

SOAH DOCKET NO. 582-09-6185
TCEQ DOCKET NO. 2009-1093-AIR

IN RE: APPLICATION OF
TENASKA TRAILBLAZER
PARTNERS, LLC FOR AIR
PERMIT NOS. 84167, HAP13,
AND PSD-TX-1123

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BEFORE THE STATE OFFICE

OF

ADMINISTRATIVE HEARINGS

APPLICANT TENASKA TRAILBLAZER PARTNERS, LLC'S EXCEPTIONS

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TO THE HONORABLE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND THE HONORABLE ADMINISTRATIVE LAW JUDGES:

Applicant, Tenaska Trailblazer Partners, LLC (“Tenaska,” “Applicant,” or “the Company”) submits this its Exceptions to the Administrative Law Judges’ (“ALJs”) Proposal for Decision (“PFD”) issued in this case on October 1, 2010.

I. INTRODUCTION

In this proceeding, Tenaska seeks preconstruction air quality authorizations for the Trailblazer Energy Center (“Trailblazer” or “the Plant”). Trailblazer is proposed to be a baseload, sub-bituminous coal-fired electric power generating facility, located approximately nine miles east of Sweetwater, Texas in Nolan County. Trailblazer would utilize supercritical pulverized coal (“SCPC”) technology. The Plant would also have a first of its kind full-scale carbon dioxide (“CO₂”) capture facility that would capture CO₂ from the flue gas exhaust of the main boiler, and the captured CO₂ would be utilized in enhanced oil recovery (“EOR”) operations in the nearby Permian Basin oil fields.

With certain best available control technology (“BACT”) and maximum achievable control technology (“MACT”) emission limit revisions to the Draft Permit recommended by the ALJs in their PFD, they found that the Application and Draft Permit met all applicable legal

requirements for issuance of permits in this case. With the exception of the ALJs' recommended revisions to the BACT and MACT limits and the ALJs' bases for those recommendations, which will be discussed more fully below, Tenaska is in agreement with the ALJs' determinations in their PFD.

With respect to BACT and MACT limits specified in the Draft Permit, it should be noted at the outset, that *all* expert witness testimony in this proceeding supports the position that the Trailblazer Draft Permit limits are BACT or MACT, as applicable. Neither the Protestants, Multi-County Coalition ("MCC") and Sierra Club, nor the Office of Public Interest Council ("OPIC"), offered any witness testimony, expert or otherwise, to dispute the Applicant's or the Executive Director's ("ED's") experts' opinion testimony with regard to BACT and MACT limits in the Draft Permit.

The ALJs' recommendations for revisions to BACT and MACT limits in the Draft Permit are based on their misunderstanding of applicable law and of TCEQ guidance, policy, practice, and procedures. Tenaska does not believe that it is the intent of the ALJs to change the Commissions' BACT and MACT determination procedures by issuing this PFD. Nevertheless, Commission concurrence with the revisions to the BACT/MACT limits in the Draft Permit recommended in this PFD would necessarily require revisions in the methodology of the Air Permits Division ("APD") for conducting BACT and MACT determinations. This proceeding is not the proper forum for consideration of revisions to TCEQ's policies and procedures. One of the primary purposes of these Exceptions is to provide clarification as to the applicable law, guidance, policy, and procedures used by APD for BACT and MACT determinations.

Included with these Exceptions is a "redline" of the ALJs' proposed Order in this case that shows adjustments resulting from the clarifications described above, as well as other

clarifications for conformity with the record and TCEQ requirements for permit issuance. In addition, these Exceptions do not address any incidental errors or ambiguities in the narrative portion of the PFD that do not bear directly on Tenaska's exceptions to the ALJs' Proposed Order.

II. ALJs ERRED IN DETERMINING THE TIMING FOR COMPLETION OF BACT/MACT REVIEW

In their PFD, the ALJs determined that, to the extent potentially relevant information concerning emissions data or permit limits becomes available, after technical review but before or during the hearing, that the Applicant and the ED is obligated to consider and evaluate that information to determine the degree, if any, of its applicability to the proposed air emission source.¹ Accordingly, they concluded that when any potentially relevant information is made available concerning BACT and MACT, it is the responsibility of the Applicant and the ED to investigate that information to the extent possible and to determine whether any changes in the BACT or MACT permit limits should result.² The ALJs determined that this obligation is ongoing and continues until the date of approval of the BACT or MACT determinations by the Commission, which they interpret to mean until the date of final permit issuance.³ The ALJs' determination, however, is not consistent with applicable law or Commission precedent. Further, their decision on this issue is a major factor in their rationale for recommending revisions to the BACT/MACT limits in the Draft Permit. Virtually all of the BACT/MACT Draft Permit limits they recommend revisions to are based on limits in a permit issued in April 2010 for the

¹ See Proposal for Decision ("PFD") at pp. 18-19.

² See *id.* at p. 19.

³ See *id.*

proposed Plant Washington facility in Georgia.⁴ In contrast, technical review for the Trailblazer Application ended upon issuance of the Draft Permit on January 30, 2009.⁵

A. 1990 and 1992 EPA Memoranda are not applicable in Texas.

The ALJs base their determination regarding the timing for completion of BACT/MACT reviews on two EPA Memoranda, one from 1990 and the other from 1992, that were introduced into evidence by Sierra Club.⁶ EPA policies, embodied in the 1990 and 1992 EPA Memoranda concerning a cut-off date for BACT (and, by implication, MACT) review are not part of the Texas State Implementation Plan (“SIP”) and are not controlling in Texas.⁷ In approving the Texas SIP program, EPA stated that its approval granted Texas considerable discretion to implement the PSD program as it sees fit.⁸ As the BACT/MACT review cutoff timing is not dictated by federal law and is not a requirement for SIP approval under 40 CFR § 51.166, it is not surprising that EPA did not require Texas to establish BACT or MACT review cut-off timing for SIP approval.⁹ Accordingly, Texas may properly establish a reasonable BACT/MACT review cut-off, consistent with orderly administration of its permitting program.

With respect to the 1990 and 1992 EPA Memoranda, to the extent they reflect EPA policy pronouncements on BACT/MACT review cut-off timing, those pronouncements were directed to EPA regions and, for the 1992 Memorandum, it relates to Michigan, a non-SIP

⁴ See PFD generally.

⁵ Tenaska Exhibit 2D (Technical Completeness Determination).

⁶ PFD at pp. 18-19; Sierra Club Cross Exhibits 18 and 19.

⁷ See Exhibit ED-6 (57 Fed. Reg. 28093, 28098) at Bates No. p. 400 (EPA’s SIP approval for Texas was based on submissions predating the 1990 and 1992 EPA Memoranda, except a letter dated April 17, 1992 from the Executive Director to EPA. That letter addressed municipal waste combustion, air toxics, Class I area boundaries, and clean fuels. It did not address timing for completion of BACT or MACT reviews. A copy of the April 17, 1992 letter is provided as Attachment A.

⁸ 57 Fed. Reg. 28093, 28095 (June 24, 1992).

⁹ See 40 CFR § 51.166.

approved state at the time.¹⁰ In approving the Texas PSD program, EPA specifically disavowed the applicability of EPA interpretations to PSD-SIP approved states, because such interpretations are “intended in whole or in part to guide only EPA regional offices, and in such instances they have no implications whatsoever for a state’s administration of its program.”¹¹

B. TCEQ Policy and Precedent.

Texas has never adopted a rule or issued guidance implementing this EPA policy. To the contrary, TCEQ has established a distinct precedent that properly balances the need to receive and consider public input with the need to have an orderly process for the technical review of air permit applications. That precedent was established clearly in the Commission’s Order¹² in the *Mirant Parker LLC* case (“*Mirant Order*”) issuing state NSR and PSD permits for a gas-fired combined cycle unit.¹³ That position remains controlling precedent and provides that BACT and MACT reviews are complete at the close of technical review.¹⁴

In the *Mirant* case, the Commission addressed the necessity of having a clear cut-off date by which new standards would apply in a permitting case. Prior to *Mirant’s* filing of its application on February 11, 1999, the ED Staff had established a BACT limit of nine parts per million (ppm) for NO_x emissions from new combined cycle gas-fired power plants. Subsequent to the close of technical review in that case – in fact, merely days after – the Commission published a new NO_x BACT level of five ppm for such facilities. The question in *Mirant* was whether the new five ppm BACT standard should apply to the *Mirant* project. The Commission

¹⁰ See Sierra Club Cross Exhibits 18 and 19; see also 73 Fed. Reg. 1570, 1571 (Jan. 9, 2008) (Michigan was a PSD delegated state as of 2008, as opposed to an SIP-approved state.)

¹¹ Exhibit ED-6 (57 Fed. Reg. 28093, 28095), at Bates No. p. 397.

¹² The Order was issued by the Texas National Resource Conservation Commission (“TNRCC”), a predecessor agency of the TCEQ, and hereinafter referred to as the TCEQ.

¹³ TNRCC Order, Jan. 7, 2002, issuing permit numbers 40619 and PSD-Texas-933 to Mirant Parker LLC, TNRCC Docket No. 2000-0346-AIR; SOAH Docket No. 582-00-1045 (“*Mirant Order*”) (copy provided as Attachment B).

¹⁴ See *Mirant Order*.

determined that it did not; it determined that the nine ppm BACT standard that existed when the Staff completed its technical review of the application applied.¹⁵

This Commission determination regarding the cut-off date for new permitting standards being the completion of technical review is for good reason.¹⁶ Without setting a fair, fixed date for application of new permitting standards, including completion of BACT and MACT reviews to establish BACT and MACT performance standards, the permitting process would be unmanageable and it could prove impossible for an application review ever to become final. Moreover, it has the benefit of treating similar facilities equally by avoiding situations where contemporaneous applications are subject to different requirements simply because one avoids a contested case hearing, and another is involved in a lengthy hearing during which time applicable standards change.

In summary, the 1990 and 1992 EPA Memoranda are not applicable, and the TCEQ has established precedent that specifies that new permitting standards, particularly BACT or MACT performance standards, established after technical review on an application are not applicable in a proceeding considering that application. Accordingly, Tenaska requests that the Commission find that the ALJs erred in their determination that Tenaska or the ED was required to consider later issued permitting standards, in this case a permit (or permits) issued after technical review on the Trailblazer Application for purposes of BACT or MACT determinations.

¹⁵ *Mirant* Order at p. 7, findings of fact 36-37.

¹⁶ Of course, this precedent does not prevent the ED from considering issues raised by commenters during the comment period on an application and draft permit. The ED is required to respond to comments, properly raised during the comment period. *See* 30 TAC §§ 55.156(b) and 55.210(d). Nevertheless, to the extent comments raise issues that concern new standards promulgated after the close of technical review, this precedent would control.

III. MACT ANALYSIS

A. **ALJs' MACT Floor and Beyond-the-Floor ("BTF") MACT determination requirements are not consistent with TCEQ MACT determination methodology.**

Commission rules at 30 TAC §§ 16.400-.406 “implement” the Federal Clean Air Act (“FCAA”) § 112(g)¹⁷ and 40 CFR Part 63.¹⁸ Further, § 116.404 acknowledges that “[c]onsistent with the requirements of 40 Code of Federal Regulations § 63.43,” the owner or operator of an affected source is required to submit an air permit application meeting TCEQ requirements. Nevertheless, nowhere in this section or anywhere else in the Commission’s rules has TCEQ incorporated by reference any of EPA’s case-by-case MACT rules.¹⁹ The ALJs acknowledge in their PFD that TCEQ’s rules refer to implementation rather than incorporation of the EPA MACT rules, but determined that EPA MACT rules govern in this case “in the absence of any approved state implementation plan or other state-specific rules or statutes regarding case-by-case MACT analysis.”²⁰ This determination, in and of itself, for purposes of the case-by-case MACT review does not necessarily lead to interpretations that are inconsistent with TCEQ case-by-case MACT review policy or procedures.²¹ Nevertheless, it appears that the ALJs came to two key conclusions that are clearly not in harmony with TCEQ’s case-by-case MACT review procedures, apparently based on federal cases cited by Sierra Club in support of its own MACT-

¹⁷ FCAA § 112(g) contains the requirement to establish case-by-case MACT limits for major HAP sources in source categories without MACT standards established by EPA.

¹⁸ See 30 TAC § 116.400(a).

¹⁹ In contrast to TCEQ’s MACT rules, see 30 TAC § 116.160(c)(1), in which TCEQ has expressly incorporated by reference various sections of EPA’s model PSD permitting rules.

²⁰ PFD at p. 16.

²¹ In fact, on the key issue of consideration of “available information,” as that term is defined in 40 CFR § 63.41, it is information available “as of the date of approval of the MACT determination by the permitting authority.” 40 CFR § 63.41. And, under 40 CFR § 63.43, which outlines federal requirements for MACT determinations, it specifies that, at the discretion of the permitting authority, the date of approval of a MACT determination is either at the close of the comment period after notice of MACT approval setting forth the initial decision to approve the application if there are no adverse comments, or 30 days after the comment period ends. 40 CFR § 63.43(h)(2). Consequently, the EPA case-by-case MACT determination rules are roughly consistent with TCEQ’s policy and precedent on the timing for cut-off of BACT and MACT reviews at the end of technical review.

related arguments in this case concerning EPA's obligations when promulgating *nationwide* MACT standards for different types of source categories (i.e., not cases pertaining to case-by-case MACT determinations made by permitting authorities under their own rules, much less determinations made by TCEQ under its rules).²² For MACT floor determinations, the ALJs determined that applicants and the ED must evaluate or analyze emission limits in permits issued for facilities that are not operational in order to determine the basis for those limits.²³ The ALJs reason that non-operational similar sources have permit limits that are assumed to be achievable, absent a demonstration to the contrary.²⁴ The ALJs base this determination on the proposition that non-operational facilities may have permit limits that were based on emission rates that could have been achieved in practice over time by similar operating sources.²⁵ Further, the ALJs interpret the BTF MACT determination to require that even though a limit in another permit has not been determined to be achieved in practice, it nonetheless constitutes a BTF MACT limit for the proposed source, in absence of evidence that it is not feasible for that source because of economic or other appropriate reasons.²⁶ In each of these cases, the ALJs have misinterpreted applicable Commission rules, policy, and procedures.

The TCEQ considers MACT floor emission standards to be the most stringent emissions limits that have been "achieved in practice" by the best controlled similar sources.²⁷ "Achieved in practice" is synonymous with "demonstrated in practice," and both terms are interpreted to

²² See Tenaska's Reply to Closing Arguments at p. 38, note 205, and accompanying text; see also Sierra Club's Closing Arguments at pp. 49-50, 52-53, 57.

²³ PFD at p. 25.

²⁴ PFD at p. 26.

²⁵ PFD at p. 17.

²⁶ See PFD at p. 26. The ALJs described their BTF MACT requirement for the first time in the PFD in their discussion of the appropriate mercury limit for Trailblazer.

²⁷ Exhibit ED-13 (RTC), p. 41; Exhibit ED-1 (Hughes Prefiled) at 29:7-12; Exhibit ED-11 (Preliminary Determination Summary), p. 9.

mean continuous compliance under the worst foreseeable operating conditions.²⁸ The ALJs contend that this effort, by itself, is not sufficient.²⁹ As noted above, the ALJs believe that the Applicant and ED in making MACT floor determinations are required to review all permits for similar sources that have lower permit limits, even if the sources are not operational, and to determine the bases for those limits, in order to demonstrate that such limits cannot be met by the proposed source.³⁰ There is ample testimony in the record that demonstrates how TCEQ conducts MACT floor determinations.³¹ There is simply no such requirement under the TCEQ's MACT (or BACT) determination procedures for applicants in Texas to conduct this additional review of emissions limits that have not been achieved in practice for MACT floor determinations. Rulemaking is the proper forum for consideration of the merits of or of changes to the TCEQ's MACT determination process, not a permit proceeding such as this.

Similarly, the ALJs misconstrue the manner in which TCEQ conducts BTF MACT determinations. After establishing the MACT floor, TCEQ essentially conducts a technology assessment to determine if there have been advances in control technologies and if other or additional technology or methods may reduce emissions to a greater degree to determine whether a BTF MACT limit is appropriate.³² This is also consistent with the Commission's findings and conclusions in the recent Coletto Creek and NRG orders issuing the permits in those cases.³³ The

²⁸ Tenaska Exhibit 3 (Bailey Prefiled) at 24:7-10; Exhibit ED-13 (RTC), p. 30, 32, and 37 ("When determining BACT, and in this case MACT, the TCEQ generally only considers a similar source with the lowest limit to be "best controlled" if it has been operating for a significant amount of time in order to prove that this lower level is achievable in practice over the long term.").

²⁹ PFD at p. 17.

³⁰ See PFD at 26.

³¹ Exhibit ED-13 (RTC), p. 41; Exhibit ED-1 (Hughes Prefiled) at 29:7-12; Exhibit ED-11 (Preliminary Determination Summary), p. 9.

³² Tr. 567:12-17 (Hughes Cross); Exhibit ED-1 (Hughes Prefiled) at 29:13-17; Exhibit ED-13 (RTC), p. 41; Tenaska Exhibit 2B (Application), Volume I, Tab B, pp. 6-2, 6-3, 6-4, 6-5, 6-6; Exhibit ED-11 (Preliminary Determination Summary), p. 9.

³³ See OPIC Cross Exhibit 1 (Coletto Creek Permit), p. 41, finding of fact 249, pp. 48-49, conclusions of law 24-26; OPIC Cross Exhibit 2 (NRG Permit), p. 38, finding of fact 288, p. 47, conclusion of law 43.

TCEQ BTF MACT determination process does not require evaluation of lower limits in permits for similar sources that are not achieved in practice, as the ALJs require.³⁴ Nor is there a presumption in the TCEQ's MACT determination process that lower limits not achieved in practice in other permits are BTF MACT absent a demonstration to the contrary, as the ALJs conclude.³⁵ Again, consideration of the merits of or of changes to the TCEQ's approach in setting BTF MACT limits is an exercise best suited for rulemaking, not for a permit proceeding such as this.

Finally, it should also be noted that Tenaska's and the ED's case-by-case MACT review was thorough and included all types of information required under Texas law.³⁶ The overwhelming weight of evidence supports a finding that Tenaska properly performed the case-by-case MACT analysis in accordance with applicable rules and TCEQ guidance and procedures.³⁷ Furthermore, and tellingly, in addition to the expert opinions of Tenaska's and the ED's experts in favor of the Trailblazer Draft Permit MACT limits, the EPA agreed that the Trailblazer MACT analysis and review was adequate.³⁸

B. ALJs' recommended changes to MACT limits in the Draft Permit.

The ALJs recommend changes to the MACT limits in the Draft Permit for mercury ("Hg"), non-Hg metallic HAPs, the acid gases ("HCl" and "HF"), and organic HAPs. Filterable particulate matter ("PM") is the surrogate limit in the Draft Permit for non-Hg metallic HAPs, and carbon monoxide ("CO") is the surrogate limit in the Draft Permit for organic HAPs. The ALJs' recommendations for these MACT limits are not only lower than the corresponding limits

³⁴ PFD at p. 26.

³⁵ PFD at p. 26.

³⁶ See Tenaska Exhibit 3 (Bailey Prefiled) at 24:7-10.

³⁷ Exhibit ED-11 (Preliminary Determination Summary), p. 9; Exhibit ED-13 (RTC), p. 41; Exhibit ED-1 (Hughes Prefiled), p. 28-29.

³⁸ See Sierra Club Cross Exhibit 11 (EPA's MACT Comments).

in the Trailblazer Draft Permit, but they are also lower than corresponding limits in the recently-issued permits for IPA Coletto Creek (“Coletto Creek Permit”) and NRG Limestone 3 (“NRG Permit”), and in some cases significantly lower than limits in the Trailblazer Draft Permit and the Coletto Creek and NRG permits.³⁹ The ALJs’ MACT limit departures from the Trailblazer Draft Permit and the Coletto Creek and NRG permits are based on their misunderstanding of applicable TCEQ law, precedent, policy, and procedures, as more fully described below with respect to each pollutant. With respect to each MACT limit in the Draft Permit that the ALJs recommend revising, Tenaska respectfully requests that the Commission not alter such limits, since they are MACT as determined in accordance with applicable TCEQ rules, precedent, policy, and procedures.

1. The Commission should not alter the Hg performance standard in the Draft Permit.

As the PFD notes, Tenaska proposed a MACT limit for Hg of 2.2×10^{-6} lb/MMBtu, and the ED’s permit engineer, pursuant to his MACT review, set the MACT limit for the Draft Permit at 1.7×10^{-6} lb/MMBtu based on the Hg emissions limit in the Council Bluffs Station (Unit 4)⁴⁰ (Iowa) permit that he determined was achieved in practice.⁴¹ This is the same limit that was deemed to be MACT in both the recent NRG and the Coletto Creek permitting cases, which involve similar types of sources as that of the Trailblazer Plant.⁴²

Despite contrary expert testimony from both the Applicant’s and the ED’s expert witnesses, however, the ALJs found that the Applicant’s and the ED’s analyses were not

³⁹ Compare Sierra Club Cross Exhibit 4 (Plant Washington Permit) with OPIC Cross Exhibit 1 (Coletto Creek Permit) and OPIC Cross Exhibit 2 (NRG Permit).

⁴⁰ Also known as Unit 4 of the Walter Scott, Jr. Energy Center.

⁴¹ Exhibit ED-1 (Hughes Prefiled) at 29:33-36.

⁴² Compare Tenaska Exhibit 2G (ED’s Preliminary Determination Summary), pp. 10-11 with Exhibit ED-13 (RTC), p. 31 and OPIC Cross Exhibit 1 (Coletto Creek Permit), p. 41 (Finding of Fact No. 251) and OPIC Cross Exhibit 2 (NRG Permit), pp. 38-39 (Findings of Fact Nos. 289-290).

sufficient, because both failed to evaluate the more stringent Hg emission limit in the Plant Washington permit. The ALJs determined that since an applicant and the ED are required to evaluate “available information” that they become aware of related to similar sources up to the time of permit issuance, Tenaska and the ED should have evaluated the permit limits in the Plant Washington permit.⁴³ As noted above, the Plant Washington permit was issued in April 2010 by the Georgia Department of Natural Resources Environmental Protection Division,⁴⁴ more than 14 months after the technical review was completed by the ED on the Trailblazer Application and the Draft Permit issued (January 30, 2009).⁴⁵ Evaluation of the Plant Washington Hg MACT limit, or any limits in that permit for that matter, is not required in accordance with TCEQ precedent in the *Mirant* Order, described above, since that permit was issued after technical review on the Trailblazer permit ended. Even under the EPA rules that define “available information,” such permit would not qualify as “available information” and would not be required to be considered.⁴⁶ Accordingly, based on clear, applicable TCEQ precedent, limits in the later-issued Plant Washington permit, in this case the Hg limit, should not be a basis for revising the Hg MACT limit in the Trailblazer Draft Permit.

There is also an additional, more substantive rationale for why the Hg limit from the Plant Washington permit should not be a basis for the Trailblazer Hg MACT limit. The ALJs reach determinations utilizing methodology that is inconsistent with the TCEQ procedures for conducting MACT determinations. The ALJs determined that Tenaska or the ED had to make a determination for why Trailblazer could not meet the lower Hg limit in the Plant Washington

⁴³ PFD at p. 26.

⁴⁴ Sierra Club Cross Exhibit 4 (Plant Washington Permit).

⁴⁵ Compare Sierra Club Cross Exhibit 4 (Plant Washington Permit) with Exhibit ED-13 (RTC) and Tenaska Exhibit 2D (ED’s Technical Completeness Determination, with Draft Permit). The Plant Washington permit was issued more than a month after the ED issued his Response to Comments (“RTC”) on the Application (February 25, 2010). Exhibit ED-13 (RTC).

⁴⁶ See *supra* note 21.

permit,⁴⁷ even though the Hg limit in that permit has not been achieved in practice.⁴⁸ Further, in the alternative they reasoned that even if the Hg MACT limit in the Plant Washington permit was not demonstrated in practice, this limit would nonetheless constitute a BTF MACT limit for Tenaska in the absence of a demonstration by the Applicant or determination by the ED that such limit was not technically or economically feasible.⁴⁹ The testimony in the record amply illustrates, however, that for a TCEQ case-by-case MACT determination, the MACT floor is set at the lowest emission limit that is achieved in practice, which is interpreted to mean operations over several years to account for the range of variability in operations that are possible for a source.⁵⁰ With respect to BTF MACT determinations, TCEQ case-by-case MACT determination procedures require evaluation of other control technologies or additional control technologies for emissions reductions beyond the MACT floor.⁵¹

In accordance with the Commission's MACT determination process, even if the Plant Washington Hg limit were required to be evaluated, it would not be a basis for revising the Trailblazer Hg MACT limit under the Draft Permit. First, the Plant Washington Hg limit of 1.4×10^{-6} lb/MMBtu is not demonstrated in practice and, therefore, should not be considered a basis for the Hg MACT floor.⁵² With respect to BTF MACT, Plant Washington would utilize the same types of control technologies as that proposed for Trailblazer and, thus, no additional

⁴⁷ PFD at p. 26.

⁴⁸ Tr. 192:5-10 (Greywall Cross).

⁴⁹ See PFD at p. 26. The ALJs also cite, without discussing, Protestants' argument that "the Tenaska Application indicates that use of an ACI system alone is capable of achieving a 90% control efficiency." PFD at p. 23. This claim is based on a table from the Trailblazer Application entitled "Possible Control Strategies for the Proposed Coal-Fired Boiler," with the control efficiency labeled as "*Potential Control Efficiency*" and the 90% figure qualified as an "engineering estimate." Tenaska Exhibit 2B (Application), Volume I, Tab A, Table 11-1. Both the ALJs and Protestants appear to treat this estimated control efficiency as guaranteed and Trailblazer-specific, but it clearly is not. These control efficiencies are general and were clearly meant to show the types of efficiencies possible for the technologies described.

⁵⁰ Tenaska Exhibit 3 (Bailey Prefiled) at 24:7-10; Exhibit ED-13 (RTC), p. 30, 32, 37.

⁵¹ Exhibit ED-1 (Hughes Prefiled) at 29:13-17; Exhibit ED-13 (RTC), p. 41; Tenaska Exhibit 2B (Application), Volume I, Tab B, pp. 6-2, 6-3, 6-4, 6-5, 6-6; Exhibit ED-11 (Preliminary Determination Summary), p. 9.

⁵² Tr. 192:5-10 (Greywall Cross).

control technology review is warranted as a result of the Plant Washington permit.⁵³ Consequently, even if the Commission determines that the Plant Washington MACT limit for Hg should be evaluated for Trailblazer, under the Commission's MACT determination procedures, such limit would not represent MACT for Trailblazer. Based on the foregoing, Tenaska respectfully requests that the Commission not alter the Hg MACT performance standard, which is equivalent to recently-issued Hg performance standards in the NRG and Coletto Creek permits.⁵⁴

2. The Commission should not alter the (filterable PM) non-Hg metallic HAPs performance standard in the Draft Permit.

As noted above, filterable PM/PM₁₀ limits are used as a surrogate for non-Hg metallic HAPs. The Trailblazer Draft Permit contains a filterable PM/PM₁₀ performance standard of 0.012 lb/MMBtu, which the ED's permit engineer, Mr. Hughes, and the Applicant's expert witnesses, Mr. Bailey and Mr. Greywall, concluded was MACT for non-Hg metallic HAPs.⁵⁵ It is notable that in conducting his MACT/BACT review, for purposes of the MACT limit, Mr. Hughes lowered the limit proposed by Tenaska in its Application to the level contained in the Draft Permit based on what is found to be achievable for filterable PM in the recently-issued NRG permit, which is the same MACT limit for filterable PM that is contained in the Coletto Creek permit.⁵⁶

In their PFD, the ALJs recommend lowering this MACT limit for filterable PM to 0.010 on what appears to be three bases. The first is that the Plant Washington permit contains this

⁵³ See Sierra Club Cross Exhibit 4.

⁵⁴ Compare Tenaska Exhibit 2G (ED's Preliminary Determination Summary), pp. 10-11 with Exhibit ED-13 (RTC), p. 31 and OPIC Cross Exhibit 1 (Coletto Creek Permit), p. 41, finding of fact no. 251 and OPIC Cross Exhibit 2 (NRG Permit), pp. 38-39, findings of fact nos. 289-290.

⁵⁵ Exhibit ED-12 (Draft Permit), p. 4; Exhibit ED-1 (Hughes Prefiled) at 32:30-39; Tenaska Exhibit 2 (Greywall Prefiled) at 76:18-77:9; Tenaska Exhibit 3 (Bailey Prefiled) at 26:4-18.

⁵⁶ Exhibit ED-11 (Preliminary Determination Summary), pp. 11-12; OPIC Cross Exhibit 1, p. 42, finding of fact no. 259.

limit for filterable PM as a surrogate for non-Hg metallic HAPs. The second basis is that the ALJs concluded that CFBs are similar sources to PC boilers for purposes of filterable PM emissions. The third basis appears to be a reference to this limit in a portion of a draft application prepared by Tenaska's consultants, Trinity Consultants. Each of these bases is addressed separately below.

With respect to the Plant Washington permit, as summarized above, according to TCEQ precedent in the *Mirant* Order, limits in this permit are not required to be considered. Further, evidence in the record confirms that the Plant Washington permit limits, in this case filterable PM, is not achieved in practice for PC boilers, such as Trailblazer.⁵⁷ Like their rationale with respect to the MACT limit for Hg, the ALJs reasoned that the Applicant and/or ED should have evaluated the Plant Washington permit limits and, even though those limits are not demonstrated in practice, made a demonstration for why the Trailblazer Plant could not meet these limits or consider those limits BTF MACT. And, for the same reasons described above regarding the ALJs' recommended Hg MACT limit, the Plant Washington limits for filterable PM are not required to be evaluated under the Texas case-by-case MACT procedures, because the Plant Washington limits are not achieved in practice. Further, under the Texas BTF MACT determination procedures for filterable PM, there is no separate or additional control technologies that are more effective than the advanced fabric filter baghouse control technology proposed for Trailblazer, which is the same control technology proposed for Plant Washington.⁵⁸ Accordingly, the Plant Washington filterable PM limit, which serves as a surrogate for the non-

⁵⁷ Tr. 192:5-10 (Greywall Cross).

⁵⁸ Exhibit ED-11 (Preliminary Determination Summary), pp. 11-12 (Based on fabric filter advancements for baghouses, the ED determined that 0.012 lb/MMBtu was BTF MACT for filterable PM); Sierra Club Cross Exhibit 4 (Plant Washington Permit), p. 2.

mercury metallic HAP MACT limit, should not be a basis for setting the corresponding performance standard in the Trailblazer permit.

With respect to consideration of CFBs as similar sources as PC boilers for filterable PM, this determination by the ALJs is contrary to TCEQ precedent in the recently-issued NRG and Coletto Creek permits and is contrary to the overwhelming weight of evidence in this proceeding on this specific issue. It is also contrary to their own determinations in their subsequent BACT analysis, where they comprehensively determined that CFBs are not similar sources to PC boilers, such as Trailblazer.⁵⁹ In that analysis, they made no distinction for filterable PM emissions.⁶⁰ The ALJs determined that the overwhelming weight of the evidence established that considering CFBs would redefine the source under BACT for a PC boiler and that they are not similar sources.⁶¹ Nevertheless, their determination for purposes of MACT analysis that CFBs and PC boilers are similar sources, solely for emissions of filterable PM, essentially redefines the source as part of the MACT analysis. To add further confusion to the ALJs' determination, they base their conclusion on a statement⁶² from the Trailblazer Application that relates to PM *BACT* evaluation, not the case-by-case MACT analysis. The statement is contained in a paragraph describing the differences between filterable and condensable particulate matter. This quote, used by the ALJs, is taken out of context and appears to relate to conventional boiler types, which CFBs are not.⁶³ In contrast to this unclear, out-of-context statement that the ALJs rely upon, Tenaska's case-by-case MACT similar source determination analysis from the Trailblazer Application is clear: it specifically determined that CFBs are not

⁵⁹ PFD at pp. 52-53.

⁶⁰ *See id.*

⁶¹ *See id.*

⁶² The statement is quoted in the PFD at p. 30.

⁶³ *See* Tenaska Exhibit 2B (Application), Volume I, Tab B, p. 4-2.

similar sources to PC boilers.⁶⁴ Further, and in harmony with this determination, in the non-Hg metals HAP evaluation that is part of the case-by-case MACT analysis contained in the Application, Tenaska evaluated only recent permit limits and proposals for sub-bituminous PC boilers, and such analysis did not include CFBs.⁶⁵

Moreover, the ED's permitting engineer and expert, Mr. Hughes, also testified that the Commission does not consider CFBs to be similar sources to PC boilers and made no distinction for PM filterable emissions.⁶⁶ In fact, the ED's Response to Comments specifically states that:

PM emissions for circulating fluidized bed (CFB) boilers are known to be slightly lower than those for PC boilers. Because of this difference, TCEQ does not consider CFB boilers to be "similar sources" for PM.⁶⁷

Finally, and most tellingly, in the recent Order issuing the permit for Coletto Creek, the Commission and ALJs in their proposal for decision, in response to Sierra Club arguments that the applicant's MACT review was invalid because it was limited to other PC boilers and did not include CFBs, the Commission and ALJs found nothing wrong with the scope of the applicant's MACT review.⁶⁸ Consequently, CFB permit limits for filterable PM should not be a basis for a filterable PM MACT (as a surrogate for non-Hg metallic HAPs) or BACT limit in the Trailblazer Draft Permit.

The third basis for the ALJs' suggested revision to the filterable PM limit in the Draft Permit is a draft Tenaska BACT analysis that references this limit.⁶⁹ This document is not

⁶⁴ *Id.* at p. 4-3.

⁶⁵ *Id.* at pp. 6-3-6-4.

⁶⁶ Exhibit ED-13 (RTC), pp. 29, 32, 36; Sierra Club Cross Exhibit 15 (Hughes Deposition), 82:4-7, 98:17-99:5; Tr. 539:9-16 (Hughes Cross).

⁶⁷ *Id.*

⁶⁸ OPIC Cross Exhibit 1 (Coletto Creek Permit), pp. 44-49, conclusions of law nos. 24-26; Proposal for Decision in Application of IPA Coletto Creek, LLC for State Air Quality Permit 83778 and Prevention of Significant Deterioration Air Quality Permit PSD-TX-1118 and for Hazardous Air Pollutant Major Source Permit HAP-18, SOAH Docket No. 582-09-2045, TCEQ Docket No. 2009-0032-AIR, at pp. 44-45, 48-49 (hereinafter "Coletto Creek PFD").

⁶⁹ PFD at p. 31.

reliable evidence, because there is no indication as to its author, was not authenticated, did not have a sponsoring witness, is undated, and there was no testimony as to accuracy or context.⁷⁰ This document does not reflect the considered final judgment of the professionals and experts who prepared the Trailblazer Application or BACT or MACT analyses. Furthermore, on its face the document is in error, because the limit referenced has clearly not been achieved in practice⁷¹ and is contrary to the great weight of evidence on this issue.⁷² To the extent the ALJs afforded this document any evidentiary weight whatsoever, and it deserves none, such allocation appears to be based on the ALJs' misinterpretation of Commission MACT determination procedures.⁷³ Accordingly, this document should not be a basis for lowering the filterable PM limit in the Draft Permit or for an affirmative finding of fact.

Based on the foregoing reasons, Tenaska respectfully requests the Commission to not alter the proposed filterable PM limit in the Draft Permit, as recommended by the ALJs and let it remain equivalent to the performance standard for filterable PM in the recently-issued NRG and Coletto Creek permits.

3. The Commission should not alter the acid gases (HCl and HF) performance standards in the Draft Permit.

The Draft Permit specifies that the HCl MACT limit is 0.00063 lb/MMBtu and the HF MACT limit is 0.00054 lb/MMBtu.⁷⁴ Based on HCl and HF permit limits in the Plant Washington and Consumers Energy permits, the ALJs recommend that the Commission adopt

⁷⁰ Tr. 182:19-183:20 (Greywall Cross).

⁷¹ The draft document references a filterable PM BACT limit of 0.010, which is a limit identified in other permits that have not been demonstrated in practice. Exhibit ED-13 (RTC), p. 37; Tenaska's Closing Argument at 26.

⁷² Exhibit ED-12 (Draft Permit), p. 4; Exhibit ED-1 (Hughes Prefiled) at 32:30-39; Tenaska Exhibit 2 (Greywall Prefiled) at 76:18-77:9; Tenaska Exhibit 3 (Bailey Prefiled) at 26:4-18.

⁷³ The ALJs take the position, contrary to TCEQ MACT and BACT determination procedures, that MACT or BACT limits in permits for similar sources that are lower than those that have been achieved in practice are presumed to be achievable, nonetheless, absent a demonstration to the contrary. PFD at p. 26. Thus, even though the limit in the document is lower than what has been achieved in practice, the ALJs appear to presume that it is achievable absent evidence or an explanation to the contrary.

⁷⁴ Exhibit ED-12 (Draft Permit), p. 4.

0.00014 lb/MMBtu as the HF MACT limit and 0.000322 lb/MMBtu as the HCl MACT limit for Trailblazer.⁷⁵ As such, the ALJs recommend HCl and HF limits roughly one-fourth and one-half the HCl and HF limits in the Draft Permit, respectively. As discussed above, the Plant Washington permit was issued well after the close of technical review of the Application in this case. Similarly, the Michigan Department of Environmental Quality issued the air permit for the Consumers Energy facility on December 29, 2009,⁷⁶ well after the close of technical review of the Application in this case (i.e., January 30, 2009). Consequently, according to Commission precedent (i.e., the *Mirant* Order), the Plant Washington and Consumers Electric MACT and BACT limits were not required to be evaluated for purposes of this proceeding.

Furthermore, even if consideration were given to the limits in the Plant Washington and Consumers Electric permits,⁷⁷ under TCEQ MACT review and determination procedures, the limits from either permit would not be a basis for MACT floor determinations in Texas, since they have not been achieved in practice.⁷⁸ With respect to HCl, the ED determined that available information demonstrated that the most stringent HCl emission limit identified for a similar source (the Walter Scott, Jr. Energy Center in Iowa) that is achieved in practice is 0.0029 lb/MMBtu, which the ED determined represents the MACT floor for HCl.⁷⁹ In its Application, Tenaska evaluated the appropriateness of other control technologies as part of its BTF MACT review, and identified wet electrostatic precipitators (“ESP”), but determined that they would not

⁷⁵ PFD at p. 36.

⁷⁶ Sierra Club Cross Exhibit 5 (Plant Washington Permit Final Determination), p. 129.

⁷⁷ The Consumers Electric Permit, although referenced in the Plant Washington Final Determination document (Sierra Club Cross Exhibit 5, p. 129), is not in the evidentiary record for this proceeding. Nevertheless, this document indicates that the two facilities will operate in a very similar manner and can easily be compared for purposes of MACT. Thus, for purposes of the analysis in these Exceptions, Tenaska assumes that the two facilities have the same control technologies proposed for acid gases.

⁷⁸ Tr. 192:5-10 (Greywall Cross); *see* Sierra Club Cross Exhibit 4 (Plant Washington Permit). The Consumers Electric permit was issued December 29, 2009, and could not have been built and begun operations since permit issuance. Consequently, its permit limits are not achieved in practice.

⁷⁹ Exhibit ED-11 (Preliminary Determination Summary), p. 13.

be cost effective for Trailblazer.⁸⁰ The ED agreed and determined that the BACT limit for HCl proposed by Tenaska for Trailblazer (i.e., 0.00063 lb/MMBtu) represents the BTF MACT limit for HCl.⁸¹ The Plant Washington permit contains the same type of MACT control technology for HF and HCl as proposed for Trailblazer.⁸² Consequently, even if the HCl limit in the Plant Washington permit were considered, it is proposed to utilize the same control technology as that of Trailblazer and the Trailblazer HCl limit has already been designated by the ED as BTF MACT based on that technology.

With respect to HF, the ED also agreed that BTF control of HF utilizing wet ESP was not cost effective and that the HF MACT floor of 0.00054 lb/MMBtu proposed in the Application is MACT.⁸³ This limit is based on the fuel content specifications for fluorine and assuming 100% conversion to HF.⁸⁴ Further, as noted above, the Plant Washington facility is proposed to utilize the same control technology as Trailblazer for acid gas removal (i.e., HCl and HF).⁸⁵ Further, since Tenaska reviewed other control methodologies suitable for further acid gas reductions on a cost-effective basis and found none, the Plant Washington permit would not be a basis for BTF MACT analysis or determination.⁸⁶ Again, as discussed above with respect to the Hg MACT limit, the ALJs appear to have misunderstood the TCEQ's MACT determination procedures.

⁸⁰ Tenaska Exhibit 2B (Application), Volume I, Tab B, p. 6-5.

⁸¹ Exhibit ED-11 (Preliminary Determination Summary), p. 13. The ALJs expressed concern that the record did not contain a specific demonstration that Tenaska could achieve this limit. PFD at p. 36. Nevertheless, the ALJs overlook Mr. Hughes' (the ED's BACT/MACT expert) experience and expertise on these issues. Moreover, and most importantly, if Mr. Hughes had concerns in this regard, he could have asked the Applicant for "reasoned assurances."

⁸² Compare Tenaska Exhibit 2B (Application), Volume I, Tab B, p. 6-4 with Sierra Club Cross Exhibit 4 (Plant Washington Permit), p. 7. The wet flue gas scrubber identified in the Trailblazer Application is equivalent to the wet limestone scrubber identified in the Plant Washington permit.

⁸³ Exhibit ED-1 (Hughes Prefiled) at 31:18-33.

⁸⁴ Tenaska Exhibit 2B (Application), Volume I, Tab B, p. 6-4. This limit is slightly higher than the limit (0.0005 lb/MMBtu) for HF in the Coletto Creek and NRG permits. OPIC Cross Exhibit 1 (Coletto Creek Permit), p. 42, finding of fact no. 254; OPIC Cross Exhibit 2 (NRG Permit), p. 39, findings of fact nos. 299 and 301. The slight differences in HF limits are attributable to different content of HF in the fuels.

⁸⁵ See Sierra Club Cross Exhibit 4 (Plant Washington Permit), pp. 2 and 7.

⁸⁶ See Tenaska Exhibit 2B (Application), Volume I, Tab B, p. 6-5.

Accordingly, Tenaska respectfully requests that the Commissioners not alter the HCl MACT limit or the HF MACT limit in the Draft Permit, but to the extent the Commissioners consider revising the HF limit, it be revised to no lower than the HF MACT in the Coletto Creek and NRG permits (i.e., 0.0005 lb/MMBtu).⁸⁷

4. The Commission should not alter the (CO) organic HAPs performance standard in the Draft Permit.

As noted above, CO is a surrogate for organic HAPs, and therefore, a limit for CO is also a limit for organic HAPs. The Draft Permit contains a CO MACT limit of 0.015 lb/MMBtu.⁸⁸ In their PFD, the ALJs recommend that the CO MACT limit for organic HAPs be revised to 0.10 lb/MMBtu for both 30-day and 12-month averaging periods.⁸⁹ The ALJs did not articulate a specific permit from which they derived the 0.10 lb/MMBtu limit from, but it could be from the Plant Washington permit, which contains this limit or from the Thoroughbred (Kentucky) or the Toquop (Nevada) permits that also have the same limit.⁹⁰ As discussed above, according to TCEQ precedent (i.e., the *Mirant* Order), the Plant Washington permit limits are not required to be evaluated. Furthermore, since neither Plant Washington, Thoroughbred nor Toquop have begun operations, their CO permit limit is not achieved in practice, and therefore, it should not be a basis for setting either a BACT limit or a MACT floor limit for Trailblazer.⁹¹ As noted above, TCEQ rules and procedures for MACT or BACT determinations do not require an Applicant or the ED to perform a demonstration to show that a proposed source cannot meet lower permitted limits of similar sources that have not been achieved in practice, as discussed above with respect to other MACT limits the ALJs recommend lowering. With respect to BTF

⁸⁷ OPIC Cross Exhibit 1 (Coletto Creek Permit), p. 42, finding of fact 254; OPIC Cross Exhibit 2 (NRG Permit), p. 39, finding of fact 301.

⁸⁸ Exhibit ED-12 (Draft Permit), p. 4.

⁸⁹ PFD at p. 40.

⁹⁰ See PFD at p. 39-40 and Exhibit ED-13 (RTC), p. 43.

⁹¹ See Tr. 192:5-10 (Greywall Cross) and Exhibit ED-13 (RTC), p. 43.

MACT, Tenaska determined, and the ED agreed, that the best-control similar sources all use good combustion practices for control of CO emissions and organic HAPs, irrespective of cost.⁹² Moreover, the proposed Plant Washington facility is also required to use good combustion controls.⁹³ As far as the Thoroughbred and Toquop facilities, neither are operational so their permit limits are not demonstrated in practice, and both were considered by the ED in his MACT floor and BTF analysis⁹⁴ for Trailblazer. Consequently, there are no other technologies for consideration in a BTF MACT analysis for organic HAPs.

The ALJs also mention a portion of a draft application where Tenaska referenced a CO BACT limit of 0.10 lb/MMBtu, but as discussed above for filterable PM, this draft document is not reliable evidence, there was no sponsoring witness, no indication as to the author, was not authenticated, and there was no testimony as to its accuracy or context.⁹⁵ This document does not reflect the considered, final judgment of the professionals and experts who prepared the Trailblazer Application or the BACT and MACT analyses. Further, on its face, the document is in error, because the limit referenced for CO is clearly not achieved in practice⁹⁶ and is contrary to the great weight of evidence on this issue.⁹⁷ And again, to the extent the ALJs afforded this document any evidentiary weight whatsoever, and it deserves none, such allocation appears to be based on the ALJs' misinterpretation of Commission MACT determination procedures.⁹⁸

⁹² Exhibit ED-11 (Preliminary Determination Summary), p. 14; Tenaska Exhibit 2B (Application), Volume I, Tab B, p. 6-6.

⁹³ Sierra Club Cross Exhibit 4 (Plant Washington Permit), p. 7.

⁹⁴ See Exhibit ED-13 (RTC), p. 43-44.

⁹⁵ Tr. 182:19-183:20 (Greywall Cross).

⁹⁶ The draft document references a CO limit of 0.10 lb/MMBtu, which is a limit identified in other permits that have not been demonstrated in practice. Exhibit ED-13 (RTC), p. 43.

⁹⁷ Exhibit ED-12 (Draft Permit), p. 4; Exhibit ED-1 (Hughes Prefiled) at 31; Tenaska Exhibit 2 (Greywall Prefiled) at 76-77; Tenaska Exhibit 3 (Bailey Prefiled) at 26.

⁹⁸ See *supra* note 73.

Consequently, this document should not be a basis for lowering the CO limit in the Draft Permit or for an affirmative finding of fact.

Finally, the ALJs noted that the NRG and the Coletto Creek permits have a CO limit of 0.12 lb/MMBtu, but this is not the limit proposed in the Draft Permit for Trailblazer.⁹⁹ Although the ED's expert, Mr. Hughes, was aware of this lower limit for NRG and Coletto Creek,¹⁰⁰ he determined that 0.015 was MACT for Trailblazer,¹⁰¹ but he seemed to acknowledge that the Commission could determine that the limit for NRG and Coletto Creek should also be the CO MACT limit for Trailblazer.¹⁰²

In summary, based on the foregoing arguments, Tenaska respectfully requests that the Commission not alter the MACT limit for CO as a surrogate for organic HAPs in the Draft Permit, but to the extent the Commission determines that a lower limit is warranted, it revises the CO MACT limit to a level no lower than the Coletto Creek and NRG permit limits for CO (0.12 lb/MMBtu).

IV. BACT ANALYSIS

- A. The ALJs' BACT determination requirements are contrary to TCEQ BACT methodology.**
- 1. BACT limits must be achievable and TCEQ interprets that to mean demonstrated in practice.**

The ALJs misinterpret TCEQ guidance and practice on the definition of "achievable" in evaluating BACT limits. According to the ALJs, absent a showing to the contrary an emission

⁹⁹ PFD at pp. 38-40.

¹⁰⁰ OPIC Cross Exhibit 1 (Coletto Creek Permit), p. 35, finding of fact 209.

¹⁰¹ See Exhibit ED-1 (Hughes Prefiled) at 32:8-13.

¹⁰² See Exhibit ED-1 (Hughes Prefiled) at 32:8-13. The ALJs also argue that a Tenaska witness, Mr. Greywall, acknowledged the 0.12 lb/MMBtu limit in Coletto Creek and indicated that he testified that he did not have concerns that Trailblazer could meet this lower limit. PFD at p. 40. The witness the ALJs refer to was Mr. Bailey, not Mr. Greywall, and Mr. Bailey did not testify affirmatively that Trailblazer could meet the lower limit for CO. His testimony did not specifically address CO. His testimony related to his concern regarding the lower PM limit and the accuracy problems associated with the test methods for PM emissions. Tr. 224.

limitation is achievable if it has been set as a permit limit regardless of whether it had been demonstrated in practice.¹⁰³ This is incorrect.

TCEQ guidance is clear that for a limit to be set as BACT, “achievable” generally means demonstrated in practice.¹⁰⁴ All the expert testimony and evidence supports the importance of the selected BACT limit having been demonstrated in practice.¹⁰⁵ And, “achievable” means more than an emission rate achieved at discrete times. It requires that the facility be able to meet the emission limitation continuously over its entire operating life.¹⁰⁶

The ALJs’ reasoning would eliminate the “achievable” requirement and establish a new legal standard that any lower emission limit established in a permit for a similar facility is BACT – whether or not that facility is operating – absent an explanation by the Applicant or the ED as to why the limit cannot be achieved. The ALJs find this requirement, because “it is reasonable to find that those [lower] limits [in other permits] are achievable or they would not have been set.”¹⁰⁷ While that argument seems plausible on the surface, the reasoning side steps the requirement that BACT be achievable as shown by facilities demonstrating they meet the limit in

¹⁰³ PFD at p. 50.

¹⁰⁴ Exhibit ED-3 (Draft RG-383, April 2001), p. 57, “Generally, any emission reduction option you request an applicant to evaluate should have been successfully demonstrated in Texas and the United States...” p. 65 “Generally, emission reductions options considered will have already been demonstrated through performance testing or monitoring to achieve the expected emission level. This is especially true in Tier I and II BACT determinations.... There is not an established number of companies that must be using a certain emission reduction option before it is considered BACT.”

¹⁰⁵ Tenaska Exhibit 6 (Campbell Prefiled) at 10:7-17; Sierra Club Exhibit 15 (Hughes Deposition), 81:3-21; Exhibit ED-13 (RTC), pp. 28 (1st ¶), 30 (1st ¶), 32 (1st ¶); Tr. 179:15-24, 191:3-9 (Greywall Cross), 283:20-284:24 (Campbell Cross).

¹⁰⁶ *In re: Newmont Nevada Energy Investment, L.L.C.*, 12 E.A.D. 429, 442 (EAB 2005) (order denying review).

“[A]gency guidance and our prior decisions recognize a distinction between, on the one hand, measured ‘emissions rates,’ which are necessary data obtained from a particular facility at a specific time, and on the other hand, the ‘emissions limitation’ determined to be BACT and set forth in the permit, which the facility is required to continuously meet throughout the facility’s life. Stated simply, if there is uncontrollable fluctuation or variability in the measured emission rate, then the lowest measured emission rate will necessarily be more stringent than the ‘emission limitation’ that is ‘achievable’ for that pollution control method over the life of the facility. Accordingly, because the ‘emission limitation’ is applicable for the facility’s life, it is wholly appropriate for the permit issuer to consider, as part of the BACT analysis, the extent to which the available data demonstrate whether the emissions rate at issue has been achieved by other facilities over a long term.”

¹⁰⁷ PFD at p. 50.

practice, under the most severe operating conditions expected and for the life of the facility.¹⁰⁸ Under the ALJs' standard no longer would the applicant have to show that "the selected limit has been demonstrated in practice"; rather, the applicant would have to show that the selected limit *could not be* demonstrated in practice. That requirement essentially shifts the focus and eliminates the requirement that the selected BACT limit be achievable: it demands that the applicant prove a negative. Worse – the applicant must prove a negative for a facility which has not even begun operation.

2. The ALJs' reliance on TCEQ-issued permits for facilities that have not been built to support their position that limits in all permits are presumed to be achievable is misplaced.

The ALJs support their determination that limits issued by permitting authorities are assumed to be achievable, absent evidence to the contrary, by reference to evidence regarding the recently-issued NRG and Coletto Creek permits.¹⁰⁹ The ALJs cite testimony by the ED's witness, Mr. Hughes, who said he relied on limits in TCEQ permits recently issued to NRG and Coletto Creek, neither of which have commenced operation.¹¹⁰ Because of this reliance, the ALJs found that this further supports the conclusion that TCEQ considers emission limitations achievable if they have been set in any other permit. That is simply not the case. The ALJs' reliance on the ED's use of limits in the NRG and Coletto Creek permits for establishing limits in this case is misplaced and does not support the conclusion they reach.

Mr. Hughes did testify as described by the ALJs, but his reliance on limits in recently-issued TCEQ permits for facilities not yet in operation *are the exception to the rule*, not the rule. This exception, moreover, does not give rise to a mandate that the ED or the Applicant consider

¹⁰⁸ *National Lime Ass'n v. EPA*, 627 F.2d 416, 431 n. 46 (D.C. Cir. 1980).

¹⁰⁹ PFD at p. 50.

¹¹⁰ PFD at p. 50.

all permits for not-yet-operational facilities, nor does it result in a new requirement that the applicant refute each and every lower permit limit wherever, and by whomever, established. Such a requirement would give rise to the problem described previously: that the applicant would then be required to prove a negative for a facility not yet in operation.

The reason the ED may rely on BACT determinations issued by TCEQ regardless of whether the facility has demonstrated compliance is obvious. Mr. Hughes made clear in his deposition that, although TCEQ guidance does not *require* giving more weight to TCEQ permit limits,¹¹¹ the ED does so because he is intimately familiar with the evaluation that went into setting the Texas BACT limits.¹¹² Further, *TCEQ-issued limits are Tier I BACT in Texas*. The fact that the facility is not operating is irrelevant. There being a reasonable exception to the rule does not swallow the general rule that data to support that a limit is achievable must be from actual operating facilities.¹¹³ In fact, TCEQ guidance addresses this exception and makes clear that the absence of operational data supporting a BACT limit is an unusual situation which should be brought to the Air Permits Division management.¹¹⁴

¹¹¹ Sierra Club Cross Exhibit 15 (Hughes Deposition), 31:24-32:18.

¹¹² Sierra Club Cross Exhibit 15 (Hughes Deposition), 183:3-24.

¹¹³ Highlighting the problem of relying on limits from non-operational facilities, the ALJs point to a Nebraska permit decision [Sierra Club Cross Exhibit 2 (PSD Permit for Omaha Public Power District)] in which a PM/PM₁₀ limit was selected which is lower than Tenaska's (*Id.* at 015117). The Nebraska permitting authority accepted the lower limit, because it had obtained data on another operating facility – KCP&L Hawthorn – which reported test data in line with the lower limit (*Id.*). However, on close inspection, the applicant, Omaha PPDE, *voluntarily chose to use a fabric filter* and, therefore, a cost analysis and technical review was not conducted and no basis was provided to show the costs or effort incurred by KCP&L Hawthorn (*Id.* at 015116). One is left to wonder how, if the ALJs' new standard were adopted, an applicant or the ED would (re-)evaluate the economic reasonableness of another permitting authority's decision when that decision was based on a voluntary acceptance by the applicant and no cost analysis was conducted.

¹¹⁴ Exhibit ED-3 (Draft RG-383, April 2001) p. 65, "Generally, emission reductions options considered will have already been demonstrated through performance testing or monitoring to achieve the expected emission level. This is especially true in Tier I and II BACT determinations."

3. The ALJs incorrectly would require a formal demonstration even when a proposed BACT limit is within the BACT range of limits issued to recently-permitted facilities.

The ALJs incorrectly create a new requirement that whenever an applicant proposes anything other than the absolute lowest permit limit identified in the BACT analysis, the applicant must make a formal demonstration as to why it cannot meet the lowest limit.¹¹⁵ The ALJs come to this conclusion based on one exchange of testimony by the ED's witness, Mr. Hughes, in which he states that TCEQ typically wants an applicant to propose a BACT limit at the "lower end of the range" (not *the* lowest), and that the ED generally will ask for an explanation if the applicant does not propose a limit at the low end of the range.¹¹⁶ The ALJs misinterpret Mr. Hughes' testimony, and the conclusion they draw conflicts with TCEQ's own guidance on what is required of an applicant.

TCEQ guidance states that once a proposed limit is determined to be consistent with recently approved BACT, the ED considers the overall performance of the facility at reducing air contaminant emissions.¹¹⁷ He may ask for more information, as Mr. Hughes testified, but the ED is not required to, nor is the applicant required to, provide further demonstration anywhere in its guidance.

The overall evaluation of the suite of emission controls means that BACT will fall into a range for any given pollutant, and as Mr. Hughes testified, the applicant does not have to make any further demonstration unless the proposed limit falls outside the accepted BACT range.¹¹⁸ Admittedly, the ED generally expects an applicant to choose a proposed permit emission limit at

¹¹⁵ PFD at p. 57.

¹¹⁶ PFD at pp. 55-57.

¹¹⁷ Exhibit ED-3 (RG 383) at Bates pp. 55-56. This is a quantitative and a qualitative analysis of the total emissions from the facility. *Id.* at 56.

¹¹⁸ Tr. 837:6-15.

the lower end of that range, but not necessarily the lowest.¹¹⁹ Although the ED may ask the applicant to explain why it has chosen a level that is not in the lower end, Mr. Hughes did not testify that it is mandatory for the applicant to provide an explanation, because that is not what TCEQ guidance requires.

B. The Commission should reject the ALJs' recommended changes to the BACT limits in the Draft Permit.

1. NO_x 24-hour limit.

The Commission should reject the ALJs' recommendations to lower the NO_x limit for the 24-hour average. As previously discussed, the ALJs incorrectly propose to impose a duty to investigate permits setting emissions limits which have not been demonstrated in practice and would impose a duty to consider permits that were issued subsequent to the close of technical review and issuance of the Draft Permit.¹²⁰

Notably, the ED did not originally establish a 24-hour NO_x BACT limit.¹²¹ At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limit for sub-bituminous PC-fired electric generating facilities was 0.070 lb/MMBtu on a 30-day average only.¹²² In other recent actions, the Commission has not required a 24-hour limit, such

¹¹⁹ Tr. 837:15-17.

¹²⁰ PFD at p. 57 referencing Newmont Nevada Energy and SWEPCO Turk. Both Newmont and SWEPCO Turk were considered by Mr. Hughes in his BACT analysis. Exhibit ED-13 (RTC), pp. 33-35. Turk is not operating, and there is no evidence in the record as to whether Newmont has demonstrated compliance with its limit. Too, Newmont is not comparable to Trailblazer because Newmont is only a 200 MW facility, less than one-fourth the size of Trailblazer. See Sierra Club Cross Exhibit 5, p. 53. Ultimately, Mr. Hughes set the NO_x 24-hour limit base on Tenaska's vendor guarantee. Exhibit ED-13 (RTC), p. 35.

¹²¹ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419. The shorter limit was added pursuant to EPA comments filed during the public comment period. Exhibit ED-13 (RTC), Bates p. 500.

¹²² Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419. Mr. Hughes did consider the Newmont limit, Exhibit ED-13 at Bates p. 500, in response to EPA comments. After considering it, and recognizing Tenaska could obtain a 0.070 guarantee, Mr. Hughes conducted his BACT review.

as the permits for Coletto Creek and NRG.¹²³ Accordingly, Tenaska respectfully requests that the Commission uphold the ED's BACT determination for the NO_x 24-hour limit.¹²⁴

2. NO_x 30-day rolling limit.

The Commission should reject the ALJs' recommendations to lower the NO_x limit for the 30-day rolling average. As previously discussed, the ALJs impermissibly imposed a duty to continue re-evaluating BACT even after the conclusion of the ED's technical review by relying on the Plant Washington permit, which was issued well over a year after that review concluded.¹²⁵

At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limit for sub-bituminous PC-fired electric generating facilities was 0.070 lb/MMBtu on a 30-day basis.¹²⁶ Subsequent to that date, the Commission has continued to ratify that emission limit as Tier I BACT.¹²⁷ Consequently, Tenaska respectfully requests that the ED's BACT determination remain undisturbed.

3. CO 30-day rolling and 12-month rolling limits.

The Commission should reject the ALJs' recommendations to lower the CO limits for the 30-day and 12-month average periods. As previously discussed, the ALJs impermissibly imposed a duty to continue re-evaluating BACT even after the conclusion of the ED's technical review by relying on the Plant Washington permit which was issued well over a year after that review concluded.¹²⁸

¹²³ OPIC Cross Exhibit 1 (Coletto Creek Permit) and OPIC Cross Exhibit 2 (NRG Permit).

¹²⁴ Note, the 24-hour average effectively makes the NO_x limit more stringent than NRG and Coletto Creek 30-day limits of 0.07.

¹²⁵ Sierra Club Cross Exhibit 4 (Plant Washington Permit). Notably, Plant Washington itself has not been constructed and has yet to demonstrate compliance with any of its limits.

¹²⁶ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419, Exhibit ED-13 (RTC), Bates p. 498-500.

¹²⁷ OPIC Cross Exhibit 1 (Coletto Creek Permit) and OPIC Cross Exhibit 2 (NRG Permit).

¹²⁸ Sierra Club Cross Exhibit 4 (Plant Washington Permit).

At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limit for sub-bituminous, PC-fired electric generating facilities was 0.015 lb/MMBtu on a 30-day and 12-month rolling basis.¹²⁹ Although the Commission recently established a lower limit of 0.012 in its NRG and Coletto Creek Permits,¹³⁰ the record supports the ED's final permit determination made at the close of his technical review in this case. Accordingly, Tenaska respectfully requests that the ED's BACT determination remain undisturbed.

4. VOC annual limit.

The Commission should reject the ALJs' recommendations to lower the VOC annual limit. As previously discussed, the ALJs impermissibly imposed a duty to continue re-evaluating BACT even after the conclusion of the ED's technical review by relying on the Plant Washington permit which was issued well over a year after that review concluded.¹³¹

At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limit for sub-bituminous PC fired electric generating facilities was 0.0036 lb/MMBtu on an annual basis.¹³² Subsequent to that date, the Commission has continued to establish that level as Tier I BACT.¹³³ Consequently, Tenaska respectfully requests that the ED's BACT determination remain undisturbed.

5. Filterable PM/PM₁₀ annual limit.

The Commission should reject the ALJs' recommendations to lower the filterable PM/PM₁₀ annual limit. The ALJs appear to base their recommendation on the same reasoning

¹²⁹ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 420.

¹³⁰ OPIC Cross Exhibit 1 (Coletto Creek Permit) and OPIC Cross Exhibit 2 (NRG Permit).

¹³¹ Sierra Club Cross Exhibit 4 (Plant Washington Permit).

¹³² Exhibit ED-11 (Preliminary Determination Summary), Bates p. 420.

¹³³ OPIC Cross Exhibit 1 (Coletto Creek Permit) and OPIC Cross Exhibit 2 (NRG Permit).

they pose for reducing the filterable PM/PM₁₀ MACT limit¹³⁴ as well as the following BACT-specific reasons.

As previously discussed, the ALJs impermissibly imposed a duty to continue re-evaluating BACT even after the conclusion of the ED's technical review by relying on the Plant Washington permit which was issued well over a year after that review concluded.¹³⁵ Although the ALJs claim two facilities currently operating have a 0.010 lb/MMBtu filterable limit,¹³⁶ Tenaska can find no support in the record for this contention. The ALJs' citation to the evidence in support of their contention refers to the ED's Response to Comments listing CFB boilers and PC boilers.¹³⁷ None of the PC boilers with lower limits are even under construction much less operating. Only two operating CFB boilers have limits lower than Trailblazer and neither of those are using sub-bituminous coal as fuel. Also, the ALJs' reliance on CFB boilers is misplaced, because the ALJs concluded (and the evidence strongly supports) that CFB boilers are a fundamentally different technology from PC boilers which affects their emission characteristics, and, in any event, the largest CFBs are much smaller than the Trailblazer PC boiler project.¹³⁸ Thus, the proposed conclusions reached are simply not supported by the cited evidence, are contrary to the ALJs' own findings, and, if accepted, would impermissibly redefine the source.

At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limit for sub-bituminous PC-fired electric generating facilities was 0.015 lb/MMBtu on an annual basis.¹³⁹ Although the ED established a lower limit of 0.012

¹³⁴ Addressed elsewhere in these Exceptions.

¹³⁵ Sierra Club Cross Exhibit 4 (Plant Washington Permit).

¹³⁶ PFD at p. 67.

¹³⁷ Exhibit ED-13 (RTC), Bates pp. 501-502.

¹³⁸ PFD at pp. 52-53 [citing Tenaska Exhibit 2B (Application), Volume 1, Tab B, pp. 4-2-4-3.]

¹³⁹ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419.

based on its MACT analysis,¹⁴⁰ the record supports the ED's final permit determination for BACT made at the close of the ED's technical review in this case. Accordingly, Tenaska respectfully requests that the ED's BACT determination remain undisturbed.

6. Total PM/PM₁₀ annual and 1-hour limits.

The Commission should reject the ALJs' recommendations to lower the total PM/PM₁₀ annual and 1-hour limits. At the outset, there is no basis in the ED's BACT determination for the ALJs to include a 1-hour BACT limit. Only an annual limit was specified.¹⁴¹

Aside from the 1-hour issue, the ALJs' rationale for establishing lower total limits is based on their rejection of the fact that PM condensable testing is unreliable and biased high.¹⁴² In noting the EPA's proposed revisions to its condensable PM test method, the ALJs did not acknowledge that EPA noted the proposal would increase "the provision of the method and . . . [improve] the consistency in the measurements obtained between source tests performed under different regulatory authorities."¹⁴³

Without any consistency in existing measurements, total PM results are not comparable from one jurisdiction to the next and conservative judgment should be exercised in using that data to establish what is actually achievable.¹⁴⁴ Further, as previously discussed, the ALJs impermissibly imposed a duty to continue re-evaluating BACT even after the conclusion of the ED's technical review by relying on the Plant Washington permit which was issued well over a year after that review concluded.¹⁴⁵ And finally, the ALJs' recommendation is based on a permit

¹⁴⁰ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419.

¹⁴¹ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419; Exhibit ED-12 (Draft Permit), Bates p. 440.

¹⁴² Exhibit ED-1 (Hughes Prefiled) at Bates 16:29-34.

¹⁴³ 74 Fed. Reg. 12970.

¹⁴⁴ Exhibit Ed-13 (RTC), Bates p. 503.

¹⁴⁵ Sierra Club Exhibit 4 (Plant Washington Permit).

limit allegedly achieved by KCP&L's Hawthorn plant.¹⁴⁶ In their discussion, the ALJs noted that Mr. Bailey explained Tenaska's WFGD system is more effective than dry FGD at removing SO₂.¹⁴⁷ It is, however, less effective at PM/PM₁₀ removal.¹⁴⁸ Facilities using dry FGD, such as Nebraska's Omaha Public Power District's facility, may be capable of meeting lower total PM/PM₁₀ limits¹⁴⁹ than Tenaska with its WFGD system. The ALJs further noted, however, that KCP&L's Hawthorn plant has in fact demonstrated it can achieve a 0.018 limit over time.¹⁵⁰ What the ALJs overlooked is that Hawthorn also uses a dry FGD system.¹⁵¹ Tenaska cannot be expected to meet a low SO₂ limit on the one hand and a low total PM limit on the other with a single technology.

The ALJs also discount testimony concerning vendor guarantees the Applicant has received, because the guarantees are not in the record.¹⁵² Although the actual guarantees themselves may not be in the record, the ED and testifying experts may form opinions and provide expert testimony based on information they consider reliable but which may not even be admissible.¹⁵³ No objections were made to the vendor guarantee testimony¹⁵⁴ nor did the ALJs exclude the testimony on their own motion.¹⁵⁵ That said, the Commission must be able to rely on reasonable representations by applicants without requiring reams of documentation to support each representation.

¹⁴⁶ PFD at p. 70.

¹⁴⁷ PFD at p. 70.

¹⁴⁸ Tr. 970-971.

¹⁴⁹ Omaha Public Power District is, however, not yet operating and therefore has not yet demonstrated compliance.

¹⁵⁰ PFD at p. 70.

¹⁵¹ Tenaska Exhibit 2B (Application), Volume I, Tab A, Appendix C, Table "Main Boiler-SO₂."

¹⁵² PFD at p. 69.

¹⁵³ TRE Rule 703.

¹⁵⁴ Cite Transcript.

¹⁵⁵ *Id.*

At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limits for sub-bituminous PC-fired electric generating facilities was 0.030 lb/MMBtu on an annual basis.¹⁵⁶ Although the Commission has established a lower limit of 0.025 in the recent NRG and Coletto Creek permits, there is ample evidence in the record to support the ED's determination, and Tenaska respectfully requests that it remain undisturbed.

7. Lead (Pb).

The Commission should reject the ALJs' recommendations for a lower BACT limit for lead on a 12-month average.¹⁵⁷ Once again, the ALJs would impose a new requirement that an applicant refute each and every lower limit established in other permits, even if the proposed limit falls within the range of BACT accepted in recent permits. As described elsewhere in Applicant's exceptions,¹⁵⁸ once an applicant's proposed emission limit is within a BACT range, it is left to the ED's discretion as to whether additional information is required to support an even lower limit – TCEQ guidance does not require that demonstration.

As such, the ALJs' reliance on the Springerville lead permit limit as BACT for Trailblazer demands more than TCEQ guidance requires. In fact, there is no evidence that the Springerville facility was demonstrated or even operating at the time the ED issued his Draft Permit in early 2009. Most importantly, the Springerville limit was apparently established pursuant to a case-by-case MACT determination and does not yet represent BACT.¹⁵⁹

At the conclusion of the ED's technical review, and as included in the Draft Permit, the Tier I BACT limit for sub-bituminous PC fired electric generating facilities was

¹⁵⁶ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419; Exhibit ED-13 (RTC), Bates p. 503.

¹⁵⁷ PFD at p. 72.

¹⁵⁸ See Section IV.A.3, *supra*.

¹⁵⁹ See EPA comments to TCEQ concerning Trailblazer's case-by-case MACT dated March 2, 2009. The comments also point out that Springerville is only 400 MW – less than half Trailblazer's size.

0.00003 lb/MMBtu on an annual basis.¹⁶⁰ Accordingly, Tenaska respectfully requests that the ED's BACT determination remain undisturbed.

V. REVISIONS TO THE ALJS' PROPOSED ORDER

Attachment C is a redline version of the ALJs' proposed Order that reflects the points made in these Exceptions, corrects typographical and other errors, and amends or deletes certain findings or conclusions for clarification purposes or to more accurately reflect the record. Any necessary explanation for the proposed change is made in italicized text following the amended finding.

VI. CONCLUSIONS

Tenaska established that it has met all applicable legal requirements for approval of the Trailblazer Application by more than a preponderance of the evidence. And, with certain BACT and MACT emission limit revisions to the Draft Permit recommended by the ALJs in their PFD, they agreed. As the foregoing arguments demonstrate, however, the ALJs' recommended revisions to the BACT and MACT limits in the Draft Permit are based on a misinterpretation of Commission precedent and procedures for BACT and MACT limit determinations. The Commission should be very mindful of the impact approval of the ALJs' PFD would have on the coherence and vitality of the Commission's air permitting program. Adoption of the requirements embodied in the ALJs' PFD would require significant additional resources for the ED's Air Permitting Division Staff and require significant additional efforts by applicants in seeking air quality permits. Further, to the extent the Commission agrees with the PFD that new air permitting standards apply up to the time of issuance of the final permit, this would burden

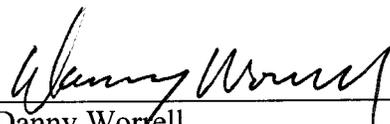
¹⁶⁰ Exhibit ED-11 (Preliminary Determination Summary), Bates p. 419.

both TCEQ and applicants to the point that it would become very difficult to ever complete an air permit proceeding.

As noted above, all expert testimony on the record supports the issuance of the BACT and MACT limits in the Draft Permit. In fact, the Protestants offered no witnesses on these subjects whatsoever. With approval of the ALJs' PFD, however, new BACT and MACT determination requirements would be imposed, thus "moving the goal post" for both the Applicant in this case, as well as for the ED. These new ALJ-made standards would be without notice to the Applicant and in violation of Tenaska's due process rights. Accordingly, Tenaska respectfully requests that the Honorable Commissioners vote to not alter the BACT and MACT limits in the Draft Permit as recommended by the ALJs, to approve the Application, and to issue the Draft Permit.

Respectfully submitted,

BROWN MCCARROLL, L.L.P.
111 Congress Avenue, Suite 1400
Austin, Texas 78701-4043
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(512) 479-1101 – Facsimile

By 

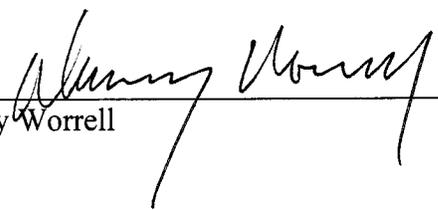
Danny Worrell
State Bar No. 22002000
Rod Johnson
State Bar No. 10821550

CERTIFICATE OF SERVICE

I hereby certify that on the 21st day of October, 2010, a copy of Tenaska Trailblazer Partners, LLC's Exceptions was served on the following parties of record in this case via hand delivery, facsimile, electronic mail, and/or regular mail.

<u>Representative / Address</u>	<u>Parties</u>
<p>Wendi Hammond Attorney 7325 Augusta Circle Plano, Texas 75025 (972) 746-8540 – Telephone (469) 241-0430 – Facsimile wendi@TexasEnvironmentalLaw.net</p>	<p>Multi-County Coalition (MCC) Aligned with: Gordon Root Patricia and Charlie Broadwell Richard Broadwell Debbie and David Veal Joe and Marilyn E. Starkey Dr. John D. Starkey Kathy and Terry Boley Sherion Carter Jimmy Headstream Roger Dennis David Hall</p>
<p>Gabriel Clark-Leach Environmental Integrity Project 1303 San Antonio Street, Suite 200 Austin, Texas 78701 (512) 637-9477 – Telephone (512) 584-8019 – Facsimile cmann@environmentalintegrity.org</p>	<p>Sierra Club</p>
<p>James B. Murphy Garrett Arthur Texas Commission on Environmental Quality Office of Public Interest Counsel P.O. Box 13087, MC-103 Austin, Texas 78711-3087 (512) 239-4014 – Telephone (512) 239-6377 – Facsimile jmurphy@tceq.state.tx.us garthur@tceq.state.tx.us</p>	<p>TCEQ Public Interest Counsel</p>

<p>Chrissie Angeletti Attorney at Law Texas Commission on Environmental Quality Litigation Division P.O. Box 13087, MC-173 Austin, Texas 78711-3087 (512) 239-1204 – Telephone (512) 239-3434 – Facsimile cangelet@tceq.state.tx.us</p>	<p>Texas Commission on Environmental Quality</p>
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Danny Worrell

ATTACHMENT A

ATTACHMENT A

F-146

TEXAS AIR CONTROL BOARD
12124 PARK 35 CIRCLE, AUSTIN, TEXAS 78753, 512/908-1000

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C. H. RIVERS
WARREN H. ROBERTS
MARY ANNE WYATT

April 17, 1992

A. Stanley Meiburg, Ph.D.
Director
Air, Pesticides and Toxics Division (6T)
ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: Texas Prevention of
Significant Deterioration
State Implementation Plan

Dear Dr. Meiburg:

This is in response to your letter of March 30, 1992 concerning Texas Prevention of Significant Deterioration (PSD) State Implementation Plan. We understand that you need confirmation in several areas to conform with the requirements of the 1990 Federal Clean Air Act Amendment (FCAAA) before final delegation will be made. As in your letter, we will address each issue in order.

Municipal Waste Combustion
We will address as a major source subject to PSD review, municipal waste combustors capable of changing more than 50 tons of refuse per day as one of the sources subject to PSD review if they emit or have the potential to emit 100 tons per year or more of any regulated pollutant.

Air Toxics Exemption of National Emission Standards for Hazardous Air Pollutants - Title III of the 1990 CAAA
We understand that the FCAAA of 1990 exempts from PSD review those air contaminants listed in Section 112(b)(1) except for toxics impact and Best Available Control Technology (BACT) analysis. We have been and will continue to follow this guidance in PSD review.

Class I Area Boundary Changes
We recognize the changes in Class I boundaries and will continue to solicit and consider comments from Federal Land Managers, when applicable, in PSD permit review.

A. Stanley Meiburg, Ph.D. -2-

April 17, 1992

Clean Fuels in PSD Permitting

We will consider in our evaluation of PSD applications clean fuels as an available means of reducing emissions, along with other approaches in our BACT analyses.

We understand that the Environmental Protection Agency will discuss with us any changes to PSD rules that affect nonroad engines or nonroad vehicles. We will appreciate a high level of communication regarding this matter and look forward to providing comments concerning this subject.

We appreciate your cooperation and assistance in our work.

Sincerely,



Steve Spaw, P.E.
Executive Director

ATTACHMENT B

ATTACHMENT B

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION



AN ORDER issuing permit numbers 40619 and PSD-Texas-933 to Mirant Parker, LLC; TNRCC Docket No. 2000-0346-AIR; SOAH Docket No. 582-00-1045

On DEC 19 2001, the Texas Natural Resource Conservation Commission (the Commission or the TNRCC) considered the application of Mirant Parker, LLC (formerly SEI Texas, LLC) for air quality Permit Numbers 40619 and PSD-Texas-933 for a natural-gas-fired generation facility in Parker County, Texas. The application was presented to the Commission with a Proposal for Decision by Henry D. Card, Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH).

After considering the ALJ's Proposal for Decision and the evidence and arguments presented, the Texas Natural Resource Conservation Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Applicant Mirant Parker, LLC (formerly SEI Texas, LLC) is a limited liability company formed in the state of Delaware and qualified to do business in Texas. Mirant Parker is an indirect wholly-owned subsidiary of Mirant Corporation (formerly know as Southern Energy, Inc.).
2. The application for this facility was filed February 11, 1999.
3. The Executive Director found the application to be administratively complete before September 1, 1999.

4. The Executive Director issued the draft permit for the facility on September 17, 1999.
5. The facility in question would be constructed on the northern side of Lake Weatherford, near the City of Weatherford, in Parker County.
6. The construction and operation of the facility would be in three phases. The first phase would involve the installation of two dual-shaft General Electric (GE) PG7241 (FA) natural-gas-fired electric generating turbines each rated at 170 MW. Those turbines would be operated in simple cycle (*i.e.* no heat recovery) until the third phase. The second phase would involve the installation of two GE PG7121 (EA) natural-gas-fired turbines, each rated at 82 MW. Those turbines would remain simple cycle turbines. The third phase would involve the installation of heat recovery steam generators (HRSGs) for each of the turbines installed in the first phase and one steam turbine capable of generating approximately 160 MW of electricity.
7. The Applicant published notice of the application on February 3 and 4, 2000, in *The Weatherford Democrat*, a newspaper of general circulation in Weatherford, Parker County, Texas. The notice contained the information set out in the Commission's rules at 30 TEX. ADMIN. CODE (TAC) §116.132.
8. The Applicant posted signs at the site of the proposed facility, declaring the filing of the application for an air quality permit. The signs were of the dimensions and print size, and contained the information set out in, the Commission's rules at 30 TAC §116.133.
9. The Applicant published notice of the hearing in *The Weatherford Democrat* on April 14, 2000.
10. A preliminary hearing was held in this matter May 16, 2000. At that preliminary hearing, the ALJ accepted jurisdiction, ruled that notice had been completed in accordance with the

relevant statutes and rules, heard public comment, and designated the parties.

11. The evidentiary hearing in this matter was held from January 29, 2001, through January 31, 2001, in Austin, Texas, and on February 2, 2001, in Weatherford, Texas. The hearing was reconvened on February 23, 2001, in Austin, Texas, to hear the testimony of two witnesses who had been unavailable and to allow rebuttal testimony from the Applicant.
12. The parties filed their written closing arguments April 9 and responsive arguments April 30, 2001. On May 1, 2001, the Aligned Protestants filed a motion to reopen the record for admission of a resolution that had been passed by the Parker County Commissioners' Court on April 23, 2001. The ALJ granted the motion and admitted that resolution and an earlier Parker County resolution into evidence on May 17, 2001.
13. The proposed facility is expected to emit the following regulated air contaminants: nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM), particulate matter with aerodynamic diameter of 10 microns or less (PM₁₀), volatile organic compounds (VOC); hazardous air pollutants (HAP), and sulfuric acid (H₂SO₄).
14. Maximum emissions from the sources at the proposed facility in pounds per hour (lbs/hr) and in tons per year (TPY) based on 8,760 hours of operation per year will be as follows:

		<u>lbs/hr</u>	<u>TPY</u>
GE Model 7241 FA Gas Turbine (S-1):	NO _x	63.0	254.1
	CO	31.0	122.7
	SO ₂	10.5	5.0
	VOC	3.0	12.3
	PM/PM ₁₀	18.0	78.9
	H ₂ SO ₄	0.8	0.4

GE Model 7241 FA Gas Turbine (S-2):	NOx	63.0	254.1
	CO	31.0	122.7
	SO ₂	10.5	5.0
	VOC	3.0	12.3
	PM/PM ₁₀	18.0	78.9
	H ₂ SO ₄	0.8	0.4
GE Model 7121 EA Gas Turbine (S-3):	NOx	35.0	140.2
	CO	58.0	232.2
	SO ₂	6.0	2.9
	VOC	2.0	7.9
	PM/PM ₁₀	14.0	61.3
	H ₂ SO ₄	0.5	0.3
GE Model 7121 EA Gas Turbine (S-3):	NOx	35.0	140.2
	CO	58.0	232.2
	SO ₂	6.0	2.9
	VOC	2.0	7.9
	PM/PM ₁₀	14.0	61.3
	H ₂ SO ₄	0.5	0.3
Piping Fugitives (EPN-5)	VOC	0.44	1.99
Cooling Tower (C-1)	PM/PM ₁₀	1.45	6.36

15. In February of 1999, when the permit application was filed, the Commission's Best Available Control Technology (BACT) standard for NOx was 9 parts per million (ppm).

16. For the simple cycle turbines to be installed and operated in phases 1 and 2, the Commission's BACT standard remains at the 9 ppm level.
17. For a gas turbine operating in combined cycle, which is proposed for phase 3, the Commission's BACT standard for NOx was reduced to 5 ppm sometime in September 1999.
18. The reduction in BACT for a gas turbine operating in combined cycle occurred after the draft permit for this facility had been issued.
19. BACT review is a three-tier process. In Tier 1, which was applied in this case, controls accepted as BACT in a recent permit review for the same process/industry are approvable as BACT in a current review if no new technical developments have been made which indicate that additional controls are economically or technically reasonable.
20. The Commission's staff's practice is to make the BACT determination early in the application process.
21. The Commission's staff consistently used a BACT of 9 ppm for permits, such as this one, in which the application was made before September 1999, but the permit issued after September 1999. The exceptions to that practice were units for which the applicant had voluntarily accepted a reduction to 5 ppm or which were located in non-attainment areas.
22. The Commission's staff has consistently followed a practice of not revisiting BACT after the initial determination has been made.
23. The Commission has decided no contested cases on the subject of whether BACT should be revisited after the initial determination.

24. The Commission has not issued any publications discussing whether BACT should be revisited after the initial determination.
25. BACT determines the technology that will be used, which in turn determines the rest of the review. If BACT were always changing, it would be difficult to complete a review of an application. That situation would be costly not only to the applicants, but to the Commission's staff, which would have to re-review applications.
26. The Applicant has proposed the use of dry low NOx burners to achieve the 9 ppm level.
27. To achieve the 5 ppm level, the Applicant would more than likely need to use a Selective Catalytic Reduction (SCR) process. Although that is an accepted process, its imposition would involve different costs, emissions, and modeling.
28. Determining the BACT level early, and adhering to that determination, has the benefit of treating similar facilities equally.
29. For this facility, modeling was performed in February 1999, using the original application parameters; in August 1999 and May 2000, using different stack height, stack diameters, emissions exit velocities, and other different parameters; and again in June 2000.
30. BACT must be determined before the application's modeling and other representations can be finally reviewed.
31. Although the Applicant performed additional modeling after the draft permit had been issued, that re-modeling was not so extensive that it required the staff to go back and reevaluate the project.
32. The staff's practice of not revisiting BACT is a reasonable one.

33. Tying BACT to the standard in place on the application date is a reasonable practice.
34. Another reasonable cut-off date for determining BACT would be the date on which an application is declared technically complete. That approach would have the benefit of encouraging applicants to respond and cooperate promptly during the staff's review.
35. The BACT standard was changed after the date this application was declared technically complete (September 2, 1999) and after the date on which the draft permit was issued (September 17, 1999).
36. It is reasonable for the BACT standard of 9 ppm to be applied to this proposed facility.
37. The facility meets the BACT standard of 9 ppm for combined cycle facilities, in place at the time of the application.
38. The facility also meets BACT for all contaminants other than NOx.
39. The usual time period between receipt of an application and authorization to publish notice ranges from 3 to 9 1/4 months, with an average of approximately 5 1/3 months.
40. The period for processing this application was 7 1/4 months.
41. The period for processing this application was not unreasonably long.
42. The Applicant was responsive to the staff's requests for information.
43. Any incorrect public statements by the Applicant did not delude the citizens of Parker County into supporting the project, as can be seen by the size and continuing interest of the Protestant group.

44. The Commission's staff's health effects review considers both "criteria" and "non-criteria" pollutants.
45. "Criteria" pollutants are those for which the EPA has set specific National Ambient Air Quality Standards (NAAQS) or the state has set specific air quality standards.
46. NAAQS have been set for six common air contaminants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀), and sulfur dioxide (SO₂).
47. The state has set specific air quality standards for sulfur dioxide, total suspended particulates (TSP), and sulfuric acid (H₂SO₄).
48. As directed by the Commission, the Applicant performed atmospheric dispersion modeling to predict worst-case off-property ground-level concentrations (GLC) of all air contaminants of concern:
 - a. The Applicant conducted full computer air-dispersion modeling with the Industrial Source Complex Short Term model, version 3, number 99155 (ISCST3), as approved by EPA and the Commission. The ISCST3 model can predict air contaminant GLCs with an acceptable degree of accuracy.
 - b. The modeling performed by the Applicant was reviewed by the Commission and deemed acceptable and in compliance with the Commission's modeling guidelines.
 - c. The meteorological data were purchased from Bee-Line Software in a format for use in the ISCST3 model. In compliance with the TNRCC guideline for emission sources located in Parker County, the surface meteorological data were collected from the National Weather Service (NWS) station at the Dallas-Fort Worth Airport (Station Number 03927), and the upper air meteorological data were from the NWS station at Stephenville, Texas (Station Number 13901).

- d. The modeling included the appropriate parameters to consider the character of the surrounding area and downwash.
49. For the criteria pollutants, the predicted concentrations were compared to the maximum levels set by the Federal or state standards. For the non-criteria pollutants, the concentrations were compared to the Effects Screening Levels (ESLs) established by the TNRCC staff.
50. A review of additive or synergistic effects was not necessary because the maximum concentrations that are predicted are very, very low and ESLs are set so conservatively.
51. No adverse health effects would result from additive or synergistic effects accompanying the emissions from the proposed facility.
52. An ESL is a substance-specific guideline comparison value that the Commission's Toxicology and Risk Assessment (TARA) staff uses to review non-criteria substances.
53. TARA publishes a list of ESLs; the list contains short- and long-term ESLs for all the listed substances.
54. ESLs are set to prevent the occurrence of acute and chronic health effects in the general population, including sensitive subpopulations, and of nuisance effects, *e.g.* nuisance odors. They are also set to prevent welfare effects, such as vegetative damage and excess corrosion, where necessary.
55. Adverse effects are not expected when the air concentration of a substance is below the ESL.
56. To calculate the ESLs, the TARA staff considers peer-reviewed scientific literature, occupational exposure, epidemiological and experimental (animal) data, and information from other regulatory agencies. The staff identifies a level of a substance at which no

adverse effects have been observed or derives it from the available toxicological information. That level is divided by safety factors of ten to account for various considerations, such as the differences between animals and people, the need to protect sensitive individuals, or differences in exposure time.

57. The ESLs are set well below the concentrations reported to cause adverse health effects to any of the organisms studied, whether human or animal.
58. The concentrations for all the non-criteria contaminants the proposed facility is expected to produce were below the ESLs.
59. No adverse health or welfare effects are expected to occur as a result of the plant's emissions of the non-criteria contaminants.
60. The Applicant's estimate of the amount of formaldehyde to be emitted by the facility changed several times during the permitting and hearing process. In its February 1999 application, SEI/Mirant originally estimated formaldehyde emissions of approximately 79 tons per year. The estimate was revised in August 1999 to approximately 13 tons per year. The Applicant's final estimate was 9.5 tons per year.
61. SEI/Mirant's original formaldehyde figure was derived from the EPA document entitled "AP-42, Compilation of Air Pollution Emissions Factors, Volume I, Stationary Point and Area Sources."
62. Between February of 1999 and August of 1999, SEI received information from General Electric, the turbine manufacturer, regarding emissions from GE turbines that reduced the factor to the 13 tons per year level. The gist of GE's explanation was that one of the points in the original data base was far above the mean and had skewed the calculation.

63. The preponderance of the evidence shows that estimated formaldehyde emissions from the facility will be either 36 ppb or 41 ppb. In either case, the estimated emissions are below the 10 tons per year level.

64. The facility is not expected to emit any Hazardous Air Pollutants in excess of 10 tons per year.

65. The following language should be added to the draft permit to require monitoring of formaldehyde and other hazardous air pollutants:

Air emissions from each gas turbine shall be tested while firing at full load for the ambient conditions at the time of testing. Air contaminants to be sampled and analyzed while at full load include (but are not limited to) NO_x, O₂, CO, NH₃, VOC, formaldehyde, SO₂, PM₁₀, and opacity. (Fuel sampling using the methods and procedures of 40 CFR 60.335[d] may be conducted in lieu of stack sampling for SO₂).

66. At the time of the filing of the application, the Applicant did not have any operations in Texas. A review of the representations from the Applicant for its operations outside Texas did not reveal any ongoing material violations of environmental regulations.

67. The permit attached to this Order and the general and special conditions within them, as prepared by the Commission's Executive Director, plus the additional condition requiring monitoring for Hazardous Air Pollutants, represent necessary and appropriate requirements to be placed on the holder of the permit to: (1) ensure operation of the facility as represented in the application and compliance with the applicable statutes and with all the applicable rules and regulations of the Commission; and (2) impose enforceable emissions limits for the facility that will be protective of the public health and welfare. The permit, with the additional condition, is sufficient to authorize construction of the Applicant's proposed power generation facility.

68. The Applicant is in good standing with the offices of the Texas Secretary of State and the Texas Comptroller of Public Accounts and is not delinquent in the payment of state franchise taxes.
69. The transcript cost was \$5063.29.
70. The Applicant is able to pay the full reporting and transcript costs.
71. Of the five lay witnesses, who were part of the Protestant group, one, Mr. Helm, is an attorney, and another, Larry Mason, is a manager for Computer Sciences Corporation. Another, Bruce Crow, is a retired heavy equipment operator. None of the lay witnesses was asked about his financial status, nor was testimony presented about other Protestants' ability to pay the transcript costs.
72. The evidence does not establish the Protestants' ability to pay the transcript costs.
73. Both the Applicant and the Protestants participated fully in the hearing and benefitted from having a transcript.
74. When one side presents most of the prefiled testimony in a case, it is almost inevitable that the opposing party will ask most of the questions. In this case, the Applicant presented six prefiled direct witnesses, the Executive Director presented three, and the Protestants presented one. The Protestants' cross-examination would not have occurred without the existence of the prefiled testimony itself.
75. The Protestants' questions were not particularly unfocused or inappropriate for the hearing setting.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over this matter pursuant to TEX. WATER CODE ANN. ch. 5 and TEX. HEALTH & SAFETY CODE ANN. ch. 382.
2. SOAH has jurisdiction over all matters relating to the conduct of a hearing in this proceeding, including the preparation of a proposal for decision with findings of fact and conclusions of law, pursuant to TEX. GOV'T CODE ANN. § ch. 2003.
3. Proper notice of this matter was given as required by TEX. HEALTH & SAFETY CODE ANN. §382.031, TEX. GOV'T CODE ANN. §2001.052, and 30 TAC Chapter 116.
4. The Commission has not adopted a "policy" regarding whether BACT should be revisited after the initial determination, within the meaning of TEX. GOV'T CODE ANN. §2001.058(e) (1)(A).
5. The "information presented at any hearing" language of TEX. HEALTH & SAFETY CODE §382.0518 refers to whether the facility met the BACT standard in place at the time the draft permit was issued.
6. The staff's practice of not revisiting the BACT after the initial determination has been made does not violate TEX. HEALTH & SAFETY CODE §382.0518.
7. Generally, facilities must meet the BACT requirement set out in 30 TAC §116.111(a)(2)(C).
8. Parker County is not an Environmental Protection Agency (EPA) designated non-attainment area for any air contaminant pursuant to section 107 of the Federal Clean Air Act (42 U.S.C. §7407).

9. Facilities in non-attainment areas must meet the Lowest Achievable Emission Rate (LAER) for NOx, as set out in 30 TAC §116.150.
10. The rules do not allow the Commission to apply LAER to attainment or unclassified areas for equitable reasons.
11. The proposed facility meets the BACT requirements set forth in TEX. HEALTH & SAFETY CODE §382.0518(b)(2) and 30 TEX. ADMIN. CODE (TAC) §116.111(a)(2)(C).
12. It is agency policy not to review start-up and shut-down emissions in permit applications. Instead those emissions are regulated through 30 TAC §101.7 and the enforcement process.
13. Because the Protestants did not object to the evidence regarding ESLs, the standards set out by the Texas Supreme Court in *E. I. du Pont de Nemours and Co. v. Robinson*, 923 S.W.2d 549 (Tex. 1995) and *Merrill Dow Pharmaceutical v. Havner*, 953 S.W. 2d 706 (Tex. 1997) should not be applied to that evidence in this case.
14. The Commission and SOAH ALJs have upheld the reliability of the ESLs. See the Commission's Order in *Matter of the Application of TXI Operations, L.P., for Permit No. HW-50316-001*, SOAH Docket No. 582-97-0499, TNRCC Docket No. 96-1466-IHW (March 19, 1999) and ALJ's Order No. 10, issued January 18, 2000, in *Application of North Texas Cement Company for Issuance of a Proposed Air Quality Permit Nos. 37177 and PSD-TX-893 in Grayson County, Texas*, SOAH Docket No. 582-99-0424, TNRCC Docket No 98-1477-AIR.
15. The Commission's endorsement in TXI of the staff's use of ESLs established an agency policy that the ALJ must consider under TEX. GOV'T CODE ANN. §2001.058. The evidentiary record in this case does not warrant any change in that policy.

16. The proposed facility would not adversely affect the public's health and property, as required by the TEX. HEALTH & SAFETY CODE §382.0518(b)(2) and 30 TAC §116.111(A).
17. Section 112(g) of the federal Clean Air Act requires a Maximum Achievable Control Technology (MACT) analysis for certain facilities that emit over ten tons per year of any hazardous air pollutant (HAP).
18. Formaldehyde is a pollutant subject to Section 112(g) of the federal Clean Air Act.
19. Effective June 26, 2000, a case-by-case MACT may be required for a natural gas turbine that emits ten tons per year of any HAP or 25 tons of combined HAPs.
20. A MACT analysis would be required if the preponderance of the evidence showed the facility would emit more than 10 tons per year of formaldehyde.
21. The estimated formaldehyde emissions from the proposed facility are below the level that would trigger a maximum available control technology (MACT) review under 30 TAC §116.111(a)(2)(K) as well as the federal Clean Air Act §112(g) and 40 Code of Federal Regulations (CFR) Part 63.
22. The Applicant must meet the following statutes, rules, and regulations for the permit to be granted:

State Statute

Texas Health & Safety Code, Subchapter C: §§382.051 - 382.0518, 382.052, 382.055, and 382.056

State Rules

TAC Title 30:

Chapter 101: §101.4

Chapter 111: §§111.111(a)(1) and (a)(7) and 111.115

Chapter 112: §§112.1 - 112.21 and 112.41 - 112.47

Chapter 116: §§116.10 - 116.183

Chapter 117: §§117.10 - 117.283 and 117.510 - 117.750

Federal Statutes

42 U.S.C §7401 *et seq.* (Federal Clean Air Act):

Part A: §§7409, 7410, and 7411 (NAAQS, SIPs for NAAQS and Standards for Performance for New Stationary Sources)

Part C: §§7470 -7492 (PSD)

Part D: §§7501 - 7515 (NA areas in general)

Federal Regulations

40 CFR 50.1 - 50.12 (NAAQS)

40 CFR 52.21 (PSD)

40 CFR 60.1 - 60.19 (Standards for Performance for New Stationary Sources)

40 CFR 60.330 - 60.335 (Standards of Performance for Stationary Gas Turbines)

40 CFR Chapter 63, National Emission Standards for Hazardous Air Pollutants (MACT).

23. The application complies with the statutes, rules, and regulations set forth in the Conclusion of Law above.
24. The Commission should issue the draft permit, with the additional condition requiring monitoring of Hazardous Air Pollutants.
25. Pursuant to 30 TAC §80.23(d), all reporting and transcript costs should be allocated to the Applicant.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION THAT:

1. The application by Mirant Parker, LLC (formerly SEI Texas, LLC) for Permit Numbers permit numbers 40619 and PSD-Texas-933 is approved in accordance with the terms and conditions contained in the attached permit, with the following additional condition:

Air emissions from each gas turbine shall be tested while firing at full load for the ambient conditions at the time of testing. Air contaminants to be sampled and analyzed while at full load include (but are not limited to) NO_x, O₂, CO, NH₃, VOC, formaldehyde, SO₂, PM₁₀, and opacity. (Fuel sampling using the methods and procedures of 40 CFR 60.335[d] may be conducted in lieu of stack sampling for SO₂).

2. The Applicant shall be responsible for the payment of all transcription and recording costs incurred in connection with this application.
3. All other motions, requests for entry of specific findings of fact or conclusions of law, and any other requests for general or specific relief not expressly granted herein, are hereby DENIED for want of merit.
4. The Chief Clerk of the Texas Natural Resource Conservation Commission forward a copy of this Order and the attached permit, with the additional condition, to all parties and, subject to the filing of motions for rehearing, issue the revised permit.
5. If any provision, sentence, clause or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of the Order.

6. The effective date of this order is the date the order is final, as provided by 30 TEX. ADMIN. CODE §80.273 and the Administrative Procedure Act, TEX. GOV'T CODE ANN. §2001.144.

Issue Date: JAN 07 2002.

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION


For the Commission

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION AIR QUALITY PERMIT



A PERMIT IS HEREBY ISSUED TO
SEI Texas, LLC
AUTHORIZING THE CONSTRUCTION AND OPERATION OF THE
Weatherford Electric Generation Facility
LOCATED AT
Weatherford, Parker County, Texas
LATITUDE 32° 48' 23" LONGITUDE 097° 41' 57"



1. Facilities covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Natural Resource Conservation Commission (TNRCC) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code § 116.116 (30 TAC § 116.116)]
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of date of issuance, discontinues construction for more than 18 consecutive months prior to completion, or fails to complete construction within a reasonable time. Upon request, the Executive Director may grant a onetime 18-month extension of the date to begin construction. [30 TAC § 116.115(b)(2)(A)]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate Regional Office of the TNRCC not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(B)]
4. **Start-up Notification.** The appropriate TNRCC Air Program Regional Office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the TNRCC may be present. Phased construction, which may involve a series of units commencing operations at different times, shall provide separate notification for the commencement of operations for each unit. Prior to operation of the facilities authorized by the permit, the permit holder shall identify to the TNRCC Office of Permitting, Remediation, and Registration the source or sources of allowances to be utilized for compliance with 30 TAC Chapter 101, Subchapter H, Division (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(c)]
5. **Sampling Requirements.** If sampling of stacks or process vents is required, the permit holder shall contact the TNRCC Office of Air Quality prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the TNRCC Executive Director and coordinated with the regional representatives of the Commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(D)]
6. **Equivalency of Methods.** It shall be the responsibility of the permit holder to demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the TNRCC Executive Director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(E)]
7. **Recordkeeping.** A copy of the permit along with information and data sufficient to demonstrate compliance with the permit are to be maintained in a file at the plant site and made available at the request of personnel from the TNRCC or any air pollution control program having jurisdiction. For facilities that normally operate unattended, this information is to be maintained at the nearest staffed location within Texas specified by the permit holder in the permit application. This information shall include, but is not limited to, production records and operating hours. Additional recordkeeping requirements may be specified in special conditions attached to the permit. Information in the file shall be retained for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(F)]
8. **Maximum allowable emission rates.** The total emissions of air contaminants from any of the sources of emissions listed in the table entitled "Emission Sources - Maximum Allowable Emission Rates" must not exceed the values stated on the table attached to the permit. [30 TAC § 116.115(b)(2)(G)]
9. **Maintenance of Emission Control.** The facilities covered by the permit are not to be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. Notification for upsets and maintenance shall be made in accordance with 30 TAC §§ 101.6 and 101.7 of this title (relating to Notification Requirements for Major Upset and Notification Requirements for Maintenance). [30 TAC § 116.115(b)(2)(H)]
10. **Compliance with Rules.** Acceptance of a permit by a permit applicant constitutes an acknowledgement and agreement that the holder will comply with all rules, regulations, and orders of the TNRCC issued in conformity with the Texas Clean Air Act (TCAA) and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition are applicable, then the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of Commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(I)]
11. This permit may be appealed pursuant to 30 TAC § 50.39.
12. This permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(d)]
13. There may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(e)]
14. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in TCAA § 382.003(3) or violate TCAA § 382.085. If the TNRCC Executive Director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.

PERMIT 40619 and PSD-TX-933

DATE _____

For the Commission
Texas Natural Resource Conservation Commission

SPECIAL CONDITIONS

Permit Nos. 40619 and PSD-TX-933

EMISSION LIMITATIONS AND OPERATING SPECIFICATIONS

1. The gas turbines shall be limited to firing pipeline-quality, sweet natural gas containing no more than 2.0 grains total sulfur per 100 dry standard cubic feet. Firing of any other fuel will require authorization from the permitting authority.
2. The turbines shall normally operate at 100 percent base load except for periods of start-up or shutdown not to exceed three hours. Reduced load operation is authorized to accommodate periods of reduced power demands provided the maximum pounds per hour and ton per year emission rates specified in the attached table entitled "Emission Sources - Maximum Allowable Emissions Rates" are not exceeded.
3. Each GE Model 7241 FA turbine shall be limited to a maximum firing rate of no more than 1,910 million Btu per hour fuel higher heating value. Each GE Model 7121 EA turbine shall be limited to a maximum firing rate of no more than 1,079 million Btu per hour fuel higher heating value.
4. Upon request by the Executive Director of the Texas Natural Resource Conservation Commission (TNRCC) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel fired in this facility or shall allow air pollution control agency representatives to obtain a sample for analysis.
5. Opacity of emissions shall not exceed 5 percent averaged over a six-minute period from each emission point identified in the maximum allowable emission rates table (MAERT), except for periods of start-up, shutdown, or maintenance not to exceed three hours. The opacity shall be determined by Environmental Protection Agency (EPA) Reference Method No. 9.
6. Construction of Phase II, which involves the installation of two GE Model 7121 EA gas-fired turbines shall begin 18 months after the issuance of the permit. Construction of Phase III, which involves the installation of two unfired heat recovery steam generator, one steam turbine, and a cooling tower, shall begin 36 months after the issuance of the permit. Construction for either of the above phases may begin before the above timeframes; however, failure to begin construction within 18 months of the above timeframes for either phases shall automatically void authorization to construct that phase. Upon request, the TNRCC Executive Director may grant a one-time extension of the date to begin construction of the above phases.

FEDERAL APPLICABILITY

7. These facilities shall comply with applicable requirements of the EPA Regulations on Standards of Performance for New Stationary Sources, Title 40 Code of Federal Regulations Part 60 (40 CFR 60), promulgated for:
 - A. General Conditions, Subpart A.
 - B. The gas turbines are subject to the applicable requirements of Subpart GG, Standards of Performance for Stationary Gas Turbines.

If any condition of this permit is more stringent than the regulations so incorporated, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

INITIAL DETERMINATION OF COMPLIANCE

8. Sampling ports and platforms shall be incorporated into the design of each exhaust stack according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TNRCC Regional Director or the Manager of the TNRCC Enforcement Division, Air Section, Engineering Services Team in Austin.
9. The holder of this permit shall perform stack sampling and other testing as required to establish the actual quantities of air contaminants being emitted into the atmosphere from Emission Points Nos. TS-1, TS-2, S-3, and S-4. Sampling shall be conducted in accordance with the appropriate procedures of the TNRCC Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods 201A and 202 or Reference Method 5, modified to include back-half condensibles, for the concentration of particulate matter equal to or less than 10 microns in diameter (PM₁₀); Reference Method 8 or Reference Methods 6 or 6c for sulfur dioxide (SO₂); Reference Method 9 for opacity (consisting of 30 six-minute readings as provided in 40 CFR 60.11[b]); Reference Method 10 for the concentration of carbon monoxide (CO); Reference Method 25A, modified to exclude methane and ethane, for the concentration of volatile organic compounds (VOC) (to measure total carbon as propane); and Reference Method 20 for the concentrations of nitrogen oxide (NO_x) and oxygen (O₂) or equivalent methods.

SPECIAL CONDITIONS

Permit Nos. 40619 and PSD-TX-933

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Fuel sampling using the methods and procedures of 40 CFR 60.335(d) may be conducted in lieu of stack sampling for SO₂. If fuel sampling is used, compliance with New Source Performance Standards (NSPS), Subpart GG, SO₂ limits shall be based on 100 percent conversion of the sulfur in the fuel to SO₂. Any deviations from those procedures must be approved by the TNRCC Executive Director prior to sampling. The TNRCC Executive Director or his designated representative shall be afforded the opportunity to observe all such sampling.

The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense.

- A. The TNRCC Arlington Regional Office shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) Date for pretest meeting.
- (2) Date sampling will occur.
- (3) Name of firm conducting sampling.
- (4) Type of sampling equipment to be used.
- (5) Method or procedure to be used in sampling.
- (6) Procedure used to determine turbine loads during and after the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports. A written proposed description of any deviation from sampling procedures specified in permit conditions, TNRCC, or EPA sampling procedures shall be made available to the TNRCC prior to the pretest meeting. The TNRCC Regional Director or the Manager of the TNRCC Austin Enforcement Division, Air Section, Engineering Services Team shall approve or disapprove of any deviation from specified sampling procedures. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TNRCC Office of Permitting, Remediation, and Registration, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for NSPS testing which must have EPA approval shall be submitted to the TNRCC Enforcement Division, Air Section, Engineering Services Team in Austin.

SPECIAL CONDITIONS

Permit Nos. 40619 and PSD-TX-933

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- B. Air emissions from each gas turbine shall be tested while firing at full load for the ambient conditions at the time of testing. Air contaminants to be sampled and analyzed while at full load include (but are not limited to) NO_x, O₂, CO, NH₃, VOC, formaldehyde, SO₂, PM₁₀, and opacity. (Fuel sampling using the methods and procedures of 40 CFR 60.335[d] may be conducted in lieu of stack sampling for SO₂).
- C. Air emissions from each gas-fired turbine shall be tested while firing at three partial load conditions in the normal operating range of the gas turbine, including the minimum point in the range. Normal operating range is 50 percent to 100 percent of base load. Each tested load shall be identified in the sampling report. Air emissions to be sampled and analyzed while at partial load include (but are not limited to) NO_x, O₂, CO, and VOC.
- D. The holder of this permit shall demonstrate during the initial compliance testing that the best available control technology has been selected by demonstrating that the concentration of NO_x and CO in the stack gases from each gas turbine does not exceed 9 parts per million by volume on a dry basis (ppmvd) and 25 ppmvd, respectively, when corrected to 15 percent O₂.
- E. Sampling of each turbine unit shall occur within 60 days after achieving the maximum production rate at which each turbine will be operated but no later than 180 days after its initial start-up. The TNRCC and EPA may require additional sampling at other times as they deem appropriate.
- F. Within 60 days after the completion of the testing and sampling required for each turbine unit herein, copies of the sampling report shall be distributed as follows.

One copy to the TNRCC Arlington Regional Office.

One copy to the TNRCC Office of Permitting, Remediation, and Registration, Air Permits Division, Austin.

One copy to the EPA Region 6 in Dallas.

CONTINUOUS DETERMINATION OF COMPLIANCE FOR CO AND NO_x

- 10. The holder of this permit shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) to measure and record the concentrations of NO_x, CO, and diluent gas (O₂ or carbon dioxide) at each gas-fired turbine's exhaust stack.

SPECIAL CONDITIONS

Permit Nos. 40619 and PSD-TX-933

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- A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR 60, Appendix B. If there are no applicable performance specifications in 40 CFR 60, Appendix B, contact the TNRCC Office of Permitting, Remediation, and Registration, Air Permits Division in Austin for requirements to be met.
 - B. The CEMS shall meet the applicable quality-assurance requirements specified in 40 CFR 60, Appendix F, Procedure I. All CEMS downtime of one-hour or greater shall be recorded by the CEMS. Any relative accuracy exceedances, as specified in 40 CFR 60, Appendix F, Section 5.2.3, and any CEMS downtime in excess of four hours shall be reported to the appropriate TNRCC Regional Director, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TNRCC Regional Director.
 - C. The monitoring data shall be reduced to hourly average values at least once everyday, using a minimum of four equally-spaced data points from each one-hour period. Two valid data points shall be generated during the hourly period in which zero and span is performed.
 - D. All monitoring data and quality-assurance data shall be maintained by the source for a period of two years and shall be made available to the TNRCC Executive Director or his designated representative upon request. The data from the CEMS may, at the discretion of the TNRCC, be used to determine compliance with the conditions of this permit. Hourly average concentrations from the gas-fired turbines shall be summed to tons per year and used to determine compliance with the emission limits of this permit.
 - E. The TNRCC Arlington Regional Office shall be notified at least 30 days prior to any required relative accuracy test audit in order to provide them the opportunity to observe the testing.
 - F. If applicable, the CEMS will be required to meet the design and performance specifications, pass the field tests, and meet the installation requirements and data analysis and reporting requirements specified in the applicable performance specifications in 40 CFR 75, Appendix A.
11. The holder of this permit shall additionally install, calibrate, maintain, and operate continuous monitoring systems to monitor and record the average hourly fuel consumption in the gas turbines. The systems shall be accurate to ± 5.0 percent of the units maximum flow.

SPECIAL CONDITIONS

Permit Nos. 40619 and PSD-TX-933

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12. The holder of this permit shall monitor the fuels fired in the equipment authorized by this permit for fuel-bound sulfur as specified in 40 CFR 60.334(b). Any request for a custom monitoring schedule shall be made in writing and directed to the TNRCC Executive Director of the TNRCC although authority for granting such custom schedules remains with the EPA. Any custom schedule approved by EPA pursuant to 40 CFR 60.334(b) will be recognized as enforceable conditions of this permit provided that the holder of this permit demonstrates that the conditions of such custom schedule will be adequate to demonstrate continuous compliance with the attached MAERT.

RECORDKEEPING REQUIREMENTS

13. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TNRCC, EPA, or any air pollution control agency with jurisdiction.
 - A. A copy of this permit.
 - B. Permit application dated February, 1999 and the additional information supplied for the permit review.
 - C. A complete copy of the testing report and records of the initial performance testing completed pursuant to Special Condition No. 9 to demonstrate initial compliance.
 - D. Stack sampling results or other testing that may be conducted on units authorized under this permit after the date of issuance of this permit.
14. The following information shall be made and maintained by the holder of this permit in a form suitable for inspection for a period of two years after the data are obtained and shall be made immediately available upon request to representatives of the TNRCC, EPA, or any local air pollution control program having jurisdiction:
 - A. Records of the hours of operation and daily quantity of natural gas fired in the turbines to demonstrate compliance with Special Condition No. 3.
 - B. A copy of the contractual fuel quality analysis agreement with the natural gas supplier shall be kept to demonstrate compliance with total sulfur limitations of Special Condition No. 1. If the natural gas supplier changes, the new contractual agreement must be kept.

SPECIAL CONDITIONS

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- C. Records of fuel sampling conducted pursuant to Special Condition No. 12.
- D. Raw data files of all CEMS data including calibration checks and adjustments and maintenance performed on these systems of devices in a permanent form suitable for inspection.
- E. Records of the CEMS data required by Special Condition No. 10D.
- F. Records of reporting pursuant to Special Condition Nos. 15, 16, and 17.

REPORTING

- 15. The holder of this permit shall submit to the TNRCC Arlington Regional Office a quarterly report that summarizes quarterly reports sent to the Air Enforcement Branch of EPA in Dallas pursuant to 40 CFR 75. In addition, each quarterly report submitted to the TNRCC shall contain the hours of operation of the facility and a report summary of the periods of noncomplying emissions and CEMS downtimes by cause. The CEMS downtimes that exceed 72 hours shall be reported to the TNRCC Arlington Regional Office either verbally or in writing no later than 24 hours after the 72 hour period ends.
- 16. For the purposes of reporting pursuant to Special Condition No. 15, noncomplying emissions from the gas turbines may be defined as follows:
 - A. Noncomplying emissions of NO_x or CO may be defined as each one-hour period of operation, except during start-up or shutdown (for the gas turbine, start-up or shutdown is defined as turbine operation at less than 50 percent of base load, not to exceed three hours) during which the average emissions, as measured and recorded by the CEMS, exceed the emission limitations specified in this permit.
 - B. Noncomplying annual emissions may be defined as a rolling 12-month period during which the 12-month cumulative emissions exceeds the annual limits specified in the attached MAERT.
 - C. For any period of operation except start-up or shutdown during which the CEMS is unable to provide valid hourly emissions concentrations, noncomplying emissions may be defined as each hourly period for which the predicted emissions, based upon replacement data gathered in accordance to 40 CFR 60 or 75, exceed the emission limitations specified in the attached MAERT.

SPECIAL CONDITIONS

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- D. Noncomplying emissions of SO_2 may be defined as emissions resulting from firing fuel which is found to contain sulfur in excess of the limits of Special Condition No. 1 or which indicates exceedance of the SO_2 limitation found in the attached MAERT, based on 100 percent conversion of the sulfur in the fuel to SO_2 and by exceeding firing at base load.
 - E. Noncomplying emissions of PM_{10} may be defined as emissions resulting from firing non-permitted fuels.
17. If the average NO_x or CO stack outlet emission rate exceeds the maximum allowable emissions rate for more than one hour, the holder of this permit shall investigate and determine the reason for the exceedance and, if needed, make necessary repairs and/or adjustments as soon as possible. If the NO_x or CO emission rate exceeds the emission rate in the MAERT for more than 24 hours, the permit holder shall notify the TNRCC Regional Office either verbally or with a written report detailing the cause of the increase in emissions and all efforts being made to correct the problem.

Dated _____

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Nos. 40619 and PSD-TX-933

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
S-1 (TS-1)	GE Model 7241FA Gas Turbine (Temporary Stack)	NO _x	63.0	254.1
		CO	31.0	122.7
		SO ₂	10.5	5.0
		VOC	3.0	12.3
		PM/PM ₁₀ (4)	18.0	78.9
		H ₂ SO ₄	0.8	0.4
S-2 (TS-2)	GE Model 7241FA Gas Turbine (Temporary Stack)	NO _x	63.0	254.1
		CO	31.0	122.7
		SO ₂	10.5	5.0
		VOC	3.0	12.3
		PM/PM ₁₀ (4)	18.0	78.9
		H ₂ SO ₄	0.8	0.4
S-3	GE Model 7121EA Gas Turbine	NO _x	35.0	140.2
		CO	58.0	232.2
		SO ₂	6.0	2.9
		VOC	2.0	7.9
		PM/PM ₁₀ (4)	14.0	61.3
		H ₂ SO ₄	0.5	0.3
S-4	GE Model 7121EA Gas Turbine	NO _x	35.0	140.2
		CO	58.0	232.2
		SO ₂	6.0	2.9
		VOC	2.0	7.9
		PM/PM ₁₀ (4)	14.0	61.3
		H ₂ SO ₄	0.5	0.3
Fugit EPN-5	Piping Fugitives (5)	VOC	0.44	1.99
C-1	Cooling Tower	PM/PM ₁₀	1.45	6.36

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in 30 Texas Administrative Code Section 101.1
NO_x - total oxides of nitrogen
SO₂ - sulfur dioxide
PM - particulate matter, suspended in the atmosphere, including PM₁₀.
PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.
CO - carbon monoxide
H₂SO₄ - sulfuric acid
- (4) Particulate matter includes condensibles (both front-half and back-half of the sample train).
- (5) Fugitive emissions are an estimate only.

* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

Hrs/day 24 Days/week 7 Weeks/year 52 or Hrs/year 8,760

Dated _____

ATTACHMENT C

ATTACHMENT C

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**ORDER REGARDING
THE APPLICATION BY TENASKA TRAILBLAZER PARTNERS, LLC FOR
STATE AIR QUALITY PERMIT 84167, PREVENTION OF SIGNIFICANT
DETERIORATION AIR QUALITY PERMIT PSD-TX-1123, AND
HAZARDOUS AIR POLLUTANT MAJOR SOURCE PERMIT NO. HAP-13
TCEQ DOCKET NO. 2009-1093-AIR
SOAH DOCKET NO. 582-09-6185**

On _____, the Texas Commission on Environmental Quality (TCEQ or Commission) considered the application of Tenaska Trailblazer Partners, L.L.C. (Tenaska) for State Air Quality, federal Prevention of Significant Deterioration, and Hazardous Air Pollutant Major Source permits to construct a new 900 megawatt (MW) coal-fired electric power generating facility located near Sweetwater, Texas, in Nolan County, Texas. A Proposal for Decision was presented by Administrative Law Judges (ALJs) Sarah G. Ramos and Ami L. Larson of the State Office of Administrative Hearings (SOAH), who conducted a hearing in this matter on June 2-4 and 7-10, 2010, in Austin, Texas. The record closed on August 4, 2010.

After considering the Proposal for Decision, the Commission makes the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

Introduction and Procedural History

1. Tenaska has applied for preconstruction authorizations for a proposed new supercritical pulverized coal (SCPC) boiler (main boiler) powering a single steam turbine designed for base load operation with a nominal gross power output of 900 MW and related

facilities to be located at the Tenaska Trailblazer Energy Center (Trailblazer or the Plant).

2. Trailblazer will be located approximately 6.5 miles east northeast of Sweetwater, Texas, in Nolan County, Texas.
3. The main boiler will use Powder River Basin (PRB) subbituminous coal as the primary fuel source, with a maximum heat input rate of 8,307 MMBtu/hr.
4. The Plant will also have materials handling equipment for coal and other materials and a flue gas CO₂ capture unit that will be capable of capturing 85-90% of the CO₂ from the main boiler that will subsequently be used for enhanced oil recovery (EOR) operations.
5. Tenaska's business purpose for proposing the Trailblazer project is (1) to construct and operate a full-scale, baseload, coal-fired electric power generating facility and (2) to use CO₂ capture technology so that a maximum amount of CO₂ can be captured and produced for utilization in EOR operations.
6. SCPC technology with CO₂ capture reaches close to 90% CO₂ capture rates; whereas CO₂ capture rates for integrated gasification combined cycle (IGCC) technology are typically only 65%. SCPC technology maximizes the amount of CO₂ that can be captured during facility operations.
7. IGCC is not a technology that has been demonstrated in practice for use with low sulfur, subbituminous PRB coal, since such coal has high moisture and ash content that can adversely affect IGCC operations; whereas, use of subbituminous PRB coals are well demonstrated in operation of SCPC facilities.
8. IGCC technology has not been proven to achieve at least 90% availability for purposes of baseload electric power generating operations since there are many components to an IGCC plant, each of which contribute to potential reliability problems, making baseload operation difficult to achieve.

9. Low-sulfur, subbituminous PRB coal is more compatible with capture solvents to be used in the CO₂ capture facility, because such solvents are typically degraded by sulfur.
10. The Trailblazer Air Quality Permit Application (the Application) was submitted to the Texas Commission on Environmental Quality (TCEQ) on February 19, 2008, and additional submittals followed.
11. The Application includes responses to information requests by the TCEQ Executive Director (ED) Staff and three larger supplements subsequently submitted to the ED Staff that include: (1) the case-by-case maximum achievable control technology (MACT) analysis report, submitted in July 2008; (2) a Class II Area Air Dispersion Modeling Analysis Report, which was submitted on July 3, 2008; and (3) a Class I Area Air Dispersion Modeling Analysis Report, which was submitted on August 22, 2008.
12. The ED deemed the Application administratively complete on February 25, 2008.
13. The ED deemed the Application technically complete on January 30, 2009.
14. The ED rendered his preliminary decision to approve the Application and issued a Draft Permit on January 30, 2009, as part of the technical completeness declaration on the Application.
15. The Draft Permit is actually three different air quality authorizations combined into one document: (1) the State Air Quality Permit No. 84167, under the New Source Review Program (NSR); (2) the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) Program Permit (HAP-13); and (3) the Prevention of Significant Deterioration (PSD) Program Permit No. PSD-TX-1123.
16. Tenaska published the “Notice of Receipt of Application and Intent to Obtain Air Permit” in the *Sweetwater Reporter* on March 7, 2008.

17. Tenaska published the “Notice of Application and Preliminary Decision, Notice of Public Meeting, and Notice of Hearing for an Air Quality Permit” in the *Sweetwater Reporter* on February 1, 2009.
18. The 30-day public comment period commencing February 1, 2009, was extended until April 16, 2009.
19. A public meeting was held regarding the Application on March 3, 2009, in Sweetwater, Texas.
20. As a result of contested hearing requests on the Application, on July 14, 2009, Tenaska requested a direct referral to the SOAH.
21. Tenaska published the “Notice of Hearing” in the *Sweetwater Reporter* on September 10, 2009, giving notice of the preliminary hearing to be held on October 14, 2009, in Sweetwater, Texas.
22. A preliminary hearing was held on October 14, 2009, in Sweetwater, Texas, the evidentiary hearing was held on June 2-4 and 7-10, 2010, before ALJs Sarah G. Ramos and Ami L. Larson in Austin, Texas, and the record closed on August 4, 2010.
23. The following parties appeared and participated in the hearing: Tenaska, Sierra Club, Multi-County Coalition (MCC), the ED, and OPIC.
24. Tenaska posted signs and published notice in accordance with ED Staff instructions and TCEQ rules.

Completeness of the Application

25. All appropriate forms were submitted in the Application.
26. Tenaska’s Application for Trailblazer was prepared in accordance with existing TCEQ rules, guidance, and procedures.

27. The area map, plot plans, and process flow diagrams provided in the Application are accurate.
28. The Application addressed all sources of air emissions associated with the Trailblazer project that are subject to air quality permitting under TCEQ rules.
29. An accurate material balance table depicting all inputs and outputs associated with Trailblazer's proposed operations and cross-referenced with associated emission points from process flow diagrams and process flow rates are provided in the Application and is accurate.
30. The Application includes an accurate Emission Point Summary Table, which lists all of the emission points associated with the proposed Trailblazer Plant, along with emission rates and stack parameters for each emission point, along with accurate equipment tables that provide technical details for the emission sources that comprise the proposed Trailblazer Plant.
31. The Application addressed applicable TCEQ Control of Air Pollution Episodes requirements, under 30 TAC Chapter 118, which were triggered by the Trailblazer project, and Tenaska will comply with generalized and localized air pollution episodes requirements but is not subject to the emissions reduction plan requirements.
32. Tenaska has committed to prepare a risk management plan before bringing anhydrous ammonia on-site for storage.
33. Dr. Greg Kunkel, Vice President of Environmental Affairs, Tenaska Trailblazer Partners, LLC, an authorized representative of Tenaska, signed the Application.
34. The appropriate permit fee of \$75,000 was submitted with the Application.
35. The State Air Quality/PSD Application was submitted under the seal of Dr. Weiping Dai, a Texas registered professional engineer.

36. TCEQ ED Staff reviewed Tenaska's Application to determine whether it complied with all applicable rules and policies and documented the conclusions of that review in the Construction Permit Source Analysis and Technical Review for Permit No. 84167/PSD-TX-1123/HAP-13.

Emissions Sources and Calculations

37. Based on a detailed review of facility design, including process flow diagrams, material balance, and equipment lists, all emission sources and associated emission points were accurately identified in the Application.
38. All stationary emission sources required to obtain preconstruction approval for the Plant were described in the Application and there are nine general categories: (1) combustion sources, (2) material transfer points, (3) dust collectors, (4) material storage piles, (5) storage pile maintenance and earth moving emissions, (6) cooling towers, (7) solid waste disposal wind erosion, (8) roads, and (9) storage tanks.
39. The regulated air contaminants proposed to be emitted from the Plant include the following PSD regulated pollutants: Volatile Organic Compounds (VOCs), Particulate Matter (PM) with an aerodynamic diameter less than 10 microns (PM_{10}) and Particulate Matter with an aerodynamic diameter less than 2.5 microns ($PM_{2.5}$), nitrogen oxides (NO_x), which includes Nitrogen Dioxide (NO_2), Carbon Monoxide (CO), Sulfur Dioxide (SO_2), Elemental Lead (Pb), Sulfur Acid Mist (H_2SO_4), ammonia (NH_3), and Fluorides. Emissions of VOC, PM, PM_{10} , NO_x , CO and SO_2 exceed the applicable PSD major source threshold of 100 tons per year.
40. The Plant is proposed to also emit HAPs regulated under the Texas Clean Air Act and non-criteria air pollutants regulated by the State of Texas.
41. All regulated pollutants that are proposed to be emitted from the Plant have been accurately and adequately identified.

42. All regulated pollutant emission rates from the proposed Trailblazer Plant were accurately calculated both on a short-term and annual emissions rate basis resulting in a conservative accurate estimate of the maximum potential emissions.

Federal Standards of Review for Constructed or Reconstructed Major Sources of Hazardous Air Pollutants (HAPs): 30 TEX. ADMIN. CODE § 116.111(a)(2)(K) (Case-by-Case MACT)

43. Tenaska submitted an FCAA § 112(g) case-by-case MACT Analysis as part of the Application and applied for a HAP major source permit and to establish case-by-case MACT requirements for Trailblazer.
44. Tenaska properly conducted a case-by-case MACT Analysis for both the main boiler and the auxiliary boiler.

For reference to the record, see Exhibit ED-1 (Hughes Prefiled), 32:30-39; Exhibit ED-13 (RTC), pp. 28-29; Exhibit ED-11 (Preliminary Determination Summary), pp. 9-10.

45. The case-by-case MACT Analysis was complete and included all information necessary for the ED to render a case-by-case MACT determination for the Trailblazer main boiler and the auxiliary boiler.
46. The TCEQ ED Staff reviewed the case-by-case MACT Analysis contained in the Trailblazer Application and other information available to the ED, and the ED rendered a case-by-case MACT determination for the Trailblazer main boiler and auxiliary boiler as described in the Preliminary Determination Summary as required by the Draft Permit.
47. Because the Trailblazer main boiler is a conventional pulverized coal boiler, circulating fluid bed combustion (CFB) facilities are properly excluded from consideration in the Trailblazer case-by-case MACT Analysis and Best Available Control Technology (BACT) determinations ~~with the exception of filterable PM analysis~~, because CFBs have different combustion characteristics to that of PC boilers and are, therefore, not

similar sources to pulverized coal (PC) boilers, such as the proposed Trailblazer main boiler.

See Exceptions pp. 16-18.

48. All necessary HAPs were evaluated as part of Tenaska's MACT analyses for the Plant.
49. HAPs other than mercury and acid gases to be emitted by the Trailblazer main boiler were properly grouped as either non-Hg metallic HAPs or organic HAPs in order to establish enforceable MACT emission limits.
50. ~~Because there is no approved state implementation plan or other state specific rules or statutes regarding case-by-case MACT analysis, EPA MACT rules govern the case-by-case MACT analysis for Tenaska.~~ In accordance with 30 TEX. ADMIN. CODE § 116.11(a)(2)(K), and 30 TEX. ADMIN. CODES §§ 116.400-406, the Trailblazer Plant complies with all applicable requirements at 30 TEX. ADMIN. CODE CHAPTER 116 regarding case-by-case MACT review.

See Exceptions pp. 7-10. For reference to the record, see Tenaska Exhibit 3 (Bailey Prefiled), 24:15-25:3, 26:4-9; Exhibit ED-1 (Hughes Prefiled) at 32:30-39, 34:7-24.

51. Coal type and combustion configuration are the key parameters for determining what constitutes a similar source category of coal-fired utilities for purposes of case-by-case MACT analysis.
52. Combustion characteristics of PC and CFB units are fundamentally different and, relative to PCs or other conventional boiler types, CFB units combust fuel at lower temperatures and longer residence times enabling them to combust low quality waste fuels since the different firing approach of a CFB makes it insensitive to coal rank or fuel quality in general.
53. ~~With the exception of filterable PM emissions, CFBs and PCs do not constitute similar sources for purposes of Tenaska's case-by-case MACT analysis.~~

See Exceptions pp. 16-18.

54. For each HAP to be emitted, Tenaska must meet a “MACT floor” emissions limit, regardless of cost or other feasibility concerns, that is no less stringent than the emissions limitation achieved in practice by the best controlled similar source.
55. If feasible, Tenaska must meet a “beyond-the-floor” MACT emissions limit, which is the most stringent emissions limit achievable for each HAP to be emitted considering cost and any non-air quality health and environmental impacts and energy requirements.
56. Tenaska performed the case-by-case MACT analyses in two steps. In the first step, Tenaska established the “MACT floor” or the most stringent limitation achieved in practice by the best controlled similar source. In the second step, Tenaska performed a “beyond the floor” (“BTF”) analysis of the other methods for potentially reducing emissions to a greater degree, considering such factors as the cost of achieving such emissions reductions and any non-air quality health and environmental impacts and energy requirements to establish whether further reductions are achievable.

See Exceptions p. 10. For reference to the record, see Tenaska Exhibit 2B (Application), Volume I, Tab B, pp. 2-2-2-3, 6-1-6-8; Tenaska Exhibit 3 (Bailey Prefiled) at 24:15-25:3; Exhibit ED-13 (RTC), p. 41; Exhibit ED-11 (Preliminary Determination Summary), p. 9.

- ~~56.57. With the exception of filterable PM as a surrogate for non-mercury metallic HAPs, Tenaska properly restricted its MACT analysis to evaluate only sources that burn the same fuel type and use the same combustion technology as Tenaska.~~

Exceptions pp. 16-18.

- ~~58. For filterable PM, which is captured by traditional PM control devices, including baghouses, all coal-fired boilers are capable of achieving essentially the same emission rate regardless of combustion or fuel type.~~

Exceptions pp. 16-18.

~~59.58.~~ To determine the MACT floor limit, Tenaska and the ED relied primarily on the lowest identified permit limits achieved in practice for similar operational plants ~~and noted, but discounted, lower permit limits for plants that are not yet in operation, in accordance with TCEQ MACT floor determination procedures.~~

Exceptions pp. 7-10.

~~60.~~In the absence of specific evidence to the contrary, permit limits issued by other permitting authorities reflect the judgment of those agencies that the limits established are achievable.

Exceptions pp. 7-10.

~~60.59.~~ Tenaska and the ED considered information related to the development of the original EPA proposed and later rescinded Utility MACT standards in their beyond-the-floor MACT analyses as required.

~~61.60.~~ Tenaska was not required to obtain specific performance data, such as stack test results or CEMS data to determine either its MACT floor or beyond-the-floor limits.

~~63.~~Tenaska was required to consider reliable emissions data that was made available to it as part of its MACT determination.

Exceptions pp. 3-6.

~~64.~~Non-operational similar sources may have permit limits that were set based on emissions rates that have been achieved in practice over time by similar operating sources.

Exceptions pp. 7-10.

~~64. As part of its case-by-case MACT analysis, Tenaska and the ED failed to evaluate lower permit limits for non-operational similar sources as required to determine the basis for those limits and whether they should be applied to Tenaska.~~

Exceptions pp. 7-10.

~~65. Tenaska was required but failed to evaluate information provided by Protestants before and during the hearing concerning more stringent permit limits issued for other similar sources to determine whether those more stringent limits should be applied to Tenaska.~~

Exceptions pp. 3-6, 7-10.

~~66.61. BACT and MACT determinations are not considered to be complete until the final permit is issued~~reviews end with the Executive Director's completion of technical review on an application.

Exceptions pp. 3-6.

~~67.62.~~ For control of mercury from the main boiler, Tenaska proposes to use a combination of wet flue gas desulfurization (WFGD), a fabric filter baghouse, selective catalytic reduction (SCR), and activated carbon injection (ACI) (or equivalent sorbent injection).

~~68.63.~~ Based on its review of other MACT proposals for subbituminous PC utility boilers since 1999, and the proposed Utility MACT new source MACT floor limit, Tenaska determined that no emissions rate for mercury lower than 2.2×10^{-6} lb/MMBtu has been achieved in practice by any other similar source and recommended that limit as its MACT floor.

~~69.64.~~ Tenaska and the ED considered, but rejected as not being achieved in practice, lower mercury permit limits for similar sources that had not yet demonstrated compliance with those lower limits.

For reference to the record, see Exhibit ED-13 (RTC), pp. 31-32.

~~70. A beyond-the-floor MACT analysis should look at lower permit limits for facilities that have not yet demonstrated compliance with those limits.~~

Exceptions pp. 7-10.

~~71.65. For its beyond-the-floor MACT analysis, Tenaska considered the use of wet electrostatic precipitators (wet ESP) and the non-thermal plasma (electro catalytic oxidation) process.~~

~~72.66. Wet ESP would be cost-prohibitive for Tenaska and is not appropriate as the basis for a MACT beyond-the-floor limit.~~

~~73.67. Non-thermal plasma technology is not an appropriate basis for a beyond-the-floor MACT limit for Tenaska because it would not necessarily control mercury any better than the technology suite already proposed to be used by Tenaska.~~

~~74.68. In the Draft Permit, the ED recommended a MACT floor mercury limit for Tenaska of 1.7×10^{-6} lb/MMBtu based on Council Bluffs Station, Unit 4 (also known as Walter Scott, Jr. Energy Center), which has demonstrated compliance with that limit.~~

~~75.69. The ED determined that no MACT beyond-the-floor limit for mercury would be appropriate because the limit recommended in the Draft Permit was based on Tenaska's use of the most effective and state-of-the-art emissions controls currently available on a commercial scale for mercury reduction.~~

~~76. Plant Washington in Georgia is a similar source to Tenaska.~~

Exceptions pp. 3-6.

~~77. The Georgia Department of Natural Resources (GDNR) issued a permit for Plant Washington on April 8, 2010 (Plant Washington permit).~~

Exceptions pp. 3-6.

~~78. Plant Washington will use similar or the same mercury controls as Tenaska.~~

Exceptions pp. 3-6.

~~79. The permit issued for Plant Washington contains a MACT mercury limit of 1.46 x 10⁻⁶ lb/MMBtu while burning the same PRB subbituminous coal that Tenaska will use.~~

Exceptions pp. 3-6.

~~80. The Plant Washington permit MACT limit for mercury is based on a 90% control efficiency.~~

Exceptions pp. 3-6.

~~81.70. Tenaska's Based on an engineering estimate, use of an ACI system alone is capable of achieving an estimated 90% potential control efficiency.~~

Exceptions p. 13, footnote 49.

~~82. Tenaska's MACT analysis was insufficient because Tenaska failed to evaluate the more stringent mercury emissions permit limit issued for Plant Washington and other similar non-operational sources.~~

Exceptions pp. 3-6, 11-12.

~~83. A permit requiring a particular emissions limit to be achieved for a certain technology is usually sufficient justification to assume the technical feasibility of that technology or emissions limit.~~

Exceptions pp. 7-10. Further, there is no evidence in the record to support this finding.

~~84. Neither Tenaska nor the ED evaluated the Plant Washington application or supporting documents to determine how its lower limit for mercury was derived or whether it is based on emissions rates that have been achieved in practice by similar sources or may be achievable by Tenaska.~~

Exceptions pp. 3-6, 11-12.

~~85.~~ No analysis was done to determine whether any of the more stringent limits for mercury reflected in the EPA's RACT/BACT/LAER Clearinghouse (RBLC) were technically or economically feasible for Tenaska.

Exceptions pp. 7-10.

~~86.~~71. The mercury emissions limit that represents MACT for Tenaska the Trailblazer main boiler is $1.461.7 \times 10^{-6}$ lb/MMBtu.

Exceptions pp. 11-14.

~~87.~~72. Tenaska will use a fabric filter baghouses ~~to~~ are capable of achieving emissions reductions of 99% for filterable PM.

For reference to the record, see Tenaska Exhibit 2B (Application), Volume I, Tab A, Table 11-1.

~~88.~~73. Non-mercury metallic HAPs are controlled by the same technology used to control filterable PM.

~~89.~~74. Tenaska properly used filterable PM as a surrogate for non-mercury metallic HAPs in its MACT analysis for the Trailblazer main boiler.

This addition is for clarification purposes.

~~90.~~75. Based on Tenaska's review of emissions controls and recent permit limits for filterable PM associated with other subbituminous coal-burning PC boilers, Tenaska determined that its MACT floor limit for non-mercury metallic HAPs is 0.015 lb/MMBtu, because that was the lowest emission limit for filterable PM that had been achieved in practice.

91.76. ~~Tenaska did not conduct~~ propose a beyond-the-floor MACT analysis limit for filterable PM, since fabric filter baghouses, which is proposed for Trailblazer, are the only identified control technology for filterable PM and non-mercury HAP metals.

Exceptions pp. 14-16.

92.77. The ED agreed with Tenaska's MACT floor determination but concluded that 0.12 lb/MMBtu was feasible and appropriate as the MACT beyond-the-floor limit for Tenaska based on advances in fabric filter technology and the permit that contained that limit issued for NRG Texas Power LLC (NRG), SOAH Docket Nos. 582-08-0861 and 582-08-4013, TCEQ Docket Nos. 2007-1820-AIR and 2008-1210-AIR.

93.78. Mr. Hughes identified seven operational CFB and PC boilers with issued permit limits for filterable PM that are more stringent than the limit of 0.012 lb/MMBtu recommended for Tenaska.

94.79. At the time of the ED's review, ~~four~~ three PC boilers, which are similar sources to Tenaska, had either issued or proposed permit limits of 0.010 lb/MMBtu for filterable PM. The ED did not recommend that limit for Tenaska because none of those sources were operational and therefore, the limit has not been achieved in practice.

Exceptions pp. 14-18, and for reference to the record, see Exhibit ED-13 (RTC), pp. 36-37.

95.80. ~~CFBs and PCs, regardless of fuel type, are not similar sources as Tenaska the Trailblazer main boiler, which is proposed to be a PC boiler, for purposes of case-by-case MACT analysis of~~ for filterable PM as a surrogate for non-mercury HAP metals.

Exceptions pp. 16-18.

~~96. Tenaska's MACT analysis for non-mercury metallic HAPs is insufficient because Tenaska failed to evaluate the bases for lower permitted filterable PM limits of similar sources~~

~~to determine whether those limits have been reliably achieved in practice or are feasibly achievable for Tenaska.~~

Exceptions p. 3-6, 7-10, 14-16..

~~97. In a prior draft version of its application, Tenaska considered proposing 0.010 lb/MMBtu as its filterable PM BACT limit and offered no explanation as to why that limit was not ultimately recommended or would not be achievable for Tenaska.~~

Exceptions p. 18.

99.81. A 12-month rolling averaging period for filterable PM as a surrogate for non-mercury metallic HAPs is appropriate; the addition of a shorter averaging period is neither required nor precluded.

100.82. The MACT limit for filterable PM as a surrogate for non-mercury metallic HAPs is 0.0100.012 lb/MMBtu over a 12-month rolling average.

Exceptions pp. 14-18.

101.83. The acid gases hydrogen chloride (HCl) and hydrogen fluoride (HF) result from the combustion of coal and are controlled by the same equipment that controls emissions of SO₂.

102.84. Tenaska will use WFGD to control for SO₂ and acid gases.

103.85. Emissions rates for HF and HCl are based on fuel content specifications for fluorine and chlorine as well as control technology efficiency.

104.86. As part of its MACT analysis for acid gases, Tenaska reviewed permit limits for sources burning subbituminous coal and using WFGD.

105.87. The HF permit limit issued by the Commission for NRG is based on a WFGD efficiency of 95.72.

~~106.88.~~ Tenaska proposed a MACT limit of 0.00054 lb/MMBtu for HF based on its fuel content specifications for fluorine, assuming 100% conversion to HF, and an estimated wet scrubber efficiency of 95%.

~~107.89.~~ Without evidence of the basis for its determination, Tenaska proposed a beyond-the-floor (BTF) MACT limit for HCl of 0.00063 lb/MMBtu.

Exceptions pp. 19-20.

~~108.90.~~ Wet ESP technology could lower both HF and HCl concentrations, but it would be cost-prohibitive for Tenaska to employ that technology.

~~109.91.~~ The EPA has not proposed emissions standards for acid gases from coal-fired PC boilers.

~~110.92.~~ A permit limit for one source may not be applicable to another similar source if different fuel compositions or scrubber efficiencies are involved.

~~111.93.~~ PC boilers using WFGD were the appropriate similar sources to consider for Tenaska's case-by-case MACT analysis of acid gases.

~~112.94.~~ Although dry FGD can provide better control for HF than wet FGD, Tenaska's use of wet FGD was appropriate based on its ability to better control ~~for~~ SO₂ emissions as well as its effectiveness in removing a form of water-soluble mercury.

~~112.~~ The most stringent HF permit limit for any facility in the United States that is similar to Trailblazer and burns primarily subbituminous coal is 0.00014 lb/MMBtu over a three-hour average for Plant Washington.

Exceptions pp. 3-6, 18-21.

~~113.~~ The most stringent emission limit for HCl for any facility that is permitted in the United States, is similar to Trailblazer, and burns primarily subbituminous coal, is 0.000322 lb/MMBtu for Plant Washington.

Exceptions pp. 3-6, 18-20.

115.95. In the Draft Permit, the ED recommended 0.00054 lb/MMBtu as the MACT limit for HF and 0.00063 lb/MMBtu as the BTF MACT limit for HCl.

These changes are for clarification purposes.

~~115. Neither Tenaska nor the ED evaluated the more stringent HF and HCl permit limits issued for Plant Washington even though information regarding that permit was available to them.~~

Exceptions pp. 3-6.

~~116. Tenaska failed to evaluate the fuel content and scrubber efficiencies of another similar sources with more stringent permit limits to determine whether those more stringent limits may be achievable by Tenaska.~~

Exceptions pp. 3-6, 7-10, 18-21.

117.96. The HF MACT limit for Tenaska is ~~0.000140~~0.00054 lb/MMBtu.

Exceptions pp. 18-21.

118.97. The HCL BTF MACT limit for Tenaska ~~0.0003220~~0.00063 lb/MMBtu.

Exceptions pp. 18-21.

119.98. Organic HAP emissions are controlled by proper boiler design and good combustion practices, which also constitute BACT for control of CO.

120.99. Tenaska appropriately used CO as a surrogate for organic HAPs in its MACT analysis.

~~121.100.~~ Tenaska proposed its BACT limit of 0.15 lb/MMBtu as its MACT limit for organic HAPs. The Draft Permit includes this limit except for periods of start up and shut down.

~~122.101.~~ For its beyond-the-floor analysis, Tenaska determined that no beyond-the-floor MACT limit was warranted because no technologies have been identified to better control for organic HAP emissions than the good combustion practices to be used by Tenaska.

~~123.102.~~ The Commission issued a permit for NRG with ~~an~~ a CO limit as a surrogate for organic HAPs MACT limit of 0.12 lb/MMBtu.

This change is for clarification purposes.

~~124.103.~~ An inverse relationship exists between CO and NOx emissions in low NOx burners.

~~125.104.~~ EPA has not proposed an emission standard for organic HAPs from coal-fired boilers such as ~~Tenaska~~ the one proposed for Trailblazer.

This change is for clarification purposes.

~~126.~~ Tenaska was required, but failed, to evaluate more stringent CO limits contained in permits issued for similar sources, even if those sources were not yet operational, to determine whether such limits have been achieved in practice or would be achievable by Tenaska.

Exceptions pp. 7-10, 21-23.

~~127.~~ Tenaska's proposed limit of 0.15 lb/MMBtu is not MACT for CO as a surrogate for organic HAPs.

Exceptions pp. 21-23.

~~128.~~ Tenaska is able to meet a limit of 0.12 lb/MMBtu for CO as a surrogate for organic HAPs.

Exceptions p. 23, footnote 102.

~~129.~~ Tenaska is able to meet a CO limit of 0.10 lb/MMBtu for a 30-day average without substantially impacting its projected NOx emissions.

Exceptions p. 22.

~~130.~~105. The Trailblazer MACT limit for CO as a surrogate for organic HAPs is 0.100.15 lb/MMBtu over 30-day and 12-month averaging periods.

These changes are for clarification purposes.

106. A filterable PM limit of 0.0022 lb/MMBtu along with use of natural gas as fuel and good combustion practices are MACT for emissions of non-Hg metal HAPs from the auxiliary boiler.

This finding relates to the auxiliary boiler, which is not in controversy in this proceeding and appears to have been left out inadvertently.

107. Use of good combustion practice and use of natural gas as a fuel to meet a CO emission limit of 0.04 lb/MMBtu is the MACT surrogate for emissions of organic HAPs from the Trailblazer auxiliary boiler.

This finding relates to the auxiliary boiler, which is not in controversy in this proceeding and appears to have been left out inadvertently.

BACT: 30 TEX. ADMIN. CODE § 116.111(a)(2)(C)

~~129.~~108. Tenaska considered potential control technologies and resulting emission limits identified using the most recent version of EPA's coal-fired utility database, and queried the RBLC for coal-fired external combustion units for which PSD permits have been issued since 1990, and used publicly available air permit applications, technical literature, and general process knowledge.

~~130.~~109. Tenaska performed its BACT analysis for the following Trailblazer facilities: (1) the main boiler; (2) the auxiliary boiler; (3) material handling units (*i.e.*, transfer and

storage facilities); (4) the cooling tower; and (5) the diesel engines (*i.e.*, the fire pump and emergency generator).

131.110. An applicant that proposes to construct a pulverized coal-fired boiler is not required to include other fuel combustion technologies, such as IGCC technology in its BACT analysis, because that would require the source as proposed by the applicant to be impermissibly redefined. *Blue Skies Alliance v. Tex. Comm'n on Env't'l Quality*, 283 S.W.3d 525, 537 (Tex. App. – Amarillo, 2009, no pet.).

132.111. Pulverized coal boiler technology, unlike IGCC technology, is consistent with Tenaska's business purpose for Trailblazer.

133.112. Tenaska's BACT analysis for the Plant was performed in accordance with TCEQ guidance and rules.

134.113. Based on the BACT analysis contained in the Application and other information available to the ED, the ED rendered BACT determinations for the Plant as described in the Preliminary Determination Summary and as required by the Draft Permit.

135.114. For its main boiler, Trailblazer will utilize low-NOx burners and over-fired air with SCR for control of NOx; limestone WFGD for control of SO₂ and other acid gases, including sulfuric acid mist H₂SO₄, HCl, and HF; a fabric filter for PM/PM₁₀/Pb and lead (Pb) control; activated carbon or equivalent sorbent injection for control of Hg; and good combustion practices for CO and VOC control; and limit NH₃ emissions to 10 ppm.

Exhibit ED-11 at 419.

136.115. No technical developments in control technologies offer the potential for further emissions reduction from the main boiler that are both technically practicable and economically reasonable for the control off NH₃.

~~137~~.116. Tenaska's control technologies for the Trailblazer's emission sources, including the main boiler, will also control emissions of PM_{2.5}, and Tenaska's BACT analysis properly addressed PM_{2.5} emissions as a subset of PM/PM₁₀ emissions pursuant to the EPA PM₁₀ Surrogate Policy.

~~138~~.117. The control technologies for Trailblazer established as BACT for PM₁₀ were at least as effective as the technology that would have been selected if a BACT analysis specific to PM_{2.5} emissions had been conducted.

~~139~~.118. For the natural gas-fired auxiliary boiler, low NO_x burners will control NO_x and good combustion practices will control other products of combustion.

~~140~~.119. With respect to material transfer and storage operations at the Plant, enclosures and fabric filters will be used and where fabric filters they are infeasible, enclosures and suppressants will be used as necessary to maintain compliance with all TCEQ rules and regulations as stated in Special Condition 19.

Exhibit ED-11 at 421.

~~141~~.120. For the diesel engines (the fire pump and emergency generator) proper design and operation plus low sulfur fuel will be the control technology and that technology is based on relevant NSPS requirements at 40 CFR Part 60, Subpart III.

~~142~~.121. For the cooling tower, low dissolved solids in the cooling water and drift eliminator technology will be utilized for control of PM/PM₁₀ emissions.

Exhibit ED-11 at 421.

Start-up and Shutdown BACT

~~143~~.122. Tenaska will conduct all start-ups and shutdowns according to manufacturers' written operating instructions and a written plan that Tenaska developed in accordance with Special Condition No. 10 of the Permit designed to minimize excess emissions.

~~144.123.~~ Prior to the initial start-up of the Trailblazer boilers, in accordance with Special Condition No. 10 of the Permit, Tenaska will submit a copy of the Start-up and Shutdown Plan and any updates to the Plan to the TCEQ and the EPA

Materials Handling Systems BACT

~~145.124.~~ Use of enclosed conveyors limit emissions during transfers, use of water sprays to minimize windblown fugitive emissions, along with use of fabric filter baghouses to control emissions from material transfer points will all be utilized to control PM/PM₁₀/PM_{2.5} on solid material storage handling equipment.

~~146.125.~~ The transfer of fly ash, bottom ash, and gypsum from silos by truck will be controlled by enclosure and/or vacuum collection, and emissions from the landfill will be controlled by water sprays as necessary to minimize windblown emissions. These types of controls all represent BACT.

Emergency Diesel Engines BACT

~~147.126.~~ The two emergency diesel engines (*i.e.*, the Emergency Generator and the Fire Water Pump Engine) are required to meet 30 TEX. ADMIN. CODE Chapter 114, Subchapter I and EPA's NSPS 40 CFR Part 60, Subpart IIII requirements for stationary diesel engines, which also limits the sulfur content of the diesel fuel.

~~148.127.~~ Based on the limited hours of operations, compliance with the EPA's NSPS requirements represents BACT for these engines.

Auxiliary Boiler BACT

~~149.128.~~ Low NO_x burners are used to limit NO_x emissions from the auxiliary boiler and remaining pollutant emissions from the auxiliary boiler will be controlled via proper design and operation.

~~150.129.~~ The low NO_x burners will be utilized to meet a 0.036 lb/MMBtu NO_x limit at 3% oxygen, which represents BACT for an auxiliary boiler limited to 500 operating hours or 6% annual capacity factor.

~~151.130.~~ Other products of combustion are minimal, so good combustion represents BACT for them.

~~152.131.~~ Due to 6% operating limitation, additional controls are not cost effective.

Cooling Tower BACT

~~153.132.~~ Maintaining a low level of dissolved solids in the cooling water and utilizing mist eliminators on the cooling tower is BACT for emissions of PM/PM₁₀/PM_{2.5} from the cooling tower.

BACT for Main Boiler

~~158.~~ An applicant must provide sufficient evidence to support a higher emission limit if other lower permit limits exist.

~~159.~~ Absent evidence to the contrary, it is reasonable to find that lower emissions limits in recently issued permits are achievable or they would not have been set.

~~160.~~ The record does not demonstrate how much emissions should be expected to change due to age and use.

133. BACT limits that are determined must be “achievable” on a continuous basis throughout the facility’s life.

134. In the vast majority of cases, BACT emission limits are “achievable” only if a facility has demonstrated in practice that it can achieve those emission limitations.

135. Demonstrated in practice generally means demonstrated in operating facilities.

136. “Achievable” as it relates to BACT emissions limitations determinations must be achievable “under the most adverse circumstances which can reasonably be expected to recur”

137. Tenaska’s BACT analysis for the Trailblazer Plant was complete and properly performed in accordance with TCEQ guidance and rules.

138. Based on the BACT analysis contained in the Application and other information available to the ED, the ED rendered proper BACT determinations for the Trailblazer Plant as described in the Preliminary Determination Summary and as required by the Draft Permit.

Exceptions pp. 23-28.

NO_x

~~159-139.~~ NO_x burners, over-fired air, and SCR are the best available control technology to control NO_x.

24-Hour NO_x Limit

~~162.~~ The Newmont Nevada Energy and SWEPSCO Turk permits both include 24-hour emission limits of 0.067 lb/MMBtu.

~~161-140.~~ A 24-hour NO_x limit of ~~0.067~~0.070 lb/MMBtu is achievable for Trailblazer and represents BACT for the Main Boiler.

Exceptions p. 28.

30-Day Average NO_x Limit

~~164.~~ The GDNR set a 30-day NO_x emission limit of 0.050 lb/MMBtu for Plant Washington.

~~165.~~ Plant Washington will have a PC boiler of roughly the same size as Trailblazer and will burn PRB subbituminous coal or a 50/50 blend of PRB subbituminous coal and eastern bituminous coal.

~~166-141.~~ A 30-day NO_x limit of ~~0.050~~0.070 lb/MMBtu is achievable for Trailblazer and represents BACT for the Main Boiler.

Exceptions p. 29.

12-Month Average NO_x Limit

- ~~167. According to Plant Washington's permit, its 12-month NO_x emission limit, 0.030 lb/MMBtu, is the lowest limit ever permitted for a PC plant.~~
- ~~168. GNDR allowed Plant Washington six months after initial start up to bring the boiler into compliance with the 12-month emission limit for NO_x.~~
- ~~169. For the W.A. Parish unit near Houston, the highest annual averages over 16 quarters were 0.053 lb/MMBtu for Unit 5, 0.050 lb/MMBtu for Unit 6, 0.050 lb/MMBtu for Unit 7, and 0.040 lb/MMBtu for Unit 8.~~
- ~~170. The averages at the W.A. Parish unit support Tenaska's proposed annual BACT limit of 0.050 lb/MMBtu for Trailblazer.~~
- ~~171. Although the Oak Grove permit in Texas has a lower annual NO_x limit than in the Draft Permit, Oak Grove uses lignite fuel which burns cooler, thus making it easier to control NO_x production.~~
- ~~170.142. An annual NO_x limit of 0.050 lb/MMBtu is achievable for Trailblazer and represents BACT for Trailblazer the Main Boiler.~~

Exceptions pp. 23-28.

SO₂

- ~~143. Utilization of WFGD is the best available control technology for SO₂.~~
- ~~173. Although Plant Washington has a lower 12-month rolling SO₂ emission limit than Tenaska has proposed, it has a higher 30-day rolling average.~~
- ~~174. Even though Tenaska may have lower SO₂ limits as a result of its carbon capture technology, Tenaska was not required to demonstrate achievable emissions based on the impact of that technology.~~

~~173.144. Tenaska's proposed~~ An SO₂ emission limit of 0.06 lb/MMBtu for both the 30-day and 12-month rolling averages is achievable for Trailblazer and represents BACT for Trailblazer the Main Boiler.

Exceptions pp. 23-28.

CO and VOC

~~174.145. No post-combustion emission controls have been effectively demonstrated in controlling CO and VOC emitted from coal-fired facilities.~~

~~175.146. Proper boiler design and operation are the best available controls technology for CO and VOC emissions from the mMain bBoiler.~~

CO

~~178. Recent permits have lower CO emission limits than Tenaska proposed.~~

~~179. Tenaska has failed to show that its proposed CO limit of 0.15 lb/MMBtu is BACT.~~

~~180. Plant Washington's permit shows that 30-day rolling and annual CO limits of 0.010 lb/MMBtu are achievable for Trailblazer.~~

147. A CO emission limit of 0.15 lb/MMBtu over a 30-day and 12-month rolling average is achievable for Trailblazer and represents BACT for the Main Boiler.

Exceptions pp. 29-30.

VOC

~~181. Plant Washington's permit contains a VOC limit of 0.0024 lb/MMBtu (3-hour avg.).~~

~~180.148. A VOC limit of 0.00240.0036 lb/MMBtu is achievable for Trailblazer and represents~~ BACT for the Main Boiler.

Exceptions pp. 30.

Filterable PM/PM₁₀

~~149. Utilization of a fabric filter baghouse is the best available control technology to control filterable PM/PM₁₀.~~

~~183. Six permits, two for facilities that are currently operating, have a 0.010 lb/MMBtu filterable PM/PM₁₀ limit.~~

~~182-150. A filterable PM/PM₁₀ limit of 0.0100.012 lb/MMBtu is BACT-achievable for Trailblazer and represents BACT for the Main Boiler.~~

Exceptions pp. 30-31.

Total PM/PM₁₀

~~185. Although EPA plans to revise its PM testing method, the revisions are intended to address users' inappropriate application of hardware and analytic options, rather than erratic results or a bias in the test method itself.~~

~~186. Even if the EPA's testing method for total PM is not reliable, other facilities are subject to the same bias in testing.~~

~~187. In recent years, facilities have been permitted with lower PM/PM₁₀ limits than those Tenaska has proposed, and the other facilities will have the same challenges as Tenaska, such as wear and tear on equipment over many years of use.~~

~~188. The Commission regulates condensable PM/PM₁₀ even in light of concerns about EPA's testing method.~~

~~189. The Nebraska Department of Environmental Quality set the total PM emission limit for Omaha Public Power District (Omaha) at 0.018 lb/MMBtu.~~

~~190. The Omaha permit limit for total PM was based on testing at an operating facility with a PC boiler: KCP&L's Hawthorn in Kansas.~~

~~191. The Hawthorn plant met its PM/PM₁₀ limit for 2001, 2002, 2003, and 2004, with the 2004 results being 0.0166 lb/MMBtu.~~

~~192. Another new facility, Whelan Energy Center Unit 2 in Nebraska, also had a total PM limit of 0.018 lb/MMBtu.~~

151. Utilization of a fabric filter baghouse is the best available control technology for total PM/PM₁₀ emissions.

~~191.152. A total PM/PM₁₀ emission limit of 0.0180.030 lb/MMBtu on annual intervals is achievable for Tenaska on one-hour and annual intervals Trailblazer and represents BACT for the Main Boiler.~~

Exceptions pp. 32-33.

Lead

~~192.153. A trace metal in coal, lead is vaporized during combustion and then absorbed into fly ash in the gas stream. Thus, control technologies for lead are the same as for PM.~~

~~195. The lead content of the coal that is burned and the efficiency of the fabric filter baghouse (generally greater than 95%) impact the quantity of lead emissions.~~

~~196. The RBLC showed several permits with lower lead emission limits than Tenaska has proposed.~~

~~197. EPA suggested consideration of the 600 MW coal-fired SWEPCO Turk plant and Tucson Electric Power's Springerville Station in Arizona (Springerville) in determining BACT.~~

~~198. Both the SWEPCO Turk and Springerville permits have lead emission limits of 16 lb/TBtu.~~

197.154. A lead emission limit of 0.0000160.00003 lb/MMBtu or 16 lb/TBtu on an annual basis is achievable for Trailblazer and represents BACT for the Main Boiler.

Exceptions pp. 33-34.

Other BACT Emission Limits for the Main Boiler

~~198.155.~~ Utilization of best management practice to meet an NH₃ emission limit of 10 ppm based on a 3-hour average is achievable for Trailblazer and represents BACT for NH₃ emissions from the mMain bBoiler.

~~199.156.~~ Emissions of HF, HCl, and Hg that reflect a case-by-case MACT standard that is as or more stringent than BACT are addressed in findings of fact elsewhere in this Order.

Impact of Carbon Capture Technology

~~200.157.~~ When the CO₂ capture facility is employed, emissions from the main boiler unit will go through the SCR unit for NO_x removal; injected activated carbon (or other sorbent) for mercury removal; a baghouse for particulate matter removal; a wet limestone scrubber for desulfurization; and an amine scrubber, which is a scrubber that uses amines to remove CO₂.

~~201.158.~~ Like other emissions, amines from the carbon capture process will go through emission point number (EPN) 54.

~~202.159.~~ Because Trailblazer is designed to allow for bypass of the CO₂ capture facility, Tenaska's proposed permit limits are based only on the PC boiler emissions without the use of any carbon capture equipment.

~~203.160.~~ Carbon capture technology may use different amines.

~~204.161.~~ Amines that Tenaska may use and their resulting emissions may constitute one or a combination of pollutants, including VOC and PM.

~~205.162.~~ The Draft Permit requires stack testing on the main boiler's EPN 54, which will determine compliance with the permit limits for VOC and PM.

~~206.163.~~ Amine scrubbing as part of CO₂ capture will be accounted for in stack testing.

207.164. Any of Trailblazer's emissions that exceed the permit limits will be detected through stack testing.

208.165. Main Boiler Sstack testing should be required under all normal operating conditions, including before and after use of the CO₂ capture facility representing operation both with, and without, CO₂ capture.

209.166. If VOC or PM emissions are significantly higher because of carbon capture, the testing will reveal it.

Demonstrations under 30 TEX. ADMIN. CODE §116.111: Protection of Public Welfare

Air Dispersion Modeling

The "General Public" and "Ambient Air"

210.167. An applicant demonstrates that emissions from a proposed facility will be protective of the public health and physical property by evaluating predicted concentrations of air pollutants in the ambient air with air dispersion modeling.

211.168. TCEQ air permitting guidance defines ambient air as the "portion of the atmosphere, external to buildings, to which the general public has access."

212.169. Tenaska will control access to the Trailblazer property, and it will prevent the general public from entering the Trailblazer property with signs and fencing.

213.170. The air dispersion modeling demonstration performed by Tenaska, which evaluates predicted air quality impacts at and beyond the Trailblazer property line, is proper.

Tenaska's Air Dispersion Modeling

214.171. Tenaska performed air dispersion modeling, which was summarized in its July 2008 Class II Area Air Quality Dispersion Modeling Report; follow-up e-mails of August 14, 2008 and August 18, 2008 to Matthew Kovar, TCEQ; letters dated September 5, 2008, to Daniel Menendez, TCEQ, and November 4, 2008, to Richard Hughes; and e-mail dated November 20, 2008, to Daniel Menendez, TCEQ.

Tenaska performed additional air dispersion modeling summarized in its August 2008 Class I Area Air Dispersion Modeling Analysis Report.

215.172. Tenaska performed the Class II air dispersion modeling in accordance with TCEQ and EPA guidelines using the latest EPA AERMOD dispersion model (Version 07026). These models were recommended by both the TCEQ and the EPA for modeling complex industrial sources like Trailblazer.

216.173. Tenaska performed the Class I air dispersion modeling in accordance with TCEQ, EPA and FLM guidelines using the latest CALPUFF Modeling System. This is the modeling system recommended by the TCEQ and EPA for modeling impacts at distances of greater than 50 km, including Class I increments, visibility and AQRVs.

217.174. The Class II modeling that was included in the State Air Quality/PSD Application was performed in accordance with applicable air quality rules and guidance and in accord with the modeling protocol cooperatively developed for this project by Tenaska and TCEQ's air dispersion modeling team.

218.175. There are no schools located within 3,000 feet of the facilities to be authorized under the State Air Quality/PSD Application.

219.176. In performing the air dispersion modeling, Tenaska modeled emissions from all of its proposed facilities at the site, including the proposed main boiler facilities.

220.177. Although TCEQ guidance only requires annual PM₁₀ emissions to be included, Tenaska included road emissions from on-site haul roads for modeling runs to demonstrate compliance with the 24-hour and annual National Ambient Air Quality Standard (NAAQS) for particulate matter consisting of particles with diameters less than or equal to 10 microns (PM₁₀) and the annual PSD Increment for PM₁₀.

221.178. Tenaska excluded road emissions for other modeling purposes, in accordance with TCEQ guidance.

222.179. Under TCEQ's modeling guidance, modeling of road dust emissions is explicitly excluded for short-term averaging periods.

223.180. Tenaska will not be transporting road-base aggregate materials at Trailblazer and will employ best management practices for minimizing dust, such as watering plant roads as needed to control fugitive dust emissions.

224.181. Tenaska's air dispersion modeling tended to over-predict off-property ambient concentrations.

225.182. Tenaska used a conservative estimate of the maximum emission rates for the facilities.

226.183. Tenaska assumed that all sources at Trailblazer would be operating simultaneously and emitting their maximum rates at the same time.

227.184. For its 1-hour NO₂ modeling, Tenaska modeled the maximum allowable pounds per hour NO_x emission rates from all sources except the main boiler. For the main boiler, the seven highest days of modeled or monitored concentrations were excluded to account for start up and shut down periods.

228.185. Tenaska's 1-hour NO₂ modeling was very conservative because it assumed all NO_x converted to NO₂ when NO₂ is actually only a fraction of total NO_x emissions.

229.186. Tenaska coupled five years of hourly meteorological data with the worst-case emissions scenario and worst-case meteorological conditions to calculate maximum off-property impacts.

230.187. Tenaska used the EPA recommended default option for AERMOD.

231.188. Tenaska properly relied on the pre-processed Nolan County specific meteorological data supplied by the TCEQ in conducting its modeling.

232.189. Tenaska properly used existing representative air quality data in place of pre-construction monitoring to determine background concentrations.

233.190. TCEQ's modeling staff performed an audit of Tenaska's modeling and found it acceptable.

234.191. The standards and guidelines applicable to this permit application's maximum modeled pollutant concentrations are: NAAQS, PSD increments, Net Ground Level Concentration (NGLC) or "state property-line" standards, and Effects Screening Levels (ESLs).

NAAQS Analysis

235.192. Tenaska directly modeled its emissions of SO₂, CO, PM₁₀, and Pb for the purpose of demonstrating compliance with the NAAQS.

236.193. If Trailblazer emissions of SO₂, NO₂ or CO result in concentrations which exceed modeling significance levels (MSL), a full impacts analysis is required.

237.194. For the pollutants and averaging times for which maximum modeled concentrations resulting from emissions at Trailblazer were above their respective MSLs, Tenaska included non-Trailblazer emissions in the modeling and added a representative ambient background concentration to consider the influence of other sources affecting Trailblazer impact areas.

SO₂

238.195. SO₂ NAAQS exist for three averaging periods: 3-hour (1300 µg/m³), 24-hour (365 µg/m³), and annual (80 µg/m³).

239.196. Only the maximum annual SO₂ impacts were below the MSL and no further demonstration was required for the annual standard. Tenaska conducted a full impacts analysis for the 24-hour and 3-hour SO₂ standards.

240.197. Representative background concentrations for SO₂ were obtained by reviewing the nearest monitoring sites within 200 miles of the proposed project and selecting the Dallas monitor as the highest representative location. The EPA monitor in Dallas, Dallas County, was appropriate for representing existing background concentrations of

SO₂. The Midlothian monitors were not representative because they are disproportionately impacted by local heavy industries.

241.198. The maximum modeled 3-hour SO₂ concentration resulting from Trailblazer's emissions and non-Trailblazer emission sources at any off-site location is 69 µg/m³; and the ambient background concentration is 37 µg/m³. Trailblazer's SO₂ emissions impacts, when modeled with non-Trailblazer emission sources and added to the conservative background level of ambient SO₂, are 106 µg/m³, and are below the 3-hour SO₂ NAAQS of 1,300 µg/m³.

242.199. The maximum modeled 24-hour SO₂ concentration resulting from Trailblazer's emissions and non-Trailblazer emission sources at any off-site location is 10 µg/m³, and the ambient background concentration is 18 µg/m³. Trailblazer's SO₂ emissions impacts, when modeled with non-Trailblazer emission sources and added to the background level of ambient SO₂, are 28 µg/m³, and are below the 24-hour SO₂ NAAQS of 365 µg/m³.

NO₂ Annual

243.200. NO₂ NAAQS exists for an annual averaging period (100 µg/m³). Annual NO₂ impacts from the project emissions were below the MSL and no further demonstration was required.

NO₂ 1-Hour

244.201. On February 9, EPA published a new 1-hour NO₂ NAAQS, effective on April 12, 2010.

245.202. Tenaska nevertheless prepared and filed a 1-hour NO₂ modeling analysis with its direct testimony.

246.203. Neither EPA nor TCEQ have established an MSL for the 1-hour NO₂ standard; therefore, Tenaska conducted a full impact analysis without first evaluating whether its emissions would have a significant impact on 1-hour NO₂ concentrations.

247.204. Tenaska conservatively assumed that all NO_x emissions are NO₂.

248.205. The 1-hour NO₂ NAAQS is 188.3 µg/m³ calculated as the three-year average of the 98th percentile of the yearly distribution of 1-hour maximum concentrations. The highest eight-hour concentration is a conservative estimate of the 98% highest concentration.

249.206. Representative background concentrations for NO₂ were obtained by evaluating the nearest monitors and selecting the site which most closely represented the conditions at the proposed project. The EPA monitor in Waco, McLennan County, was appropriate for representing existing background concentrations of NO₂. The Ft. Worth, Arlington and Grapevine monitors were not representative because they are disproportionately impacted by local heavy industry and mobile source emissions of NO₂.

250.207. The maximum modeled daily highest eight-hour concentration daily maximum 1-hour NO₂ concentrations from Tenaska sources and other sources added to the background concentration was 177.4 µg/m³, which is below the NAAQS of 188.3 µg/m³.

251.208. Tenaska submitted an addendum analysis supporting the 1-hour NO₂, which included startup and shutdown (SUSD) emission rates for the main boiler even though SUSD's will occur infrequently and are, therefore, unlikely to contribute to the NO₂ design concentration.

252.209. Although infrequent, Tenaska assumed that the SUSD maximum emission rate would occur continuously through five years of hourly modeling.

253.210. Tenaska did not conduct annual averaging to the form of standard; rather, it compared the highest eight-hour concentration single year maximum concentration to the NAAQS.

CO

254.211. CO NAAQS exist for two averaging periods: 1-hour (40,000 µg/m³) and 8-hour (10,000 µg/m³).

255.212. The maximum CO impacts from Trailblazer were below the 1-hour and 8-hour MSLs and no further demonstrations are required.

Lead

256.213. A quarterly Pb NAAQS exists ($1.5 \mu\text{g}/\text{m}^3$).

257.214. Tenaska's modeling established that the maximum predicted off-property concentration of lead from the Plant and off property sources over a calendar quarter is $0.05 \mu\text{g}/\text{m}^3$. Although this is below the MSL, when combined with a representative background concentration of $0.04 \mu\text{g}/\text{m}^3$, the total impact is less than the NAAQS of 1.5.

PM₁₀

258.215. PM₁₀ NAAQS exist for two averaging periods: 24-hour ($150 \mu\text{g}/\text{m}^3$) and annual ($50 \mu\text{g}/\text{m}^3$). The maximum modeled 24-hour average PM₁₀ concentration resulting from Trailblazer's emissions and off-property sources is $14 \mu\text{g}/\text{m}^3$, which when added to the representative background concentration of $74 \mu\text{g}/\text{m}^3$ is below the 24-hour PM₁₀ NAAQS of $150 \mu\text{g}/\text{m}^3$.

259.216. The maximum modeled annual average PM₁₀ concentration resulting from Trailblazer's emissions and off-property sources is $3 \mu\text{g}/\text{m}^3$, which when added to the maximum ambient background concentration of $28 \mu\text{g}/\text{m}^3$ is below the NAAQS of $50 \mu\text{g}/\text{m}^3$.

PM_{2.5}

260.217. Both EPA and TCEQ accept demonstration of compliance with the PM₁₀ NAAQS as a surrogate for demonstration of compliance with the PM_{2.5} NAAQS.

261.218. Based on Tenaska's demonstration of compliance with the PM₁₀ NAAQS, Trailblazer's emissions will not cause or contribute to an exceedance of the PM_{2.5} NAAQS.

262.219. Tenaska conducted PM_{2.5} modeling analyses demonstrating directly that Trailblazer's PM_{2.5} emissions combined with offsite sources and a representative background concentration will not exceed the NAAQS.

Ozone

263.220. Tenaska performed an ozone analysis following current TCEQ guidance and a representative background concentration of 40 ppb. The ozone analysis demonstrated that the Plant is ozone neutral. Based on historical analyses using the EKMA model, ozone neutral sources are not expected to have a discernable impact on the maximum ozone concentrations in the area. Tenaska also submitted a transport analysis demonstration reaching the same conclusion.

NAAQS Summary

264.221. Emissions from the Plant will not cause or contribute to an exceedance of any NAAQS.

PSD Increment Analysis

265.222. PSD increments are allowable incremental changes in off-property concentrations of certain pollutants for which PSD review has been triggered. Concentration increases in excess of these levels are considered by EPA as significantly deteriorating air quality.

266.223. Tenaska performed a PSD increment demonstration for emissions of SO₂ and PM₁₀ from Trailblazer.

267.224. Maximum modeled concentrations resulting from emissions from the Plant were below *de minimis* levels for SO₂ (3-hour and 24-hour averaging periods) and PM₁₀ (24-hour and annual averaging periods).

268.225. The impacts of the Plant's increment consuming emissions of SO₂ and the expected emissions of PM₁₀ from the Plant are below the allowable levels.

269.226. For each of the above pollutants and averaging periods, the combined impacts from Trailblazer's maximum modeled concentrations and the PSD increment-consuming sources are less than the applicable PSD increment.

PSD Increment Analysis: Summary

270.227. Emissions from the Plant will consume increment, but when combined with other increment consuming sources, consumption remains below allowable levels.

PSD Monitoring Analysis

271.228. Of the criteria pollutants that will be emitted by Trailblazer in PSD-significant amounts, PSD monitoring *de minimis* levels exist for SO₂ (24-hour averaging period); NO₂ (annual averaging period), CO (8-hour averaging period), PM₁₀ (24-hour averaging period), and Pb (3-month averaging period) and below which preconstruction monitoring is not required.

272.229. Maximum modeled concentrations resulting from the Plant's emissions are below all applicable PSD monitoring *de minimis* levels, except for 24-hour SO₂ and 24-hour PM₁₀, for which Tenaska properly used existing monitoring data, and all modeled concentrations were less than 90% of the applicable NAAQS and PSD increments.

State Property Line Analysis

273.230. State property-line standards are maximum air concentrations that are allowed to result from all sources on a contiguous site.

274.231. State property-line standards exist for H₂SO₄ for 1-hour and 24-hour averaging periods and for SO₂ for a 30-minute averaging period.

275.232. Tenaska modeled site-wide emissions, including the Plant, for comparison to applicable property-line standards.

276.233. Tenaska's maximum off-property modeled concentrations were below the applicable state property line standards.

Property Line Standard: H₂SO₄

277.234. The maximum 1-hour average H₂SO₄ concentration resulting from site-wide emissions at any off-property location is 33 µg/m³. The site-wide H₂SO₄ emissions will not cause an exceedance of the 1-hour H₂SO₄ property line standard of 50 µg/m³.

278.235. The maximum 24-hour average H₂SO₄ concentration resulting from site-wide emissions at any location is 1.0 µg/m³. The site-wide H₂SO₄ emissions will not cause an exceedance of the 24-hour H₂SO₄ property line standard of 15 µg/m³.

Property-Line Standard: SO₂

279.236. The maximum 1-hour average SO₂ concentration resulting from site-wide emissions at any off-property location is 528.0 µg/m³. The site-wide SO₂ emissions will not cause an exceedance of the 1-hour SO₂ property line standard of 1,021 µg/m³.

Property-Line Standard Summary

280.237. Trailblazer will not cause an exceedance of any applicable state property-line standard.

ESL Analysis

281.238. The TCEQ uses effects screening levels (ESL) as part of the state effects review of an air permit application, as conservative guideline levels to evaluate the potential for effects to public health, welfare or property as a result of exposure to air pollutants for which there are no state or federal air quality standards.

282.239. Health-based ESLs are set by starting with exposure levels that have been shown to cause no adverse health effects or very minor health effects in humans or animals, and then applying generous safety factors to establish levels that will be protective of the most sensitive members of the general public. Health-based ESLs are frequently set at levels that are 100 to 1000 times lower than exposure levels that are designed to be safe for workers exposed to airborne chemicals in occupational settings.

283.240. ESLs are set very conservatively and are designed to protect even the most sensitive members of the population, including children, the elderly, and people with pre-existing conditions.

284.241. Maximum modeled air concentrations that do not exceed the ESL will not cause adverse health or welfare effects from the public's exposure to that chemical, and concentrations above the ESLs will not necessarily cause adverse health or welfare effects, but may require further study.

285.242. For concentrations which exceed an ESL, TCEQ's guidance establishes the steps for further study to evaluate the compounds.

286.243. An ESL analysis is conducted only for sources on an applicant's property.

287.244. The ESL system currently used by TCEQ adequately protects the health and welfare of the public.

288.245. Tenaska modeled the site-wide emissions of the following non-criteria pollutants: arsenic, coal dust, fly ash, total silica, nickel, beryllium, limestone dust, gypsum dust, dioxins and furans, NH₃, hydrogen chloride (HCl), hydrogen fluoride (HF), and mercury (Hg).

289.246. For beryllium, the maximum modeled 1-hour average concentration from the Plant's emissions is .0113 µg/m³, which is below the 1-hour ESL for beryllium of 0.02 µg/m³.

290.247. The maximum modeled annual average concentration resulting from the Plant's emissions of beryllium is 0.0001 µg/m³, which is less than the annual ESL for beryllium of 0.002 µg/m³.

291.248. The maximum modeled annual average concentration resulting from the Plant's emissions of limestone dust is 0.03 µg/m³, which is below the annual ESL for limestone dust of 5 µg/m³.

292.249. For limestone dust, the maximum modeled 1-hour average concentration from the Plant's emissions is $6.95 \mu\text{g}/\text{m}^3$, which is less than the 1-hour ESL for limestone dust of $50 \mu\text{g}/\text{m}^3$.

293.250. For gypsum dust, the maximum modeled 1-hour average concentration from the Plant's emissions is $7.59 \mu\text{g}/\text{m}^3$, which is below the 1-hour ESL for gypsum dust of $50 \mu\text{g}/\text{m}^3$.

294.251. The maximum modeled annual average concentration resulting from the Plant's emissions of gypsum dust is $0.09 \mu\text{g}/\text{m}^3$, which is less than the annual ESL for gypsum dust of $5 \mu\text{g}/\text{m}^3$.

295.252. The maximum modeled annual average concentration resulting from the Plant's emissions of dioxins and furans is $0.39 \times 10^{-8} \mu\text{g}/\text{m}^3$, which is less than the annual ESL for arsenic of $3.0 \times 10^{-8} \mu\text{g}/\text{m}^3$.

296.253. For NH_3 , the maximum modeled 1-hour average concentration from the Plant's emissions is $109 \mu\text{g}/\text{m}^3$, which is below the 1-hour ESL for ammonia of $170 \mu\text{g}/\text{m}^3$.

297.254. The maximum modeled annual average concentration resulting from the Plant's emissions of ammonia is $0.14 \mu\text{g}/\text{m}^3$, which is below the annual ESL for ammonia of $17 \mu\text{g}/\text{m}^3$.

298.255. For HCl, the maximum modeled 1-hour average concentration from the Plant's emissions is $5.51 \mu\text{g}/\text{m}^3$, which is below the 1-hour ESL for HCl of $75 \mu\text{g}/\text{m}^3$.

299.256. The maximum modeled annual average concentration resulting from the Plant's emissions of HCl is $0.007 \mu\text{g}/\text{m}^3$, which is less than the annual ESL for HCl of $7.5 \mu\text{g}/\text{m}^3$.

300.257. For HF, the maximum modeled 1-hour average concentration from the Plant's emissions is $4.8 \mu\text{g}/\text{m}^3$, which is below the 3-hour ESL for HF of $5.0 \mu\text{g}/\text{m}^3$.

301.258. The maximum modeled annual average concentration resulting from the Plant's emissions of HF is $0.006 \mu\text{g}/\text{m}^3$, which is less than the annual ESL for HF of $0.50 \mu\text{g}/\text{m}^3$.

302.259. For mercury, the maximum modeled 1-hour average concentration from the Plant's emissions is $0.09 \mu\text{g}/\text{m}^3$, which is below the 1-hour ESL for mercury of $0.10 \mu\text{g}/\text{m}^3$.

303.260. The maximum modeled annual average concentration resulting from the Plant's emissions of mercury is $0.0005 \mu\text{g}/\text{m}^3$, which is less than the annual ESL for mercury of $0.0100 \mu\text{g}/\text{m}^3$.

ESL Analysis: Arsenic

304.261. For arsenic, the maximum modeled 1-hour average concentration from the Plant's emissions is $0.22 \mu\text{g}/\text{m}^3$, which is approximately 2 times the 1-hour ESL for arsenic of $0.10 \mu\text{g}/\text{m}^3$.

305.262. The maximum modeled 1-hour average concentration for arsenic is predicted to exceed the 1-hour ESL for only 14 hours per year.

306.263. The maximum modeled annual average concentration resulting from the Plant's emissions of arsenic is $0.002 \mu\text{g}/\text{m}^3$, which is less than the annual ESL for arsenic of $0.010 \mu\text{g}/\text{m}^3$.

307.264. Because the frequency of 1-hour exceedances is low and the annual ESL is met, the 1-hour arsenic impacts are acceptable.

308.265. No adverse health or welfare effects will result from the public's exposure to emissions of arsenic from the Plant.

ESL Analysis: Coal Dust

309.266. For coal dust, the maximum modeled 1-hour average concentration from the Plant's emissions is $15.46 \mu\text{g}/\text{m}^3$, which is approximately 1.7 times the 1-hour ESL for coal dust of $9 \mu\text{g}/\text{m}^3$.

310.267. The maximum modeled 1-hour average concentration for coal dust is predicted to exceed the 1-hour ESL for only three hours per year.

311.268. There were no modeled 1-hour average concentrations for coal dust that exceeded the 1-hour ESL at a sensitive receptor.

312.269. Coal dust emissions were modeled continuously at maximum rates, yet emissions will not actually be simultaneous or continual.

313.270. The maximum modeled annual average concentration resulting from the Plant's emissions of coal dust is $0.07 \mu\text{g}/\text{m}^3$, which is below the annual ESL for coal dust of $0.90 \mu\text{g}/\text{m}^3$.

314.271. No adverse health or welfare effects will result from the public's exposure to emissions of coal dust from the Plant.

ESL Analysis: Fly Ash

315.272. For fly ash, the maximum modeled 1-hour average concentration from the Plant's emissions is $37.19 \mu\text{g}/\text{m}^3$, which is approximately 1.9 times the applicable 1-hour ESL for fly ash of $20.00 \mu\text{g}/\text{m}^3$.

316.273. The maximum modeled 1-hour average concentration for fly ash is predicted to exceed the 1-hour ESL for only 8 hours per year.

317.274. The short-term modeling concentration results for fly ash are conservatively modeled.

318.275. The maximum modeled annual average concentration resulting from the Plant's emissions of fly ash is $0.35 \mu\text{g}/\text{m}^3$, which is less than the applicable annual ESL for fly ash of $2.0 \mu\text{g}/\text{m}^3$.

319.276. No adverse health or welfare effects will result from the public's exposure to emissions of fly ash from the Plant.

ESL Analysis: Total Silica

320.277. For total silica, the maximum modeled 1-hour average concentration from the Plant's emissions is $14.89 \mu\text{g}/\text{m}^3$, which is approximately 1.5 times the applicable 1-hour ESL for total silica of $10.0 \mu\text{g}/\text{m}^3$.

321.278. The maximum modeled 1-hour average concentration for total silica is predicted to exceed the 1-hour ESL for only 3 hours per year.

322.279. The short-term exceedances of silica above the ESL do not occur at a sensitive receptor.

323.280. The maximum modeled annual average concentration resulting from the Plant's emissions of total silica is $0.14 \mu\text{g}/\text{m}^3$, which is less than the applicable annual ESL for total silica of $1.0 \mu\text{g}/\text{m}^3$.

324.281. No adverse health or welfare effects will result from the public's exposure to emissions of total silica from the Plant.

ESL Analysis: Nickel

325.282. For nickel, the maximum modeled 1-hour average concentration from the Plant's emissions is $0.15 \mu\text{g}/\text{m}^3$, which is equal to the 1-hour ESL for nickel of $0.15 \mu\text{g}/\text{m}^3$.

326.283. The maximum modeled 1-hour average concentration for nickel is predicted to occur for only one hour per year.

327.284. The maximum 1-hour concentration for nickel is predicted to occur in a rural location.

328.285. The maximum modeled annual average concentration resulting from the Plant's emissions of nickel is $0.001 \mu\text{g}/\text{m}^3$, which is less than the annual ESL for nickel of $0.015 \mu\text{g}/\text{m}^3$.

329.286. No adverse health or welfare effects will result from the public's exposure to emissions of nickel from the Plant.

ESL Summary

330.287. No adverse public health or welfare effects will result from the Plant's emission of air contaminants for which no air quality standard exists.

Additional Findings Concerning Air Emissions: General Requirements and Chapter 111 Standards

331.288. In the Application, Tenaska represents that it will comply with all applicable requirements of the TCEQ Air Quality General Rules under 30 TEX. ADMIN. CODE Chapter 101, which relates to such things as circumvention; nuisance; traffic hazards; sampling; sampling ports; emissions inventories; sampling procedures and terminology; compliance with U.S. EPA standards; fees; emissions events; scheduled maintenance; start-up and shutdown activities; and emissions banking and trading to the extent they apply to the proposed Plant.

332.289. The main boiler stationary vents will not exceed the opacity limit of 20% over a 6-minute period as specified in 30 TEX. ADMIN. CODE § 111.111(a)(1)(B).

333.290. Trailblazer visible emissions from any building, enclosed facility, or other structure will not exceed the opacity limit of 30% over a 6-minute period as specified in 30 TEX. ADMIN. CODE § 111.111(a)(7) and (8).

334.291. Emissions from all other Trailblazer sources, besides the main boiler, will comply with limits on the emission rates of particulate matter as specified under 30 TEX. ADMIN. CODE § 111.151.

335.292. Emissions of particulate matter from the Trailblazer main boiler will not be greater than 0.3 pound of total suspended particulates per MMBtu heat input over a 2-hour period during solid fuel firing as specified in 30 TEX. ADMIN. CODE § 111.153(b).

336.293. The proposed Trailblazer Plant will comply with all applicable emission limitations, opacity, and visible emissions limitations of 30 TEX. ADMIN. CODE Chapter 111.

Summary of Protection of Public Health and Welfare

337.294. The proposed emissions from the Plant will comply with all ambient air contaminant standards and guidelines at off-property locations.

Unregulated Substances

338.295. Emissions from Trailblazer of water vapor, oxygen, hydrogen, nitrogen, methane, ethane, carbon dioxide, and certain other substances are not regulated under the Texas Clean Air Act or rules of the TCEQ and, therefore, are not addressed in the Draft Permit, although emission rates for some of these substances were calculated as part of the combustion calculations as set forth in Appendix A to the Application.

Measurement of Emissions: 30 TEX. ADMIN. CODE § 116.111(a)(2)(B)

339.296. Tenaska will conduct initial stack testing of the main boiler to demonstrate compliance with all emission limits in the Maximum Achievable Emission Rates Table (MAERT) of the Draft Permit, including NO_x, SO₂, CO, Hg, NH₃, PM, VOC, H₂SO₄, HCl, HF, and Pb.

340.297. Tenaska will conduct initial stack testing of the auxiliary boiler to demonstrate compliance with NO_x and CO emissions limits in the MAERT of the Draft Permit.

341.298. Tenaska will conduct initial opacity testing of the coal handling equipment to demonstrate compliance with opacity limits in the Draft Permit.

342.299. Tenaska will perform initial PM stack testing of one of the material handling baghouses to demonstrate compliance with emission limits in the Draft Permit.

343.300. The Trailblazer main boiler will be equipped with a Continuous Opacity Monitor System (COMS) to demonstrate continual compliance with the 10% opacity limit in the Draft Permit and will also be equipped with Continuous Emissions Monitoring Systems (CEMS) to demonstrate continual compliance with the NO_x, SO₂, CO, Hg, and NH₃ limits in the Draft Permit.

344.301. Tenaska will stack test emissions from the main boiler to demonstrate ongoing compliance with the emissions limits in this Order.

302. The Draft Permit for the Trailblazer Plant has adequate provisions for measuring emissions of air contaminants to assure compliance with emission limits under the Draft Permit.¹

NSPS 30 TEX. ADMIN. CODE § 116.111(a)(2)(D)

345.303. Tenaska Application accurately and completely delineates the requirements of all applicable NSPS as they apply to pulverized coal boilers, storage and handling systems, and the CC2 project generally.

346.304. Trailblazer is expected to meet all applicable NSPS.

347.305. Compliance with all applicable NSPS requirements is a condition of the Draft Permit.

NESHAPs: 30 TEX. ADMIN. CODE § 116.111(a)(2)(E)

348.306. There are no national emission standards for hazardous air pollutants (NESHAPs) as listed under 40 CFR Part 61 applicable to facilities of a type comprising the Plant.

NESHAPs for Source Categories: 30 TEX. ADMIN. CODE § 116.111(a)(2)(F)

349.307. The Plant emergency diesel engines are expected to comply with 40 CFR Part 63, Subpart ZZZZ, the requirements for NESHAPs for source categories, or MACT standards, for stationary Reciprocating Internal Combustion Engines.

350.308. MACT Subpart DDDDD for Industrial/Commercial/Institutional Boilers and Process Heaters was vacated and is no longer applicable. Tenaska submitted a case-by-case MACT analysis for both the main and auxiliary boilers in the Trailblazer Application.

¹ Tenaska Exhibit 2 (Greywall Prefiled), 47:10-12, 47:20-48:3, 48:16-49:9.

Performance Demonstration: 30 TEX. ADMIN. CODE § 116.111(a)(2)(G)

351.309. Draft Permit No. 84167/PSD-TX-1123/HAP-13 and the Trailblazer Application contains provisions for demonstrating achievement of the performance specified in the Application, such as conducting performance testing of emissions from the main boiler and auxiliary boiler stacks, once the Plant is constructed and operating.

352.310. Provisions for demonstrating achievement of the performance specified in the Application and the Draft Permit will adequately demonstrate performance of Trailblazer facilities.

Nonattainment Review: 30 TEX. ADMIN. CODE § 116.111(a)(2)(H)

353.311. The Plant is located in Nolan County, which is classified as attainment or not classifiable for all criteria air pollutants.

354.312. Because the Plant is not located in an area that is designated nonattainment for any air contaminant, the Plant facilities are not subject to nonattainment review requirements.

PSD Review: 30 TEX. Admin. CODE § 116.111(a)(2)(I)

355.313. As part of Texas' State Implementation Plan, EPA has approved TCEQ's program for using TEX. ADMIN. CODE Chapter 116 NSR permits as the vehicle for undertaking the demonstrations required by the federal PSD program.

356.314. Trailblazer has the potential to emit more than 100 tons of any single regulated air contaminant and the Plant has the potential to emit the following pollutants in significant quantities as defined in 40 C.F.R. §52.21(b)(23): SO₂, CO, PM, PM₁₀, NO_x, VOC, H₂SO₄, Pb, and fluorides (as HF).

357.315. Tenaska conducted a source impact analysis showing that allowable emissions from Trailblazer will not cause or contribute to air pollution in violation of any NAAQS or PSD increment.

~~358.316.~~ Tenaska conducted an appropriate additional impacts analysis that assessed the potential impairment to visibility, soils, and vegetation as a result of the Trailblazer emissions and associated commercial, residential, and industrial growth, and assessed air quality impacts as a result of such growth.

~~359.317.~~ Trailblazer will not generate sufficient growth in the area to significantly increase air contaminants from secondary sources.

~~360.318.~~ Modeling of Trailblazer's emissions shows concentrations that will be protective of soils and vegetation.

~~361.319.~~ Tenaska demonstrated through its Class I modeling that Trailblazer will not have adverse impacts on visibility or other air quality related values in any Class I area.

~~362.320.~~ Modeling of Trailblazer's impacts on Class I areas is not required by TCEQ guidance because the nearest Class I area is more than 100 km from the site.

Air Dispersion Modeling or Ambient Monitoring: 30 TEX. ADMIN. CODE § 116.111(a)(2)(J)

~~363.321.~~ Tenaska performed computerized air dispersion modeling in order to demonstrate the air impacts from Trailblazer.

Mass Emissions Cap and Trade: 30 TEX. ADMIN. CODE § 116.111(a)(2)(L)

~~364.322.~~ The main boiler will not be located in the Houston/Galveston ozone nonattainment area.

~~365.323.~~ No mass cap and trade allowances are applicable to the Plant.

Compliance History

~~366.324.~~ Tenaska has an "average" site and person compliance history rating.

Permit

~~367.325.~~ The MAERT in the Draft Permit lists all sources of air contaminants regulated under the permit.

368.326. The Plant's air emissions sources have been planned to comply with the emission limits specified in the Draft Permit's MAERT.

369.327. The Trailblazer facilities can be operated to meet the requirements of this Order.

370.328. The MAERT Table should be revised, as necessary, to comply with all emission limits in this Order.

371.329. The Draft Permit prescribes requirements for demonstrating initial and ongoing compliance with all applicable requirements of the permit and the TCAA.

Transcript Costs

372.330. The non-expedited transcription costs for this case are \$5,377.25, which Tenaska has paid.

373.331. Sierra Club and MCC shall each reimburse Tenaska one-third of the non-expedited transcription costs which equal \$1,792.41 per party.

CONCLUSIONS OF LAW

374.332. The Commission has jurisdiction over Tenaska's Application pursuant to TEX. HEALTH & SAFETY CODE Chapter 382 and TEX. WATER CODE Chapter 5.

375.333. Tenaska's Application was directly referred to SOAH pursuant to TEX. WATER CODE § 5.557.

376.334. Pursuant to TEX. GOV'T CODE § 2003.047, SOAH has jurisdiction to conduct a hearing and to prepare a proposal for decision in this matter.

377.335. Notice of Tenaska's Application was provided pursuant to 30 TEX. ADMIN. CODE § 39.601, *et seq.*, and TEX. GOV'T CODE §§ 2001.051 and 2001.052.

378.336. Tenaska submitted its Application pursuant to 30 TEX. ADMIN. CODE §§ 116.110(f) and 116.140.

~~379.337.~~ Pursuant to 30 TEX. ADMIN. CODE § 80.17(a), in a contested case hearing involving an air quality permit application, the burden of proof is on the applicant to prove by a preponderance of the evidence that it satisfies all statutory and regulatory requirements.

~~380.338.~~ Pursuant to 30 TEX. ADMIN. CODE § 116.111, the emissions from the Plant's facilities as authorized by this Order will comply with all Commission rules and regulations and with the intent of the TCAA, including the protection of the health and physical property of the people, consistent with the long-standing interpretation of the Commission's rules, regulations, and guidance.

HAPs: 30 TEX. ADMIN. CODE § 116.111(a)(2)(K)

~~381.339.~~ The main boiler will be a major source of HAPs.

~~382.340.~~ In accordance with 30 TEX. ADMIN. CODE § 116.111(a)(2)(K), a case-by-case MACT analysis was conducted to establish federally enforceable MACT emission limits for the Plant's main boiler and the auxiliary boiler.

~~383.341.~~ In accordance with 30 TEX. ADMIN. CODE § 116.400 and the limits set in this permit, the emissions for HAPs from the Plant's main boiler and auxiliary boiler reflect application of MACT for a new source.

~~384.342.~~ Based on the above Findings of Fact and Conclusions of Law, Tenaska has made all demonstrations required under applicable state laws and regulations, including 30 TEX. ADMIN. CODE § 116.404 regarding hazardous air pollutant major source permit applications, to be issued a hazardous air pollutant major source air quality permit with case-by-case MACT review.

Mass Cap and Trade Allocations: 30 TEX. ADMIN. CODE 116.111(a)(2)(L)

~~385.343.~~ The requirement set forth at 30 TEX. ADMIN. CODE § 116.111(a)(2)(L) is not applicable to the Plant.

Protection of Public Health and Welfare

386.344. A demonstration of compliance with the PM₁₀ NAAQS suffices to demonstrate compliance with the PM_{2.5} NAAQS.

387.345. When the maximum modeled concentration of a pollutant from a project is less than a NAAQS *de minimis* level, it is unnecessary to incorporate background levels or emissions from other sources in the area in the analysis of that pollutant because the maximum predicted concentration level is insignificant.

388.346. Pre-construction monitoring is not required to evaluate the cumulative impact of the Plant's emissions of SO₂ and PM₁₀ because of the availability of existing conservative monitoring data.

389.347. Pre-construction monitoring is not required for air contaminants whose modeled concentrations are below PSD monitoring *de minimis* levels.

390.348. Pre-construction monitoring for NO₂ and CO is not required because the predicted concentrations of these pollutants are less than their respective PSD monitoring significance levels.

391.349. Post-construction monitoring is not required for any criteria pollutant because all modeled concentrations were less than 90% of the NAAQS and PSD increments.

392.350. With the emission limits set in this Order, emissions from the Plant will not cause or contribute to air pollution.

393.351. With the emission limits set in this Order, emissions from the Plant will not cause adverse public health or welfare effects, including nuisance conditions.

394.352. The emissions from the Plant will comply with the opacity limits and particulate matter emission rates set forth in 30 TEX. ADMIN. CODE Chapter 111 concerning control of air pollution from visible emissions and particulate matter.

395.353. With the emission limits set in this Order, the emissions from the Plant will comply with the sulfur compound emission requirements set forth in 30 TEX. ADMIN. CODE Chapter 112 concerning control of air pollution from sulfur compounds.

396.354. Tenaska will comply with all applicable standards adopted by reference in 30 TEX. ADMIN. CODE Chapter 113.

397.355. The Plant's diesel engines will comply with the specifications set forth in 30 TEX. ADMIN. CODE Chapter 114, Subchapter I.

398.356. The Plant is not subject to the rules set forth in 30 TEX. ADMIN. CODE Chapter 115 regarding the control of VOCs because it will be located in Nolan County.

399.357. The Plant is not subject to the rules set forth in 30 TEX. ADMIN. CODE Chapter 117 regarding the control of NOx because it will not be located in an ozone nonattainment area and will be placed into service after December 31, 1995.

400.358. The Plant is required to operate in compliance with any orders of the Commission relating to generalized and localized air pollution episodes under 30 TEX. ADMIN. CODE Chapter 118.

401.359. The Plant is not subject to the emission reduction plan requirements of 30 TEX. ADMIN. CODE Chapter 118.

402.360. In accordance with 30 TEX. ADMIN. CODE § 116.111(a)(2)(A)(i), emissions from the Plant will comply with all Commission rules and regulations and the intent of the TCAA, including protection of the health and property of the public, consistent with the long-standing interpretation of the Commission's rules, regulations, and guidance.

403.361. Carbon dioxide is not currently subject to regulation under the FCAA or TCAA.

404.362. Tenaska is not required to evaluate any impacts from the Plant's emissions of substances that are not regulated under the FCAA or TCAA, such as water vapor, nitrogen, methane, ethane, and carbon dioxide.

Measurement of Emissions: 30 TEX. ADMIN. CODE § 116.111(a)(2)(B)

405.363. In accordance with 30 TEX. ADMIN. CODE §116.111(a)(2)(B), the Plant will have provisions for measuring the emission of air contaminants as determined by the Commission's Executive Director.

406.364. The MAERT Table in the Draft Permit ~~shall be revised to comply with all represents~~ each of the emissions limits in this Order.

BACT: 30 TEX. ADMIN. CODE § 116.111(a)(2)(C)

407.365. In accordance with 30 TEX. ADMIN. CODE § 116.111(a)(2)(C), the Plant will utilize BACT, with consideration given to the technical practicability and economic reasonableness of reducing or eliminating emissions from the facilities of which it will be comprised.

NSPS: 30 TEX. ADMIN. CODE § 116.111(a)(2)(D)

408.366. In accordance with 30 TEX. ADMIN. CODE § 116.111(a)(2)(D) and with the limits set in this Order, the emissions from the Plant will meet the requirements of any applicable NSPS as listed under Title 40 C.F.R. Part 60, promulgated by the EPA under authority granted under Section 111 of the FCAA, as amended.

NESHAPS: 30 TEX. ADMIN. CODE § 116.111(a)(2)(E)

409.367. No requirement set forth at 30 TEX. ADMIN. CODE § 116.111(a)(2)(E) regarding compliance with NESHAPS is applicable to the Plant.

NESHAPS for Source Categories: 30 TEX. ADMIN. CODE § 116.111(a)(2)(F)

410.368. The Plant's emergency diesel engines are the only type of equipment in the Plant subject to a NESHAPS for source categories.

411.369. In accordance with 30 TEX. ADMIN. CODE § 116.111(a)(2)(F), emissions from the Plant will meet the requirements of any applicable MACT standards as listed under Title 40

C.F.R. Part 63, promulgated by the EPA under authority granted under Section 112 of the FCAA, as amended, or as listed under 30 TEX. ADMIN. CODE Chapter 116.

Performance Demonstration: 30 TEX. ADMIN. CODE §116.111(a)(2)(G)

412.370. In accordance with 30 TEX. ADMIN. CODE § 116.111 (a)(2)(G) the Plant's facilities will achieve the performance specified in the permit application.

Nonattainment Review: 30 TEX. ADMIN. CODE §116.111(a)(2)(H)

413.371. Nonattainment review requirements are not applicable to the Plant.

PSD Review: 30 TEX. ADMIN. CODE § 116.111 (a)(2)(I)

414.372. Trailblazer is a major source because it is one of the 28 named source categories listed in 40 CFR § 52.21(b)(1) and emits more than 100 tpy of any single criteria pollutant in an attainment or unclassified area for all criteria pollutants.

415.373. The Plant constitutes a new major source because it emits certain criteria pollutants in "significant" quantities; therefore, PSD review is triggered.

416.374. In accordance with 30 TEX. ADMIN. CODE §116.111(a)(2)(I), the Plant complies with all applicable requirements of Chapter 116 regarding PSD review.

Air Dispersion Modeling or Ambient Monitoring: 30 TEX. ADMIN. CODE 116. 111(a)(2)(J)

417.375. In accordance with 30 TEX. ADMIN. CODE § 116.111(a)(2)(J), computerized air dispersion modeling was performed as required to determine the air impacts from Trailblazer.

Tenaska's Permit

418.376. The special conditions in the permit are appropriately added under 30 TEX. ADMIN. CODE § 116.115(c)(1) and are consistent with the TCAA.

419.377. A special condition shall be added to the permit to require emissions testing ~~and~~ of emissions point number EPN 54 both when emissions are passing through, and bypassing, the CO₂ capture facility.

420.378. No changes to the permit should be made on the basis of compliance history in accordance with 30 TEX. ADMIN. CODE § 116.110(c), because Tenaska has an “average” site and person compliance history rating as determined in accordance with 30 TEX. ADMIN. CODE Chapter 60.

421.379. Based on the above Findings of Fact and Conclusions of Law, Tenaska has made all demonstrations required under applicable federal and state laws and regulations, including 30 TEX. ADMIN. CODE § 116.111 regarding air permit applications, to be issued an air quality permit with PSD review.

422.380. In accordance with TEX. HEALTH & SAFETY CODE § 382.0518(b)(1) and with the emission limits set in this Order, the Plant’s facilities will use at least BACT, considering the technical practicability and economic reasonableness of reducing or eliminating its emissions.

423.381. In accordance with 30 TEX. ADMIN. CODE § 116.400, the main boiler and the auxiliary boiler will employ the maximum achievable control technology (MACT) emissions limitations for a new source.

424.382. In accordance with TEX. HEALTH & SAFETY CODE § 382.0518(b)(2), emissions from the Plant will not contravene the intent of the TCAA and will be protective of the public's health and physical property, consistent with the long-standing interpretation of the Commission's rules, regulations, and guidance.

425.383. In accordance with TEX. HEALTH & SAFETY CODE §382.0518(b), the application for State Air Quality Permit No. 84167, Prevention of Significant Deterioration Air Quality Permit PSD-TX-1123, and Hazardous Air Pollutant Major Source Permit No. HAP-13 should be approved and Air Quality Permit No. 84167/PSD Permit No. PSD-TX-1123/HAP-13 should be issued.

Transcription Costs

426.384. Based on the above Findings of Fact, Tenaska, Sierra Club, and MCC are responsible for the non-expedited transcription costs for the evidentiary hearing, and Sierra Club and MCC shall each reimburse Tenaska one-third of these costs or \$1,792.41 per party.

NOW THEREFORE IT IS ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT:

1. The application of Tenaska Trailblazer Partners, L.L.C. for State Air Quality Permit No. 84167, Prevention of Significant Deterioration Air Quality Permit PSD-TX-1123, and Hazardous Air Pollutant Major Source Permit No. HAP-13 is approved and the permit attached is approved and issued, with the inclusion of the following special conditions:
2. All other motions, requests for entry of specific Findings of Fact or Conclusions of Law, and any other requests for general or specific relief, if not expressly granted herein, are hereby denied.
3. The effective date of this Order is the date the Order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and TEX. GOV'T CODE § 2001.144.
4. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any provision shall not affect the validity of the remaining portions of this Order.

5. The Executive Director's Response to Public Comment concerning Tenaska's Air Quality Permit No. 84167, PSD Permit No. PSD-TX-1123, and HAP-13 is adopted and approved. If there is any conflict between the Commission's Order and the Executive Director's Response to Comments, the Commission's Order prevails.

ISSUED:

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Bryan Shaw, Chairman
For the Commission