

**TCEQ DOCKET NO. 2009-0283-AIR
SOAH DOCKET NO. 582-09-3008**

APPLICATIONS OF WHITE	§	
STALLION ENERGY CENTER,	§	
LLC FOR STATE AIR QUALITY	§	BEFORE THE TEXAS COMMISSION ON
PERMIT 86088; PREVENTION OF	§	
SIGNIFICANT DETERIORATION	§	
AIR QUALITY PERMIT PSD-TX-	§	
1160 AND FOR HAZARDOUS AIR	§	
POLLUTANT MAJOR SOURCE	§	
[FCAA § 112(g)] PERMIT HAP-28	§	ENVIRONMENTAL QUALITY
AND PLANTWIDE	§	
APPLICABILITY LIMIT PAL-48	§	

**SIERRA CLUB’S AND NO COAL COALITION’S REPLY TO EXCEPTIONS
TO THE PROPOSAL FOR DECISION**

TO THE HONORABLE CHAIRMAN SHAW AND COMMISSIONERS GARCIA AND RUBINSTEIN:

COMES NOW, Sierra Club and No Coal Coalition (Protestants) and pursuant to the rules of the Commission present these replies to exceptions to the proposal for decision (PFD) submitted by Administrative Law Judges (ALJs) Keeper and Qualtrough.

Air Dispersion Modeling: New NAAQS for 1-hour NO₂ and 1-hour SO₂.

In addition to the issues discussed in the PFD, EDF correctly notes that since the record closed, two new NAAQS have been established. White Stallion is required to demonstrate that its emissions will not cause or contribute to a violation of either of these new NAAQS. The applications are currently deficient and cannot be issued until such time as White Stallion makes

a proper PSD demonstration that its emissions will not cause or contribute to a violation of the 1 hour SO₂ and NO₂ NAAQS.

EPA published the 1-hour standard for NO₂ on February 8, 2010. It is presently effective as of April 12, 2010.¹ This means that any permit which is not final as of April 12, 2010, cannot be issued without the 1-hour NO₂ NAAQS demonstration. EPA issued initial guidance and a notice regarding modeling for new hourly NO₂ NAAQS.² More recently, EPA's Office of Air Quality Planning and Standards, issued guidance to "explain and clarify the procedures that may be followed by applicants for Prevention of Significant Deterioration (PSD) permits and permitting authorities reviewing such applications to properly demonstrate that proposed construction will not cause or contribute to a violation of the new 1-hour nitrogen dioxide (NO₂) National Ambient Air Quality Standard."³ Furthermore, "EPA interprets its regulations at 40 CFR § 52.21 (the federal PSD program) to require permit applicants to demonstrate compliance with "any" NAAQS that is in effect on the date a PSD permit is issued."⁴ No final permit has been issued, and there has been no 1-hour NO₂ NAAQS demonstration. Therefore, this application must be remanded to provide the applicant with the opportunity to conduct air dispersion modeling to make the 1-hour NO₂ NAAQS demonstration. If and when applicant conducts modeling to make this showing, the public must be afforded the opportunity to review and question the additional modeling submitted.

¹ 75 Fed. Reg. 6474 (February 9, 2010).

² http://www.epa.gov/scram001/no2_hourly_NAAQS_aermod_02-25-10.pdf

³ EPA's June 29, 2010 guidance can be downloaded from the followings site:
<http://www.epa.gov/NSR/documents/20100629no2guidance.pdf>

⁴ See page 4 of the memo : <http://www.epa.gov/NSR/documents/20100629no2guidance.pdf>

Multiple other jurisdictions and professionals⁵ recognize this fact and are addressing this issue through additional modeling before issuing final permits.⁶⁷ TCEQ must do the same. The SO₂ standard is not effective as of the date of this filing. EPA published the final rule for the 1-hour SO₂ NAAQS on June 22, 2010, with an effective date of August 23, 2010.⁸ WSEC's permit will not become final until after the effective date. Again, and for the same reasons as the 1-hour NO₂ standard, this application must be remanded so the applicant may conduct air dispersion modeling and make the appropriate 1-hour SO₂ NAAQ demonstration.

Ozone

White Stallion's ozone analysis is completely insufficient and makes no legal, regulatory, or scientific sense. White Stallion exceptions do not cure these deficiencies. EPA created final regulations to implement the legislative PSD program in 1980. These regulations have been amended from time to time. These regulations implement 42 U.S.C. § 7475(a)(3) by providing:

(k) Source impact analysis. The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:

(1) Any national ambient air quality standard in any air quality control region; or

(2) Any applicable maximum allowable increase over the baseline concentration [a.k.a. increment] in any area.

(l) Air quality models. (1) All estimates of ambient concentrations required under this paragraph shall be based on applicable air quality

⁵ <http://trinityconsultants.com/Templates/TrinityConsultants/News/Article.aspx?id=2839>

⁶ http://www.energy.ca.gov/sitingcases/carlsbad/documents/applicant/2010-03-05_Applicants_One-Hour_NO2_Modeling_Protocol_TN-55773.pdf;

⁷ <http://www.iowadnr.gov/air/news/articles/10apr13.html>

⁸ 75 Fed. Reg. 35520 (June 22, 2010).

models, data bases, and other requirements specified in appendix W of part 51 of this chapter (Guideline on Air Quality Models).

(2) Where an air quality model specified in appendix W of part 51 of this chapter (Guideline on Air Quality Models) is inappropriate, the model may be modified or another model substituted. Such a modification or substitution of a model may be made on a case-by-case basis or, where appropriate, on a generic basis for a specific state program. Written approval of the Administrator must be obtained for any modification or substitution. In addition, use of a modified or substituted model must be subject to notice and opportunity for public comment under procedures developed in accordance with paragraph (q) of this section.⁹

Therefore, to carry out its 42 U.S.C. § 7475(e)(3)(D) obligations, EPA incorporated by reference its Guideline on Air Quality Modeling as Appendix W into its permitting regulations.¹⁰

Thus, despite its name, EPA's Guideline on Air Quality Modeling, hereinafter referred to as Appendix W, is a federal regulation.

Again, as to ozone, Appendix W provides:

5.2.1.c. Estimating the Impact of Individual Sources. Choice of methods used to assess the impact of an individual source depends on the nature of the source and its emissions. Thus, model users should consult with the Regional Office to determine the most suitable approach on a case-by-case basis (subsection 3.2.2).¹¹

This was not done in this case. White Stallion simply has not made the demonstration. The draft ozone techniques do not even purport to evaluate WSEC's emissions beyond a very localized area, most certainly not for any national any air quality control region.

Here are the undisputed facts: White Stallion has proposed a major new source of NOx and VOCs, just a few miles south of the Houston-Galveston-Brazoria non-attainment area,

⁹ 40 C.F.R. 52.21(k) & (l)(2008).

¹⁰ See 43 Fed. Reg. 26380, 26398 (June 19, 1978).

¹¹ 40 C.F.R. 52.21 Appx. W, Section 5.2.1.c.

classified as *severe non-attainment* for ozone. NOX and VOCs are ozone precursors, and form ozone in the presence of sunshine. The HGB area is known to TCEQ to be extremely sensitive to any additional NOx emissions.¹² In an effort to meet the primary ozone NAAQS, which is set to be protective of human health, TCEQ and local governments work together tirelessly to find ways to reduce incremental NOx emissions from existing sources in and around the HGB non-attainment area.¹³ Neither TCEQ nor the Applicant has evaluated the potential impact of WSEC's proposed emissions on the HGB non-attainment area. Neither has the ED made any attempt to review WSEC's potential impact on the ozone concentrations outside the immediate area surrounding the proposed site if WSEC. There is no way to know what physical area in relation to the proposed site the draft ozone procedures purport to evaluate. Even so, White Stallion manages to inappropriately manipulate the draft ozone procedures. White Stallion chose an ozone monitor for step 1 that had no reasonable relationship to the proposed facility.

As the ALJs note, WSEC chose a monitor that is not to be used for regulatory purposes. The data from monitors used by applicants should be reliable and the public ought to have a meaningful opportunity to properly evaluate the data. White Stallion's excuses about relying on unverified monitoring data and the argument that the applicant could basically choose ANY monitor it wishes in order to pass step 1 of the ozone procedures actually demonstrates that the ozone analysis conducted by the Applicant is severely flawed and has no basis in law or science.

White Stallion compounds its errors by misinterpreting the photochemical modeling presented by the only qualified expert witness testifying on ozone issues in this case. The TCEQ probably has an expert that would be qualified to discuss ozone issues, but the ED did not offer any such expert. The Applicant certainly could afford to hire an expert actually qualified to

¹² See Vol.. 4 Tr. at 1008, live testimony of Mr. Khanh Tran.

¹³ SC/NCC Ex. 325.

testify on these issues. Instead, Applicant engages in a campaign of misdirection in the interpretation of the data presented by Mr. Tran. Applicant conveniently ignores both the reality of ozone control efforts in the HGB area AND multiple findings and recommendations of Mr. Tran. Mr. Tran is an unquestionably qualified air dispersion modeling and photochemical modeling expert with years of experience working for industry clients and non-profits, such as Sierra Club. Unfortunately, the ALJs rely on White Stallion's presentation of limited data points, rather than Mr. Tran's findings on the whole. Again, Mr. Tran's modeling demonstrates that: White Stallion's maximum contribution at the daily maximum 8 hour average is .3 ppb ozone.¹⁴ Mr. Tran notes that any predicted violation is a contribution,¹⁵ since there is no significant impact level. A presentation by EPA staff scientist, Mr. Erik Snyder, suggests .3 ppb is a significant impact level.¹⁶ In addition to contributing as much as .3 ppb of ozone to the worst violations in the HGB area, White Stallion's emissions will also create **new** violations of the ozone NAAQS at other times or locations. As noted in Mr. Tran's report, White Stallion's emissions will cause **new** violations with contributions up to .9 ppb.¹⁷ Moreover, when the location of the regulatory monitor is treated as any other receptor, there are impacts attributable only to White Stallion modeled at regulatory monitors of approximately .9 ppb.¹⁸ These are clear data points that refute White Stallion's attempted demonstrations regarding ozone impacts.

Sierra Club and No Coal respectfully request the ALJs amend the PFD to make appropriate findings in accordance with Mr. Tran's testimony and findings that the photochemical modeling demonstrates that increases in ozone in the HGB area will be

¹⁴ See Applicant's closing brief, Page 16.

¹⁵ Vol 4, Transcript at 985.

¹⁶ SC/NCC Ex 330, page 5

¹⁷ Tr. at 968:4-974:15 (Tran on cross); White Stallion Ex. 713 (Summary of Tran's modeling results underlying his Table 4).

¹⁸ Testimony of Khanh Tran, Tr. Vol. 4, Page 1030

attributable to the WSEC. Protestants also respectfully request that your Honors and the Commission reject Applicant's arguments regarding the Aransas Pass ozone monitor. At a minimum, if the Commission insists on relying solely on the screening technique described in the draft ozone procedure, this application should be remanded to SOAH for further findings on the appropriateness of the ozone monitor chosen by Applicant to comply with the first step.

Coal Dust and State Health Effects Review

The Executive Director did not conduct a review analyzing the health effects of coal dust ESL exceedances. Somehow, the ED's toxicologist is able to concur with the opinion of applicant's toxicologist, "despite the fact that Dr. Lee did not conduct a health effects review of coal dust emissions himself."¹⁹ Protestants are left wondering about the purpose of the ED's review, if all one staff member needs to do is quickly read and agree with the Applicant's experts. Clearly, in this respect, your Honors recognize the role of the ED in the toxicology review is to conduct an independent review of the proposed emissions that may harm human health.

Applicant cannot correct this deficiency through briefing, because the inadequate review is what it is. Applicant's statement that "the Executive Director's pre-referral decision to not require modeling of a particular non-criteria pollutant during technical review cannot be a basis for finding the record inadequate to issue a permit" is false. There are both State only AND federally mandated reviews that must occur in order for this permit to be properly issued. Properly relying upon Texas law²⁰, your honors correctly reasoned that the applicant has not

¹⁹ See ED's exceptions to the PFD, page 7.

²⁰ TEX. HEALTH & SAFETY CODE ANN. § 382.0518(b)(2) and 30 TAC § 116.111(a)(2)(A)(i),

proven that its proposed activities will give “no indication” that it will harm the public’s health, general welfare, and physical property.

Multiple Site Plans

Protestants agree with EDF’s exceptions related to WSEC's multiple proposed site plans. EDF argues that “a permit application cannot be approved if it is deficient or incomplete/ and it ultimately requires either denial of the Application or remand to finally resolve the inconsistencies before moving forward. Therefore, FOF Nos. 17 and 20, and Conclusion of Law (“COL”) 5 are in error.” Protestants adopt EDF’s exceptions on this issue.

HCL and HF

The purpose of the Clean Air Act’s Section 112, Maximum Achievable Control Technology (MACT) provisions is to ensure the stringent control of highly detrimental hazardous air pollutants (HAPs, also referred to as air toxics) because they may “cause or contribute to, an increase in mortality or an increase in serious irreversible[] or incapacitating reversible[] illness.”²¹ Setting proper limits for HAPs is important.

On page 16, the Applicant notes the ALJs conclude that White Stallion's "removal efficiencies of 98 percent for HC1, and 95percent for HF, represent MACT for these two pollutants." First of all, MACT must be as stringent as the best performing similar source. Presumably, the MACT floor should be expressed as an emission limitation and should not be expressed as a control efficiency. Section 112 requires that, at a minimum, a MACT limit “shall not be shall not be less stringent than the emission control which is achieved in practice by the best controlled similar source.”²² Therefore, for each HAP, the record must show that the

²¹ *New Jersey v. EPA*, 517 F.3d 574, 577 (D.C. Cir. 2008)(quoting legislative history of section 112).

²² 42 U.S.C. 7412(d)(3); 40 CFR 63.43(d)(1).

agency and applicant identified the individual best performing similar source and determined the emission performance that the source achieves in practice. The proposed source must then be required to meet the level of performance achieved in practice by the best performing similar source.. This is called a “floor,” because the source being permitted cannot drop below this level of emissions control, regardless of the cost, technical or economic feasibility, or achievability.²³ To be clear, the actual level of performance of the best performing source is the MACT floor, even if the regulator cannot identify how the source actually achieves its emissions control, and even if the best performing source does not intentionally control emissions at all. The level of control achieved in practice by the best performing similar source “requires neither an intentional action nor deliberate strategy to reduce emissions.”²⁴ So it matters not what the exact chlorine content of the fuel is, because even if there are variations within the pet coke or between pet coke and coal, the best performing similar source must establish the MACT floor. The ED inappropriately supports different limits depending on the fuel chosen. Apparently the applicant does not. The only thing that is clear from this record, is that a remand is required, if only to sort through the confusion.

Total PM

ALJ’s have presented the Commission with two options with respect to the proposed BACT limits for total PM:

²³ *Nat’l Lime Assoc. v. EPA*, 233 F.3d 625, 640 (D.C. Cir. 2000).

²⁴ *Sierra Club v. EPA*, 479 F.3d at 882-83(D.C. Cir. 2007).

1) Adjust the performance standards in the Draft Permit from 0.033 lb/MMBtu (3-hour avg.) for petroleum coke and 0.025 lb/MMBtu (3-hour avg.) for coal to 0.016 lb/MMBtu (3-hour avg.) for both fuels.

2) Approve total PM performance standards in the Draft Permit.

Applicant mistakenly contends that the sole evidence supporting option 1 is Mr. Shell's testimony regarding Alstrom Power's willingness to guarantee a performance standard of 0.016/lb MMBtu (3-hour avg.) for both fuels.²⁵ While this vendor guarantee is a sufficient basis for the Commission to find that a 0.016 lb/MMBtu performance standard is achievable, it is not the only evidence in the record supporting such a finding. As explained in the PFD, the 0.016 lb/MMBtu performance standard recommended by the ALJs is within the range of emission limits in final permits reviewed by the ED.²⁶ While not necessarily dispositive, another air permitting agency's determination that a lower limit is BACT for a similar facility is evidence that the lower limit is achievable. Mr. Powers also presented evidence that emission levels much lower than those proposed in the Draft Permit for total PM have been achieved in practice at CFB facilities.²⁷ ALJs also note that the decision to require a lower performance standard for total PM is supported by the Las Brisas PFD. In the Las Brisas PFD, two SOAH ALJs found that a total PM limit much lower than WSEC has proposed is BACT for a pet coke fired CFB, which will be identical in many respects to the WSEC.

²⁵ Applicant's Exceptions at 26.

²⁶ PFD at 74-75.

²⁷ SC/NCC Ex. 200 at 30:6-18

In the face of all this evidence, Applicant's appeal to "scientific uncertainty" is unconvincing. The scientific uncertainty the Commission must deal with in this case is no different than the scientific uncertainty faced by other state permitting agencies that have found that lower total PM performance standards are technically practicable and economically reasonable for similar facilities. Nor can it be thought that pollution control vendors have failed to account for this uncertainty in deciding which performance standards they are willing to guarantee. In this case, ALJs must propose findings of fact supported by a preponderance of the evidence. Here, even though uncertainties may exist, the preponderance of the evidence establishes that a total PM limit of 0.016 is achievable.

In support of the second option, the PFD states:

The facts in the *Prairie State* EAB appeal are similar to the facts in this record. Based on that EAB decision, the record would support a finding that the total PM limits in the draft permit would be BACT for this facility.²⁸

The EAB's decision in *Prairie State* is distinguishable from this case in several key respects. First, the EAB's decision does not address evidence, such as presented in this matter, that stack testing data from similar facilities supports a finding that a lower performance standard than proposed has been achieved in practice. Next, there is no indication in *Prairie State* that an established control vendor was willing to guarantee a more stringent performance standard than IEPA had proposed. Finally, the mechanism for adjustment in the *Prairie State* permit is very different from the Optimization provision in White Stallion's Draft Permit. As the *Prairie State* decision emphasizes:

Notably, the default 0.018 lb/MMBtu limit is precisely what Petitioners have asserted should have been set as BACT based on limits in the permits for Longview, Thoroughbred, and Elm Road facilities. In our view, IEPA's approach

²⁸ PFD at 74.

effectively establishes the lower limit of 0.018 lb/MMBtu in the present Permit, unless Prairie State demonstrates through actual representative operating test data within the first three years of operation that its Facility cannot reliably achieve the limit without “unacceptable” and “unreasonable” consequences.²⁹

By way of contrast, the Draft Permit limits of 0.033 lb/MMBtu (3-hour avg.) for petroleum coke and 0.025 lb/MMBtu (3-hour avg.) will become final unless sampling taken during the first annual compliance test shows emissions of total PM 50% or less of these values. IEPA’s decision in *Prairie State* took account of lower permit limits for similar facilities, and required compliance with a limit consistent with the lower permit limits it had identified. IEPA provided a mechanism for upward adjustment of the permit limit, but only if the permittee could prove—using stack testing data—that the lower limit was unachievable. Here, the situation is different. The ED need not rely solely on lower permit limits for untested facilities. Protestants have presented stack testing data for similar facilities that shows lower permit limits are achievable. A well-established pollution control vendor is willing to permit a lower rate. In *Prairie State*, IEPA built an escape hatch for the applicant if the applicant could prove that lower performance standards were not achievable. Here, the ED does not require any such showing, and the permit makes the less stringent limit rather than the more stringent performance standard the default.

Thus, because a preponderance of the evidence supports a finding that a performance standard of 0.016 lb/MMBtu (3-hour avg.) for both fuels is achievable, and because the *Prairie State* decision is distinguishable from the present facts and does not support Option 2, the total PM performance standards in the Draft Permit should be lowered to 0.016 lb/MMBtu for both fuels.³⁰

²⁹ *In Re: Prairie State*, 2006 EPA APP. LEXIS 38 at 213-214 (EPA App. 2006).

³⁰ In light of this adjustment, the Draft Permit performance standards for PM_{2.5} should likewise be adjusted.

Carbon Monoxide (CO)

In its Exceptions to the PFD, Applicant fails to address ALJs' concerns about the CO limit in the draft permit. Applicant fails to explain why WSEC's long-term CO limit of 0.11 is higher than the short-term 0.10 limits of three facilities found in the RBLC.³¹ There is no explanation of how WSEC's 0.11 annual limit when operating at full capacity is as stringent as the short-term limit of 0.10 when the three other CFBs are also operating at full capacity.³² While Sierra Club/No Coal Coalition believe that even lower CO limits are achievable and should be required as BACT, it is clear that Applicant has failed to demonstrate that the BACT limit for CO proposed in the PFD is not achievable.

Sulfuric Acid Mist (H₂SO₄)

Applicant claims that ALJs' proposed downward adjustment of the sulfuric acid mist (SAM) performance standard in the Draft Permit ignores the scientific uncertainties established in the record regarding SAM emissions, and Mr. Shell's testimony that lower SAM permit limits identified in the record were likely the results of differing starting assumptions about the sulfur content of the fuel.³³ These claims are mistaken. After careful consideration of the record, ALJs were unable to identify "any evidence in the record to indicate that the sulfur and vanadium content of WSEC's pet coke is so much higher than the content in the pet coke used at the Manitowoc facility to justify the much higher rate."³⁴ ALJs continue:

Nor are we aware of any evidence in the record to justify WSEC's higher limit, other than the uncertainty surrounding compliance testing for condensable PM, including H₂SO₄. Although we understand that it is difficult to accurately quantify H₂SO₄ emissions, we are not convinced that this is sufficient

³¹ See PFD at 81.

³² *Id.*

³³ Applicant Exceptions at 30.

³⁴ PFD at 86.

justification for the substantial differences between existing emission limits for other facilities and limits contained in the draft permit.³⁵

Thus, having considered WSEC's briefing and the testimony of its experts, ALJs appropriately found that the record does not support WSEC's contention that *much* lower permit limits at similar facilities can be explained away on the basis of scientific uncertainty and differing fuel assumptions. It should also be noted that the facility upon which the ALJs base their proposed lower limit, the Manitowoc unit, has passed SAM compliance testing.³⁶ This emission testing demonstrates that the Manitowoc facility is achieving SAM emission levels near the JEA Northside 1 and 2 SAM permit limit of 0.0004 lb/MMBtu.³⁷ SAM source testing conducted in 2002 at JEA Northside measured SAM emissions of less than 0.0002 lb/MMBtu on coal, and the AES Deepwater pet-coke fired boiler measured an average SAM concentration of 0.0035 lb/MMBtu during source testing in 2008.³⁸ This performance testing demonstrates that SAM limits much lower than those proposed in the PFD have been achieved in practice by similar CFB facilities. In light of this evidence and other evidence cited in the PFD, Applicant's claim that a SAM limit of 0.0045 is not BACT is unconvincing.

PM10 as a Surrogate for PM2.5

Sierra Club/No Coal Coalition incorporates Environmental Defense Fund's Exceptions and Reply to Exceptions on this issue.

Conclusion

Sierra Club and No Coal Coalition respectfully request that this PFD and proposed order be modified in accordance with the exceptions presented by Sierra Club, No Coal Coalition and

³⁵ *Id.*

³⁶ SC/NCC Ex. 200 at 36:1-16.

³⁷ *Id.*

³⁸ *Id.*

EDF. We further request the application be denied based upon the numerous deficiencies noted by Protestants, OPIC and the ALJs. In the alternative, we request the Commission remand the application for additional evidence on the coal dust, ozone demonstration, and HCl and HF limits. In any event, this record supports BACT limits no less stringent than the lowest recommended by the ALJs for PM, CO, and H₂SO₄.

Respectfully Submitted,

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