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**SOAH DOCKET NO. 582-23-14975  
TCEQ DOCKET NO. 2023-0203-AIR**

**APPLICATION OF VALERO § BEFORE THE TEXAS COMMISSION  
REFINING-TEXAS, LP FOR §  
MODIFICATION TO AIR § ON  
QUALITY PERMIT NOs. 38754 §  
AND PSDTX324M15 § ENVIRONMENTAL QUALITY**

**CITIZENS FOR ENVIRONMENTAL JUSTICE’S REPLY  
TO VALERO’S BRIEF AND EXCEPTIONS & THE EXECUTIVE DIRECTOR’S  
RESPONSE TO THE PROPOSAL FOR DECISION**

TO THE HONORABLE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

Protestant Citizens for Environmental Justice (“CFEJ”) respectfully urges the Commission to adopt the State Office of Administrative Hearing’s Proposal for Decision to deny Valero Refining-Texas, L.P.’s (“Valero’s”) Application and Draft Permit on the basis that Valero has not adequately demonstrated that it has met Best Achievable Control Technology (“BACT”) for nitrogen oxide (“NO<sub>x</sub>”) emissions.

**I. Background & Summary**

On September 30, 2021, Valero applied to the Texas Commission on Environmental Quality (“TCEQ”) for state and federal Prevention of Significant Deterioration (“PSD”) permits to modify its Corpus Christi West Refinery in Nueces County, Texas. Valero is proposing to increase its NO<sub>x</sub> pollution from its West Refinery in Corpus Christi, Texas to 473.81 tons per year, an increase of 252.43 tons per year.<sup>1</sup> The source of the NO<sub>x</sub> pollution is from Valero’s heavy oil cracker, a fluid catalytic cracking unit (“FCCU”).<sup>2</sup>

<sup>1</sup> Valero Application, AR at VAL\_000018; VAL\_000015 (Tab D).

<sup>2</sup> Valero Application, AR at VAL\_000018; VAL\_000015 (Tab D).

On June 2, 2022, TCEQ published Draft Permit Nos. 38754 and PSDTX324M15.<sup>3</sup> CFEJ timely submitted comments and requested a contested case hearing concerning Valero's application.<sup>4</sup> On November 23, 2022, TCEQ issued the Executive Director's ("ED's") Response to Comments on the Draft Permit.<sup>5</sup> On January 13, 2023, Valero referred the Application and Draft Permit to the State Office of Administrative Hearings for a contested case hearing.

On May 22, 2023, the State Office of Administrative Hearings held a preliminary hearing during which CFEJ appeared and provided evidence concerning CFEJ's status as affected person. Administrative Law Judges Davis and Vandrovec determined that CFEJ member Mrs. Placker qualified as an affected person, that CFEJ met the requirements for associational standing, and granted CFEJ party status in the proceeding.<sup>6</sup>

Judges Davis and Vandrovec presided over a hearing on the merits on August 22, 2023. At the hearing, CFEJ's air permitting expert, Dr. Ron Sahu, testified that deficiencies in Valero's Application and Draft Permit, particularly regarding its analysis and selection of pollution control technology and emission limits on the heavy oil cracker, render the Draft Permit inadequate to comply with the standards of the Texas and federal Clean Air Acts.

On November 20, 2023, Judges Davis and Vandrovec issued the Proposal for Decision, finding that Valero did not meet its burden of proof for the required demonstration of BACT for its NOx emissions and recommending that the Application and Draft Permit be denied.<sup>7</sup> On December 11, 2023, Valero filed its Brief and Exceptions to the Proposal for Decision ("Valero's Response") and the ED filed its Response and Exceptions to the Proposal for Decision ("ED's

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<sup>3</sup> AR at VAL\_000001 (Tab D).

<sup>4</sup> AR at 00036-00044 (Tab A).

<sup>5</sup> AR at 000143-000166 (Tab C).

<sup>6</sup> SOAH Docket 582-23-14975, Order Memorializing Preliminary Hearing and Adopting Procedural Schedule at 1.

<sup>7</sup> SOAH Docket 582-23-14975, Proposal for Decision at 52.

Response”).

According to the Texas Administrative Code, “Any replies to exceptions, briefs, or proposed findings of fact shall be filed within 30 days after the date of issuance on the PFD.”<sup>8</sup>

Therefore, this Reply to Valero’s Response and the ED’s Response is timely filed.

Valero’s Response and the ED’s Response offer nothing new. They re-argue the same points that the ALJs heard, and urge the Commissioners to disregard the fact findings and also to disregard the relative weight of expert and fact witness testimonies upon which the ALJs relied for their findings that, among other things, “the preponderance of the evidence demonstrated that FCCUs using LoTOx achieve outlet concentrations ranging from 8 to 10 ppm.”<sup>9</sup> Moreover, the ALJs found Valero’s cost analysis to be “deficient.”<sup>10</sup>

Valero made the same arguments at the hearing on the merits and in its closing briefs that it makes now before the Commission, including that its proposed project differs enough from other FCCUs so as to make certain BACT comparisons inapt. Here, too, the ALJs have heard these same complaints, and found them unpersuasive.<sup>11</sup>

Valero’s disregard of the ALJs’ role in this matter warrants a brief response. First, while Valero correctly mentions that Environmental Protection Agency (“EPA”) guidance and judicial precedent confirm that fact-finding determinations rest widely on regulators’ expertise and discretion<sup>12</sup>, they conveniently forget that state law places the State Office of Administrative Hearings and its Judges in the position of fact-finders. The ALJs make their findings and recommendations in accordance with those same EPA and judicial precedents. In addition, Valero

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<sup>8</sup> 30 Tex. Admin. Code § 80.257.

<sup>9</sup> PFD at 46.

<sup>10</sup> Id.

<sup>11</sup> Id. at 49 (“In addition, the ‘technical differences’ that Valero provides in its application for why it is unable to achieve a NOx emission limit of 20 ppm or lower are insufficient...”).

<sup>12</sup> Valero Br. At 3.

has no grounds for complaining that the ALJs have overstepped their authority. Nor should the Commission give any credence to Valero's belief that the ALJs misunderstand the applicable legal standards.<sup>13</sup> And finally, Valero misstates the significance of an Exhibit—the RECLAIM Report—to fit into its narrative around supposed overreliance on that piece of evidence. The RECLAIM Report was identified by the Protestants on review of Valero's Application materials. The BACT deficiency includes the fact that Valero made no attempt to consider whether it could achieve the lower emission levels identified in that information which they themselves had. As the PFD clearly says, the ALJs relied most heavily on the testimony of Valero's witness, Dr. Lovegren, in finding that the Application and Draft Permit fail to meet BACT requirements for NOx.<sup>14</sup>

The ALJs found that Valero failed to meet the BACT determination for emissions of NOx from the Heavy Oil Cracker. As demonstrated in the Application and the entire hearing record, this fails. The ALJs found not only that a limit of 37 ppm does not meet BACT, but also that Valero's cost analysis is deficient. Neither Valero nor the ED offer *anything* new in their Responses that were not in the record before the ALJs.

Valero's argument that the ALJs' recommendation exceeds their authority is without merit. Valero asserts that the federal definition of BACT applies to this case—a point on which all the parties agree, and then, incongruously, they complain that the ALJs relied too heavily on EPA's New Source Review guidance manual.<sup>15</sup>

## **II. Standard of Review**

As the party seeking approval of its application and issuance of a permit, Valero bears the

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<sup>13</sup> Valero Br. at 5.

<sup>14</sup> PFD pp. 45-48, footnotes.

<sup>15</sup> Valero Br. at 6.

burden of demonstrating by a preponderance of the evidence that its application satisfies all applicable legal requirements.<sup>16</sup> To be granted a permit, Valero must demonstrate that emissions from the proposed modification will “comply will all rules and regulations of the TCEQ and with the intent of the Texas Clean Air Act, including protection of the health and property of the public.”<sup>17</sup> Before a permit may be granted, “Best Available Control Technology (BACT) must be evaluated for and applied to all facilities.”<sup>18</sup> For facilities subject to the federal prevention of significant deterioration (“PSD”) permitting program, like Valero’s West Refinery, the federal definition of BACT at 40 C.F.R. § 52.21(b)(12) applies.<sup>12</sup>

### **III. Arguments and Authorities**

#### **A. The Federal Definition of BACT Applies, and the ALJs Committed no Error in Citing Both the State and Federal Definitions, as TCEQ Has Long Held.**

The federal Clean Air Act governs the Valero application at issue in this matter.<sup>19</sup> Applications for such permits must include a BACT analysis, and PSD permits themselves must assure that pollution will be controlled at least to the levels achievable by applying BACT.<sup>20</sup> The federal PSD regulations define “Best Available Control Technology” as follows:

[BACT is] an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each pollutant subject to regulation under the [Clean Air] 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. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard

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<sup>16</sup> 30 TEX. ADMIN. CODE. §§ 80.17(a)-(b).

<sup>17</sup> 30 TEX. ADMIN. CODE § 116.111(a)(2).

<sup>18</sup> 30 TEX. ADMIN. CODE § 116(a)(2)(C).

<sup>19</sup> 42 U.S.C. §7475(a)(4).

<sup>20</sup> 42 U.S.C. § 7475(a)(4).

under 40 C.F.R. parts 60 and 61. . . .<sup>21</sup>

BACT requires a comprehensive analysis of all potentially available emission control measures, expressly including input changes such as use of clean fuels, process and operational changes, and the use of add-on control technology. Additionally, it requires that a new source comply with emission limits that correspond to the most effective control measures achievable.

Congress created the BACT concept in order “to minimize emissions.”<sup>22</sup> One of the core aims of the 1977 Amendments to the Act was to compel the “rapid adoption of improvements in technology as new sources are built.”<sup>23</sup> The PSD program is technology-forcing and intended to become more stringent over time as control technologies improve and new cleaner processes are introduced.<sup>24</sup> Congress intended BACT as “[p]ossibly [the] most important” of the 1977 Act’s many technology-fostering measures.<sup>25</sup> This technology-forcing philosophy was “fundamental” to Congress’s adoption of the BACT requirement and congressional efforts throughout the 1977 amendments “to accentuate technological innovation in the control of air pollutants.”<sup>26</sup>

TCEQ’s current regulations and the approved State Implementation Plan incorporate by reference the federal PSD rules including the federal definition of BACT, federal rules regarding technology reviews, and federal rules regarding source impacts analysis.<sup>27</sup>

To guide applicants and permit reviewers in selecting the correct BACT limits, EPA and TCEQ have developed differing methodologies. EPA developed a five-step “Top Down” method, and TCEQ developed a Three Tier method. These methods are detailed in EPA’s New Source

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<sup>21</sup> 40 C.F.R. § 52.21 (emphasis added).

<sup>22</sup> S. Rep. No. 95-127 at 29 (1977).

<sup>23</sup> *Id.* at 18.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 10.

<sup>27</sup> See 30 TEX. ADMIN. CODE §§ 116.160(c)(2)(A)-(B); 40 C.F.R. § 52.2270; see also 30 TEX. ADMIN. CODE §§ 116.111(a)(2)(c).

Review Workshop Manual (1990) (“NSR Manual”) and TCEQ’s Air Permit Reviewer Reference Guide, both of which Valero relied on in their efforts to determine BACT for the Heavy Oil Cracker. Both methods are intended to reach the same conclusion. Both methods must arrive at a BACT emission limit based on the *maximum degree of reduction* for each pollutant which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for the source.<sup>28</sup> Both methods require Valero and TCEQ to review recent permits to determine what limits other similar sources are subject to. Both methods start with the most stringent pollution control limit identified in recent permits as the assumed BACT limit. And both methods require a thorough, well-documented rationale for rejecting the most stringent limit in favor of a less stringent limit.<sup>29</sup> Additionally, both methods require Valero and TCEQ to look for and consider any new developments that could lead to more stringent limits.<sup>30</sup> TCEQ’s BACT guidance document states, “the BACT evaluation should also take into consideration any new technical developments, which may indicate that additional emission reductions are economically or technically reasonable.”<sup>31</sup>

The Protestants agree that the federal definition of BACT applies, and yet we see no reason why, as Valero argues, citation to TCEQ’s BACT regulations results in error.

**B. The ALJs Correctly Determined that the BACT Determination for NO<sub>x</sub> is Inadequate.**

Valero eliminates two control technologies capable of controlling NO<sub>x</sub> to as low as 2 ppm. Valero admits these technologies, LoTO<sub>x</sub> and selective catalytic reduction, are technically feasible, but eliminates them on the basis of cost. Critically, Valero fails to consider the actual

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<sup>28</sup> 40 C.F.R. § 52.21(b)(12) (1978) (emphasis added).

<sup>29</sup> TCEQ, Air Permit Reviewer Reference Guide, APDG-6110 (Jan. 2011) at 19-20 (CFEJ Exh. 2 at CFEJ\_0349-50); EPA New Source Review Workshop Manual (1990) at B.7 (CFEJ Exh. 1 at CFEJ\_0087).

<sup>30</sup> TCEQ, Air Permit Reviewer Reference Guide, APDG-6110 (Jan. 2011) at 12 (CFEJ Exh. 2 at CFEJ\_0342).

<sup>31</sup> APDG-6110 (Jan. 2011) at 12.

level of control that LoTOx and selective catalytic reduction can achieve. Valero underestimates the capability of both technologies and inflates their cost, making them appear economically unreasonable.

Valero's flawed cost analysis is not a reasonable basis to reject LoTOx or selective catalytic reduction. And Valero's NO<sub>x</sub> BACT analysis thus fails to adequately justify its proposal to adopt a less stringent NO<sub>x</sub> BACT limit.

Valero is required to consider the most effective level of control that LoTOx and selective catalytic reduction can achieve.

Valero claims to have used EPA's NSR Manual to guide its Tier III analysis and cost analysis of LoTOx and selective catalytic reduction.<sup>32</sup> But that guidance instructs Valero to consider the most effective level of control for each technology considered: "[w]hile the most effective level of control must be considered in the BACT analysis, different levels of control for a given control alternative can be considered."<sup>33</sup>

Because the goal of a BACT analysis is to determine the "maximum degree of reduction achievable," Valero must consider the most effective level of control that a given technology can achieve. This information can come from permits, vendor information, studies, and other sources – i.e., the types of documents that air permitting professionals rely on.<sup>34</sup>

Both the Applicant and ED would have the Commission believe that the entire recommendation is based on only one report. That is wrong. Multiple witnesses' testimony and additional evidence also formed the basis of the ALJs' proposal for decision regarding NO<sub>x</sub> limits. For example, Marathon's Texas City Refinery was the first application of LoTOx to a fluidized

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<sup>32</sup> Lovegren Direct Testimony at 46:25-27; 17:37-18:2 (Valero Exh. 200).

<sup>33</sup> EPA NSR Manual.

<sup>34</sup> Sahu Direct Testimony at 8 (CFEJ Exh. A).



catalytic cracker, and in 2002 the company conducted test demonstrations of this application: “The demonstration evaluated several process conditions. Charts 1 and 2 show the ability of the system to control NO<sub>x</sub> to below 10 ppm. The results of the demonstration were presented by Marathon at the NPRA annual meeting in 2004.”<sup>35</sup>

As the ALJs found, based on a comprehensive record, and witness testimony, Valero failed to follow TCEQ’s BACT policy of either meeting the most stringent limit achieved at similar plants—which would reduce Valero’s NO<sub>x</sub> emissions by as much as 450 tons per year, or 94%—or providing a detailed rationale for adopting a less stringent limit. Valero eliminated the most effective technologies—LoTOx and selective catalytic reduction—as control options by *underestimating* their capabilities and *inflating* their costs. While both LoTOx and selective catalytic reduction can achieve NO<sub>x</sub> limits of as low as 2 ppm, the ALJs found that Valero only considered 8 to 20 ppm for LoTOx, and 20 ppm for selective catalytic reduction. The ALJs found that Valero focused on incremental cost effectiveness and an arbitrary economic reasonableness threshold, ignoring evidence that its estimated costs for LoTOx are firmly within the range of costs for that same technology at other refineries. Based on the entirety of the record, the ALJs found that Valero’s proposed NO<sub>x</sub> limit of 37 ppm is more than eighteen times higher compared to levels that *have been achieved* on refinery crackers.

Valero would have the Commission consider only previously permitted limits, rather than the more stringent limits that technologies have demonstrated to achieve. Valero’s myopic focus on permits to the exclusion of other evidence of the capability of LoTOx and selective catalytic reduction is unreasonable and unsupported by the EPA and TCEQ guidance that Valero claims to

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<sup>35</sup> Sahu Direct Testimony at 45-47 (CFEJ Exh. A); Nicholas Confuorto, Belco Technologies Corporation, Jeffrey Sexton, Marathon Petroleum Company LLC, Wet scrubbing-based NO<sub>x</sub> control using LoTOx technology - first commercial FCC start-up experience, Digital Refining (September 2007) (CFEJ Exh. 15 at CFEJ\_0866-68).

have followed. While EPA and TCEQ both require Valero to review recent permits, the BACT inquiry does not end there.<sup>36</sup> TCEQ's BACT guidance document states, "the BACT evaluation should also take into consideration any new technical developments, which may indicate that additional emission reductions are economically or technically reasonable." TCEQ guidance also stresses that, "[i]t is important to ensure that any control technology advancements are considered in the control technology review."<sup>37</sup> Valero would have TCEQ depart from EPA and TCEQ on guidance on this point.

EPA's NSR Manual instructs applicants to review the average cost effectiveness of control technologies, that is, the cost of installing a control technology at Valero's West Refinery compared to the cost of installing that same technology at similar sources. Valero's attempt to disclaim the cost data in the California RECLAIM report is disingenuous given that Valero itself, in its own Application, cited this report to support its cost assumptions.<sup>38</sup> Valero now asks the Commission to ignore it. Finally, even the additional cost effectiveness information that Valero brought in on closing argument confirms that the ALJs' findings are correct: Because even Valero's inflated LoTOx costs are still significantly *less* than the LoTOx costs at the Marathon Garyville Refinery.<sup>39</sup>

#### **IV. Conclusion**

Protestant CFEJ respectfully requests that the Commissioners adopt Administrative Law Judges Davis and Vandrovec's Proposal for Decision and deny the issuance of the Application and Draft Permit.

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<sup>36</sup> TCEQ, Air Permit Reviewer Reference Guide, APDG-6110 at 19 (CFEJ Exh. 2 at CFEJ\_0349); EPA New Source Review Workshop Manual (1990) at B.5 (CFEJ Exh. 1 at CFEJ\_0085).

<sup>37</sup> APDG-6110 (Jan. 2011) at 19.

<sup>38</sup> Valero Application, AR at VAL\_000061 (Tab D).

<sup>39</sup> Valero Exh. 214 at VAL\_008252-53.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I certify that a copy Citizens for Environmental Justice's Reply to Valero's Brief and Exceptions & the Executive Director's Response to the Proposal for Decision has been served on the following counsel via electronic service delivery on December 20, 2023:

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