a thorough evaluation of the air contamination aspects of the source.

(3) Show that the source will be equipped with reasonable and adequate facilities to monitor and record the emissions of air contaminants and operating conditions which may affect the emissions of air contaminants and that the records are being and will continue to be maintained and that the records will be submitted to the Department at specified intervals or upon request.

(4) Show that the source will comply with applicable requirements of this article and requirements promulgated by the Administrator of the EPA under the Clean Air Act (42 U.S.C.A. § § 7401 – 7706).

(5) Show that the emissions from a new source will be the minimum attainable through the use of the best available technology.

(10) Show that the source and the air cleaning devices are capable of being and will be operated and maintained in accordance with good air pollution control practices.

Technical Deficiencies

1. Please provide specification sheets and safety data sheets (SDSs) for each product shipped offsite including but not limited to ethane, natural gas liquids (NGLs)/Y-grade NGLs, residue gas, and condensate. [25 Pa. Code §127.12(a)(2)]

2. The provided Process Flow Diagram should identify all existing and proposed sources and equipment. Please update the diagram to exhibit all air contamination sources, including but not limited to the following:

    a. Each compressor including the type, the type of process gas handled, and the associated prime mover.
    b. Pigging vessels and destination of venting emissions.
    c. Existing control device(s) and the emissions streams directed thereto.
    d. Each storage tank with the potential for VOC, HAP, and/or methane emissions, sources(s) of fluids received, destination(s) for fluids removed, and destination(s) of vapor losses.

    [25 Pa. Code §127.12(a)(2)]

3. Please provide the manufacturer, model number, specifications, and rod packing design leak rates for each proposed reciprocating compressor. [25 Pa. Code §127.12(a)(2)]

4. Per 25 Pa. Code §127.12(a)(5), an application for plan approval must "[s]how that the emissions from a new source will be the minimum attainable through the use of the best available technology, where, per 25 Pa. Code §121.1, *best available technology (BAT)* is defined as the "[e]quipment, devices, methods or techniques as determined by the Department which will prevent, reduce or control emissions of air contaminants to the maximum degree possible and which are available or may be made available.

    a. Per the Department's *General Plan Approval and/or General Operating Permit for Natural Gas Compression and/or Processing Facilities* ("GP-5") (2700-PM-BAQ0267; 6/2018), open flares may only be approved for control of new and modified sources at remote locations and for infrequent operations. The proposed installation and operation of a new elevated flare (FLARE-002) for control of residue gas compressor blowdowns, purge gas, closed drain vapors, pressure relief valves, and miscellaneous blowdowns—operations that do <u>not</u> constitute "infrequent operation"—does <u>not</u> meet BAT. Based on the uses for the proposed flare, referring to the flare as an "emergency flare" also appears misrepresentative. Please note that the Department would consider an emergency to be comparable to a *malfunction* or "…any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner...[where] [f]ailures that are caused in part by poor maintenance or careless operation are not malfunctions…" as this term is defined in 40 CFR Part 60 Subpart A. [25 Pa. Code §127.12(a)(5)]

b. The Department's *General Plan Approval and/or General Operating Permit for Coal-Mine Methane Flares* ("GP-21") authorizes the use of enclosed flares to reduce atmospheric emissions of methane from mine ventilation systems. Additionally, the Department's *Best Available Technology and Other Permitting Criteria* (275-2101-007; February 23, 1996) ("BAT-TGD") specifies in Section 7.10 (*Best Available Technology Criteria for Municipal Residue Landfills*) that landfill gas from an active landfill gas collection system shall be processed by combustion an enclosed ground type flare or other enclosed combustion device or system. Given the similarity of the controlled emissions streams in the referenced scenarios to that present at a natural gas processing plant (e.g., methane, ethane, VOCs, and HAPs), using technology transfer, it is Department's position that the venting of gas from the proposed sources to a proposed new open flare does not constitute BAT. [25 Pa. Code §127.12(a)(5)]

c. Per the *Reciprocating Compressors Technical Guidance Document (TGD)* available on the *Oil and Gas Methane Partnership 2.0 (OGMP 2.0)* website (https://ogmpartnership.com/guidance-documents-and-templates/), "[i]t is also possible to capture and redirect the [rod packing vent pipe] emitted gas stream to a useful outlet or to a flare." Per the Department's research and given the similarity of vapor recovery unit (VRU) system control of centrifugal compressor dry seal vents and storage tank vents, capturing reciprocating compressor rod packing emissions (and either directing back to the process or to a control device) is technically feasible. Please provide a thorough evaluation of the technical feasibility of capturing rod packing emissions since citing "engineering design concerns with routing the vapors to a control device" does not establish sufficient justification for technical infeasibility. [25 Pa. Code §127.12(a)(5)]

d. Control of emissions from the moisture analyzer and "facility maintenance" were not included in the BAT analysis. Please evaluate. [25 Pa. Code §127.12(a)(5)]

e. The BAT analysis indicated that VRU systems are limited to consistent venting sources as intermittent venting episodes (e.g., blowdowns) are not handled well by VRUs, which operate best with consistent flow. Please be aware that pressure regulators and flow control devices are available that would provide consistent flow to the VRU system during equipment blowdowns. Additionally, during low VRU gas flow conditions, a recycle valve can be utilized to maintain operation of the VRU compressor at 100% load when vent gas flow to the VRU is less than 100%. (https://www.zeeco.com/products/flare-gas-recovery). Please evaluate. [25 Pa. Code §127.12(a)(5)]

f. On April 28, 2022, the Department issued a plan approval for a project at the Texas Eastern Transmission, LP Holbrook Station (a major source of VOC emissions) that required the installation of a centrifugal compressor blowdown gas recompression system as BAT. The system reduces blowdown emissions by at least 95% and eliminates the combustion emissions associated with flaring. Although centrifugal compressors are not proposed in the subject application, please evaluate all

available alternatives for control of emissions from facility equipment blowdown operations in the BAT analysis. [25 Pa. Code §127.12(a)(5)]

5. The emissions estimates for the proposed amine unit presented in Table 2 - *Amine-002 Amine Sweetening Unit Emissions* of Attachment E – *Detailed Emissions Calculations* incorrectly indicate a control efficiency (emissions reduction) for CO_2 by the proposed thermal oxidizer which results in an artificial reduction in CO_2 and total GHG emissions. Please evaluate and correct the emissions estimates where necessary. [25 Pa. Code §127.12(a)(2)]

6. A complete evaluation of project emissions aggregation and/or circumvention (25 Pa. Code §127.216) for the process equipment and controls proposed with those proposed and/or authorized at the Revolution Cryogenic Plant under GP5-63-01001A and GP1-63-01001A was not conducted. Please fully evaluate all factors identified in 25 Pa. Code §127.216 and *Clean Air Council v. DEP* (2019 EHB 56; Case No. 2016073 available at https://ehb.pa.gov/docket-search). [25 Pa. Code §127.12(a)(2, 4, and 5)]

7. Since the proposed project will result in the Revolution Cryogenic Plant becoming a *major facility* (for VOC emissions) as this term is defined in 25 Pa. Code §121.1, please provide an evaluation of the applicable Nonattainment New Source Review requirements of 25 Pa. Code Chapter 127 Subchapter E pursuant to §127.203(e)(2). [25 Pa. Code §127.12(a)(4)]

8. Please provide tables that present estimates of VOC, HAP, and GHG emissions from the closed drain tank and condensate tanks. The estimates shall include all supporting data and assumptions; models and calculation methodology; include tank liquids composition and the method(s) of determination; and annual liquids production rates. [25 Pa. Code §127.12(a)(2)]

9. Please identify and describe all equipment, devices, methods, and techniques that will be implemented to ensure that all proposed process safety valves (PSVs) are fully seated during normal operation and fully reseated after opening to prevent excess gas from being sent to the flare (or other control device) and thus reduce emissions of air contaminants to the maximum degree possible. Please develop and provide and inspection and maintenance program to ensure that the valves, actuators, and seals/sealing surfaces are operated and maintained in a manner consistent with good air pollution control practice for minimizing emissions. [25 Pa. Code §127.12(a)(2, 4, 5, and 10)]

10. Please identify how fuel gas usage and the composition(s) and volume(s) of waste gases sent to the control devices are determined and recorded. [25 Pa. Code §127.12(a)(3)]

11. For the purposes of the greenhouse gas (GHG) and volatile organic compound (VOC) standards in 40 CFR Part 60 Subpart OOOOb—*Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022*, pursuant to §60.5365b(e)(3) for the *storage vessel affected facilities* specified in 40 CFR §60.5395b, for tank batteries not located at a well

site or centralized production facility, including each tank battery at an onshore natural gas processing plant, a *modification* of a tank battery occurs when an existing tank battery receives additional fluids which cumulatively exceed the throughput used in the most recent determination of the potential for VOC or methane emissions. Please determine and provide the projected change in the volume of fluids that will be received and the resulting potential for VOC and methane emissions from the closed drain and condensate tanks in comparison to that of the most recent determination under 40 CFR Part 60 Subpart OOOOa—*Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015 and On or Before December 6, 2022*. [25 Pa. Code §127.12(a)(4)]

12. Pursuant to 40 CFR Part 60 Subpart A, §60.14(a) states that:

> "Except as provided under [§60.14(e and f)], any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere."

Per §60.14(e), "[a]n increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on that facility" shall not be considered a modification under Part 60. However, since a capital expenditure is necessary to increase the production rate of the Revolution Cryogenic Plant, the proposed activity constitutes a modification. Since the Cryo II project may increase emissions and throughput rates of existing equipment, please evaluate whether a modification of any affected facilities under 40 CFR Part 60 Subpart OOOOa—*Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015 and On or Before December 6, 2022* will occur with the proposed project. [25 Pa. Code §127.12(a)(4 and 5)]

Please be aware that per the *Policy for Implementing the Department of Environmental Protection (Department) Permit Review Process and Permit Decision Guarantee* (021-2100-001, November 2, 2012) ("PRP/PDG Policy"), a Permit Decision Guarantee is provided for certain Air Quality authorization applications, where the Department's guarantee timeframe for this application type is 150 business days. However, it is the applicant's responsibility for submitting a complete and technically adequate application which meets all applicable regulatory and statutory requirements and contains all information needed by the Department to make a final permit decision. Pursuant to Section B(6) of the PRP/PDG Policy, the above technical deficiencies have voided the Permit Decision Guarantee for this application. The deficiencies have also stopped the PAyBack program review clock established under Executive Order 2023-07, which provides a review timeframe for this application type of 160 business days.

You must submit a response fully addressing each of the technical deficiencies set forth above within thirty (30) calendar days of receipt of this correspondence or the Department may deny the application. If you believe that any of the stated deficiencies is not significant, you have the option to request that the Department make a decision based on the information with regard to the subject matter of that deficiency that you have already made available. If you choose this option with

regard to any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please be aware that per §127.12(b), "[t]he Department will not approve an application which fails to meet the requirements of [§127.12(a)]."

Please visit eFACTS on the Web at: https://www.ahs.dep.pa.gov/eFACTSWeb/default.aspx to follow your application through the review process. If you have questions about your application or would like to discuss any of the above items, please contact me at 412.442.5231 or via email at dtomko@pa.gov.

Sincerely,

Devin P. Tomko, P.E./DPT
Air Quality Engineer

CC: PA-63-01001A
Operations (Valerie Shaffer)
New Source Review (Sheri Guerrieri)
OnBase

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