

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

APPLICATION BY § BEFORE THE
TENASKA TRAILBLAZER PARTNERS, LLC §
AIR PERMIT NOS. 84167, PSD-TX-1123, AND § TEXAS COMMISSION ON
HAP 13 § ENVIRONMENTAL
TRENT, NOLAN COUNTY § ENVIRONMENTAL QUALITY

2009 FEB 25 PM 4:05
CHIEF CLERK'S OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director of the Texas Commission on Environmental Quality (the commission or TCEQ) files this Response to Public Comment (Response) on the Permit application and Executive Director's preliminary decision.

As required by Title 30 Texas Administrative Code § 55.156 (30 TAC § 55.156), before an application is approved, the Executive Director prepares a response to all timely, relevant and material, or significant comments.

The Office of Chief Clerk received timely comments from numerous persons and several organizations. Attachments A-C list all of those persons. Those listed in Attachment A filed substantially the same form letter. Those listed in Attachment B, Group B filed substantially the same form letter. Those listed in Attachment B, Group C filed substantially the same form letter. All comments in the three form letters are annotated with "Group A," "Group B," and "Group C" respectively. Some of the individuals in Groups A, B, and C also made separate unique comments in writing and/or at the Public meeting on March 3, 2009, and will be annotated with the commenter's last name. All other individuals who made adverse comments are listed in Attachment B Group D, and will be annotated with the commenter's last name. Organizations that have made adverse comments are listed in Attachment C, and will be annotated with the name of the commenter. Comments on behalf of the Multi-County Coalition were made by Mr. Dale Burnett who also made extensive comments of his own and will be annotated as "MCC."

This Response addresses all timely public comments received, whether or not withdrawn. If you need more information about this permit application or the permitting process please call the TCEQ Office of Public Assistance at 1-800-687-4040. General information about the TCEQ can be found at our website at www.tceq.state.tx.us.

BACKGROUND

Description of Facility

Tenaska Trailblazer Partners LLC (Tenaska) has applied to the TCEQ for the issuance of State Air Quality Permit No. 84167, Hazardous Air Pollutant (HAP) Major Source [FCAA § 112(g)] Permit Number HAP13, and Prevention of Significant Deterioration (PSD) Air Quality Permit No. PSD-TX-1123 which would authorize construction and operation of a coal-fired electric generating unit at the Tenaska Trailblazer Energy Center. The plant is located on County Road 109 approximately 1.5 miles west of Stink Creek Road (County Road 126 heading north of Interstate 20 from Exit 256) near Trent, Nolan County. The proposed facilities will emit the following air contaminants: volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), sulfuric acid mist (H₂SO₄), hydrogen fluoride (HF), carbon monoxide (CO), particulate matter (PM) (including particulate matter less than 10 microns (PM₁₀) and less than 2.5 (PM_{2.5}) in diameter), ammonia (NH₃), hydrogen chloride (HCl), lead (Pb), mercury (Hg), and other products of coal combustion and emission control.

Procedural Background

Before work is begun on the construction of a new facility or a modification of an existing facility that may emit air contaminants, the person planning the construction or modification must obtain a permit or permit amendment from the commission. This permit application is for a State Air Quality Permit, a PSD permit, and a HAP permit. The permit application was received on February 19, 2008, and declared administratively complete on February 25, 2008. The Notice of Receipt and Intent to Obtain an Air Quality Permit (first public notice) for these permit applications was published on March 7, 2008, in the *Sweetwater Reporter*. The Notice of Application and Preliminary Decision (2nd notice) was published on February 1, 2009 in the *Sweetwater Reporter*. A public meeting was held on March 3, 2009 in Sweetwater. The notice of public meeting was published on February 1, 2009 in the *Sweetwater Reporter*. The normally 30-day public comment period was extended and ended on April 16, 2009. Since this application was administratively complete after September 1, 1999, this action is subject to the procedural requirements adopted in accordance with House Bill 801, 76th Legislature, 1999.

COMMENTS AND RESPONSES

The following individuals spoke in support for the construction of the plant and for approval of the permit at the public meeting on March 3, 2009 and/or provided written comment in favor of the permit: Trey Aiken, Sweetwater Industrial Foundation President; Dr. Bud Alldredge, DVM; Ken Becker, Executive Director, Sweetwater Enterprise for Economic Development; Edward Brown, Sweetwater City Manager; Jack Davis; the Honorable Tim Fambrough, Nolan County Judge; Tom Henderson; Jerry Hulcy; John Jay, President, Sweetwater Enterprise for Economic Development; Bill Johnson, CEO, Texas National Bank; Larry Ludlum; the Honorable Larry Gober, Hawley City Council member; Penny Mahaffey; Steve Mahaffey; Arthur Mayberry; James Pack; Terry Pittman, Sweetwater ISD Superintendent; Russ Petty; Michael Sheehan, Sweetwater Chamber of Commerce; Bryan Studdard; and the Honorable Greg Wortham, Mayor of Sweetwater.

The remaining comments received are summarized below by topic.

1. Health/Welfare Effects & Modeling	21. MACT: General
2. Mercury Health Effects	22. MACT: Grouping of HAPs/Surrogates
3. Particulate Matter	23. MACT: Fluorine
4. SO ₂ /Acid Gases	24. MACT: Organic HAPs
5. Radon/Radionuclides	25. Typo
6. Public Comment/Public Notice	26. BACT: Lead
7. Non-air Pollution Issues	27. MSS
8. Procedures	28. Non-attainment
9. Ozone Impact Analysis	29. Class I Model
10. Cumulative Impacts/Offsets	30. Global Warming/CO ₂
11. Rail Car Emissions	31. ESL
12. Short Term SO ₂ Spikes	32. Coal Washing
13. CEMS	33. Boiler Design
14. PSD Ambient Monitoring	34. Fugitives
15. BACT: IGCC	35. Coal Waste
16. BACT: General	36. 8-hour Limit for CO
17. BACT: Sulfur	37. Auxiliary Boiler
18. BACT/MACT: Mercury	38. Cooling Tower
19. BACT: NO _x	
20. BACT/MACT: PM/PM ₁₀ /PM _{2.5}	

COMMENT 1 (HEALTH/WELFARE EFFECTS AND MODELING):

The application and proposed permit will fail to protect and will adversely affect the public's health, welfare, property and the environment (Rittenhouse, Hadden, Hammond, Group A, Group B). Commenters expressed concern about the health impact of specific constituents, including ozone, nitrogen oxides, SO₂, fine particulates, mercury emissions, volatile organic compounds, air toxics, smog, and dust (Rittenhouse, Group A, Group B, Dennis, Andy Hall, Hughes, Moore).

Some commenters expressed concern that specific ailments such as eye, nose, and throat irritations, allergic reactions, asthma, COPD, pulmonary fibrosis or other respiratory problems, leukemia, cancer, autism, diabetes, high blood pressure, heart problems, multiple sclerosis, impaired immune systems from transplants, myesthenia gravis, excema, scoliosis, and even premature death would be caused by or worsened by the proposed plant (Group A, M. Hall, E. Starkey, J. Starkey, R. Starkey, Shea Burnett, S. Morgan, Moore, Hadden).

People with such illnesses survive better in rural areas without pollution (Group B, L. Brazzleton, B. Brazzleton). Some commenters express concerns about plant life, pets, and livestock being harmed by emissions from the plant (P. Broadwell, K. Boley).

The pollution could sicken livestock, game animals, and fish; and impair ranching, hunting, and fishing (Group A, P. Broadwell, Headstream, McRae, E. Starkey, J. Starkey, R. Starkey, Shea Burnett, S. Morgan).

The air dispersion model does not account for all particulate matter (PM) sources, does not use the correct meteorological data, and uses an incomplete receptor grid to identify potentially affected persons (Mansuri). When evaluating the model results, the applicant uses the incorrect background concentration and should use preconstruction monitoring to determine the background (Mansuri, Weber, Rittenhouse, P. Broadwell). Nickel was not screened (Hammond).

RESPONSE 1:

For permits such as this, potential impacts to human health and welfare and the environment are determined using air dispersion modeling to predict emission concentrations from the proposed facility and then comparing the predicted concentrations to appropriate state and federal standards and effects screening levels.^{1,2} The specific health-based standards or guidance levels employed in evaluating the potential emissions include the National Ambient Air Quality Standards (NAAQS); TCEQ standards contained in 30 TAC Chapter 111, specifically 30 TAC §111.153 and 30 TAC § 112.3; and TCEQ Effect Screening Levels (ESLs).³

The NAAQS, as defined in Title 40 of the Code of Federal Regulations (CFR) § 50.2, were created and are periodically reviewed by the Environmental Protection Agency (EPA). The NAAQS include both primary and secondary standards. The primary standards are those which the Administrator of the EPA determines are necessary, with an adequate margin of safety, to protect the public health, including sensitive members of the population such as children, the elderly, and individuals with existing lung or cardiovascular conditions.⁴ Secondary NAAQS are those which the Administrator determines are necessary to protect the public welfare and the environment, including animals, crops, vegetation, and buildings, from any known or anticipated adverse effects associated with the presence of an air contaminant in the ambient air. The standards are set for criteria pollutants: ozone, lead, CO, SO₂, NO_x, and respirable PM, which includes PM₁₀ and PM_{2.5}(PM less than or equal to 2.5 microns in diameter). "Criteria pollutants" are those pollutants for which a NAAQS has been established.

TCEQ standards stated in 30 TAC Chapter 112 address maximum ground level concentrations (GLC_{maxS}) at or beyond the property line for sulfur compounds. ESLs are constituent-specific guideline concentrations used in TCEQ's evaluation of constituent concentrations in air. These guidelines are developed by the Toxicology Division of the TCEQ and are based on a constituent's potential to cause adverse health effects, odor nuisances, and/or effects on

¹ See the document "Air Quality Modeling Guidelines" for details on air modeling at the TCEQ website at <http://www.tceq.state.tx.us/assets/public/permitting/air/Guidance/NewSourceReview/rg25.pdf>. Also visit the agency air modeling page at http://www.tceq.state.tx.us/permitting/air/nav/modeling_index.html.

² Documents referenced in this response are available on the TCEQ website at www.tceq.state.tx.us and are also available in printed form at a small cost from the TCEQ Publications office at 512-239-0028.

³ To view the ESL list or obtain more information on ESLs, visit the TCEQ website at http://www.tceq.state.tx.us/implementation/tox/esl/list_main.html

⁴ EPA considered animal studies indicating allergic responses to particulate matter as well as studies in children indicating increased allergic responses to traffic-related gases and particles when they established the most recent NAAQS. Therefore, emissions below the applicable NAAQS would not be expected to exacerbate allergic conditions.

vegetation.⁵ These health-based screening levels are set at concentrations lower than those reported to produce adverse health effects, and are set to protect the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions. Adverse health effects are not expected to occur if the predicted air concentration of a constituent is below its ESL. Because of these conservative concentrations, if an air concentration of a constituent exceeds the ESL, it is not necessarily indicative that an adverse effect will occur, but rather that further evaluation is warranted. (See Response 31 for more information on ESLs).

The likelihood of adverse health effects caused by emissions from this plant occurring in members of the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions, was determined by comparing the facility's predicted air dispersion computer modeling concentrations to the relevant state and federal standards and ESLs. The TCEQ modeling procedures are found in the guidance document, RG-25 (see footnote 1). This document describes how to select meteorological data and how to choose emissions from near-by sources to be used in the model runs. The Applicant assumed a worst-case scenario, i.e., all processes at the site operating simultaneously at worst-case emission rates and worst-case meteorological conditions. The overall evaluation process provides a conservative prediction that is protective of the public and the environment. For this specific permit application, appropriate air dispersion modeling was performed using the AERMOD (Version 07026) model. TCEQ staff used modeling data for this plant to verify that ground level concentrations from the proposed facility are not likely to adversely impact off-property receptors. The modeling predictions were reviewed by the TCEQ Air Dispersion Modeling Team, and the modeling analysis was deemed to be acceptable.

For all constituents modeled in this application, only the GLC_{max} for coal dust, fly ash, arsenic, and silica dust exceeded the respective current short-term ESLs. The GLC_{max} for nickel was equal to the respective current short-term ESL. These constituents underwent a detailed health effects review and the TCEQ Toxicology Division determined that these exceedances were acceptable and not likely to adversely impact the surrounding area. Along with these constituents, the Applicant included a spreadsheet of many other compounds expected to be emitted from the proposed facility that were modeled and compared to their respective ESLs. No other compound modeled was predicted to exceed its respective short-term and long-term ESL.

As previously noted, secondary NAAQS are those that the Administrator determines are necessary to protect the public welfare and the environment, including animals, crops, vegetation, and buildings, from any known or anticipated adverse effects associated with the presence of an air contaminant in the ambient air.⁶ Emissions from this plant should not exceed the NAAQS, therefore, air emissions from this facility are not expected to adversely impact land, livestock, crops, or visibility, nor should emissions interfere with the use and enjoyment of surrounding land or water. The Texas Clean Air Act does not give the TCEQ authority to

⁵ See Response 31 for more information on the development of ESLs.

⁶ Section 302(h) of the Federal Clean Air Act (FCAA), 42 U.S.C. § 7602, defines effects on welfare to include effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, hazards to transportation, and impacts to personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

regulate air emissions beyond the direct impacts (inhalation) that the air emissions have to human health or welfare. Therefore, the TCEQ does not set emission limits on the basis that emissions may have impacts (by themselves or in combination with other contaminants or pathways) after being deposited on land or water or incorporated into the food chain.

Based on potential concentrations reviewed by the Executive Director's staff, it is not expected that existing health conditions will worsen, or that there will be adverse health effects in the general public, sensitive subgroups, or animal life as a result of exposure to the expected levels of emissions from this site.

Furthermore, the permit application must meet standards outlined in the Texas Clean Air Act and applicable state and federal rules and regulations. Applicants must comply with 30 TAC §101.4, which prohibits nuisance conditions. Specifically the rule states, "No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and employment of animal life, vegetation, or property."

Individuals are encouraged to report any concerns about nuisance issues or suspected noncompliance with the terms of any permit or other environmental regulation by contacting the Abilene TCEQ Regional Office at 1-325-698-6125, or by calling the 24-hour toll-free Environmental Complaints Hotline at 1-888-777-3186. If the facility is found to be out of compliance with the terms and conditions of the permit, it will be subject to possible enforcement action. Citizen-collected evidence may be used in such an action. See 30 TAC § 70.4, Enforcement Action Using Information Provided by Private Individual, for details on gathering and reporting such evidence. The TCEQ has long had procedures in place for accepting environmental complaints from the general public but now has a new tool for bringing potential environmental problems to light. Under the citizen-collected evidence program, individuals can provide information on possible violations of environmental law and the information can be used by the TCEQ to pursue enforcement. In this program, citizens can become involved and may eventually testify at a hearing or trial concerning the violation. For additional information, see the TCEQ publication, "Do You Want to Report an Environmental Problem? Do You Have Information or Evidence?" This booklet is available in English and Spanish from the TCEQ Publications office at 512-239-0028, and may be downloaded from the agency website at www.tceq.state.tx.us (under Publications, search for document no. 278).

See Responses 2 and 18 below for more information on mercury, Response 3 for more information on particulates, Response 4 for more information on SO₂, Response 9 for more information on ozone (O₃), and Response 10 for more information on air dispersion modeling and effects of the project on specific areas and counties. See Response 14 for a further discussion of background concentration, local meteorological data, and preconstruction monitoring.

COMMENT 2 (MERCURY HEALTH EFFECTS):

Commenters express concern over the health effects of mercury that will be emitted from this plant (Hammond) especially the water and soil contamination they expect the plant to cause (Group B). A recent study by the University of Texas represented a 17 percent increase in autism rates with every 1000 pounds of mercury pollution (MCC, Group B).

RESPONSE 2:

Adverse effects from mercury exposure are not expected to occur from direct exposure to air emissions from the Tenaska plant because the short-term (one-hour) and long-term (annual) GLC_{max} s for mercury are not predicted to exceed the short-term or long-term ESLs. For more information on ESLs see Responses 1 and 31.

The short-term and long-term ESLs are set conservatively. The short-term ESL for mercury has been set at $0.10 \mu\text{g}/\text{m}^3$. The predicted short-term GLC_{max} for this plant is $0.09 \mu\text{g}/\text{m}^3$. The long-term ESL for mercury is $0.01 \mu\text{g}/\text{m}^3$. The predicted long-term GLC_{max} for this plant is $0.0005 \mu\text{g}/\text{m}^3$. Therefore, as long as the plant operates in compliance with its permit, adverse health effects are not expected to occur in the general public, including sensitive members, as a result of short-term or long-term inhalation exposure to mercury emissions from this plant.

Since this is an air quality permit application, water quality is outside the scope of this review. Should the nature of the facility's operations require it, the Applicant may need to apply for separate permits to regulate water quality. In addition, the Texas Clean Air Act does not give the TCEQ authority to regulate air emissions beyond the direct impacts (inhalation) that the air emissions have to human health or welfare. Therefore, the TCEQ does not set emission limits to restrict, or perform analysis to determine impacts emissions may have (by themselves or in combination with other contaminants or pathways) after being deposited on land or water or incorporated into the food chain. However, the ESLs for mercury are set at such conservative levels that no adverse health and welfare effects from indirect deposition would be expected.⁷

An ecological study analyzed autism rates as compared to environmental mercury releases in the state of Texas. However, the authors acknowledge that several study limitations exist. One critical limitation is that a link between toxic release inventory (TRI) data and actual mercury exposure is unclear. As the authors concede, a causal connection between environmentally-released mercury and autism cannot be established from these data.⁸ The only case-control study

⁷ Airborne pollution can fall to the ground in precipitation, in dust, or simply due to gravity. This type of pollution is called "atmospheric deposition" or "air deposition." Pollution deposited from the air, such as mercury, can reach water bodies in two ways. It can be deposited directly onto the surface of the water (direct deposition) or be deposited onto land and be carried to water bodies through run off (indirect deposition). For more information, please see the EPA's Air Pollution and Water Quality web page at <http://www.epa.gov/owow/airdeposition/>.

⁸ Palmer RF, Blanchard S., Stein Z, Mandell D., Miller C. Environmental Mercury Release, Special Education Rates, and Autism Disorder: An Ecological Study of Texas. *Health & Place* 12 (2): 203-209 (2006). and Palmer R. F., Blanchard S., Wood R. Proximity to Point Sources of Environmental Mercury Release as a Predictor of Autism Prevalence. *Health & Place*. 15(1):18-24 (2009).

published in the peer-reviewed literature to date indicated no causal relationship between mercury and autism.⁹ See Response 1 for more information on health effects.

COMMENT 3 (PARTICULATE MATTER HEALTH EFFECTS):

Commenter expresses concern over particulate matter (PM) including fine particulate, indicating that particulate pollution from power plants including the proposed facility cause adverse health affects (Rittenhouse). There is inadequate management of PM fugitive emissions from coal and ash storage and handling (Rittenhouse, Mansuri, M. Hall). Commenters state the application includes no analysis of PM_{2.5} including modeling of impacts and that the draft permit does not include emission limits for PM_{2.5} (Weber).

RESPONSE 3:

PM consists of solid particles and liquid droplets found in the air. Particles equal to or less than 10 micrometers or microns (μm) in diameter (PM₁₀) are referred to as "coarse" particles, and particles equal to or less than 2.5 μm in diameter (PM_{2.5}) are referred to as "fine" particles. The negative health impacts of PM have been recognized for quite some time. To address these effects, the Clean Air Act of 1970 required all coal-fired electric utility boilers built or modified after August 17, 1971 to limit PM emissions.

Primary, or "filterable," PM exists as solid particles and liquid droplets in the stack exhaust gas. Secondary, or "condensable," PM is solid or liquid material that condenses from stack gases as they cool to ambient temperature. The main type of secondary PM formed from coal fired power plant emissions is sulfate, which forms over time from SO₂ emissions. Sulfate is in the PM_{2.5} size range. Since 1999, ambient monitoring of PM_{2.5} has been conducted at numerous sites in Texas and no PM_{2.5} nonattainment areas have been found. The draft permit maximum allowable emission rate table includes an emission limit for total PM₁₀ which includes PM_{2.5}.

The TCEQ uses the PM₁₀ program as a surrogate for the PM_{2.5} program until the EPA fully implements and integrates PM_{2.5} into the New Source Review program. On October 23, 1997, EPA issued a memorandum providing for PM₁₀ to be used as a surrogate for PM_{2.5}.¹⁰ EPA reaffirmed that conclusion in a memorandum dated April 5, 2005.¹¹ EPA continued to recognize the issue and outstanding difficulties implementing PM_{2.5} in its *Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards*.¹² EPA also noted in the Final Rule that it did not include final PM_{2.5} requirements and that they would be issued in a later rule.¹³ On May 16, 2008, EPA confirmed that a state such as Texas which has an approved state implementation plan (SIP) would continue to use the surrogate policy until their SIP was amended (although states were directed to amend their SIPs within three years).

⁹ Ip P. Wong V, Ho M, Lee J, Wong W, Mercury Exposure in Children with Autistic Spectrum Disorder: Case-Control Study. *J Child Neurol* 19 (6):431-434 (2004).

¹⁰ U.S. EPA Memorandum from John S. Seitz, Director of Office of Air Quality Planning and Standards, *Interim Implementation of New Source Review Requirements for PM_{2.5}*, October 23, 1997.

¹¹ U.S. EPA Memorandum from Stephen D. Page, Director, *Implementation of New Source Review Requirements in PM-2.5 Nonattainment Areas*, April 5, 2005.

¹² 70 Fed. Reg. 65984, 66043 (November 1, 2005).

¹³ 72 Fed. Reg. 20586 (April 25, 2007).

Recently, EPA has stated concerns regarding the continued use of the surrogate policy. However, the PM₁₀ PSD program continues to be a reasonable surrogate for the PM_{2.5} PSD program as technical difficulties remain including those relating to the significant impact level, monitoring significance level, and increment, as well as those relating to emission factors, ambient monitoring assumptions, and condensable PM (which are considered to be a component of "direct" emissions).¹⁴ The TCEQ acknowledges the possibility that a considerable portion of the PM emissions from the Tenaska facility may be PM_{2.5}. However, without the finalization of all the elements of the PM_{2.5} program, a complete PM_{2.5} analysis cannot be conducted.

An air quality analysis was performed for PM₁₀ based on the 24-hour and annual time periods. Tenaska's predicted 24-hour and annual concentrations of 14 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 3 $\mu\text{g}/\text{m}^3$ are below the 24-hour and annual PM₁₀ NAAQS of 150 $\mu\text{g}/\text{m}^3$ and 50 $\mu\text{g}/\text{m}^3$, respectively; and, below the 24-hour and annual PM₁₀ increments of 30 $\mu\text{g}/\text{m}^3$ and 17 $\mu\text{g}/\text{m}^3$, respectively. Note that the EPA has revoked the annual PM₁₀ standard, but TCEQ uses the revoked PM₁₀ standard to demonstrate compliance with the PM_{2.5} standard under the surrogate policy. Additionally, the PM₁₀ concentrations are below the 24-hour and annual PM_{2.5} NAAQS of 35 $\mu\text{g}/\text{m}^3$ and 15 $\mu\text{g}/\text{m}^3$, respectively. Therefore, the PM emissions are not expected to exceed the NAAQS for PM₁₀ or PM_{2.5}.

The draft permit requires the Applicant to control fugitive coal dust from unloading, conveying, and storage, and fly ash dust with fabric filters, wetting agents, and enclosures. In sum, as long as the plant operates in compliance with its permit, adverse health effects are not expected to occur in the general public as a result of short-term or long-term exposure to coarse or fine PM emissions from this plant.

Further, the Applicant is required to implement the best available control technology (BACT) to reduce emissions. The BACT is based upon control measures that are designed to minimize the level of emissions from specific sources at a facility. The technology of choice for BACT for PM is fabric filters (also called baghouses), which have been shown to reduce greater than 99 percent of PM emissions. See Response 20 for more discussion of BACT for PM. See Response 10 for more information on cumulative effects of power plants.

Speciated PM, primarily metals, were modeled and compared to ESLs. As shown in the following table, all predicted GLCs were below their corresponding ESLs, except for arsenic, coal dust, fly ash, and silica; these impacts were found to be acceptable. See Response 1 for more information on the ESLs of speciated PM and the health effects review.

¹⁴ This application was submitted under the existing surrogate policy, and met the requirements as stated in the May 16, 2008 Federal Register.

Site-wide Modeling Results for Health Effects: Does Not Exceed ESL			
Pollutant & CAS#	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	ESL ($\mu\text{g}/\text{m}^3$)
Ammonia 7664-41-7	1-hr	109	170
Beryllium, Particulate 7440-41-7	1-hr	0.011	0.02
Cadmium & compounds 7440-43-9	1-hr	0.001	0.1
Chromium (II) & (III) & compounds 7440-47-3	1-hr	0.3	1
Chromium (VI) & compounds 18540-29-9	1-hr	0.08	0.1
Cobalt & inorganic compounds 7440-48-4	1-hr	0.1	0.2
Gypsum, respirable 778-18-9	1-hr	8	50
Hydrogen Chloride 7647-01-0	1-hr	5.5	75
Hydrogen Fluoride 7664-39-3	1-hr	4.8	5
Limestone, respirable 1317-65-3	1-hr	7	50
Magnesium Sulfate (as Mg) 7439-95-4	1-hr	12	50
Manganese dust & inorganic compounds 7439-96-5	1-hr	0.2	2

Site-wide Modeling Results for Health Effects: Does Not Exceed ESL			
Pollutant & CAS#	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	ESL ($\mu\text{g}/\text{m}^3$)
Mercury, alkyls 7439-97-6	1-hr	0.09	0.10
*Nickel, Metal & Compounds 7440-02-0	1-hr	0.15	0.15
	Annual	0.001	0.015
Selenium & compounds 7782-49-2	1-hr	1	2

* The GLC_{max} for Nickel was equal to the respective ESL.

Site-wide Modeling Results for Health Effects: Exceeds ESL			
Pollutant & CAS#	Averaging Time	GLCmax ($\mu\text{g}/\text{m}^3$)	ESL ($\mu\text{g}/\text{m}^3$)
Arsenic & inorganic compounds 7440-38-2	1-hr	0.2	0.1
	Annual	0.002	0.010
Coal Dust, bituminous or lignite, respirable No CAS#	1-hr	15	9
	Annual	0.1	0.9
Fly Ash (as coal dust) 68131-28-8	1-hr	37	20
	Annual	0.4	2
Silica-amorphous+ crystalline No CAS#	1-hr	15	10
	Annual	0.1	1

The locations of the exceedences and the number of hours that were exceeded at each location were evaluated. The TCEQ Toxicology Division has determined there would be no adverse health effects from the emissions from the plant (see Responses 1 and 31 for an additional discussion of this topic).

Hours of Exceedance for Health Effects			
Pollutant	Averaging Time	1X ESL GLC _{max}	2X ESL GLC _{max}
Arsenic & inorganic compounds 7440-38-2	1-hr	14	1
Coal Dust, bituminous or lignite, respirable No CAS#	1-hr	3	0
Fly Ash (as coal dust) 68131-28-8	1-hr	8	0
Silica-amorphous+ crystalline No CAS#	1-hr	3	0

COMMENT 4 (SO₂ HEALTH EFFECTS):

Toxic chemicals emitted by the plant will damage property (Group B) and will form acid rain (R. Broadwell).

RESPONSE 4:

Acid Rain issues are primarily addressed through the Federal Acid Rain Program. The requirement to obtain an Acid Rain Permit is independent of the requirement to obtain a New Source Review permit prior to construction and operation of facilities that may emit certain air contaminants. The overall structure of the Acid Rain Program is a cap and trade program designed to achieve significant environmental benefits through reductions in emissions of sulfur dioxide and nitrogen oxides (the two main precursors of acid rain) emissions by 10 million tons below 1980 levels. The Acid Rain Program is designed to protect the environment from the damaging effects of acid rain.

SO₂ is a criteria pollutant for which NAAQS has been established. The SO₂ NAAQS, established by the EPA, are based on three-hour, twenty-four-hour, and annual time periods. The SO₂ three-hour, twenty-four-hour and annual standards are 1300 $\mu\text{g}/\text{m}^3$, 365 $\mu\text{g}/\text{m}^3$, and 80 $\mu\text{g}/\text{m}^3$, respectively. The three-hour, twenty-four-hour, and annual total predicted GLC_{max} are 865 $\mu\text{g}/\text{m}^3$, 208 $\mu\text{g}/\text{m}^3$, and 64 $\mu\text{g}/\text{m}^3$, respectively. Since the total predicted SO₂ GLC_{max} for each of these time periods do not exceed any of the established NAAQS, no adverse health or welfare effects are anticipated.

Regulatory programs already in place are expected to further reduce the levels of sulfate from power plants in Texas. Texas has adopted the Clean Air Interstate Rule (CAIR) requirements, effective August 3, 2006, which establishes a cap and trade program to reduce SO₂ emissions from power plants in Texas to approximately 40 percent below 2005 levels in 2010 (Phase I),

with potential further reductions to approximately 60 percent below 2005 levels in 2015 (Phase II). In December of 2008, the D.C. Circuit remanded the CAIR to EPA without vacatur.¹⁵ The Court did, however, uphold Phase I of CAIR, which is currently being implemented. The Court declared that while CAIR was flawed, "allowing CAIR to remain in effect until it is replaced by a rule consistent with our opinion would at least temporarily preserve the environmental values covered by CAIR."¹⁶ A Federal Implementation Plan (FIP) is in place for Phase II, but will also likely be affected by EPA's action on remand.

Because CAIR is a cap and trade program, to predict the future air quality impact of CAIR in Texas it is necessary to predict the choices that electric utilities will make to reduce SO₂ emissions and/or to purchase emission credits. The EPA's Clean Air Markets Division (CAMD) conducted elaborate projection modeling to predict future emissions under the CAIR requirements. The CAMD's Integrated Planning Model (IPM) predicted that electric utility SO₂ emissions in Texas will decrease to approximately 350,000 tons per year by 2015, which is substantially higher than Texas' allocation of 224,662 tons. This prediction may be higher than actual emissions in 2015 will turn out to be, since the IPM model does not take into consideration the desire of some electric utilities to make more reductions to avoid having to buy SO₂ emission credits in unpredictable future markets.

COMMENT 5 (RADON/RADIONUCLIDES):

The permit should regulate radon and its carcinogenic byproducts resulting from stack and fugitive radionuclide emissions. The applicant must conduct site-wide and downwind radionuclide ambient air monitoring for Radon, Polonium 210 and Lead 210. The application and permit should include adequate annual radionuclide stack testing requirements and stack radon continuous emissions monitoring provisions for radionuclide gaseous emissions such as radon to ensure a demonstration of continuous compliance (Rittenhouse).

RESPONSE 5:

The particulate controls proposed by the Applicant also control radionuclides, and any remaining radionuclide emissions do not pose a health threat. Radiation emissions from coal-fired electric utility plants in Texas were evaluated and potential impacts were found to be minimal. In the report "Releases of Radioactive Isotopes from Coal and Lignite Combustion" (H. Cooper and G. Dakik, UT at Austin, presented at 71st Annual Meeting of the Air Pollution Control Association, Houston, June 1978), researchers concluded that radioactive emissions from coal and lignite-fired power plants could, in a few cases, approach those of nuclear power plants, but would meet the Nuclear Regulatory Commission's (NRC) fence line exposure standards, if they were applicable. With the advance of control technology since 1978, the particulate limit for boiler exhaust stack in the draft permit is about seven times more stringent than the particulate limits assumed in this 1978 analysis, which increases the margin of safety.

More recently, in the EPA's 1997 Report to Congress, the EPA also found radon emissions from coal combustion to be negligible compared to other sources in the environment. Table 9-7 of the report shows the annual exposure from all outdoor sources to be six percent of residential

¹⁵ *North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008).

¹⁶ *Id.*

exposures. The report states that it is generally thought that average radioactivity of soil is about twice that of coal. Another source, "Evaluation of Occupational and Environmental Exposures to Radon and Radon Daughter Products" (Report No. 78, National Council on Radiation Protection and Measurements, 1984), shows that coal combustion contributes less than one-millionth as much radiation to the atmosphere as from soil. Based on the scientific evaluations conducted by EPA and others, radon emissions from coal combustion pose no threat to human health or the environment.

COMMENT 6 (PUBLIC COMMENT/PUBLIC NOTICE):

Commenter states Governor Perry's Executive Order RP49 does not apply (Hammond).

The Notice of Application and Preliminary Decision for the application was deficient because of missing application information and technical analysis which forces the public to review and comment on an incomplete application and draft permit. Commenters also state the TCEQ must cause the notice to be republished to allow the public its opportunity to review the complete application and provide meaningful and informed comments (Mansuri, Hammond).

The notice of the HAP application is deficient as required by TCEQ's own rules (Weber). The Chief Clerk mailed the written notice two days after the notice was published in the newspaper and this prevents a full 30 day comment period (Mansuri).

RESPONSE 6:

Neither the Applicant nor the TCEQ has relied on RP49 in processing this permit application.

Mr. Weber did not specify the nature of why he believed the notice was deficient. Without any details, the Executive Director is unable to further respond to the comment. The ED has determined that all applicable notice requirements were followed.

The Applicant placed a copy of the application in the Sweetwater library, but did not place a complete copy of the application in the Regional Office in Abilene, so that some members of the public may not have had access to it before the close of the second notice comment period. Also Mr. Weber requested a copy of the permit file but inadvertently some documents were not copied. The comment period was accordingly extended from March 3, 2009 to April 16, 2009 to correct the aforementioned deficiencies.

TCEQ rules require a 30 day comment period starting the day of the notice being published in the local newspaper; no rule ties the comment period to the mailing of the written notices (although they do require that the notice be mailed). The Air Permits Division e-mails the notice to the Applicant and the Chief Clerk at the same time. Ordinarily an Applicant takes several days up to a month to publish the notice and so the letters are usually sent out before the comment period begins. In this case, the Applicant published immediately. Although unusual, no rules were violated. The ED has determined that adequate notice was provided.

COMMENT 7:

Several non-air permit issues have also been raised by commenters: The Tenaska plant may prevent new wind turbines from being built because the ERCOT electric grid will be at capacity (Group B, Group C); TCEQ should forward the question of electric grid capacity to ERCOT. Tenaska will need more water supply than is available from municipal supplies; and the plant will lower property values (S. Morgan, Dennis, E. Starkey, Andy Hall, MCC, Group B, Hughes, Hughs, Richards, G. Root, Sandusky). The coal train will block access to railroad crossings while waiting to unload (Goswick, D. Burnett). The pollution will prevent full use of property or decrease property values (E. Starkey, D. Burnett).

The plant may destroy wetlands, and will destroy prehistoric and historic sites protected by the Texas Historical Commission (P. Broadwell). TCEQ should conduct an ecological study (Harding) and an independent water study on water supply availability (Group B).

Other commenters are concerned that the noise and lights at night will prevent them from enjoying their property (T. Boley, Heath, E. Root, G. Root, W. Root).

RESPONSE 7:

The TCEQ's jurisdiction is established by the Legislature and is limited to the issues set forth in statute. The commission has no jurisdiction regarding noise pollution, effects on traffic, vibrations or light pollution to the extent such conditions do not cause a nuisance as defined by 30 TAC §101.4 (see below). Such concerns should be directed to local officials. Furthermore, the TCEQ does not have jurisdiction to consider zoning or effects on property values when determining whether to approve or deny an air quality permit application. The issuance of a permit cannot be denied on the basis of the facility's location except under limited circumstances, which are not applicable to this permit application.

Regarding effects on wetlands, prehistoric, and historic sites, an ecological study is not required for air pollution permits under the Clean Air Act; health effects are considered in the NAAQS and ESL standards. Secondary NAAQS are those that the Administrator determines are necessary to protect the public welfare and the environment, including animals, crops, vegetation, and buildings, from any known or anticipated adverse effects associated with the presence of an air contaminant in the ambient air¹⁷ (See Response 1 and 31 for a discussion of NAAQS and ESLs). Because the emissions from this facility should not cause an exceedance of the NAAQS, air emissions from this facility are not expected to adversely impact land, livestock, crops, or visibility, nor should emissions interfere with the use and enjoyment of surrounding land or water.

In addition to the NAAQS, applicants must also comply with 30 TAC §101.4, which prohibits nuisance conditions. The rule states, "No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such

¹⁷ Section 302(h) of the Federal Clean Air Act (FCAA), 42 U.S.C. § 7602, defines effects on welfare to include effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, hazards to transportation, and impacts to personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

duration as are or may be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and employment of animal life, vegetation, or property.”

Regarding effects on wetlands, prehistoric and historic sites, as well as other issues beyond the jurisdiction of the commission, the Applicant may need to apply for separate permits from other agencies if regulations require them. Regarding electric grid capacity, ERCOT is the appropriate entity to address this issue when Tenaska requests to tie into the grid. An independent water study on water supply availability is beyond the scope of the Air Permits Division but the TCEQ Water Supply Division in Austin may be contacted to request such a study.

COMMENT 8:

One commenter asked if comments on the economic benefits of the facility will be considered in granting the permit (Pierce) and another states that not enough jobs will be created to make building the plant worthwhile (S. Morgan). Commenters ask if there are any restrictions on transfer of the permit to another owner or operator (Group B).

RESPONSE 8:

The TCEQ's jurisdiction is established by the Legislature and is limited to the issues set forth in statute. The TCAA does not provide for consideration of the economic ramifications of issuing an authorization. The TCAA only requires health effects and control technology reviews.

If the power plant is sold to another party, the TCEQ rules require the permit to be transferred to the new owner or operator, who will be bound by the permit conditions.

COMMENT 9 (OZONE IMPACT ANALYSIS):

Commenters state a full impacts analysis for ozone in the surrounding air sheds is required (Hammond). Commenter commented on the inaccuracy of Scheffe Point Source Screening Tables and noted that a modeling protocol was not submitted by the Applicant (Hammond).

The TCEQ did not require photochemical modeling which would give a quantitative estimation of impacts. Although a facility to the West of the DFW region may tend to have a lower impact than one to the South or East, it is not appropriate for Tenaska to conclude without a quantitative analysis that “the potential ozone impacts on the DFW area due to the proposed site is not only insignificant, but so remote so as to be nonexistent.”(p. 10-3 Class II Air Dispersion Modeling Analysis Report) (Weber).

The qualitative transport analysis presented by Tenaska was limited to a review of surface winds during 2005-2007 in the DFW area. Analyzing surface winds at a receptor site is not an adequate basis to support Tenaska's conclusion that “historical elevated ozone days during 2005, 2006, and 2007 in the DFW area do not represent conditions conducive to the regional transport of emissions from the proposed facility that would impact DFW ozone levels.” (p. 10-11 Class II Air Dispersion Modeling Analysis Report). At a minimum, Tenaska should conduct an analysis of transport level winds using a model like Hysplit. However, even an analysis of transport level winds would be insufficient to support any conclusion about the magnitude of the impact when the conditions were conducive to transport (Weber).

Tenaska's ozone transport assessment does not use the correct ozone season for DFW, which extends from May to October (Weber). The increased ambient ozone produced by Tenaska would prevent affected regions from attaining or maintaining compliance with the 8-hour ozone NAAQS (Weber).

The term "ozone neutral" is an unfamiliar term and there was no analysis that supported this conclusion (Weber).

RESPONSE 9:

For ozone, the Applicant performed an ozone analysis consistent with TCEQ modeling guidance. The ozone analysis conducted by the Applicant shows that the proposed project is ozone-neutral at the site. The phrase "ozone neutral" is a descriptive term used to identify when a project is not expected to have a discernible impact on the maximum ozone concentration in the area, and is not intended as a technical term. The agency will not use this phrase in the future to avoid any further confusion. This analysis did not use the Scheffe Method, as this method no longer is recommended by EPA.

TCEQ guidance is based on results from the EPA Empirical Kinetic Modeling Approach (EKMA). EPA has relied upon the ozone isopleth diagrams to develop ozone control strategies. Numerous studies, including gridded photochemical modeling studies, substantially agree with EPA's EKMA ozone isopleths. Though EPA relied upon the EKMA ozone isopleths in a quantitative way, TCEQ's guidance is a qualitative analysis for ozone. Based on historical analyses using the Empirical Kinetic Modeling Approach (EKMA) model, the proposed project would not be expected to have a discernible impact on the maximum ozone concentration in the area.

The TCEQ addresses regional ozone formation through the SIP development process rather than through individual permitting actions because ozone is a regional issue. Emissions growth is addressed in the SIP development process. SIP attainment demonstration modeling of the Dallas/Fort Worth nonattainment area based on projected future conditions includes both applicable reductions as well as projected emissions from coal-fired power plants. Individual permit applicants are not required under TCEQ rules to model impacts using these techniques. The PSD permit program is not designed to make progress toward attainment of the NAAQS. EPA has recently noted that while nonattainment new source review is a measure to address growth under the Federal Clean Air Act, it is not specifically designed to produce emission reductions; instead its purpose is to allow new source growth to occur without interfering with an area's ability to attain. "NSR is not a [control] measure in and of itself to assure attainment of the NAAQS," but should be considered in SIP planning to assure that emissions from new sources will not interfere with attainment of the NAAQS.¹⁸

Additionally, EPA's current Guideline on Air Quality Models (40 CFR Part 51 Appendix W) gives guidance on models for estimating ozone impacts in Section 5.2.1. Sections 5.2.1.a and 5.2.1.b both refer to more Guidance on the Use of Models and Other Analyses in Attainment

¹⁸ Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard – Phase 1, 69 Fed. Reg. 23951, 23986 (April 30m 2004).

Demonstrations for the 8-hr Ozone NAAQS (EPA, 2005). The TCEQ requested clarification on the applicability of this new guidance to the NSR permitting program. EPA's response validated that sections 5.2.1.a and 5.2.1.b do not address nor apply to the NSR permitting program. (Sept. 29, 2006 email from Tyler Fox to Dom Ruggeri). Based on the guidance and EPA's clarification of the guidance, there is no requirement for photochemical modeling or SIP attainment demonstration modeling techniques for NSR permitting purposes.

Since photochemical modeling protocol consistent with SIP attainment demonstration is not a requirement of a PSD permit; this was not part of this review. The TCEQ welcomes any guidance from the EPA on developing such a protocol.

The conclusion reached by the applicant's transport analysis is supported by the Dallas-Fort Worth Nonattainment Area Ozone Conceptual Model found in Appendix G of the 2007 DFW SIP Revision.¹⁹ Page i of Appendix G states: "On eight-hour exceedance days in the DFW area, the afternoon winds are typically light and come primarily from the east through the southeast." The Dallas-Fort Worth Nonattainment Area Ozone Conceptual Model used HYSPLIT to generate daily back trajectories for multiple years, using multiple start times and trajectory elevations. The back trajectories tend to have a more easterly and southeasterly component on days when eight-hour ozone concentrations are at least 85 ppb. Furthermore, the study prepared for the Houston Advanced Research Center, titled *Ozone Impacts in DFW of Proposed New EGUs and an Offset Strategy*,²⁰ agrees with the ozone analysis completed by the Applicant and can be used to conclude that the potential ozone impact from Tenaska Trailblazer site in the DFW area would not be significant.

There have been attempts by EPA and others to develop dispersion models that can relate emissions from a single source to changes in ozone concentrations. There is currently no model available that can provide this kind of single source attribution information for ozone.

COMMENT 10 (CUMULATIVE IMPACTS/OFFSETTING EMISSIONS):

The application and draft permit do not consider cumulative effects of the currently proposed and existing sources (Hammond, Group B, Andy Hall).

RESPONSE 10:

The review of the Applicant's air quality permit application includes computer air dispersion modeling to predict the off-property concentration of the pollutants. The Applicant performed a cumulative air dispersion modeling analysis with the worst-case operating scenario for the criteria pollutants SO₂, NO₂, PM₁₀, and CO that is consistent with EPA guidance (1990 EPA Draft Guidance for PSD).

19

http://www.tceq.state.tx.us/assets/public/implementation/air/sip/dfw/dfw_ad_sip_2007/appendices/2006013SIPNR_App_G_Complete_042707.pdf

20 <http://files.harc.edu/Projects/AirQuality/Projects/H060/H60FinalReport.pdf>

The model initially predicts ground level concentrations resulting from the project emissions for each criteria pollutant at each applicable averaging period. When any predicted concentration is greater than an applicable *de minimis* value, as was the case for SO₂ and PM₁₀, a radius of impact (ROI) is determined, which is the farthest distance from the sources under review to the location where concentrations are predicted to equal or exceed *de minimis* levels. The area encompassed by the ROI is the area of impact (AOI). The ROI for the Tenaska site is 25 kilometers based on the SO₂ modeling results, since it is longer than the ROI which would be based on PM₁₀ modeling (10.7 km).

After the AOI is established, the Applicant ran the model again and included all known sources of the applicable pollutants within the Area of Impact (AOI), plus all known sources of the applicable pollutants within 50 kilometers of the AOI, which is consistent with EPA guidance.

These concentrations are added to the background concentration of each pollutant listed for the location of the proposed facility. The PM₁₀ and SO₂ background concentrations used in the modeling are monitoring data from Lubbock County and Dallas County, respectively, and include contributions from other facilities in the area. See Response 14 below for additional information regarding the monitors used for the PM₁₀ and SO₂ background concentrations. Given the proximity of the monitors to the proposed site, the monitored concentrations are representative of existing air quality. The sum of the modeled concentration and the background concentration is compared against the NAAQS for the pollutant. The sums obtained and reviewed for this application were determined not to exceed the NAAQS. Therefore, adverse effects to public health and welfare are not anticipated.

The predicted concentrations of NO₂ and CO for the project were less than the applicable *de minimis* values. For *de minimis* impacts, a cumulative effects review is not required and the impacts would not be considered to cause or contribute to a NAAQS violation.

The overall evaluation process provides a conservative prediction that is protective of the public and the environment. The modeling predictions were reviewed by the TCEQ Air Permits Division, and the modeling analysis was deemed to be acceptable.

See Response 1 for how a proposed facility is reviewed to ensure that cumulative impacts do not affect the public's health or welfare including property. For information on cumulative impacts of non-criteria pollutants see Response 31.

COMMENT 11 (COAL TRAIN EMISSIONS):

The application and permit should include the diesel and particulate pollution that will result from the new rail line that will bring coal to this plant, and from the additional trains, truck traffic and/or mining operations that supply coal for this plant and the nine other coal plants that would use powder river basin coal served by trains supplying the Trans Texas corridor (Rittenhouse). The coal dust from the train is not included in the permit (D. Burnett, Harding).

RESPONSE 11:

TCEQ rules do not require an Applicant to analyze pollution resulting from additional use of a rail line or the use of trucks in an individual permit application. Trains and trucks are categorized as mobile sources and their emissions by definition are not subject to review under the NSR permitting requirements of the Clean Air Act, even if traveling on site. Nor does the TCEQ have jurisdiction over mining operations. For the same reasons, diesel and particulate pollution resulting from mobile sources to other proposed plants are not part of this application or permit review.

COMMENT 12 (SHORT TERM SO₂ SPIKES):

Commenter requests that the toxicology review address short term SO₂ spikes (Rittenhouse).

RESPONSE 12:

The EPA, under authority in the FCAA, established NAAQS as levels of air quality to protect public health and welfare. A NAAQS for SO₂ has been established for a three-hour, twenty-four-hour and annual time period (See Responses 1 and 7 for more information). The TCEQ has no requirement to determine possible health impacts of SO₂ under a 30-minute averaging period. However, SO₂ emissions from the proposed plant do not exceed the NAAQS; therefore, no adverse health or welfare effects are anticipated.

COMMENT 13 (STACK CONTINUOUS EMISSIONS MONITORING):

One commenter wants to know how the emissions will be monitored (Pierce). TCEQ should require the applicant to install and operate a mercury continuous monitoring system (CEMS) (Rittenhouse). TCEQ should consider requiring PM CEMS rather than a continuous opacity monitor (COMS) as an indicator monitor because the CEMS directly measures the pollutant of interest and this will ensure proper compliance (Robinson, Mansuri, Rittenhouse, Hammond, and Weber). CEMS should be required for HCl and certain other HAPs (Weber).

RESPONSE 13:

The draft permit requires that continuous emissions monitoring systems (CEMS) be installed, calibrated, operated and maintained to continuously measure: NO_x, CO, SO₂ (Special Condition No. 27), Mercury (CEMS or alternative: Special Condition No. 29), and ammonia (CEMS or alternative: Special Condition No. 30). The draft permit requires that a continuous opacity monitoring system (COMS) be installed, calibrated, operated and maintained to continuously measure Opacity (Special Condition No. 28).

Mercury may be monitored continuously via CEMS or a method prescribed by federal rules. The conditions clearly state that these systems shall be used to determine continuous compliance with the emission limits of the permit.

The draft permit requires annual stack sampling for H₂SO₄, HCl, HF, VOC, and total PM/PM₁₀, with the potential for reducing the frequency to every three years if justified by consistently low emissions.

Under the FCAA, the source is subject to Title IV Acid Rain Monitoring for SO₂ and NO_x, as administered through EPA regulations found at 40 CFR Part 75; and Title V Compliance Assurance Monitoring (CAM) and Periodic Monitoring, as administered through EPA regulations at 40 CFR Parts 64, and 70, respectively. The EPA has transferred to TCEQ the responsibility for assuring the Title V monitoring requirements are included in the Federal Operating Permits. The TCEQ conducts a thorough review of the NSR permit and includes CAM and Periodic Monitoring in both the NSR permit and separate, federal operating permit (FOP). CEMS are not required to comply with the federal or state rules. Although the purpose of CAM and Periodic Monitoring are to assure continuous compliance, neither CAM nor Periodic Monitoring require CEMS for each federally regulated New Source Review air pollutant.

Texas Health and Safety Code § 382.016 authorizes the TCEQ to prescribe reasonable requirements for measuring and monitoring the emissions of air contaminants from a source. Similarly, 30 TAC § 116.111(a)(2)(B) states that "the proposed facility will have provisions for measuring the emission of significant air contaminants as determined by the executive director. This may include the installation of sampling ports on exhaust stacks . . ." It is clear that the state rules do not require CEMS for every type of air pollutant compound emitted.

In this instance, the Applicant did not propose PM CEMS, and the TCEQ has not required them because of a general lack of industry experience with the technology. The TCEQ agrees that PM CEMS should be preferable to Continuous Opacity Monitoring System (COMS) because PM CEMS measure the pollutant PM rather than opacity, which has long been a surrogate for PM emissions. Furthermore, the TCEQ anticipates successful application of this technology on the stacks of the new Sandow 5 and Oak Grove 1 and 2 units anticipated to be on-line in 2010. However, the TCEQ notes that the EPA relatively recently updated the NSPS Subpart Da requirements for electric utility steam generating units, and chose to make PM CEMS one of several options for PM monitoring for utility units.²¹ In response to an industry petition, EPA stated: "We recognize that experience using PM CEMS at electric utility power plants in the United States is limited and not all affected owners and operators will choose to use PM CEMS."²²

Subpart Da [40 CFR § 60.48a(o)] contains two other alternatives (as a surrogate for the PM CEMS) to assure compliance with the PM emission limits of NSPS Da. One is to use a COMS and maintain the opacity level less than or equal to that measured by the COMS during the most recent successful PM stack test. The other is to use a COMS and continuously monitor specified operating parameters of the PM control device (*e.g.* a bag leak detection system). These new, more rigorous alternatives to PM CEMS have provided an incentive for some owners to select PM CEMS. Because all of these techniques are new, some time may be required to demonstrate whether one has particular advantages compared to another. The applicant chose the alternative in NSPS Da to maintain the opacity level less than or equal to that measured by the COMS during the most recent successful PM stack test.

²¹ 71 Fed. Reg. 9866-68 (February 27, 2006).

²² 72 Fed. Reg. 32711 (June 13, 2007).

Additionally, Special Condition No. 32 requires annual stack testing for filterable and total PM/PM₁₀ which will provide further monitoring beyond just the COMS. Opacity monitoring, while not equivalent to a PM CEMS, is used as an indicator for PM mass emission monitoring and the monitoring of light extinction is usually a common principle for both opacity and PM monitors. Also, Special Condition 32.E contains requirements to ensure that the control device for filterable PM/PM₁₀ is continuously functioning properly. The Executive Director has determined that PM, even if not directly measured by a CEMS, is being appropriately monitored on a continuous basis.

Special Condition No. 32 also requires annual stack testing for H₂SO₄, HCl, HF, Pb and VOC. Continuous stack monitoring for acid gases such as H₂SO₄, HCL, and HF are not required for coal-fired power plants because the emissions are insignificant. Since acid gases are primarily controlled by the SO₂ controls, the SO₂ CEMS provides a good surrogate monitor. Emissions of H₂S are not an issue with coal-fired power plants, which operate with in-furnace levels of oxygen at 3 percent or more providing excess air which limits H₂S formation. Finally, the SO₂ CEMS ensures that the control device (the wet scrubber) for H₂SO₄, HCl, and fluorides such as HF is continuously functioning properly.

COMMENT 14 (PSD AMBIENT MONITORING):

The Applicant did not comply with the preconstruction monitoring requirements of 40 CFR §52.21(m) because ambient SO₂ data from Dallas, Waco, and Ellis County does not represent Nolan County (Weber). Commenter states the Applicant must conduct community and plant fence-line baseline ambient air monitoring for ozone, nitrogen oxides, SO₂, and particulate matter (Rittenhouse), and local meteorological conditions (Rittenhouse, Mansuri).

RESPONSE 14:

For criteria air pollutants that are proposed to be emitted in significant amounts, the prevention of significant deterioration (PSD) rules at 40 CFR § 52.21(m) generally require a preapplication analysis of ambient air quality in the area that the major source would affect. The analysis must rely on continuous air quality monitoring data.

Under 40 CFR § 52.21(i)(5)(i), the analysis of ambient air quality data for ozone applies if the source would emit 100 tons per year or more of NO_x or VOC.²³ 40 CFR § 52.21(i)(5) also allows for an exemption from the preapplication analysis requirements if modeled impacts are below defined amounts. The Applicant provided modeling for the project-related sources which demonstrates that the predicted maximum level of all pollutants except PM₁₀ and SO₂ were below the monitoring exemption levels at 40 CFR § 52.21(i)(5)(i).

For SO₂ the 24 µg/m³ site-wide concentration, based on modeling, did not meet the EPA monitoring exemptions of 13 µg/m³; for PM₁₀ the modeled concentration of 15 µg/m³ did not meet the monitoring exemptions of 10 µg/m³. When a constituent is not exempted, TCEQ customarily relies on data collected from continuous ambient air monitoring stations (CAMS), sited at various locations around the state, to provide conservative estimates of background air

²³ 40 CFR 52.21(i)(5)(i), fn. 1.

quality levels. This is discussed in the TCEQ guidance document RG-25, pages 24-26 (Footnote 1). For PM₁₀ and SO₂, the Applicant reviewed data collected from several of the closest CAMS to provide estimates of background air quality levels. Based on this review of the CAMS, the Applicant then chose the AIRS monitor that it had determined was a representative estimate of background levels for these pollutants. Thus, the background concentration for 24-hr PM₁₀ was obtained from the EPA AIRS monitor located in Lubbock County. A background concentration for 24-hr SO₂ was obtained from an EPA AIRS monitor located in Dallas County. For ozone, the applicant reviewed data collected from CAMS, located in Dallas County to provide estimates of background air quality levels. The TCEQ Air Permits Division verifies that the background numbers submitted by the Applicant are correct and that the monitor chosen by the applicant is representative of or a conservative estimate of the background levels of these pollutants. Given the proximity of the monitors to the proposed site, the monitored concentrations provide a representative estimate of background levels for these pollutants. The ED has determined that these monitored concentrations provide a conservative estimate of background levels in Nolan County for these pollutants.

With the revision to the lead NAAQS, the EPA promulgated new ambient air monitoring requirements for lead. Ambient air monitoring for lead is now required in urban areas with more than 500,000 people and for sources that emit one ton or more per year of lead. However, the latest census data for Abilene shows a population estimate of 153,343.²⁴ The proposed project has lead emissions of 1.1 tons per year, and did trigger a federal review for lead (>0.6 tons per year). See Response 26 for information on predicted lead concentrations.

While the meteorological data used in the air dispersion modeling analysis were not collected at the project site, use of the Abilene and Stephenville meteorological datasets in the air dispersion modeling analysis is reasonable given the proximity of these airports to the project site. The EPA Guideline on Air Quality Models - Appendix W of 40 CFR Part 51 recommends that five years of representative meteorological data be used when estimating concentrations with an air quality model. Consecutive years from the most recent, readily available 5-year period are preferred. TCEQ interprets "representative" to mean data obtained on-site or in a similar geographic area. TCEQ interprets "consecutive" to mean following in order, but not "successive" which would be following in order without interruption. TCEQ interprets "readily available" to mean data that meet regulatory requirements and are available on demand.

When obtaining a representative National Weather Service (NWS) station meteorological dataset to be used as input to an air dispersion model, the meteorological dataset should be selected on the basis of spatial and temporal (climatological) representativeness. The spatial representativeness of the meteorological data collected off-site should be judged, in part, by comparing the surface characteristics in the vicinity of the meteorological monitoring site with the surface characteristics that generally describe the modeling analysis domain. Surface characteristics and land-use types within the modeling analysis domain are similar to those surrounding the meteorological monitoring site at the Abilene and Stephenville airports. The climatological representativeness is related to the length of record of the meteorological dataset, and the model user should acquire enough meteorological data to ensure that worst-case

²⁴ <http://www.census.gov/popest/metro/CBSA-est2007-annual.html>.

meteorological conditions are adequately represented in the model results. While daily weather conditions can vary within a given year, the worst-case meteorological conditions that occur during a given year are typically the same as other years. The 5-year meteorological dataset used in the air dispersion modeling analysis contains more than 40,000 hourly samples. Therefore, the worst-case meteorological conditions have been sufficiently represented in the dataset.

COMMENT 15 (BACT, IGCC):

The application is particularly deficient with respect to Best Available Control Technology (BACT) analysis because the applicant should have considered Integrated Gasification Combined Cycle (IGCC) technology (Rittenhouse, Weber). BACT analysis should have included a consideration of IGCC for the following reasons: a proper BACT "top-down" approach must include consideration of all available combustion techniques or production processes such as IGCC; in approving the Texas SIP, the EPA required the state to follow EPA's statutory interpretations and applicable policies, including using the "top down" approach; the legislative history of the Clean Air Act indicates IGCC was meant to be included in BACT determinations; a proper BACT analysis requires an assessment of the full range of available technological choices including innovative fuel combustion techniques; IGCC is an inherently lower emitting process for the production of electricity from coal; IGCC must be considered under TCEQ BACT Guidance as part of the evaluation of new technical developments (Weber, Rittenhouse, MCC, Group B).

RESPONSE 15:

The TCAA states that the starting point of a permit review, and therefore a BACT evaluation, is the applicant's proposed facility. Under the TCAA, BACT is applied to the proposed facility.²⁵ A facility is a "discrete or identifiable device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emissions control equipment."²⁶ Since the starting point is the proposed facility, the applicant proposes the facility to accomplish its objective based upon its business decisions. The applicant does not propose that it wishes to do something (i.e., generate electricity) and have the TCEQ tell it how (i.e., Pulverized coal (PC), IGCC, fluidized bed boiler, gas turbine, solar power, etc.). Nor does the applicant expect the TCEQ will dictate to the applicant a different process must be used, redefining the source and usurping the applicant's business decisions. Also, under the EPA's BACT review, an applicant is not required to redefine a source.

Once an application has been received, the TCEQ begins the application review. The TCEQ reviews the BACT submittal against its three-tiered approach. In addition, the applicant and TCEQ staff performed an extensive review of technical developments that may impact BACT. This review included recent permit actions for PC boilers across the nation, the EPA Reasonable Available Control Technology(RACT)/Best Available Control Technology(BACT)/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC), and the EPA's National Coal Fired Utility Projects Spreadsheet. The final result of a BACT review is the development of a number

²⁵ TEX. HEALTH & SAFETY CODE § 382.0518(b)(1).

²⁶ TEX. HEALTH & SAFETY CODE § 382.003(6) & 30 TAC §116.10(6).

– an emissions limitation.²⁷ As stated above, applicants may use a variety of control strategies to meet BACT.

The Applicant is proposing to generate electricity with a PC Boiler. As part of its application, the Applicant has proposed a suite of controls. A PC Boiler is a very specific type of process within the electric generating industry. The Applicant and TCEQ staff performed an extensive review of BACT for PC boilers. The TCEQ Air Permits Division is not aware of any new technical developments that have been made indicating additional reductions are economically reasonable or technically practicable for PC Boilers.

The Applicant was not required to, nor did the TCEQ evaluate any other electric generation methods such as IGCC or circulating fluidized bed (CFB) boilers. Inclusion of IGCC in the BACT evaluation would require a substantial redesign of the Applicant's proposed facility. Other electric generation methods, such as IGCC or CFB Boilers, are different processes than the proposed PC Boiler and emission limits from IGCC or CFB Boilers cannot be compared to a PC boiler because of the differences in the processes.

Furthermore, IGCC is not necessarily an inherently lower emitting process. IGCC has emission controls; however, because of the process, the controls are located up front, prior to combustion. IGCC requires a synthetic gas (syngas) to be generated from the coal that is burned in a turbine. Before the gas is burned it must be cleaned extensively using various technologies. If the syngas was not cleaned prior to combustion then exhaust from the IGCC would be substantially dirtier and would require addition of control technologies to the exhaust gas.

Finally, the specific question of whether or not IGCC must be analyzed as part of the BACT analysis in a proposed coal fired power plant in Texas has been addressed by the Commission. A Certified Question from the Administrative Law Judges in the matter concerning the application of Sandy Creek Energy Associates, LP, for Air Quality Flexible Permit No. 70861 and PSD Permit No. PSD-TX-1039 asked the following:

In an air permit application that includes a PSD review, must an applicant that proposes to construct a pulverized coal boiler power plant include other electric generation technologies, in its BACT?

The Commission answered the question in the negative, ("No"). This order confirms that in an air permit application that includes a PSD review, an applicant that proposed to construct a boiler power plant is not required to include other electric generation technologies, such as IGCC technology, in its BACT analysis. Therefore, the TCEQ does not require a review of IGCC as part of the BACT review for electric generating units (EGUs).

See Response 16 for an explanation of TCEQ's BACT review, as approved in the Texas State Implementation Plan.

²⁷ TCAA §382.0518(b)(1). Emissions limitations for power plants are generally expressed as mass of pollutant per million Btu's (or fuel fired) or per unit of time.

COMMENT 16 (BACT; GENERALLY):

The application is deficient with respect to BACT, BACT limits, and the BACT analysis is flawed (Weber, Mansuri, Hammond). BACT analysis appears to have stopped at Tier I and did not follow EPA's Top-Down analysis (Weber). Commenter indicates the BACT analysis should contain a detailed administrative record documenting the BACT analysis and why lower emissions were not feasible (Hammond).

Applicant's BACT analysis is incomplete and fails to comply with requisite federal and state laws, regulations and guidance (Mansuri, Hammond). Commenter feels that energy efficiency and renewable energy measures should be included in the review (Hadden).

The BACT record should be supplemented with reviews of actual emission data from existing units, not just permit limits (Weber). The application must document why a lower limit cannot be met for all pollutants, not just what limits are found in other permits or applications. (Mansuri). The BACT analysis fails to include all PSD pollutants (Mansuri).

RESPONSE 16:

TCAA §382.0518(b)(1) states the BACT requirement as: "The proposed facility for which a permit...is sought will use at least the best available control technology, considering the technological practicability and the economic reasonableness of reducing or eliminating emissions from the facility."

Nothing in the FCAA or its implementing regulations mandates using the BACT top-down approach.²⁸ The TCEQ does not follow the top-down approach found in EPA's guidance. Instead, Texas uses a three-tiered approach as outlined in the TCEQ guidance document, Evaluating Best Available Control Technology (BACT) in Air Permit Applications (TCEQ BACT Guidance).²⁹ Texas' use of the three-tiered approach predates EPA's top-down approach and approval of Texas' PSD program. Since approval of the PSD program, TCEQ and its predecessor agencies have used the three-tiered approach for all PSD permits issued by the State of Texas.³⁰ The final result of a BACT review is the development of a number – an emissions limitation.³¹

In the Federal Register preamble where EPA proposed approval of Texas' PSD program, the EPA found Texas' BACT review as stringent as EPA's with the exception of a few areas not applicable here.³² The EPA interpreted the FCAA BACT definition as possessing two fundamental concepts.³³ First, the most stringent available control technology (and associated

²⁸ 42 USC § 7479(3); 40 CFR § 52.21(j); *Alaska Dep't. of Env'tl. Conservation v. EPA*, 540 US 461, 476, fn. 7 (2004).

²⁹ Draft RG-383, April 2001.

³⁰ Texas has a fully SIP approved PSD program. *See* 57 Fed. Reg. 28098 (June 24, 1992); 40 CFR §§ 52.2273 and 52.2303.

³¹ TCAA §382.0518(b)(1). Emissions limitations for power plants are generally expressed as mass of pollutant per million Btu's (or fuel fired) or per unit of time.

³² 54 Fed. Reg. 52823 (December 22, 1989).

³³ *Id.*

emission limitation) must be evaluated.³⁴ Second, if BACT is proposed that is less than the most stringent available, there must be a case-specific demonstration why the most stringent control is not selected.³⁵ The TCEQ three-tiered approach captures these fundamental concepts. In this application, which involves a PSD permit, the TCEQ required the Applicant to evaluate all control technologies by evaluating the EPA RBLC, EPA's National Coal Fired Utility Projects Spreadsheet, and recently issued permits, draft permits and applications for coal and lignite power projects. Additionally, the application laid out a case-specific rationale why the proposed BACT levels were selected.

In response to public comments, when approving Texas' PSD program, the EPA acknowledged that States have latitude in developing their programs.³⁶ Commenters expressed concern with the proposal preamble language when the EPA suggested that final approval would require Texas to follow EPA's current and future interpretations of the FCAA's PSD provisions and EPA regulations as well as EPA's operating policies and guidance.³⁷ Commenters contended such a condition would be unlawful and would improperly limit the State's flexibility.³⁸ In response, the EPA acknowledged "[S]tates have the primary role in administering and enforcing the...PSD program," and "EPA's involvement in interpretive and enforcement issues is limited to only a small number of cases."³⁹ Consequently, EPA's continuing oversight role under the FCAA leaves Texas and other states with considerable discretion to implement the PSD program as they see fit.⁴⁰ Commenters also stated that the EPA improperly included provisions mandating Texas follow EPA's top-down approach.⁴¹ In response, the EPA stated it "does not mandate the State follow a top-down approach to BACT."⁴²

The TCEQ has a State Implementation Plan (SIP) approved program for issuing PSD permits; this authorizes the TCEQ to implement the Federal PSD permitting program on behalf of the EPA.⁴³ Under the PSD program, parties must obtain preconstruction approval in the form of a PSD permit to build new major stationary sources, or to make major modifications to existing sources, in areas that are classified as attainment or are unclassifiable.⁴⁴

³⁴ *Id.*

³⁵ *Id.*

³⁶ 57 Fed. Reg. 28093 (June 24, 1992).

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.* Protestants also claim Texas by letter committed to implementing EPA interpretive guidance including the top-down approach. 54 Fed. Reg. 52823 (December 22, 1989). However, in the adoption preamble, EPA stated "EPA agrees...that [Texas'] letter need not be interpreted as a specific commitment by the State to follow a "top-down" approach to BACT determinations." 57 Fed. Reg. 28093 (June 24, 1992).

⁴³ 57 Fed. Reg. 28093 (June 24, 1992).

⁴⁴ 42 USC §§7407, 7470-7492.

The administrative record containing the rationale for the BACT determinations is contained in the permit application, preliminary determination summaries, and draft technical review for Tenaska. According to the TCEQ BACT Guidance, the lowest limit in other permits is not necessarily the proper limit for BACT. The lowest limits in other permits may be rejected as BACT if they have been established for other concerns.⁴⁵ Actual emission data from existing units are considered in evaluating technical feasibility of a proposed emission rate and in the evaluation of proposed controls in achieving and operating at BACT emission rates continuously to evaluate the applicability of the technologies. However, if a control technology has not been applied or an emission limit has not been demonstrated to be achieved in practice, a necessary condition of its selection as BACT requires technically qualified individuals to provide reasoned assurances that the technology or emission limit is achievable. It is rare for an applicant to propose unproven technology or performance that exceeds the capabilities of a control technology; such occasion demands extra scrutiny and the willingness of the reviewing authority to reject the technology or performance level when justified.

For the BACT performance standards which were not equal or lower than the lowest limits in any other pulverized coal (PC) boiler unit permits, the Applicant documented the technical or economic rationale for their selection in their application. This detailed analysis, conducted by the Applicant, was evaluated by the TCEQ to ensure that they had evaluated EPA's RBLC, EPA's National Coal-Fired Utility Projects Spreadsheet, and reviewed all permits and draft permits for similar coal fired PC boilers. The preliminary determination summary summarizes this review but does not contain all of the detail of the BACT analysis.

As discussed above, specific controls are not required by law to be included in the BACT analysis. The purpose of the BACT analysis is to review a process to determine the appropriate emission rate. Applicants are allowed to meet the emissions rate with a variety of control devices or process controls that they have selected. As discussed in Response 15 alternative production processes are not part of the BACT or permit review. Also energy efficiency improvements and the use of renewable energy measures are not part of the permit review. The TCEQ cannot consider possible future economic impacts in an air permit application, even impacts that may result from TCEQ decisions.

The TCEQ does evaluate emission levels and respective health effects using the fuel and emission control choices of the Applicant with regard to each applicable statutory and regulatory requirement. As indicated in previous responses, TCEQ's evaluation concluded that no adverse health effects are expected from emissions, as long as the plant is operated within the permitted limits.

COMMENT 17 (BACT, SO₂):

Commenter states that the Tenaska application and draft permit do not utilize best available control technologies for SO₂ pollution because other permits issued or proposed for power plants have lower limits (Weber).

⁴⁵ Draft RG-383, April 2001: Step No. 6 (page 16) and Appendix C (Question No. 4).

Several Commenters claimed that dry flue gas desulfurization is required by EPA for coal plants in dry areas, i.e., best determined technology (BDT), is dependent on water availability, so Tenaska does not meet federal requirements (Hammond, MCC, D. Hall).

RESPONSE 17:

The TCEQ reviewed the EPA's RBLC database of emission limit determinations, and other permit limits not yet entered into the RBLC, to identify the lowest SO₂ emission limits applied to recently permitted PC facilities and CFB facilities. The appropriate BACT comparison is made separately for CFBs because boiler process and fuel type have a direct impact on the resulting SO₂ emissions. The CFB boiler process produces lower SO₂ emissions than the PC boiler process because of the absorption of SO₂ in the limestone bed. The following table identifies the CFB and PC projects identified in the permit review.

SO ₂ : Permit Limits for CFB Boilers					
Company/Project	Primary Fuel ¹	RBLC No.	Permit Issued	lb SO ₂ per 10 ⁶ Btu	Average Time
Nevco – Sevier	B	UT-0064*	10/12/2004	0.022	30 day
VE&P Virginia city	B	VA-0311*	6/30/2008	0.022	30 day
Montana Dakota Gascoyne	L	ND-0021*	6/30/2005	0.038	30 day
Deseret Power Bonanza	WC	UT-0070*	8/30/2007	0.055	30 day
Great River Energy Spiritwood	L	ND-0024	9/14/2007	0.060	30 day

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

SO ₂ : Permit Limits for Pulverized Fuel Boilers					
Company/Project	Primary Fuel ¹	RBLC No.	Permit Issued	lb SO ₂ per 10 ⁶ Btu	Average Time
Desert Rock	B	NM-----*	7/31/2008	0.056	12 mon
Tenaska	SB	TX-----*	<i>draft permit</i>	0.060	30 day
CPS Spruce #2	SB	TX-----	12/28/2005	0.060	12 mon
Coletto Creek #2	SB & B	TX-----*	<i>draft permit</i>	0.060	12 mon
NRG Limestone Sta.3	coke, B, & SB	TX-----*	12/09/09	0.060	12 mon
Cypress Creek Old Dominion	B	VA-----*	<i>draft permit</i>	0.060	12 mon

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Sixty-six other recent permits known to the TCEQ (not shown on the tables) had higher limits for SO₂ than that proposed by Tenaska.

Tenaska's proposed limits are 0.06 lb SO₂/MMBtu on a rolling 30-day average and 0.06 lb SO₂/MMBtu on an annual average. The data provided by Mr. Weber shows three plants with a permit limit lower than Tenaska, all of which have been canceled according to the state agencies involved. These are:

Taylor Energy Center in Taylor County, Florida,
FPL Glades Power Park in Glades County, Florida and
Mustang Generating Station in McKinley County New Mexico.

As described in Response 16, the Texas guideline document usually selects BACT based on facilities with recently issued BACT permits which, typically, have been demonstrated to operate within the permit limits.

There are four CFB boiler permits (which are known to have lower SO₂ emissions than PC boilers) in the RBLC which have limits lower than Tenaska's proposed limit of 0.06 lb/MMBtu but all of these four units have not been built and so have not been demonstrated. Only one PC boiler permit (Desert Rock) has a lower limit than Tenaska, and it, too, has not been constructed.

Therefore, the Executive Director has determined that the Applicant's proposed permit limit of 0.06 lb/MMBtu for SO₂ represents BACT.

The data submitted by commenters shows emissions test data which are lower than Tenaska's proposed limits. The fact that a large number of emissions tests can be cited showing actual emissions lower than the respective permit limits is to be expected. Permit limits are typically set at the highest emission rate expected when the unit is being properly operated and so any given test should be safely below the permit limit. Also, stack tests are typically performed under optimum conditions and usually are initial compliance determination tests on new units. A combination of factors including wear and tear due to abrasion, etc., will reduce overall particulate control on average over time. These factors are taken into consideration when the permit limit is established. Tenaska will measure the SO₂ emissions continuously with a CEMS and the data thus generated should give a truer image of what the highest emissions are.

Regarding wet or dry flue gas desulfurization (FGD), 40 CFR §60.45Da(a)(2)(i) and (ii) has one limit for areas with more than 25 inches of rain per year and a higher (i.e. less strict) limit for dryer areas. The rule does not specify whether wet or dry FGD should be used. It is known in the industry that wet FGD is more efficient than dry. However, in low rainfall areas, insufficient water supply may make wet FGD impracticable. EPA allows a plant in a dry area to use dry FGD instead of wet FGD, but does not require this. Thus, Tenaska is going beyond BDT by proposing to use a wet scrubber. Regarding the availability of water, the Applicant may need to apply for separate permits from other agencies if regulations require them. An independent water study on water supply availability is beyond the scope of the TCEQ Air Permits Division but the TCEQ Water Supply Division in Austin may be contacted to request such a study.

COMMENT 18 (BACT/MACT, MERCURY):

No details of the proposed activated carbon sorbent injection (CSI) or other sorbent injection are provided and the permit should specifically require CSI or other sorbent injection; the permit should specify that the amount of sorbent should be based on the sorbent used during the initial demonstration of compliance (Jobe). The permit limit for Mercury should be in terms of lb/GWh rather than lb/MMBtu (Weber). The permit does not represent the MACT floor and a beyond the floor emission limit should be required (MCC).

RESPONSE 18:

The proposed control configuration consists of selective catalytic reduction (SCR), limestone slurry scrubbing, sorbent injection, and baghouse. This proposal represents the best combination of add-on controls for mercury emissions from PC boilers. Tenaska's proposed limit of 1.7×10^{-6} lb/MMBtu or 1.7 lb / trillion Btu (TBtu) represents MACT since no other similar sources have demonstrated lower emissions limits.

The permit determination for recently issued permits (i.e. issued in the last ten years) found in the RBLC and otherwise known to the TCEQ are presented in the following tables. Permit determinations for the circulating fluidized bed (CFB) units and PC units are presented separately.

Mercury: RBLC Listed Permit Limits for CFB Boilers					
Company Project	Primary Fuel	RBLC Number	Permit Issued	Limit lb Hg/TBtu	Average Time
Nevco - Sevier	B	UT-0064*	10/12/2004	0.4	--
River Hill	WC	PA-0249*	7/21/2005	0.7	12-mo.
Wellington/Greene	WC	PA-0248*	7/8/2005	0.8	12-mo
White Stallion	coke & B	TX-----*	<i>draft permit</i>	0.9	--
VE&P Virginia City	WC	VA-0311*	6/30/2008	1.4	--

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Mercury: RBLC Listed Permit Limits for PC Boilers					
Company Project	Primary Fuel	RBLC Number	Permit Issued	Limit lb Hg/TBtu	Average Time
Seminole Electric Power	coke & B	FL-x----*	6/12/2009	0.7	--
Cypress Creek Old Dominion	SB	VA-----*	<i>draft permit</i>	0.9	--
Tenaska	SB	TX-----*	<i>draft permit</i>	1.7	12-mo
SWEPCo JW Turk	SB	AR-0094*	11/5/2008	1.7	--
Coletto Creek #2	SB & B	TX-----*	<i>draft permit</i>	1.7	--
NRG Limestone Sta.3	SB, B, & coke	TX-----*	12/9/2009	1.7	--
Walter Sott Council Bluffs EC 4 Mid-America Energy	SB	IA-0067	6/17/2003	1.7	--
WPS Weston	SB	WI-0228	10/19/2004	1.7	--

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Thirty-seven other recent permits known to the TCEQ (not shown on the tables) had limits for mercury which were higher than those proposed by Tenaska.

The Executive Director has determined that the Tenaska's proposed permit limit of 1.7×10^{-6} lb/MMBtu, or 1.7 lb/trillion BTU is appropriate for the case-by-case MACT determination. As stated in the PDS, it is taken from the Walter Scott (Council Bluffs Energy Center) Unit 4 permit (RBLC ID No. IA-0067) now called the Mid-America Energy Company, which is believed to be

the lowest emission rate currently being demonstrated. It also appears that Wisconsin Public Services Weston Plant is complying with this limit. None of the units with lower limits are operating at this time; therefore it is unknown if compliance with the lower limits can be achieved and thus the lower limits cannot be considered demonstrated. The permit limit of 1.7×10^{-6} lb/MMBtu is the MACT "floor." See Response 16 for more information on the BACT analysis and Response 21 for more information on the MACT analysis in general.

The TCEQ also conducted a "beyond-the-floor" analysis to determine if a lower limit than the floor is likely to be achievable. As explained below, the permit limits for CFB units and for units firing petroleum coke, bituminous coal, or "waste coal" (*i.e.* coal mine tailings) are not considered similar units to Tenaska's sub-bituminous fired PC unit.

The TCEQ is not aware of technology other than sorbent injection (with or without additives) in conjunction with fabric filters and flue gas desulfurization that shows more promise for mercury removal. Electrochemical or photochemical oxidation of mercury in the exhaust gas does show promise, but is still in the development stage. Therefore, the ED does not believe that there is an appropriate "beyond the floor" limit that uses an alternate technology available.

One boiler, the Old Dominion Cypress Creek sub-bituminous coal fired PC unit, does have a permit with a proposed lower limit. This boiler has not begun operation, and so the lower limit cannot be considered demonstrated. This limit is roughly half of the demonstrated achievable performance of mercury control equipment (*e.g.* the Council Bluffs Energy Center). The TCEQ does not have creditable information that this technology is technically and economically achievable and therefore does not consider these emissions limitations to be a proper "beyond the floor" MACT limit.

Some permits which utilize the CFB-type of fire box have lower limits. The CFB process is believed to have inherently lower mercury emissions than the PC process even with the same fuel, as is reflected in the tables. For this reason CFB units should not be considered "similar sources" to Tenaska, which will have a PC boiler. Furthermore, none of the CFB units listed above have begun operation and so the lower limits cannot be considered demonstrated.

Some permits which use bituminous coal, or "waste coal" (*i.e.* coal mine tailings) also have lower limits. However, the EPA has recognized that bituminous and waste coal produce more oxidized mercury, which is more easily collected in the wet FGD, and thus have intrinsically lower mercury emissions even when utilizing identical control equipment. It is also well known that petroleum coke has a very low mercury content compared to coal and therefore lower mercury emissions are also expected, even with the identical control equipment. Since these units use different types of fuels they should not be considered "similar sources" to Tenaska for the purpose of determining the mercury case-by-case MACT limit. Furthermore, none of the non-sub-bituminous units listed above have begun operation, and therefore the lower limits cannot be considered demonstrated.

The proposed control configuration: SCR, limestone slurry scrubbing, sorbent injection, and baghouse, represent the best combination of add-on controls for mercury emissions. Although carbon injection (CSI) is the most widely demonstrated and deployed mercury control

technology, other effective sorbents besides activated carbon may be developed, and the flexibility to use them should be part of the MACT. The Applicant has represented in its application it will use sorbent injection to control mercury; since the application is part of the permit, it is therefore required to install a sorbent injection unit. The type or amount of sorbent the Applicant uses for mercury control will be determined during operation of the boiler. Newer sorbents are constantly being developed and depending on how the Applicant operates other control devices, the use of sorbent may not be required to achieve the proposed mercury emission limit. Since the mercury emission rate will be monitored by a CEMS or approved alternative, there is no need to specify operational criteria, such as the amount of sorbent, in the permit.

Some permits with this Council Bluffs Energy Center limit have expressed limits in units of lb/GWh calculated by multiplying by the MMBtu/hr heat input rating and dividing by the gross GW output. This is probably because the NSPS standards are in terms of lb/GWh; however, the mercury limit in the permit (Special Condition 8A) is not the NSPS standard, so there is no requirement to express it in any particular way.

See Response 2 for more information on mercury health effects. Also, see Response 32 for a discussion of Coal Washing, which relates to the Hg control methodology.

COMMENT 19 (BACT, NO_x):

Commenter states that two different BACT emission rates for NO_x are allowed – 0.05 lb/MMBtu (annual average) and 0.07 lb/MMBtu (30-day rolling average) but that lower emissions are possible (Hammond and Weber) through alternative technologies or processes (Weber).

The boiler outlet NO_x levels are likely 0.1 - 0.15 lb/MMBtu without SCR as demonstrated by numerous Texas plants burning PRB with no SCR, or as high as 0.2 lb/MMBtu (*e.g.* the limit in this permit during startup or shutdown) and that 90 percent removal efficiency has been achieved and BACT should therefore be lower than the proposed BACT. Commenter also states applicant must consider ultra-supercritical coal combustion to achieve lower emissions (Weber).

Lower levels have been achieved and maintained by numerous existing sources and is documented in the EPA's Clean Air Markets database. Lower emissions were contained in the PSD application for FPL Glades Power Park in Glades County, Florida (Weber).

EPA Region 6 suggested a shorter averaging time limit for NO_x of 24-hours in addition to or instead of the 30-day limit and a lower limit for 24-hours than 30-days. EPA Region 6 pointed to three permits that had a 24-hour averaging period with a limit less than the 0.07 lb/MMBtu 30-day rolling average limits in the Tenaska permit and asked why a lower period was not in the proposed permit (Robinson).

RESPONSE 19:

The TCEQ reviewed the EPA's RBLC database of emission limit determinations and other permit limits not yet entered into the RBLC, to identify the lowest NO_x emission limits applied to similar PC facilities. The following table includes the lowest NO_x emission limits found.

NO _x : Lowest Permit Limits for Boilers					
Company/Project	Primary Fuel ¹	RBLC No.	Permit Issued	lb NO _x per 10 ⁶ Btu	Average Time
Desert Rock (may be amended)	B	NM-----*	7/31/2008	0.039	12 mo
Associated Electric Norborne	SB	MO-0077*	2/22/2008	0.050	12 mo
Western Farmers Hugo #2	SB	OK-0118*	2/29/2007	0.050	12 mo
Desert Rock	B	NM-----*	7/31/2008	0.050	12 mo
Coletto Creek #2	SB, B	TX-----*	<i>draft permit</i>	0.050	12 mo
SWEPCo JW Turk	SB	AR-0094*	11/5/2008	0.050	12 mo
Sandy Creek	coal	TX-0499	7/24/2006	0.050	12 mo
CPS Spruce #2	SB	TX-----	12/28/2005	0.050	12 mo
NRG Limestone Sta.3	coke & coal	TX-----*	<i>draft permit</i>	0.050	12 mo
Tenaska	SB	TX-----*	<i>draft permit</i>	0.050	12 mo
Black Hills Wygen #3	SB	WY-0063*	2/5/2007	0.050	12 mo
Basin Electric Dry Fork	SB	WY-0064*	10/15/2007	0.050	12 mo

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Sixty-nine other recent permits known to the TCEQ (not shown on the table) had limits for NO_x which were higher than that proposed by Tenaska. The Applicant provided a detailed analysis of the BACT proposal of combustion controls using low NO_x burners and over-fired air followed by post combustion control of SCR. The BACT proposal of 0.05 lb/MMBtu (12-month rolling average) is as stringent as any recently permitted utility boiler burning except for the Desert Rock permit, which states that the limit may be changed from 0.039 to 0.050 lb/MMBtu if monitoring data show the unit is not meeting the lower value. The TCEQ determined the Applicant's BACT proposal of 0.07 lb/MMBtu (30-day rolling average) was not the most stringent, and thus was changed to 0.06 lb/MMBtu (30-day rolling average) by the Applicant. See Special Condition No. 8A and the maximum allowable emission rates table.

The BACT setting methodology suggested by a commenter, based on a 90 percent reduction in the SCR, reflects data that has been achieved but not demonstrated over the life of the catalyst and does not account for known problems with ash deposition and catalyst plugging, and has not been required in any existing permits. Detailed specific information on each piece of equipment is not normally available at this phase of a project, and as demonstrated throughout this Response, BACT will vary from plant to plant based on design, fuel sources, and choices of control devices. See Response 16 for more detailed explanation of why IGCC and ultra-supercritical coal combustion was not evaluated.

The quarterly NO_x emissions data on the W. A. Parish units from the EPA's Clean Air Markets database for 2005 through 2007 provided by Mr. Weber gives the averages for each calendar quarter. The 2008 data is now available. By taking the data for these 16 quarters; a rolling annual average can be calculated, and the highest rolling annual average of this time period equals:

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.

This data actually supports the BACT determination that a rolling 12-month average limit of 0.050 lb/MMBtu is appropriate.

According to the Florida Department of Environmental Protection website, the application for FPL Glades Power Park was withdrawn on July 23, 2007. This permit was never issued and therefore has no bearing on BACT determinations.

Regarding the 24-hour average limit, EPA referenced three permits that had a NO_x short term averaging period of 24 hours rather than the proposed 30 days in this draft permit (Desert Rock in New Mexico, SWEPCO's Turk plant in Arkansas, and Newmont Nevada Energy). The TCEQ also knows of three other recent permits with 24-hour limits (Toquop, Bull Mountain 2, and Longview Power).

Permits in the RBLC with 24-hour Average NO _x Limits				
Company/Project	RBLC No.	12 month	30-day	24 hr
Desert Rock	NM-----	0.050	--	0.060
Toquop	NV-----	--	--	0.060
SWEPCo JW Turk	AR-0094	0.050	--	0.067
Newmont	NV-0036	0.067	--	0.067
Tenaska (proposed)	TX-----	0.050	0.060	0.070
Bull Mtn Development 2	MT-0022	--	--	0.070
Longview Power LLC Maidsville	WV-0023	0.065	0.070	0.080

Seventy-three other recent permits in the RBLC, or known to the TCEQ but not yet in the RBLC, do not have 24-hour limits.

In response to EPA's comments, Tenaska has consulted with its vendor who has agreed to guarantee 0.07 lb NO_x /MMBtu on a 24-hour average basis. The permit (Special Condition No. 8A) has been changed to reflect this.

COMMENT 20 (BACT, PM/PM₁₀/PM_{2.5}): Commenter states that lower total and filterable PM/PM₁₀ emission rates have been permitted as BACT and Tenaska's limits must not be considered BACT in light of the lower emitting units (Weber). PM_{2.5} was not analyzed for BACT and the permit does not contain an enforceable PM_{2.5} limit (Weber). Commenter states that no information on the type of fabric was provided and that this is a crucial detail in determining BACT. (Weber)

RESPONSE 20:

The limits proposed in Tenaska's draft permit are based on recent permits issued in Texas which the Executive Director has determined are appropriate and meets BACT. The Applicant has

stated that the limits proposed in the application have vendor guarantees and the Applicant is confident of consistently meeting the proposed BACT. The Applicant must have a reasonable chance to consistently comply with any proposed BACT.

The PM emissions from the proposed PC unit primarily consists of solids, or filterable PM. The Applicant proposes baghouses to capture solid PM with a permit limit of 0.012 lb filterable PM/MMBtu. In June 2009, the TCEQ reviewed the EPA's RBLC database of emission limit determinations starting with the most recent entry, and going back ten years, to identify the technologies and lowest filterable PM limits applied to similar facilities. TCEQ staff also searched other EPA databases and state databases and conducted an extensive internet search to locate recent permits that are not in the RBLC, including permits which have been proposed but have not yet been issued.

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. For clarity, the results for each boiler type are separated in two tables below. The tables include at least the lowest filterable PM permit limits found. More information on the projects listed in the RBLC may be found at: <http://cfpub.epa.gov/rbhc/cfm/rbfind.cfm>.

Filterable PM: Lowest Permit Limits for CFB Boilers					
Company/Project	Primary Fuel ¹	RBLC Number	Permit Issued	lb PM _{filter} per 10 ⁶ Btu	Average Time
VEPCO Va. City Hybrid	B	VA-0311*	06/30/2008	0.010	3-hour
Sunnyside Ethanol LLC	B	PA-0257	05/07/2007	0.010	3-hour
River Hill Power LLC	WC	PA-0249*	07/21/2005	0.010	3-hour
Reliant Seward Power	WC	PA-0182	08/26/2003	0.010	3-hour
Las Brisas EC	coke	TX----*	<i>draft permit</i>	0.011	3-hour
NRG Big Cajun I	coke	LA-0223	01/09/2008	0.011	30-day
Entergy Little Gypsy 3	coke	LA-0221	06/30/2007	0.011	30-day
CLECO Rodemacher 3	coke	LA-0202	02/23/2006	0.011	30-day
JEA Northside 1 & 2	coke	FL-0178	07/14/1999	0.011	3-hour
Formosa Plastics	coke & coal	TX-----	12/19/2006	0.011	--
Calhoun County NG	coke	TX-----	8/20/2007	0.011	--
White Stallion	coke & coal	TX----*	<i>draft permit</i>	0.011	--
Energy Services of Manitowac	coke	WI-0122	6/26/2001	0.011	--
Lamar Utilities	SB & B	CO-0055	2/3/2006	0.012	--
Great River Energy Spiritwood	L	ND-0024	9/14/2007	0.012	3 h
Robinson Power	WC	PA-0247*	4/1/2005	0.012	--
Wellington/Greene	WC	PA-0248*	7/8/2005	0.012	--
Deseret Power Bonanza	WC	UT-0070*	8/30/2007	0.012	--

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; Coke=petroleum coke, WC=waste coal

Filterable PM: Lowest Permit Limits for Pulverized Coal Boilers					
Company/Project	Primary Fuel ¹	RBLC Number	Permit Issued	lb PM _{filter} per 10 ⁶ Btu	Average Time
Brayton Point 3	SB	MA-----*	<i>draft permit</i>	0.010	1 hr
Desert Rock	B	NM-----*	7/31/2008	0.010	24 hr
Toquop	SB	NV-----*	<i>draft permit</i>	0.010	3 hr
Tenaska	SB	TX-----*	<i>draft permit</i>	0.012	12 mo
SWEP Co JW Turk	SB	AR-0094*	11/5/2008	0.012	3 hr
Public Service Commanche #3	SB	CO-0057	7/5/2005	0.012	3 hr
Springfield Dalman #4	coal	IL-0107	8/10/2006	0.012	3 hr
Associated Electric Norborne	coal	MO-0077*	2/22/2008	0.012	3 h
Hastings Whelan	SB	NE-0018*	3/30/2004	0.012	--
Newmont	SB	NV-0036	5/5/2005	0.012	--
Big Stone 2	coal	SD-----*	<i>draft permit</i>	0.012	3 hr
Coleto Creek #2	SB & B	TX-----*	--	0.012	--
NRG Limestone Sta.3	coke & B	TX-----*	12/9/2009	0.012	--
Intermountain #3	coal	UT-0065	10/15/2004	0.012	--
Cypress Creek Old Dominion	SB	VA-----*	<i>draft permit</i>	0.012	--
Black Hills Wygen 2	SB	WY-0057	9/25/2002	0.012	--
Black Hills Wygen #3	SB	WY-0063*	2/5/2007	0.012	--
Basin Electric Dry Fork	coal	WY-0064*	10/15/2007	0.012	--

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Forty-six other recent permits known to the TCEQ (not shown on the tables) had limits for filterable PM which were higher than that proposed by Tenaska.

The tables indicate that there were three PC boilers with lower limits than Tenaska. None of these three PC boilers have become operational at this time. 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. The table above demonstrates that five units meet the criteria of "best controlled similar source" and have a limit of 0.012 lb/MMBtu. The most recently issued permit identified in the RBLC data base, the JW Turk plant in Arkansas (a PC unit), has a limit of 0.012 lb filterable PM/MMBtu, which is the same as the Tenaska limit. Therefore, we have elected to use the vendor guarantee as the permit limit.

As shown in the data supplied by commenter, test results typically indicate that the filterable PM emission rate for baghouse-controlled utility boilers is likely to be significantly less than the permitted limit. The fact that a large number of emissions tests can be cited that show that actual emissions are lower than the respective permit limits is to be expected. Permit limits are typically set at the highest emission rate expected when the unit is being properly operated. Also, stack tests are typically performed under optimum conditions and usually are initial compliance determination tests on new units. A combination of factors, including wear and tear,

will reduce overall particulate control on average over time. Tenaska will test the PM/PM₁₀ emissions annually and the data thus generated should give a truer image of what the highest emissions are.

In addition to solids, PM emissions include materials that exist in a gaseous state exiting the baghouse, but subsequently condense to form a liquid. The acid gases H₂SO₄, HCl and HF are components of condensable emissions. Sulfuric acid is formed by the oxidation of SO₂ to SO₃ and subsequent absorption with water. Although designed to primarily reduce SO₂, the proposed limestone slurry scrubbers will additionally control acid gases, and hence condensable PM. The alkali limestone reacts with the acid to form a solid that is captured in the baghouses.

In addition to acid gases, the condensable portion of PM includes condensable organic material. The combination of filterable and condensable PM is also called total PM. Texas is one of a minority of states that regulate total PM. Because few states regulate total PM, the EPA RBLC contains few entries for total PM, and there are fewer permit examples on which to base a BACT determination compared to filterable PM, NO_x, SO₂, CO, or VOC.

As noted above, CFB boilers have different characteristics than PC boilers with regard to PM and are not considered in the BACT review. The current EPA Reference Method 202 for condensable PM has been documented to have an erratic, positive bias. The problems with the test method complicate the determination of the appropriate BACT emission limit for total PM. For this reason the TCEQ is hesitant to select the lowest known permit limit as BACT given that Tenaska's vendor guarantees 0.030 lb/MMBtu after careful consideration. Considering the test method for total PM is not reliable and few states require testing for total PM, Tenaska's permit limit is justified as the appropriate choice for total PM BACT. Based on this review, the total PM emission limits in the draft permit represent BACT.

The following tables contain the lowest permit limits known to the TCEQ. Based on this review, the filterable PM emission limits in the draft permit represent BACT.

Total PM (Filterable + Condensible): Lowest Permit Limits for CFB Boilers					
Company/ Project	Primary Fuel ¹	RBLC Number	Date Issued	lb PM _{Total} per 10 ⁹ Btu	Average Time
Energy Services of Manitowac	coke	WI-0122	6/26/2001	0.011	--
VE&P Virginia City	B	VA-0311*	6/30/2008	0.012	30 day
Wellington/Greene	WC	PA-0248*	7/8/2005	0.012	--
White Stallion	coke & coal	TX-----*	<i>draft permit</i>	0.027	--
Deseret Power Bonanza	WC	UT-0070*	8/30/2007	0.030	--
Great River Energy Spiritwood	L	ND-0024	9/14/2007	0.030	3 hr
Toledo Edison Bayshore	coke & coal	OH-0231	7/31/2003	0.030	12 mo
Western Greenbrier	WC	WV-0024	4/26/2006	0.030	30 day

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Total PM (Filterable + Condensable): Lowest Permit Limits for Pulverized Fuel Boilers					
Company/ Project	Primary Fuel ¹	RBLC Number	Date Issued	lb PM _{Total} per 10 ⁶ Btu	Average Time
Montana Dakota Gascoyne	L	ND-0021*	6/3/2005	0.017	--
Longview Power LLC Maidsville	coal	WV-0023*	3/2/2004	0.018	6 hr
Associated Electric Norborne	coal	MO-0077*	2/22/2008	0.018	3 h
Desert Rock	B	NM-----*	7/31/2008	0.020	3 hr
Public Service Commanche #3	SB	CO-0057*	7/5/2005	0.020	3 hr
NRG WA Parrish #8	coal	TX-0521	10/21/2005	0.022	--
CPS Spruce #2	SB	TX-----	12/28/2005	0.022	--
Great Plains Energy Iatan #1&2	SB	MO-0071*	1/27/2006	0.024	30 day
Brayton Point 3	SB	MA-----*	<i>draft permit</i>	0.025	1 hr
SWEP Co JW Turk	SB	AR-0094*	11/5/2008	0.025	3 hr
NRG Limestone Sta. 3	SB, B, Coke	TX-----*	12/9/2009	0.025	12 mo
NRG Limestone Sta. 1 & 2	coke, L & SB	TX-0342	8/14/2001	0.026	12 mo
Walter Scott Council Bluffs EC4 Mid-America Energy	SB	IA-0067	6/17/2003	0.027	--
Tenaska	SB	TX-----*	<i>draft permit</i>	0.030	--
Big Stone 2	coal	SD-----*	<i>draft permit</i>	0.030	3 hr
Toquop	SB	NV-----*	<i>draft permit</i>	0.030	3 hr

*Not yet operating at this time

¹B=bituminous; SB=sub-bituminous, L=lignite; coke=petroleum coke, WC=waste coal

Seventeen other recent permits known to the TCEQ (not shown on the tables) had limits for total PM which are higher than that proposed by Tenaska.

The TCEQ currently uses PM₁₀ as a surrogate for PM_{2.5} to model impacts (ground level concentration). See Response 3 for further explanation of the PM₁₀ surrogacy policy. There is little guidance or experience available for evaluating BACT for PM_{2.5} distinct from BACT for PM or PM₁₀. The search of the RBLC database revealed no fossil fuel utility units with PM_{2.5} BACT. Neither the permit application nor the Executive Director's evaluation of BACT included a separate analysis of BACT for PM_{2.5}. The use of fabric filters meeting an emission limit of 0.012 lb of filterable PM₁₀/MMBtu of heat input has been proposed as BACT for all sizes of filterable PM. The Executive Director believes that this technology and emission limit also achieve BACT for filterable PM_{2.5} because the limit has been shown to require approximately 99.9 percent removal of potential PM emissions⁴⁶ and such high removal efficiency requires efficient collection of PM_{2.5}. As discussed in Response 3, the PM emissions from Tenaska are not expected to exceed the NAAQS for PM_{2.5}.

46 "Control of PM from Steam Generating Units", Memo to File, Christian Fellner, U.S. EPA Office of Air Quality Planning and Standards, February 2006.

The Executive Director believes that the combination of fabric filter baghouse with limestone slurry wet scrubber technology and emission limits for total PM also achieve BACT for condensable PM_{2.5} because there is little difference between condensable PM and condensable PM_{2.5}.

Gaseous emissions of SO₂ and NO_x undergo reactions in the atmosphere to form sulfate and nitrate particles which are classified as secondary, or indirect PM_{2.5} emissions. There is very little guidance or experience available with regard to special considerations for evaluating BACT for secondary PM_{2.5} emissions. Neither the permit application nor the Executive Director's evaluation of BACT included a separate analysis of BACT for secondary PM_{2.5}. The Executive Director believes that the previously discussed use of SCR for NO_x control with an emission limit of 0.05 lb NO_x/MMBtu, 12-month rolling average, and limestone slurry wet scrubber technology for SO₂ control with emission limits for coal firing of 0.06 lb SO₂/MMBtu of heat input, 12-month rolling average discussed in Response 17, also achieve BACT for secondary PM_{2.5}, because minimizing emissions of SO₂ and NO_x are the only logical way of minimizing secondary PM_{2.5} from the proposed facilities.

The type of fabric from which the fabric filter bags will be made is immaterial to the BACT determination. Since BACT is not the technology involved, but the emission limit based on a certain technology, the permit holder is free to use any fabric which will meet the permit limit. Furthermore, listing the type of fabric in the permit may unreasonably hinder the Applicant's ability to use more effective materials in the future without a permit amendment, since it is expected that over time innovations in material science will produce bag material that may perform better than current material.

COMMENT 21 (MACT, GENERALLY):

Commenters state that the MACT analysis is flawed or incomplete (Weber, Hammond, Rittenhouse). The permit does not fully explore MACT for Hg and does not explain MACT analysis for other Hazardous Air Pollutants (HAPs) (Rittenhouse). There was an improper analysis of the case by case MACT determination (Hammond). Commenter states no beyond-the-floor analysis was conducted and Tenaska failed to examine all available methods for reducing HAP and did not provide adequate documentation (Mansuri). Not all similar sources were examined (Mansuri). The MACT limits should be expressed as short term (e.g. for 30-day rolling average or shorter) in addition to long term annual limits (Robinson).

RESPONSE 21:

The administrative record containing the rationale for the MACT determination is contained in the permit application, preliminary determination summary, and permit files for Tenaska. Since there were very few existing coal-fired facilities to compare to the proposed MACT for all HAPs, the Applicant and the TCEQ relied on surrogates as necessary to classify HAPs into broader categories based on HAP properties and the effectiveness of controls. Permits issued by the TCEQ usually contain only one numerical limit per pollutant regardless of what process bore that limit. Therefore, if the MACT determination lowered the proposed BACT limit, then the MACT limit also became the new proposed BACT limit for the permit. The preliminary determination summary summarizes this review but does not contain all of the detail of the MACT analysis.

The Applicant and TCEQ researched available literature for all known methods for reducing HAP emissions to establish the MACT floor. EPA's RACT/BACT/LAER Clearinghouse, which provides data on prevention and control technology determinations made by state and local permitting agencies, was one of the resources used to determine the methods for reducing HAP emissions. All PC boilers burning subbituminous coal, blends of primarily subbituminous coal and lesser amounts of petroleum coke, and bituminous coal were considered. The application provides detailed and thorough documentation of all known methods for reducing HAP emissions when determining the MACT floor and beyond the floor for each of the HAPs and surrogates. Economic feasibility was not a consideration in establishing the MACT floor.

To establish the MACT floor, the most stringent emission limit that has been achieved in practice by the best controlled similar sources was selected. For example, the Council Bluffs Energy Center, Walter J. Scott Unit 4, was selected as the best controlled similar source for mercury MACT (see Response 18). Compliance with emissions limits will be confirmed with testing and monitoring.

The Applicant and TCEQ reviewed the available literature to identify whether a "beyond-the-floor" MACT emission limit would be appropriate for emissions from the PC boiler. This review did not identify any other methods for potentially reducing emissions to a greater degree than the MACT floor selected in the Tenaska draft permit for any of the MACT pollutants. Thus, the MACT floor established in the draft permit represents the most stringent limit achievable.

Regarding MACT for utilities, the EPA has not promulgated long or short-term standards. The EPA has only proposed a long-term standard for Hg and filterable PM. The EPA proposed 40 CFR Part 63, Subpart UUUUU (the "Utility MACT") which had the Hg limit expressed as a 12-month rolling average. However, this standard has not been promulgated. The EPA New Source Performance Standard Hg limit (40 CFR § 60.45a) is expressed as a 12-month rolling average. Regarding the Hg MACT limit, the TCEQ has generally followed this EPA practice in Special Condition No. 8. Since Hg is collected as particulate matter by the control system, the same averaging time (12-month average) is used for the filterable PM MACT limit. Regarding CO, Special Condition No. 8.A has a short term (30-day average) limit. Regarding acid gas, the permit maximum allowable emission rates table (MAERT) has hourly limits for HCl and HF which are based on the annual lb/MMBtu limits of Special Condition No. 8.B at the maximum heat input; therefore, it is equivalent to the MACT standard in Special Condition No. 8.B.

COMMENT 22 (MACT, NUMBER AND GROUPING OF HAPS/SURROGATES):

Commenters state the permit does not contain a list or limit for all the HAPs that can be emitted from the coal-fired boiler (Mansuri). Commenters state that HAPs are inappropriately grouped (Mansuri). Selenium is too volatile to be removed by a fabric filter and will still be in gaseous form (Mansuri). Using CO and PM₁₀ as a surrogate is incorrect (MCC).

RESPONSE 22:

Not all HAPs listed in Section 112 are expected to be emitted as noted in the applicant's 112(g) analysis. In the modeling analysis, the Applicant compared emissions for individual HAPs to ESLs to ensure protectiveness of public health. The HAPs not expected to be emitted were not included in this analysis.

The application proposes groupings for the HAPs according to the control method used to reduce the emissions. These are mercury, non-mercury metals, acid gases, and organic HAPs.

Mercury will be controlled using the fabric filter baghouse and wet flue gas desulfurization (limestone slurry scrubber) plus the addition of sorbents or other compounds necessary to achieve the proposed mercury MACT.

The application establishes federally enforceable MACT emission limitations for filterable particulate matter with a diameter less than 10 μm (PM_{10}) as a surrogate for non-mercury HAP metals. The non-mercury metal HAPs would be emitted as particulate so the controls proposed, advanced fabric filter baghouse technology, are determined to be the best method of control and provide an excellent surrogate for the non-mercury metal HAPs. While metal HAPs may be emitted as very fine particles smaller than PM_{10} (e.g. $\text{PM}_{2.5}$), the only EPA promulgated reference test method is for PM_{10} . The technology for sampling and monitoring for $\text{PM}_{2.5}$ is still being developed, therefore using filterable PM_{10} is a more appropriate surrogate.

Acid gases (HF and HCl) are reactive to the limestone slurry used in the proposed spray absorber for H_2SO_4 and SO_2 control. Additional control of acid gases would occur in the filter cake of the bags in the baghouse.

Coal-fired PC Boilers emit organic HAPs due to incomplete combustion of fuel, the same mechanism by which CO and VOC emissions are produced. Organic HAPs represent the widest range of compounds but all are expected to oxidize in the presence of oxygen and adequate temperature; therefore, good combustion and burner efficiency would control organic HAPs. The application establishes federally enforceable MACT emission limitations for carbon monoxide (CO) as a surrogate for organic HAPs. A CO emission limit can be established which represents the case-by-case MACT for all organic HAPs (See Response 24). This is consistent with EPA's practice when establishing MACT emission standards for source categories emitting organic HAPs from combustion processes. Therefore, CO is an appropriate surrogate for organic HAPs.

Some organic HAPs may be correctly labeled particulate due to the chemical properties of the HAP and whether it exists as a solid at the baghouse. Regardless, an emission standard exists in the permit for either type of HAP emission, gaseous (CO) or solid (filterable PM_{10}), in the stack. Therefore all organic-based HAPs present in vapor form or in the stack exhaust gas, are controlled in one of the proposed categories.

While the boiling point for selenium is lower than for most inorganic HAP species, it is still high at 1265 °F, which is considerably hotter than the flue gas temperature at the fabric filter. Its melting point is 430 °F, and it is expected that most of the vaporized selenium from the boiler will be converted to liquid droplets or fume by the time the exhaust gas reaches the fabric filter.

COMMENT 23 (MACT, FLUORINE):

Commenters state that the MACT limits for HF should be based on co-removal of acid gas and gaseous sulfur during flue gas desulfurization; examples are the J. W. Turk power plant (RBLC ID No. AR-0094) and the Weston Generating Station (WI-0228) (Robinson).

RESPONSE 23:

Both the power plants cited by EPA for HF control, and the Desert Rock plant in New Mexico, use dry flue gas desulfurization (e, g. lime injection wherein the fluoride reacts with lime and the calcium fluoride is collected in the fabric filter) and all have a limit of 0.0002 lb HF/MMBtu, 3-hour average. Tenaska uses wet flue gas desulfurization, which is more efficient in reducing SO₂, but less efficient in removing HF. The Tenaska limit is 0.0005 lb HF/MMBtu. The ED has determined that this is MACT and BACT for a unit using wet flue gas desulfurization.

COMMENT 24 (MACT, ORGANIC HAP):

The MACT for organic hazardous air pollutants (HAP) should be proper boiler controls; an example is the J. W. Turk plant (AR-0094) (Robinson).

The permit does not represent the MACT floor and a beyond the floor emission limit should be required (MCC).

RESPONSE 24:

CO is used as a surrogate for organic HAPs. TCEQ agrees with the EPA that the Turk plant represents MACT; this unit has the same monthly and annual emission limit for CO as Tenaska which is 0.15 lb/MMBtu.

A large number of PC power plant permits in the country have 0.150 lb/MMBtu annual average for the CO limit and that limit has been proven to be achievable. Some circulating fluidized bed units have lower limits, but CFB is a different technology from PC and requiring limits appropriate for CFB would be "redefining" the technology. Ten PC permits known to the TCEQ do have a lower limit, but none of these have been demonstrated:

CO Lowest Permit Limits for PC Utility Boilers					
Company/Project	RBLC No.	lb CO per 10 ⁶ Btu	Fuel	Date	Average Time
Desert Rock*	NM-----*	0.093	B	7/31/2008	12 mo
Thoroughbred*	KY-0084*	0.100	coal	10/11/2002	30 day
Toquop*	NV-----*	0.100	SB	<i>Draft Permit</i>	24 hr
Longview Power LLC Madsville*	WV-0023*	0.110	coal	3/2/2004	3 hr
Prairie State, Marissa*	IL-----*	0.120	coal	4/8/2005	24 hr
Coletto Creek #2*	TX-----*	0.120	<i>SB, B</i>	<i>Draft Permit</i>	12 mo
NRG Limestone Sta.3*	TX-----*	0.120	PC, B	12/9/2009	12 mo
Public Service Commanche #3**	CO-0057**	0.130	SB	7/5/2005	8 hr
Seminole Electric Power*	FL-----*	0.130	PC & B	6/12/2009	30 day
Louisiana Generating LLC Big Cajun #4*	LA-0176*	0.135	SB	12/15/2008	12 mo
Great Plains Energy Iatan #2*	MO-0071*	0.140	SB	2/2/2008	30 day
Tenaska*	TX-----*	0.150	SB	<i>Draft Permit</i>	30 day
SWEP Co JW Turk*	AR-0094*	0.150	SB	11/5/2008	30 day
Tucson Electric Springerville #3 & 4	AZ-0053	0.150	SB	4/29/2002	30 day

Executive Director's Response to Comment

Tenaska Trailblazer Partners L.L.C., Air Permit Nos. 84167, PSD-TX-1123, and HAP13

Page 44

Platte River Power	CO-0062	0.150	coal	9/27/2006	8 hr
Orlando Stanton #2	FL-0306	0.150	coal	2/6/2008	12 mo
Sand Sage Power Holcomb 2	KS-0026	0.150	coal	10/8/2002	12 mo
Associated Electric Norborne*	MO-0077*	0.150	coal	2/22/2008	30 day
Bull Mtn Development 2*	MT-0022*	0.150	coal	7/21/2003	--
Rocky Mtn Power Hardin	MT-0027	0.150	coal	6/11/2002	--
Newmont	NV-0036	0.150	SB	5/5/2005	24 hr
Western Farmers Hugo #2*	OK-0118*	0.150	SB	2/9/2007	30 day
Edison Mission	PA-0162	0.150	B	5/25/1999	12 mo
Big Stone 2	SD-----*	0.150	coal	6/9/2009	30 day

*Not yet operating

** CO Public Service Commanche #3 was not scheduled to begin operation until September 2009, and no test data are available.

The TCEQ does not have creditable information that these are technically and economically achievable and so does not consider these to be "beyond-the-floor."

COMMENT 25:

EPA points out that the PSD permit number has two digits transposed in the permit Special Conditions header (Robinson).

RESPONSE 25:

The TCEQ thanks EPA for pointing out a typographical error in the draft permit Special Conditions. The draft permit has been corrected.

COMMENT 26: (BACT LEAD)

EPA suggests that fabric filters should be considered for BACT and cites the J.W. Turk power plant (RBLC ID No. AR-0094) and the Tucson Electric Springerville Power Plant Unit 4 (AZ-0053) as examples (Robinson).

RESPONSE 26:

Turk's permit limit for lead (Pb) is 1.6×10^{-5} lb Pb/MMBtu (or 16 lb/TBtu) and although the RBLC entry for Springerville did not list the Pb limit, it appears to also be 16 lb/TBtu. The Turk Pb limit is a 112(g) case-by-case MACT determination. The original BACT determination was 26 lb/TBtu. It is presumed that the Springerville Pb limit is also established for a MACT limitation. Under Tenaska's permit Pb is being controlled as a PSD pollutant since it has a NAAQS. Therefore, Tenaska's draft permit does not propose to control Pb under the 112(g) permit since filterable particulate matter is the surrogate for metal hazardous air pollutants. See Response 22 for a discussion of using filterable particulate matter as a surrogate for metals.

Tenaska examined Pb limits in permits of operating power plants issued since 2001 and found most in a range of 26 to 60 lb/TBtu. This is consistent with the Arkansas' 2008 BACT determination for Turk. After consulting with the fabric filter specialists, Tenaska proposed that a 30 lb/TBtu is achievable with a properly operated baghouse. With this level of control, the impacts of the emissions are well within the NAAQS limit. For the rolling 3-month NAAQS of $0.15 \mu\text{g}/\text{m}^3$ the project shows a predicted ambient concentration of $0.09 \mu\text{g}/\text{m}^3$. This is a project

increase of only $0.05 \mu\text{g}/\text{m}^3$ added to the $0.04 \mu\text{g}/\text{m}^3$ background. The ED has determined that this is the appropriate BACT for a unit with a fabric filter.

COMMENT 27 (MSS): Commenter states that compliance with the NAAQS and PSD increment is required for startup and shutdown emissions (Mansuri, Hammond, Weber). The application does not indicate that the emission limits in the maximum allowable emission rates table apply during MSS (Mansuri).

The written startup and shutdown plan referenced in Special Condition 10 should have a completion date specified and should be provided to EPA (Robinson). The plan should have been provided in the application (Mansuri). The plan should be available for review by the public (Weber).

There are no emission limits for startup (Rittenhouse).

RESPONSE 27:

The Applicant evaluated start-up emissions in its air quality analysis. In addition to the start-up operating scenario, the Applicant included operating scenarios for various loading conditions for the coal-fired boiler to determine the worst-case operating scenario. If the predicted concentrations from the worst-case operating scenario for any given pollutant were greater than the applicable de minimis values, then a full impacts analysis was conducted. The receptors included in the full impacts analysis were those receptors with predicted concentrations greater than the applicable de minimis values. The receptors with predicted concentrations less than the de minimis values were not required to be included in the full impacts analysis since the project, as represented in the permit application, would not cause or contribute to a violation of the NAAQS or PSD increments by definition at those receptors.

The Applicant performed a cumulative air dispersion modeling analysis with the worst-case operating scenario for the criteria pollutants SO_2 , NO_2 , PM, and CO that is consistent with EPA guidance (1990 EPA Draft Guidance for PSD). These scenarios included start-up and shutdown. When predicted concentrations of a criteria pollutant for the project were greater than an applicable de minimis value, the applicant included all known sources of that pollutant within the Area of Impact (AOI) plus 50 kilometers, which is consistent with EPA guidance.

Although planned startup and shutdown emissions may result in higher emissions such as when flue gas temperatures are below the minimum required for the SCR systems, the maximum emission limits in the MAERT are based upon the worst case hourly rate during any mode of operation. The draft permit and permit application identify the hourly emission limits which represent BACT during both normal operations (lb/MMBtu) and during planned startup and shutdown (lb/hr). Special Condition No. 8 states:

“During periods of startup and shutdown, the holder of this permit shall not exceed the hourly mass emission limits in the MAERT and the holder of the permit shall operate the Tenaska Utility Boiler and associated air pollution control equipment in accordance with good air pollution control practices to minimize emissions.”

Special Condition No. 8 specifies the hourly mass emission rates of the MAERT as the BACT emission rates for planned startup and shutdown. Special Condition No. 10 minimizes MSS emissions by requiring operating the boiler and associated control equipment properly and developing detailed procedures to minimize excess emissions during startup or shutdown. Finally, the permit contains a long-term emission rate that represents the total emissions including startup and shutdown. The rate is based on normal operation BACT with no extra allowance for startup and shutdown emissions.

The maximum allowable length of a startup event or shutdown event is not specified in the permit, but will be included in the written startup and shutdown plan.

The written startup and shutdown plan will be created as part of the initial operation of the unit. The wording of Special Condition No. 10 states that the plan must be completed before the boiler starts operating. However, in response to EPA's comment, the wording has been changed to make this explicit, and a requirement to send the completed plan to EPA has been added. The plan will be kept at the site and available for inspection by EPA, TCEQ or local agency personnel. Since EPA and TCEQ will have a copy of the plan, it should be available to the public from either agency.

COMMENT 28 (NONATTAINMENT):

Commenter claims nitrogen oxide emissions from this plant would impair the ability of affected areas to maintain compliance with the eight-hour ozone standards, or come into attainment with it if already nonattainment (Weber).

RESPONSE 28:

For determining if an area is in attainment for the 8-hour average ozone ambient air quality standards, the primary and secondary 8-hour average ozone ambient air quality standards are met at a fixed ambient air quality monitoring site when the 3-year average of the annual fourth-highest daily maximum 8-hour average ozone ground-level concentration is less than or equal to 0.075 parts per million (ppm).

Any comments related specifically to the State Implementation Plan (SIP) process for ozone nonattainment areas are not relevant to this particular permit application and review. The TCEQ addresses regional ozone formation through the SIP development process rather than through individual permitting actions because ozone is a regional issue. A SIP attainment modeling demonstration based on projected future conditions will include both applicable reductions as well as projected emissions from coal-fired power plants. Individual permit applicants are not required under TCEQ rules to model impacts using these techniques.

COMMENT 29 (CLASS ONE AREA MODEL):

The Class I air dispersion model fails to demonstrate that the facility will not affect visibility in any Class I area (Jobe).

RESPONSE 29:

Emissions from the proposed plant are not expected to adversely affect Big Bend National Park, or Class I or II areas in Oklahoma, Louisiana, New Mexico, or Arkansas. 30 TAC §116.160(c)(2)(C) requires the TCEQ to provide written notice of any permit application for a proposed major stationary source which *may affect* a Class I area to the Federal land manager and the Federal official charged with direct responsibility for management of any lands within any such area (emphasis added). The EPA, through applicable guidance, has interpreted the meaning of the term "may affect" to include all major sources or major modifications which propose to locate within 100 kilometers (km) (62 miles) of a Class I area.⁴⁷ Since the nearest Class I area, the Wichita Mountains, is 278 km (173 miles) from the proposed facility, emissions from the facility are not expected to affect the visibility, soils, or vegetation in any Class I area.

Regardless, Tenaska performed a Class I air dispersion model and sent the results to the Fish and Wildlife Service and the National Parks Service. The TCEQ did not audit the modeling procedure and has depended on the FWS and NPS to advise it as to whether the impacts were unacceptable. No comment on the permit has been received from either agency.

COMMENT 30 (GLOBAL WARMING/CO2):

The permit application and the draft permit do not address CO₂ or global warming gases (Weber, Hammond). Global warming poses an imminent threat to the health and safety of everyone (Weber, Hadden) and will lead to increased heat waves, ozone pollution, floods, droughts, disease and pests, species extinction, rising sea levels, and higher insurance rates (Hadden).

Commenters believe the TCEQ has the authority and the responsibility to regulate global warming gases and should do so (Weber, Mansuri). Commenters state that global warming is caused by CO₂ emissions from coal fired plants and the Supreme Court has determined that States must control greenhouse gas (GHG) emissions in *Massachusetts, et al v. EPA*, 549 U.S. 497, 534 (2007) (Weber, Mansuri). Commenters state Texas should look at energy efficiency, renewable fuels, solar, and wind to provide for growth rather than coal fired power plants (Weber).

Commenters state the TCEQ is required to consider emissions of CO₂ in its BACT analysis, as part of the required environmental impacts assessment (Weber). Commenters state that CO₂ emissions are not quantified in the application (Weber, Rittenhouse). The permit should limit CO₂ emissions to 15% of the CO₂ produced by the boiler (MCC). The application and permit should control emissions from the CO₂ capture plant (Weber).

The permit should not be issued since the applicant has not decided on what technology will be used for carbon capture and sequestration (CCS) (Group B, L. Hall). The practical technology for CCS is unproven and is years in the future (E. Root, W. Root, P. Broadwell), and there is no guarantee that the CO₂ will remain sequestered underground (P. Broadwell).

⁴⁷ US EPA Memorandum from John S. Seitz, Director of Office of Air Quality Planning and Standards, *Clarification of PSD Guidance for Modeling Class I Area Impacts* (Oct. 19, 1992).

Commenters ask whether the plant can cease carbon capture and sequestration (CCS) once it starts up (Pierce, Group B). One commenter wants to know how TCEQ will monitor the CO₂ emissions (Pierce).

RESPONSE 30:

On July 5, 2000, the agency received a petition for rulemaking from the law firm of Henry, Lowerre and Frederick on behalf of Clean Water Action, Public Citizen Texas, Sierra Club, SEED Coalition, and Texas Campaign for the Environment. The petition requested the TCEQ create new air rules to encourage reductions in greenhouse gases (GHGs), promote the efficient use of energy, offer training in methods to reduce carbon dioxide and methane, and develop a climate change action plan. On August 23, 2000, the Commission responded to the petitions by issuing a commission decision (Docket No. 2000-0845-RUL). The Commission declined to regulate CO₂ as a greenhouse gas. To this extent, the TCEQ has not collected any data related to CO₂ emissions. The ED generally offers no opinion on matters that are not regulated by the TCEQ such as increased heat waves, floods, droughts, disease and pests, species extinction, rising sea levels, and higher insurance rates.

On April 24, 2009, the U.S. EPA issued Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act.⁴⁸ In the proposal, EPA stated that this endangerment finding, which was related to emissions from motor vehicles, would not make greenhouse gases a regulated pollutant for point sources under the PSD program, nor is the proposal the appropriate forum for commenting on such an action.⁴⁹ Additionally, the U. S. Supreme Court's opinion in *Massachusetts, et al v. EPA* does not require states to regulate CO₂ emissions. While the Court determined, inter alia, that CO₂ fell within the Federal Clean Air Act definition of "air pollutant," the effect of the opinion was to remand the case back to EPA for proceedings consistent with the Court's opinion.⁵⁰ Moreover, in the permitting proceeding for Deseret Power Electric Cooperative, the EPA's Environmental Appeals Board did not find that the term "subject to regulation under the Act" required a BACT determination for CO₂.⁵¹ Finally, the ED is aware that the US Congress is currently considering legislation regarding the regulation of greenhouse gases which include CO₂,⁵² and separately that, on December 15, 2009, EPA's Endangerment Finding under Section 202(a) of the CAA.⁵³

In Texas, the Legislature has already provided the TCEQ with authority to, by rule, "control air contaminants as necessary to protect against adverse effects related to ... climatic changes, including global warming."⁵⁴ However, that authority is constrained by the very specific

⁴⁸ Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 *Fed. Reg.* 18886 (April 24, 2009).

⁴⁹ *Id.* at 18905, fn 29.

⁵⁰ *Massachusetts, et al v. EPA*, 549 U.S. 497, 534 (2007).

⁵¹ In re Deseret Power Electric Cooperative, PSD Permit No. PSD-OU-0002-4.00, PSD Appeal No. 07-03, slip op. at 9 (November 13, 2008).

⁵² Clean Energy and Security Act of 2009, H. R. 2454, 111th Cong. (2009).

⁵³ Fed. Reg. 66496 (December 15, 2009). Petitions for review are due by February 10, 2010.

⁵⁴ Tex. Health & Safety Code § 382.0205.

statutory language "consistent with applicable federal law."⁵⁵ Given the constant changing landscape regarding GHGs and global climatic change, the possibilities for their regulation and control, and section 382.0205 of the Texas Clean Air Act, the *Massachusetts* and *Deseret* opinions should not be considered applicable federal law clearly and unequivocally requiring regulation of CO₂.⁵⁶

Since the TCEQ is not yet regulating CO₂ emissions it will not monitor how much CO₂, if any, is being collected or how much is being sequestered. The company could cease carbon collection and sequestration (CCS) operations on this unit if it chose to do so.

There are no emissions expected from the CO₂ capture plant other than inadvertent leakage from storage and handling of the amine and sodium hydroxide solutions used in the process. These storage and handling areas are controlled by the permit as Emission Point Nos. 42, 43, 45, and 46. The emissions from these EPNs were included in the air dispersion model and were found to not harm human health or the environment. Emission of gaseous CO₂ is not regulated by the permit.

The permit application proposed to use a spray tower scrubber using an amine absorbent liquor to capture CO₂ and proposes to sell the captured CO₂ for underground injection for oil and gas production. The permit does not require this, but the applicant would have to alter the permit to remove or change this permit representation if they did not do it.

Several articles in newspapers and journals were cited to show that the CCS industry has not been developed yet. These are referring to the economics of power plant CCS rather than the technology, which is in use today in the oil and gas industry. It is probable that the EPA will issue regulations in the future which will set limits on capture efficiency and on underground retention; however no such requirements are in place at this time.

COMMENT 31 (ESL):

The effects screening levels used in the permit review have not been appropriately defined by the TCEQ (Rittenhouse).

RESPONSE 31:

The ESL system was developed to review ground level concentrations of constituents for which there are no established state or federal standards. ESLs serve as guideline comparison concentrations for use in TCEQ's effects evaluation to protect against adverse health effects to both, humans and animals, vegetation effects, and nuisance conditions (e. g., odor).

⁵⁵ *Id.*

⁵⁶ The changing nature of the issue is aptly illustrated by the EPA announcing its endangerment finding on greenhouse gases on April 17, 2009. EPA's proposal will be published in the Federal Register some time in the near future, which then will commence a public comment period.

ESLs are designed to prevent adverse health effects through a two-step process. First, a level of a constituent is identified at which no adverse effects are observed (No Observed Adverse Effect Level (NOAEL) or it is derived from available toxicological information. Occupational exposure, epidemiological, and experimental data are considered in this process.

Second, the NOAEL is divided by multiple safety factors of 10 to account for various considerations which may be relevant. Some of the considerations which may need to be accounted for are differences between animals and humans (if the NOAEL is from an animal study), differences between people (to ensure ESLs are protective of the sensitive individuals within the general population), or differences in exposure time. Thus, if all three of the example considerations were relevant in the derivation of a particular ESL, the ESL would be obtained by dividing the NOAEL by 1,000 (3 factors of 10).

When information is lacking on the NOAEL for a specific constituent, the constituent of interest may be compared to constituents which have similar chemical structures and toxicological properties and which do have an ESL. In these situations, ESLs are calculated based on an estimation of relative toxicities. The less certain a specific constituent's toxicity, the lower or more conservative the resultant ESL is.

The health-based ESLs are set well below the concentrations reported to cause adverse health effects to any of the organisms studied, whether human or animal. By incorporation of conservative uncertainty factors, ESLs are set to protect members of the public, including children, the elderly, and people with pre-existing health conditions and to account for long-term exposures.

If predicted airborne levels of a constituent do not exceed the ESL, adverse health or welfare effects are not expected. If levels of constituents are expected to exceed the ESL, it does not necessarily indicate a problem but instead triggers a more in-depth review. This may include an examination of factors such as surrounding land use, magnitude of the concentration exceeding the ESL, existing levels of the same constituent, type of toxic effect caused by the constituent, margin of safety between the ESL and known-effects levels, and the degree of confidence in the toxicity database. After the health effects evaluation is complete, the toxicologist sends a memorandum, which is part of the public record, to the permit engineer providing information on the health effects evaluation.

The Toxicology Division has reviewed the chemicals that will be emitted from the Tenaska Plant and determined there would be no adverse health effects from the emissions from the plant.

ESLs are guideline concentrations, they are not enforceable standards. The setting of standards through rulemaking is not as flexible as guidelines are, and is more time-consuming. As guidelines, the ESLs allow TCEQ to review a great number of chemicals on a case-by-case basis and allow for changing the ESLs whenever new toxicological information becomes available.

The ESL process is very comprehensive. The TCEQ evaluates the emissions of all substances to be emitted from the facility, not just those substances for which the EPA has established reference concentrations or unit risk factors (about 100 substances). Additionally, the TCEQ

Toxicology Division evaluates both short- and long-term concentrations of constituents, whereas other states and the EPA tend to evaluate only one or the other. This review is also more comprehensive than many other states in that it considers non-health impacts (odor and vegetative) for substances, as warranted by the available information.

For more information on ESLs or view the ESL list, visit the TCEQ's website at http://www.tceq.state.tx.us/implementation/tox/esl/list_main.html.

COMMENT 32 (COAL WASHING): The application does not examine the opportunities for obtaining sulfur and mercury emissions reductions through coal washing and coal washing could achieve a 20 percent reduction in mercury. A BACT determination must also consider use of coal washing to reduce mercury (Rittenhouse).

RESPONSE 32:

In order to be considered an additional component of SO₂ and mercury BACT, coal washing would need to be demonstrated to be both economically reasonable and technically practicable over the life of the facility. The TCEQ is not aware of studies or examples demonstrating the appropriateness of coal washing or BACT determinations based on coal washing in addition to more conventional controls. Coal washing was not proposed in this application and was not considered in this review.

COMMENT 33 (DESIGN AND OPERATING PARAMETERS, BOILER AND CONTROLS):

Commenter states that many of the TCEQ application forms appear to be incomplete (Weber). The application must state what specific equipment makes and models will be used for the boiler and control equipment as well as the manufacturer guaranteed emission levels (Rittenhouse).

The application does not specify the efficiency of the boiler and no design details or even the type of supercritical boiler are specified. The estimated actual efficiency of the boiler should be defined since this will affect mass emissions. (Weber)

Tenaska will generate 900 MW gross and 700 MW net. The Applicant should describe the basis for and justify this very large difference. (Weber)

RESPONSE 33: A PC Boiler, and its associated control devices, require substantial engineering before and after construction has begun. It is not possible for the applicant to have all the data required by the equipment forms of the TCEQ available during the permitting process. Special Condition 40 requires the submission of these forms once construction is complete. The SCR is part of the final design of the boiler and therefore no design information could be provided by the applicant. Final design information is required by Special Condition 40. Refer to Response 15 and 16 for further explanation of how BACT was determined.

The efficiency of the boiler will be affected by final design parameters and everyday operating conditions. The applicant is not required to identify the efficiency of the unit since emission limits contained in the special conditions and MAERT are based upon heat input, not efficiency. TCEQ air permits do not typically specify boiler efficiency, just pollutant emission rate.

The estimated gross MW output of the unit is based on the applicant's preliminary design and engineering judgment. The operation of control equipment and process equipment will consume some output of the unit, and the difference is net MW output. TCEQ air permits do not limit the fraction of the energy consumed by the power plant in the process of producing that energy. The MW output is only relevant to the NSPS mercury emission limits and the permit holder will have to show compliance with the NSPS by calculating the emissions in lb/MWh or lb/GWh. All other emission limits are based on heat input to the boiler or stack gas flow rate. The Applicant's description of the wide range would not have any affect on the permitting process.

COMMENT 34 (FUGITIVES):

The application does not adequately manage fugitive dust emissions which will settle on property upwind (Group B).

RESPONSE 34:

The commenters do not specify a reason why the proposed fugitive dust emissions are not properly considered or adequately managed. The proposed fugitive dust control techniques appear to be typical and meet current BACT for solid fuel power plants. Special Conditions 13 through 20 of the draft permit contain requirements for the handling of solid materials that apply during all operations. The Executive Director believes these conditions and the representations in the permit adequately address the emission of fugitives from the proposed facilities.

COMMENT 35 (COAL WASTE): The applicant fails to address how the coal waste will be stored, handled, and disposed, including coal ash piles (Mansuri). The coal waste landfill will pollute the groundwater and thus the drinking water supply (Group B, Steve Burnett, Carter, B. Hall, Harvey). The ash with toxic metals may be used on roads (D. Morgan)

The ash may be washed from the landfill by floods as happened in Tennessee (J. Starkey, E. Starkey, R. Starkey, Steve Burnett) or the storage silo may explode as happened in Wisconsin (E. Starkey, McRae).

RESPONSE 35:

The fugitive emissions of handling solid material are addressed in the draft permit. Since this is an air permit, the review was limited to emissions to the air, although the state rules prohibit ground water contamination. If the Applicant requires any authorizations in other media, it is the responsibility of the applicant to apply for them. The use of solid waste on roads is regulated by the solid waste rules, but is not part of the air permit.

In the Tennessee incident, ash waste was stored as sludge in a waste pond behind a dam. The dam failed and the sludge was released. The Tenaska ash waste will be stored in a landfill and will not be subject to this kind of failure. In the Wisconsin incident, a maintenance crew accidentally set fire to a coal dust silo and all of the damages and injuries were confined to plant property and plant personnel. The operation as described in the permit is typical for this type of plant, and on-site safety is regulated by OSHA, and not by the air permit.

COMMENT 36 (8-HOUR LIMIT FOR CO): The permit does not assure compliance with the 8-hour average CO NAAQS because there is no 8-hour limit in the permit (Mansuri).

RESPONSE 36:

The TCEQ examined the RBLC and other permits known to us; out of 104 permits with CO limits, we identified only three with 8-hour limits.

Compliance with the NAAQS is not directly tied into a permit limit because the ambient air concentration is affected by the cumulative emissions of all sources in the affected area, not just one source covered by the permit, and the background concentration. Rather, compliance with the NAAQS is demonstrated by air dispersion modeling. The model assumes that the average emissions for each eight hour period is equal to the highest expected hourly average emission from every source in the affected area and calculates the expected 8-hour average ambient concentration. Obviously, the real 8-hour average concentration will be lower since the highest hourly average will be lower than the emission over a longer time period. If the model results show compliance with the NAAQS, then compliance with the NAAQS by the new source is considered to be demonstrated. See Response 1 for more information on modeling.

Since it is not common to put 8-hour limits in permits and since it is unnecessary, 8-hour limits have not been added to Tenaska's proposed permit.

COMMENT 37 (AUXILIARY BOILER):

The applicant is proposing no add-on controls for the auxiliary boiler MACT (MCC).

RESPONSE 37:

The boiler is natural gas fired and as such it has no inorganic particulate HAP or acid gases in its exhaust. Therefore, add-on controls are not needed for inorganic particulate HAPs or acid gases.

There are no organic HAPs occurring in natural gas, which is made up mostly of the simple molecule methane (CH₄). It is not likely that more than a trace amount of HAPs, which are larger and more complex molecules, will be formed as by-products of the oxidation of methane with good combustion control practices. The auxiliary boiler will also only operate 500 hours per year. The ED has determined that the permit limit represents good combustion practices and that this is the proper control method for organic HAPs; the boiler thus meets the MACT without add-on pollution control equipment for organic HAPs.

COMMENT 38 (COOLING TOWER):

The applicant has not decided on the cooling water technology to be used (Group B, L. Hall, Pierce).

RESPONSE 38:

The permit application proposes two different methods of cooling the water for steam production, both using cooling towers. The emissions from either system are considered to be the same and are limited on the maximum allowable emission rates table.

CHANGES MADE IN RESPONSE TO COMMENT

In response to public comment, the Executive Director has changed certain provisions of the draft permit. These changes and the reasons for these changes are more fully described above.

Permit Special Condition No. 8A was changed to lower the NO_x 30-day average limit and add a NO_x 24-hour average limit. Permit Special Condition No. 10 was changed to require the startup and shutdown plan to be completed before the boiler commences operation and that a copy of the plan be sent to the EPA Region 6 Air Permits Section.

Respectfully submitted,

Texas Commission on Environmental Quality

Mark R. Vickery, P.G., Executive Director

Stephanie Bergeron Perdue, Deputy Director
Office of Legal Services

Robert Martinez, Director
Environmental Law Division



Chrissie Angeletti, Staff Attorney
Environmental Law Division
State Bar No. 24059383
P.O. Box 13087, MC 173
Austin, Texas 78711-3087
(512) 239-1204

REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Attachment A
Members of Group A

Concerned Citizen	Beth Hall	Eloisa Ortega Odilia
Greg Anthony	Kathryn Hall	Palma
Joy Ashworth	Lance Hall	Kim Pelton
J. Kally Ashworth	Sheree Hall	Elizabeth Pool
Forrest Baucom	Tim Hall	Jerry Pool
J. L. Beasley, Sr.	Jimmy Hammon	Lyndel Quahlebaum
Sylvia <u>Bensley</u>	Barbara Hanks	Janie Rainwater
Debbie Boles	Billy Hanks	Pattie Reese
Joe Boles	Tammy Harvey	Lula Reeves
Kevin Boles	Bettie Hass	Elaine Root
Kathy Boley	Jimmy Headstream	Gordon Root
Terry Boley	Nelda Heath	Whitney Root
Billy Brazelton	Mary Heathington	Celeste Russell
Bradley Brazelton	Ron Heathington	Hubert Russell
Leslie Brazelton	Steve Hill	Mrs. Sandbothe
August Bredemyer II	Patricia Howard	Ronald Sandbothe
Richard Broadwell	George Hughes	Rex Scaggs
Vicki Broadwell	Linda Hughes	L. Skaggs
Brittney Brown	Cecil Ivey	Marie Skaggs
Ashleigh Bruns	Wilma Jones	Steve Sparkman
Dale Burnett	Grace Langerhous	Tina Stephens
Sheila Burnett	Roy Langerhous	Kelly Stovall
Steve Burnett	George Lister	Bobby Wallace
Teresa Bryan	Jessica Martinez	Carol Warren
Jimmie Burhe	Barbara McKean	Willis Warren
James Carter	Lee McKean	Leanna West
Eric Chacon	R. Melton	Julie Whisenhunt
Kyle Combest	Henry Mitchell	Patricia Wicker
Juanita DeLeon	Penny Mitchell	Ray Wilson
Bettie Fry	Deborah Morgan	Donald Worsham, Sr.
Meredith Fry	Stephen Morgan	Benjamin Zerr
Patricia Golin	Melody Moses	Virginia Zerr
Marceline Goswick	Richard Norton	

Attachment B

Members of Group B

Kathy Boley
Terry Boley
Mrs. Charlie Broadwell
Charlie Broadwell
Patricia Broadwell
Richard Broadwell
Burt Burnett
Dale Burnett
Sheila Burnett
David Hall
Mary McRae
Whitney Root
David Veal
Debbie Veal

Members of Group C

Concerned Citizen
Kathy Boley
Terry Boley
Richard Broadwell
Vicky Broadwell
Sheila Burnett
Howard Carlton
James Carter
Amanda Hall
Beth Hall
David Hall
Kathryn Hall
Michael Hall
Mary Heathington
Ron Heathington
Craglene Hoskins
Debra Morgan
Robert Morgan
Samantha Morgan
Latriana Rodriguez
Elaine Root
Gordon Root
Whitney Root
Elaine Starkey
Dr. John Starkey
Roberta Starkey

Members of Group D

Shea Burnett
Rogers Dennis
Andy Hall
Glen Harding
Cyndi Hughs
Mitch Moore
Elsie Pierce
Garland Richards
Grant Sandusky

Attachment C

Organizations Making Adverse Comments

Jeff Robinson - US EPA Region 6

Tom Smith - Public Citizen Texas

Karen Hadden - Sustainable Energy and Economic Development Coalition

Layla Mansuri - Sierra Club Environmental Integrity Project

Ryan Rittenhouse - Public Citizen Texas and Sustainable Energy and Economic Development Coalition

Thomas Weber - Environmental Defense Fund

Clark Jobe - Environmental Defense Fund

Multi County Coalition (MCC)

Wendi Hammond - Sustainable Energy and Economic Development Coalition, Public Citizen Texas, and the Multi County Coalition

CERTIFICATE OF SERVICE

I hereby certify that on this the 25th day of February, 2010, a true and correct copy of the foregoing has been served on all attorneys of record by the undersigned via hand delivery, sent by U.S. mail, facsimile, and/or e-mail to the attached Service List.



Chrissie Angeletti

MAILING LIST
TENASKA TRAILBLAZER PARTNERS LLC
SOAH DOCKET NO. 582-09-6185

FOR TENASKA TRAILBLAZER

PARTNERS LLC

Rod Johnson
Danny G Worrell
Attorney at Law
Brown McCarroll, LLP
111 Congress Avenue, Suite 1400
Austin, TX 78701-4093
Tel: (512) 479-1125
Fax: (512) 479-1101
Email: rjohnson@mailbmc.com
Email: dworrell@mailbmc.com

**FOR OFFICE OF PUBLIC INTEREST
COUNSEL**

Garrett Arthur
James Murphy
Texas Commission on Environmental Quality
Office of Public Interest Counsel
MC-175 P.O. Box 13087
Austin, TX 78711-3087
Tel: (512) 239-5757
Fax: (512) 239-6377
Email: garthur@tceq.state.tx.us
Email: jmurphy@tceq.state.tx.us

FOR MULTI-COUNTY COALITION (MCC)

Wendi Hammond
Attorney
7325 Augusta Circle
Plano, TX 75025
Tel: (972) 746-8540
Fax: (469) 241-0430
Email: wendi@texasenvironmentallaw.net

SIERRA CLUB

Christina Mann
Environmental Integrity Project
1303 San Antonio St., Ste. 200
Austin, Texas 78701
Tel: (512) 637-9474
Fax: (512) 584-8019
Email: cmann@environmentalintegrity.org

ENVIRONMENTAL DEFENSE FUND, INC.

Thomas M. Weber
Paul R. Tough
McElroy, Sullivan & Miller, LLP
P.O. Box 12127
Austin, Texas 78711
Tel: (512) 327-8111
Fax: (512) 327-6566
Email: tweber@msmtx.com
Email: ptough@msmtx.com

PRO SE

George Lister
701 Bowie St.
Sweetwater, TX 79556
(325) 235-3146 (ph)
Email: Glistertexas@gmail.com

TCEQ INTRA-AGENCY TRANSMITTAL MEMO

DATE: 2-25-2010

TO: FINAL DOCUMENTS TEAM LEADER
OFFICE OF THE CHIEF CLERK
BUILDING F, MC-105

FROM: Christine Angeletti
ENVIRONMENTAL LAW DIVISION
BUILDING A, MC-173

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY
2010 FEB 25 PM 4:00
CHIEF CLERKS OFFICE

Attached: Executive Director's Response to Comments

Application Information

Program Area (Air, Water or Waste): Air

Permit No. Air Quality Permit 84167; PSD-TX-1123; HAP13 Name: Tenaska Trailblazer Partners LLC

Docket/CID Item # (if known): SOAH DOCKET NO. 582-09-6185; TCEQ DOCKET NO. 2009-1093-AIR

OCC Action Required (check applicable boxes)

Date stamp and return copy to above-noted ELD Staff Attorney and:

FOR ALL PROGRAM AREAS: (required only when changes needed to official agency mailing list)

- Update** the mailing list in your file with the attached contact names and addresses
Include corrected or additional names and addresses for mailing list

FOR WASTE & WATER:

- Send Response to Comments Letter which solicits hearing requests and requests for reconsideration to the mailing list in your files
For Waste and Water this would occur in all circumstances when comments have been received for 801 applications
- Or
- Send Response to Comments Letter and Motion to Overturn Letter which solicits motions to overturn to the mailing list in your files
For Waste and Water this may occur when all comments have been withdrawn for 801 applications or when comments are received for applications that will not be set for agenda.

FOR AIR (NSR only):

- Send RTC with response to comments letter which solicits contested case hearing requests and requests for reconsideration to the mailing list in your files
For Air NSR applications this would occur only when there are pending contested case hearing requests (except no-increase renewals)
- Set for commission agenda and send RTC with agenda setting letter
This would occur when there are pending contested case hearing requests on a no-increase renewal and technical review is complete.
- Hold until a commission agenda date is requested and then send RTC with the Agenda Setting Letter
For Air applications this would occur when there are pending hearing requests on a no-increase renewal; but technical review is NOT complete. If this box is checked, ED staff must call the OCC Agenda Team Leader to arrange a specific agenda date.
- Place RTC in File - no further action required by OCC
For Air NSR applications this would occur when the matter is uncontested but comments were received, APD will send a copy with MTO letter

Other Instructions: AT SOAH