



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

August 31, 2022

Ms. Tonya Miller, Director
Office of Air
Texas Commission on Environmental Quality (MC 122)
Post Office Box 13087
Austin, Texas 78711-3087

Re: TCEQ Docket 2021-0942-AIR and SOAH Docket 582-22-0201 on Initial Application for Permit Nos. 158420, PSDTX1572, and GHGPSDTX198 for the Port Arthur LNG, LLC – Port Arthur LNG Facility in Jefferson County, Texas.

Dear Ms. Miller:

As part of the U.S. Environmental Protection Agency (EPA) Region 6's oversight responsibilities, I am writing to convey concerns related to the above-referenced permitting action currently before the Texas Commission on Environmental Quality (TCEQ). As discussed fully in the Enclosure, we are providing clarifications and comments in response to certain statements made by the Executive Director (ED) in the record for this permitting action concerning the Best Available Control Technology (BACT) review and reference to EPA guidance.

We are committed to working with the TCEQ to ensure that the final permit is consistent with all applicable NSR requirements and the EPA approved Texas air permitting program. If you have questions or wish to discuss this further, please contact Cynthia Kaleri, Air Permits Section Chief at (214) 665-6772, or Jonathan Ehrhart at (214) 665-2295. Thank you for your cooperation.

Sincerely,

DAVID
GARCIA

Digitally signed
by DAVID GARCIA
Date: 2022.08.31
15:11:38 -05'00'

David F. Garcia, P.E.
Director
Air & Radiation Division

cc: Port Arthur LNG, LLC Responsible Official

Ms. Amy Dinn, Lone Star Legal Aid

Mr. Toby Baker, Executive Director
Texas Commission on Environmental Quality (MC-109)

Mr. Vic McWherter, Public Interest Council
Texas Commission on Environmental Quality (MC-103)

ENCLOSURE
EPA COMMENTS CONCERNING BACT EVALUATIONS
TCEQ DOCKET 2021-0942-AIR AND SOAH DOCKET 582-22-0201

Port Arthur LNG's Amended Notice of Application and Preliminary Decision for the draft permits were published in June of 2020 to authorize a greenfield natural gas liquefaction plant and export terminal. Lone Star Legal aid, on behalf of Port Arthur Community Action Network (PACAN), submitted a formal written request for a contested case hearing on September 15, 2020. TCEQ received public comments on the project and issued a Response to Comments on March 19, 2021. In the TCEQ Commission meeting on August 25, 2021, TCEQ Commissioners considered the hearing request from PACAN for a contested case hearing on the proposed project. On September 2, 2021, TCEQ referred the request to the State Office of Administrative Hearing (SOAH) to determine affected party status via an Interim Order. The Interim Order also referred ten disputed issues to SOAH for contested case hearing should affected party status be granted. On November 16, 2021, the Administrative Law Judge (ALJ) convened a preliminary hearing where the ALJ ultimately found John Beard as an affected person and granted PACAN party status. A hearing on the merits was held on February 22-24, 2022. On May 20, 2022, the ALJ issued a Proposal for Decision (PFD) and Proposed Order (PO) related to the draft permit action for Port Arthur LNG. On June 9, 2022, the Protestant, Applicant and ED each filed exceptions to the PFD and PO.

The EPA Region 6 has been monitoring the public participation and judicial review process for the draft Port Arthur LNG (PALNG) permitting action and has reviewed several filings, including the contested case hearing transcripts and closing arguments, ALJ's recommendations to the Commission, and all exception filings. As you are aware, the ALJ found in the May 20, 2022, PFD that Port Arthur LNG did not meet its burden of proof for the required demonstration of BACT for refrigeration compression turbines and thermal oxidizers. Specifically, for combustion turbines, the ALJ's PFD recommends that the draft permit be revised to require the proposed combustion turbines in refrigerant compression service be limited to 5 ppmvd NO_x at 15% O₂ (down from 9 ppm) and 15 ppmvd CO at 15% O₂ (down from 25 ppm). This decision appears to be partially based on the recognition that other LNG sources (e.g., Rio Grande LNG) are required to operate the same model combustion turbines in refrigeration and compression service with emissions at or below a TCEQ-approved and permitted NO_x/CO BACT limit of 5 and 15 ppmvd at 15% O₂ respectively. In response to the PFD, the ED's exception filing dated June 9, 2022, recommends that the Commission grant the ED's exceptions and effectively overrule the ALJ's PFD and issue the permit as-is.¹ The EPA would like to express concerns regarding statements made by the ED in its exception filing, especially those that cite EPA's Draft 1990 NSR Workshop Manual² for support of its recommendation to overturn the ALJ's PFD.

EPA has approved the Texas PSD, NNSR, and minor NSR programs as part of its State Implementation Plan (SIP). *See* 40 C.F.R. § 52.2270(c) (identifying EPA-approved regulations in the Texas SIP). The major and minor NSR provisions, as incorporated into the EPA-approved Texas SIP, are contained primarily in 30 TAC Chapters 106 and 116. For sources subject to the Prevention of Significant Deterioration program (PSD), TCEQ's EPA-approved regulations incorporate by reference the federal definition of Best Available Control Technology:

¹ *See, Application by Port Arthur LNG, LLC*, Executive Director's Response and Exceptions to the Proposal for Decision at 15 (June 9, 2022), available at <https://www14.tceq.texas.gov/epic/eCID/>, SOAH Docket No. 582-22-0201 ("The Executive Director contends that the ALJs' recommendations to revise the Draft Permit are not BACT and are not required for this permit.").

² EPA, NSR Workshop Manual, (Draft October 1990), available at: <https://www.epa.gov/nsr/nsr-workshop-manual-draft-october-1990>.

“In addition to those definitions in §116.12 of this title (relating to Nonattainment and Prevention of Significant Deterioration Review Definitions) the following definitions from prevention of significant deterioration of air quality regulations promulgated by the United States Environmental Protection Agency (EPA) in 40 CFR §52.21 and the definitions for protection of visibility and promulgated in 40 CFR §51.301 as amended July 1, 1999, are incorporated by reference: (A) 40 CFR §52.21(b)(12) - (15), concerning best available control technology, baseline concentrations, dates, and areas; . . .”

30 TAC § 116.160(c)(1)(A).

EPA notes that in the federal definition, BACT is defined as follows:

“... an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. . . .”

40 CFR 52.21(b)(12) (emphasis added).

As noted in the ED’s exception filing, it is understood that PALNG chose to utilize both TCEQ’s three-tiered methodology and EPA’s top-down BACT methodology for conducting a BACT review on refrigeration and compression turbines associated with the project.³ In addition, the ED’s exception filing provides the following statements regarding what limits can be considered BACT and those considered “beyond BACT.” These statements include, but are not limited to, direct reference to EPA guidance used to support the ED’s position regarding limit achievability. This language is not consistent with EPA’s recommended approach for determining BACT and overlooks important content in EPA’s guidance regarding the evaluation of technical feasibility. The ED’s statements in the exception filing are as follows:

1. “A key aspect of the EPA top-down method is that to be considered BACT, the technology must be ‘demonstrated and potentially available’ [citing NSR Workshop Manual at B.11]. The EPA NSR manual states, ‘[t]echnologies which have not yet been applied to (or permitted for) full scale operations need not be considered available; an applicant should be able to purchase or construct a process or control device that has already been *demonstrated in practice*’ (emphasis added) [citing NSR Workshop Manual at B.11]. In its guidance, EPA also states, ‘[t]o satisfy legislative requirements of BACT, EPA believes that the applicant must focus on technologies

³ See *supra* note 1 at 4. (“The TCEQ’s guidance [Air Permit Reviewer Reference Guide APDG 6110] refers to and includes an explanation of EPA’s top-down method because applicants may use either EPA’s top-down or TCEQ’s three-tiered methodology or both when determining whether their application meet BACT. In the present case, PALNG opted to use both methodologies in BACT determination for the refrigeration compression turbines.”)

with a *demonstrated* potential to achieve the highest levels of control’ (emphasis added) [citing NSR Workshop Manual at B.12].”⁴

2. “As the ED’s expert witness, Dr. Benjamin Hansen, testified, ‘[A] key part of what drives...the lowering of the BACT determination is when a technology is demonstrated to be used and to produce the results in practice, it doesn’t make sense for us to require a type of technology or a level of control that hasn’t been demonstrated to be effective and to actually work in practice’ [citing Hearing on the Merits, at 601:7-13]. The emphasis on demonstrated technology is important in the determination of BACT for PALNG’s proposed plant because the PFD’s recommended changes to the emission limits have not been demonstrated.”⁵
3. “As discussed, a key component of a BACT determination is that the technology must be demonstrated [citing NSR Workshop Manual and APDG 6110]. Neither Golden Pass LNG [citing Pre-filed testimony of Benjamin Hansen] nor Rio Grande LNG [citing Hearing on the Merits, at 0029:24-26] are operational; therefore, the controls proposed in their permits have not been demonstrated to achieve the limits in their permits and are actually ‘beyond BACT.’ The TCEQ accepted these proposed limits in accordance with its guidance – ‘An applicant may propose control(s) that are beyond accepted BACT (i.e., resulting in emission reductions that are higher than accepted BACT)’ [citing APDG 6110]. However, because those plants are not operational, the proposed limits cannot be verified and do not represent BACT across the board for all LNG plants.”⁶
4. “Rio Grande LNG’s permit also includes a NO_x limit of 5 ppmvd; however, Rio Grande LNG proposed to meet the 5 ppmvd limit using dry low NO_x (DLN) burners, which the ED acknowledges is the control proposed by Port Arthur LNG. However, Rio Grande LNG, like Golden Pass LNG, is not operational, so using DLN to meet the 5 ppmvd limit has also not been demonstrated. Therefore, its limit should also not be considered BACT.”⁷
5. “As with the NO_x emission limit, the limit in Rio Grande LNG’s permit is not demonstrated in practice. Rio Grande LNG is not in operation [citing Hearing on the Merits at 622:11-17], so there is no way to verify whether Rio Grande LNG will be able to attain the 15 ppmvd CO emission limit. Therefore, the 15 ppmvd emission limit is not BACT. The ED maintains his position that the CO emission limit of 25 ppmvd at 15% O₂ for the refrigeration compression turbines meets BACT.”⁸

As emphasized above, EPA’s definition of BACT requires a limit be considered “achievable” taking into consideration a variety of factors described in the definition. When conducting a top-down BACT analysis, EPA recommends following the 5-step process described in the NSR Workshop Manual to ensure all these factors are considered in determining BACT. While it is not mandatory to select a specific limit as BACT solely because another similar source has done so, the basis for selecting a less stringent limit should be documented in the permit record for evaluation. However, with respect to limit

⁴ See, *Application by Port Arthur LNG, LLC*, Executive Director’s Response and Exceptions to the Proposal for Decision at 5 (June 9, 2022), available at <https://www14.tceq.texas.gov/epic/eCID/>, SOAH Docket No. 582-22-0201

⁵ *Id.*

⁶ *Id.* at 8.

⁷ *Id.* at 9.

⁸ *Id.* at 13.

achievability, it appears that the ED's argument raised in the exception filing centers around the suggestion that a control technology (and associated limit) cannot and does not establish BACT until such a technology and limit has been actually constructed, operated, and demonstrated in practice. Until such a time, the ED argues that the limit is considered undemonstrated and "beyond BACT." With respect to the top-down BACT approach that was utilized for the refrigeration and compression turbines, the passages that the ED cites from the NSR Workshop Manual in its June 9, 2022, exception filing do not support the ED's suggestion that a BACT limitation must be operational to be considered technically feasible and achievable, and mischaracterizes EPA's recommendation for evaluating technical feasibility of a control technology and/or alternative as expressed in the NSR Workshop Manual.

The NSR Workshop Manual outlines that, in the second step of a top-down BACT analysis, the technical feasibility of a control technology and/or alternative should first be evaluated based on whether the control has been installed or operated successfully on the type of emission unit under review (i.e., demonstrated in practice). If demonstrated in practice, the technology should be considered technically feasible. However, this is only the first question in a two-step analysis EPA recommends within Step 2 of a top-down analysis. If the permitting authority concludes that a technology has not been demonstrated in practice, the second step recommended by EPA is to evaluate whether the technology is both "available" and "applicable" to the type of source for which the permit is sought. In this context, "available" means a technology that can be obtained through commercial channels (i.e., is commercially-available). EPA uses "applicable" in this context to mean there are no physical or chemical characteristics of the emissions stream that prevent the application of the technology and that can reasonably be deployed on the source type under consideration. With regard to the latter, "[i]n general, a commercially available control option will be presumed applicable if it has been or is soon to be deployed (e.g., is specified in a permit) on the same or a similar source type." See *NSR Workshop Manual* at B.18 (emphasis added). In other words, a control technology that has not been demonstrated in practice can still be considered technically feasible if it is both "available" and "applicable." Additionally, the NSR Workshop Manual states that "[a] permit requiring the application of a certain technology or emission limit to be achieved for such technology usually is sufficient justification to assume the technical feasibility of that technology or emission limit." See *NSR Workshop Manual* at B.7 (emphasis added).

EPA thus disagrees with the ED's reliance on the EPA's NSR Workshop Manual to support the ED's argument regarding what unit-specific BACT limits are generally considered achievable under a PSD top-down analysis. EPA has long recognized that a control technology and associated limit is not always required to be operational or actually demonstrated in practice to be considered technically feasible and BACT, as suggested by the ED. In the absence of clear supporting documentation showing why a control technology is technically infeasible or a limit based on that technology is otherwise unachievable for a particular source taking into consideration energy, environmental, or economic impacts, a permitted BACT limit at a similar source (especially one that is supported by a vendor guarantee), can still be considered "achievable" consistent with 40 CFR 52.21(b)(12), even if a facility subject to such a limit is not yet operational. Operational technologies that have been tested and proven to perform successfully to achieve associated BACT limits are certainly useful in supporting the achievability of a limit. However, to the extent the ED wishes to justify that operation of a technology and demonstrated achievement of an associated limit is required without exception for an otherwise permitted limit to be considered BACT, such an argument is inconsistent with EPA's recommended method for determining BACT as explained in the NSR Workshop Manual referenced by the ED.