Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*

Blas J. Coy, Jr., *Public Interest Counsel*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 6, 2010

LaDonna Castañuela, Chief Clerk
Texas Commission on Environmental Quality
Office of the Chief Clerk (MC-105)
P.O. Box 13087
Austin, Texas 78711-3087

RE: **WHITE STALLION ENERGY CENTER, LLC**
SOAH DOCKET NO. 582-09-3008
TCEQ DOCKET NO. 2009-0283-AIR

Dear Ms. Castañuela:

Enclosed for filing is the Office of Public Interest Counsel's Reply to Exceptions in the above-entitled matter.

Sincerely,

Scott A. Humphrey by jh

Scott A. Humphrey, Attorney
Assistant Public Interest Counsel

cc: Mailing List

Enclosure

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

APPLICATION OF WHITE STALLION ENERGY CENTER, LLC FOR STATE AIR QUALITY PERMIT NOS. 86088, PSD-TX-1160, HAP 28 AND PAL 26	§ § § § § § §	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

THE OFFICE OF PUBLIC INTEREST COUNSEL'S REPLY TO EXCEPTIONS

TO THE COMMISSIONERS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:

The Office of Public Interest Counsel (OPIC) of the Texas Commission on Environmental Quality (Commission or TCEQ) files this Reply to Exceptions in the above-referenced matter.

I. Introduction

OPIC generally supports the ALJs' conclusion that White Stallion Energy Center, LLC (White Stallion or Applicant) failed to meet its burden of proof and, therefore, the permit should not be granted. OPIC supports the arguments and positions set forth in the exceptions submitted by the Environmental Defense Fund (EDF) and Sierra Club and No Coal Coalition (Sierra Club). Specifically, OPIC supports the following arguments as the primary basis for denial of White Stallion's (Applicant's) permit applications: OPIC agrees with EDF that the Applicant failed to conduct dispersion modeling properly; and OPIC concurs with Sierra Club that White Stallion has failed to demonstrate it will

incorporate Best Available Control Technology to control nitrous oxide (NO_X) emissions from the proposed facility.

II. Discussion

A. Dispersion Modeling

OPIC agrees with EDF that the ALJs should not have disregarded guidance documents and effectively set a new standard. OPIC concurs with EDF's assertion that it is problematic for the ALJs to conclude that the guidance documents do not bind an Applicant and what matters is "whether the Applicant's modelers have used the best available professional judgment."[1] EDF is correct that such an analysis has no legal support either in case law or statute.[2]

OPIC has previously supported EDF's arguments concerning the dispersion modeling: (1) the Applicant mistakenly relied on TCEQ's Dockside Guidance Document dated August 12, 2002; (2) the Applicant failed to place receptors on the property line; and (3) the sulfur dioxide (SO_2) modeling originally submitted as part of the application was performed erroneously, and the TCEQ never reviewed the modeling submitted during the Applicant's rebuttal case.

EDF points out that the Applicant relied on the TCEQ Dockside Guidance Document in concluding that receptors need not be placed within 25 meters of the barges used to deliver coal and petroleum coke.[3] Although the Applicant modeled on property sources for PM_{10} emissions, it did not model emissions from the barges or other sources located off-property.[4] While the guidance document notes that in most cases, the

---

[1] EDF's Exceptions at 13; PFD at 29.
[2] EDF's Exceptions at 13.
[3] App. Exh. 103, p. 6-3 of the modeling report.
[4] Tr. pgs. 359-360.

property line is well-defined and all sources of emissions are on property, for some activities, such as marine loading, sources may be located off-property and emitted directly into ambient air. In these cases (where the emissions are off-property), this guidance may be used.[5]

OPIC agrees with EDF that reliance on this document is misplaced. This guidance document applies to emissions related to such activities as shipbuilding.[6] Since this is not the activity contemplated by the Applicant, there is no modeling protocol that insulates them with a 25 meter barrier. When EDF's modeling expert placed receptors inside the buffer zone White Stallion created for itself, he concluded the short-term PM_{10} Prevention of Significant Deterioration (PSD) increment had been exceeded.[7] As a result, OPIC agrees that this short-term violation provides a basis for denying the applications.

OPIC also concurs with EDF that White Stallion's modeling underestimates impacts from low-level fugitive emissions associated with material handling activities. TCEQ rules require the Applicant to estimate the highest concentrations and possible violations of a National Ambient Air Quality Standards (NAAQS) or PSD increment.[8] The highest ground-level concentrations of low-level fugitive emissions associated with material handling activities at the proposed site occur at the property line.[9] However, White Stallion's modeler failed to place receptors on the property line, thereby underestimating impacts from low-level fugitive emissions associated with material

[5] EDF Exh. 108, p. 6
[6] Tr. pgs. 747.747.
[7] EDF Exh. 100, pgs. 12-13.
[8] 30 TAC § 116.160(d), incorporating by reference Appendix W, § 7.2.2 of TCEQ modeling procedures.
[9] Tr. pgs. 320-322.

handling activities.[10] Therefore, OPIC agrees with EDF that the Applicant's failure to predict the highest ground-level concentrations of low-level fugitive emissions constitutes another basis to deny the applications.

OPIC further agrees with EDF that the SO_2 modeling submitted with the application was not performed properly. Although the highest SO_2 emissions occur during plant start-up when stack exit velocities are lower, thereby leading to lower dispersion, the Applicant modeled emissions during normal operating conditions when stack exit rates are much higher and dispersion is greater.[11] The Applicant's rebuttal witness offered new modeling, but the ED's staff had not reviewed it. Under these circumstances, OPIC agrees that the analysis of SO_2 emissions is deficient and provides another reason for denying the applications.

B. BACT for NOx Emissions

OPIC agrees with Sierra Club that the record does not support the ALJs' conclusion that SCR is not BACT for this application.[12] Sierra Club notes that according to the ALJs, the lack of agreement among expert witnesses as to how SCR should be used on a CFB "seems to support a finding that SCR is not clearly BACT for a CFB."[13] OPIC concurs that simply because two experts disagree about the best implementation for SCR does not mean SNCR becomes BACT because SCR, whether applied on the hot-side or tail-end positions, will provide greater control of NO_X emissions than SNCR under any circumstances.

---

[10] Tr. pgs. 323-324.
[11] ED Exh. 100, pgs. 22-23.
[12] Sierra Club's Exceptions at 8.
[13] *Id.* at 9; PFD at 57

OPIC has previously expressed agreement with Sierra Club that White Stallion has failed to demonstrate it will incorporate BACT to control NO_X emissions for the proposed facility. The record in this case contains two competing technologies for NO_X: selective non-catalytic reduction (SNCR) and selective catalytic reduction (SCR). The Applicant's evidence on this issue is fairly simplistic. White Stallion's engineer, Shanon DiSorbo, states that the Applicant performed a detailed review to determine whether SCR was technically feasible for controlling NO_x emissions.[14] He concluded that SNCR was a control technology accepted by the TCEQ.[15]

The ED's testifying engineer, Randy Hamilton, provided a slightly more detailed analysis to justify the use of SNCR to control NO_x emissions. He explained that White Stallion proposes the introduction of ammonia for NO_x control, which may result in some emissions of ammonia because the chemical reactions are not perfectly complete.[16] At higher NO_x reductions, measurable amounts of ammonia may slip through the reaction zone without reacting with NO_x. Ammonia slip is limited to 10 parts per million by volume (ppmv) on an hourly basis and 5 ppmv on an annual basis, which are levels that reflect experience with the tradeoff between NO_x and ammonia and the ability to tune the SNCR process to minimize slip. These limits are consistent with other permit and regulatory limits for ammonia emissions from SNCR control systems and reflect BACT.[17]

Expert witness William Powers, representing the Sierra Club and No Coal Coalition, provided a substantially more detailed analysis explaining why SCR is the

---

[14] DiSorbo Prefile p. 61.
[15] *Id.* at 60.
[16] Hamilton Prefile p. 22.
[17] *Id.* at 22-23.

more appropriate control technology for controlling NO_x emissions. First, he explains that in order to make certain that BACT ensures the maximum control of emissions, the EPA has established a top-down analysis.[18] The top-down analysis consists of a five step approach: (1) identifying all available control technologies; (2) eliminating technically infeasible options; (3) ranking the remaining control technologies by control effectiveness in reducing the pollutant under review; (4) evaluating the most effective controls and documenting the results; and (5) selecting BACT.[19] This approach makes sure that a new source has the most effective control measures available, unless the source can affirmatively demonstrate that these measures are technologically or economically infeasible. This method also provides assurance that BACT keeps up with technical advances in the reduction of pollutants.[20]

According to Mr. Powers, in this case White Stallion failed to consider all the possible control technologies and, therefore, failed to select BACT for NO_x emissions.[21] He points out that the proposed SNCR involves injection of ammonia at a specific point in the furnace where the temperature range is appropriate. This reduces nitrogen oxides but also results in a fair amount of ammonia being emitted as a pollutant from the stack. The ammonia "slip" limits in the proposed air permit are 10 ppm (1-hour) and 5 ppm (12-month rolling average).[22]

Mr. Powers further testified that the BACT analysis eliminated SCR on technical feasibility grounds without any supporting analysis. SCR is in common use on solid fuel and gaseous fuel-fired combustion units in the United States. Major SCR manufacturers

---

[18] Powers Prefile p. 4.
[19] *Id.* at 4-5.
[20] *Id.* at 4-6.
[21] *Id.* at 11.
[22] *Id.* at 12.

will guarantee burning high sulfur coal with either a 2 ppm or a 5 ppm ammonia slip. SCR is capable of reducing NO_x emissions from White Stallion's CFBs by 90 percent.[23]

Mr. Powers explains that there are different configurations for SCR at White Stallion. These configurations are: (1) hot-side high dust; (2) hot-side low dust; and (3) tail-end, which could also be called a cold-side, low dust application. There is no doubt that hot-side low dust and tail-end SCR configurations are technically feasible for this permit application. Hot-side, high dust SCR should be technically feasible for the Applicant but is not presumptively as feasible as are low dust and tail-end SCR.[24]

High dust means that the SCR is placed in a position before the flue gas has passed through a high efficiency control device such as an electrostatic precipitator or a baghouse. Low dust means the SCR is located after the particulate control device but upstream of the air-preheater. Tail-end means the SCR is placed in a position after the flue gas has passed through the air preheater, the high efficiency particulate control system, and the SO_2 scrubber, so the flue gas is much cooler. The air preheater is a large heat exchanger that takes heat out of the flue gas leaving the boiler and recycles that heat into the combustion air injected into the boiler.[25]

Mr. Hamilton testified on behalf of the ED after Mr. Powers. He admitted there is no analysis of SCR for this application, and his direct testimony fails to address Mr. Powers' analysis of SCR as BACT to control NO_x for this application.[26] Furthermore, Mr. Hamilton did not consider the top-down approach.[27]

---

[23] *Id.* at 12-13.
[24] *Id.* at 13.
[25] *Id.*
[26] Tr. p. 1070.
[27] Tr. pgs. 1069-70.

OPIC agrees with the Sierra Club that SCRs are used on coal-fired PC boilers in the clean gas low dust and tail-end configurations as well as in the high-dust configurations. For example, low dust and tail-end SCRs have been operating successfully for decades on PC boilers in Germany.[28] Mr. Hamilton also testified that the characteristics of post-particulate control exhaust streams are sufficiently similar to demonstrate that there is no technical impediment that would render SCR technically infeasible for the Applicant.[29]

OPIC supports the approach advocated by Sierra Club and No Coal Coalition. In order for BACT to take into consideration the most currently available technologies to control emissions, OPIC submits that BACT analysis should be a dynamic process that looks beyond previous technologies used in the past. If the approach suggested by the Applicant and the ED were correct, then the agency would not be able to take advantage of new technologies, nor would the agency be able to go beyond what has previously been used to control emissions.

At the very least, OPIC maintains that it is incumbent to respond to the points made by protesting parties regarding alternatives for BACT. In this case, it appears the ED's conclusion in determining BACT has resulted in approval of the Applicant's recommendations without consideration of the alternatives presented by other parties in this matter. Under such circumstances, OPIC cannot support the ED's position because there has been no meaningful review of SCR.

---

[28] Sierra Club Exh. 204.
[29] Tr. pgs. 1083-1084.

IV. Conclusion

OPIC respectfully recommends that the Administrative Law Judges modify the PFD recommending denial of the proposed permit for the additional reasons described herein.

Respectfully submitted,

Blas J. Coy, Jr.
Public Interest Counsel

for By _____
Scott A. Humphrey
Assistant Public Interest Counsel
State Bar No. 10273100
(512)239.6363 PHONE
(512)239.6377 FAX

CERTIFICATE OF SERVICE

I hereby certify that on August 6, 2010 the original and seven copies of the foregoing was filed with the Chief Clerk of the TCEQ and a copy was served to all persons listed on the attached mailing list via hand delivery, facsimile transmission, other electronic transmission, inter-agency mail or by deposit in the U.S. Mail.

for _____
Scott A. Humphrey

MAILING LIST
WHITE STALLION ENERGY CENTER, LLC
SOAH DOCKET NO. 582-09-3008
TCEQ DOCKET NO. 2009-0283-AIR

The Honorable Kerrie Jo Qualtrough
The Honorable Paul Keeper
Administrative Law Judges
State Office of Administrative Hearings
P.O. Box 13025
Austin, Texas 78711-3025
Tel:512/475-4993 Fax: 512/475-4994

Eric Groten
Vinson & Elkins
2801 Via Fortuna, Suite 100
Austin, Texas 78746
Tel: 512/542-8709 Fax: 512/236-3265
Representing: the Applicant

Patrick Lee
Vinson & Elkins
2801 Via Fortuna, Suite 100
Austin, Texas 78746
Tel: 512/542-8629 Fax: 512/236-3265
Representing: the Applicant

Christina Mann
Environmental Integrity Project
1303 San Antonio Street, Suite 200
Austin, Texas 78701
Tel: 512/637-9477 Fax: 512/584-8019
Representing: the Sierra Club and No Coal Coalition

Paul Tough
Tom Weber
Environmental Defense Fund
1201 Spyglass, Suite 200
Austin, Texas 78723
Tel: 512/327-8111 Fax: 512/327-6566

Benjamin Rhem
TCEQ Environmental Law Division MC 173
P.O. Box 13087
Austin, TX 78711-3087
Tel: 512/239-0619 Fax: 512/239-0606

Booker Harrison
TCEQ Environmental Law Division MC 173
P.O. Box 13087
Austin, TX 78711-3087
Tel: 512/239-0619 Fax: 512/239-0606

Docket Clerk
TCEQ Office of Chief Clerk MC 105
P.O. Box 13087
Austin, TX 78711-3087
Tel:512/239-3300 Fax: 512/239-3311