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



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 1, 2009

Re: **SOAH DOCKET NO. 582-09-2045; TCEQ DOCKET NO. 2009-0032-AIR**; Executive Director's response to Comments on IPA Coletto Creek, LLC's Application Nos. 83778, PSD-TX-1118 & HAP18.

Dear Ms. Castañuela:

Enclosed for filing in the above-referenced matter, please find the ED's Response to Comments. Please forward this filing to the Office of the General Counsel and the Mailing List. If you have any questions, please call me at 239-6257.

Sincerely,

A handwritten signature in black ink, appearing to read "Ross W. Henderson".

Ross W. Henderson,
Staff Attorney
Environmental Law Division

Enclosure

2009 APR - 1 PM 4: 09
CHIEF CLERKS OFFICE
TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

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IPA COLETO CREEK LLC
SOAH DOCKET NO. 582-09-2045
TCEQ DOCKET NO. 2009-0032-AIR

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LaDonna Casteñuela, Chief Clerk (MC-105)

SOAH DOCKET NO. 582-09-2045
TCEQ DOCKET NO. 2009-0032-AIR

APPLICATION BY	§	BEFORE THE
	§	
IPA Coletto Creek LLC	§	
Coletto Creek Unit Two	§	STATE OFFICE OF
Fannin, Goliad County	§	
Air Permit Nos. 83778, PSD-TX-1118	§	
& HAP18	§	ADMINISTRATIVE HEARINGS

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 New Source Review Authorization 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. This Response addresses all timely public comments received, whether or not withdrawn.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.

The Office of Chief Clerk timely received comment letters from the following persons: Mr. Jeff Robinson, Chief, Air Permits Section, Environmental Protection Agency (EPA); Mr. Ken Kramer, Director, Lone Star Chapter, Sierra Club; Mr. Ilan Levin, Attorney, Environmental Integrity Project on behalf of Sierra Club and incorporating Mr. Kramer's comments; Wendi Hammond, Attorney, Law Office of Wendi Hammond on behalf of Citizens for a Clean Environment, Sustainable Energy and Economic Development (SEED) Coalition, and Public Citizen; Ms. Karen Hadden, Executive Director, SEED; Thomas M. Weber, Attorney, McElroy, Sullivan & Miller, L.L.P. on behalf of Environmental Defense Fund, Inc.; Ms. Vicky Gutmann; Mr. G. A. Gutmann; Mr. Charlie Faupel; Mr. David C. Huber; Ms. Robin Sherwood; Ms. Mary J. Arvantinos; and Ms. Judy Lenamon.

This Response addresses all timely public comments received, whether withdrawn or not. 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.

CHIEF CLERKS OFFICE

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TEXAS
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BACKGROUND

Description of Facility

IPA Coletto Creek LLC has applied to the TCEQ for issuance of State Air Quality Permit No. 83778 and Prevention of Significant Deterioration (PSD) Permit No. PSD-TX-1118. Also, the applicant has applied for Air Quality Permit No. HAP18 which would establish case-by-case Maximum Achievable Control Technology (MACT) requirements for the proposed Unit 2. These permits will authorize the construction and operation of a new coal-fired electric generating unit (Unit 2) at the Coletto Creek Power Plant, located at 45 FM 2987, Fannin, Goliad County. The proposed facility will emit the following air contaminants: nitrogen oxides, carbon monoxide, particulate matter including particulate matter less than 10 microns in diameter, organic compounds, fluorides, sulfur dioxide, sulfuric acid mist, mercury, hydrogen fluoride, hydrogen chloride, lead, ammonia, and other products of coal combustion.

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 an initial issuance. The permit application was received on January 4, 2008, and declared administratively complete on January 15, 2008. After receipt of the original application, a supplemental request for a case-by-case MACT determination was received on June 23, 2008. The Notice of Receipt and Intent to Obtain an Air Quality Permit (public notice) for this permit application was published on February 4 and 6, 2008, in the *The Victoria Advocate* and February 6, 2008 in *Revista de Victoria*. The Notice of Application and Preliminary Decision (2nd notice) was published on December 1, 2008 in *The Victoria Advocate* and December 3, 2008 in *Revista de Victoria*. The public comment period ended January 1, 2009. On January 6, 2009, the Office of Chief Clerk received a request from the applicant for a direct referral of the permit application to State Office of Administrative Hearings. 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 Office of Chief Clerk received comment letters of support from the following persons: Mr. Kenneth Schustereit; Honorable Jim Kreneck, County Commissioner, Goliad County; Honorable Julian Flores, County Commissioner, Goliad County; Honorable Jerry Rodriguez, County Commissioner, Goliad County; Ms. Sandra Lewis, Goliad Economic Development; Honorable Jay Harvey, Mayor, City of Goliad; D. Dale Fowler, President, Victoria Economic Development Corporation; Mr. Randy Vivian, President/CEO, Victoria Chamber of Commerce; and a resolution of the City Council of the City of Victoria.

The remaining comments received are summarized below by topic.

COMMENT 1 (HEALTH/WELFARE EFFECTS): Commenters express concern that the application and proposed permit will fail to protect, and will adversely affect, the public's health, welfare, property and the environment (Sherwood, Huber, V. Gutmann, G.A. Gutmann, Arvantinos, Faupel, Hammond, Levin, and Lenamon). Commenters worry about the health impact of specific constituents, including ozone, nitrogen oxides, sulfur dioxide, fine particulates, mercury emissions, volatile organic compounds, air toxics, smog, and dust (Sherwood, Huber, V. Gutmann, G.A. Gutmann, Arvantinos, Faupel, Hammond, Levin, Weber, and Lenamon).

Some commenters expressed concern that specific ailments such as eye, nose, and throat irritations (Weber), asthma or other respiratory problems (Hammond, V. Gutmann, and G.A. Gutmann), and cancer (Levin) would be caused or worsened by the proposed plant. Some commenters express concerns about plant life, pets, and livestock being harmed by emissions from the plant (Sherwood, Huber, Faupel, and Lenamon).

Some commenters expressed concern that that the ground level concentration (GLC) for coal dust exceeded the TCEQ Effects Screening Level (ESL) for coal dust. Furthermore, commenter states that all pollutant GLCs were not compared to their respective ESLs (Weber and Levin).

One commenter expressed concern over noise a second unit would produce (V. Gutmann).

RESPONSE 1: For permits such as this, potential impacts to human health and welfare or the environment are determined by comparing air dispersion modeling predicted emission concentrations from the proposed facility to appropriate state and federal standards and effects screening levels.^{1,2,3} 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 Texas Administrative Code (30 TAC) Chapter 111, specifically 30 TAC §111.153 and 30 TAC § 112.3; and TCEQ Effect Screening Levels (ESLs).³

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 that 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

The NAAQS, as defined in the federal regulations (40 C.F.R. § 50.2), were created and are periodically reviewed by the 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, carbon monoxide, sulfur dioxide, nitrogen dioxide, and respirable particulate matter (PM), which includes PM₁₀ and PM_{2.5}. "Criteria pollutants" are those pollutants for which a NAAQS has been established.

ESLs are constituent-specific guideline concentrations used in TCEQ's evaluation of constituent concentrations in air. These guidelines are developed by the Toxicology Section (TS) of the TCEQ and are based on a constituent's potential to cause adverse health effects, odor nuisances, and/or effects on 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 screening level, it is not necessarily indicative that an adverse effect will occur, but rather that further evaluation is warranted. TCEQ standards stated in 30 TAC Chapters 111 and 112 address maximum ground level concentrations (GLC_{max}s) at the property line. Generally, GLC_{max}s predicted to occur at a sensitive receptor which are at or below the ESL would not be expected to cause adverse effects.

The likelihood of whether adverse health effects caused by emissions from this facility could occur 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. The Applicant used TCEQ background concentrations from the geographic region to model predicted values, and 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. The modeling predictions were reviewed by the TCEQ Air Dispersion Modeling Team, and the modeling analysis was deemed to be acceptable. For this specific permit application, appropriate air dispersion modeling was performed using the AERMOD (Version 07026) model. TCEQ staff used

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.

⁵ See Response 26 for more information on the development of ESLs.

modeling data from this facility to verify that ground level concentrations from the proposed facility are not likely to adversely impact off-property receptors.

For all constituents modeled in this application, only the GLC_{max} for coal dust exceeded its current short-term ESLs. This constituent underwent a detailed health effects review and the Toxicology Section determined this exceedance was allowable. We disagree with one commenter's assertion that only coal dust was compared to its ESL. Along with coal dust, the applicant included a spreadsheet of many other compounds expected to be emitted from the proposed and existing facilities 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.

See Responses 2 and 18 below for more information on mercury, Response 3 for more information on particulates, Response 4 for more information on SO_2 , Responses 10 and 23 for more information on the effects of the project on specific areas and counties, and Response 26 for more information on ESLs.

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."

In summary, 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.

Individuals are encouraged to report any concerns about nuisance issues or suspected noncompliance with terms of any permit or other environmental regulation by contacting the Corpus Christi TCEQ Regional Office at 1-361-825-3100, 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).

Regarding the comment on additional noise, 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 or vibrations. Concerns regarding noise and vibrations should be directed to local officials.

COMMENT 2 (MERCURY): Commenters express concern over the health effects of mercury that will be emitted from this plant (Sherwood and Hammond). The mercury level at Coletto Creek Reservoir is 300 times the EPA limit for such bodies of water that are fished recreationally (Sherwood).

RESPONSE 2: Harmful effects from mercury exposure are not expected to occur from direct exposure to air emissions from this project 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 26. The short-term ESL for mercury has been set at $0.10 \mu\text{g}/\text{m}^3$ and the predicted short-term GLC_{max} from this plant is $0.001 \mu\text{g}/\text{m}^3$. The long-term ESL for mercury is $0.01 \mu\text{g}/\text{m}^3$ and the predicted long-term GLC_{max} for this plant is $0.00004 \mu\text{g}/\text{m}^3$. Therefore, the TCEQ does not expect any adverse health effects from mercury emissions.

In addition, the short-term and long-term mercury ESLs are set conservatively, as with all other ESLs. 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 the review. The Applicant may need to apply for separate permits to regulate water quality if regulations require them. 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.

See Response 1 for more information on health effects.

COMMENT 3 (PARTICULATES): Commenter expresses concern over particulate matter including fine particulate, indicating that particulate pollution from power plants including the proposed facility cause and will cause adverse health affects (Levin). 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 $PM_{2.5}$ (Levin and Weber) Commenter states that the ambient air impacts analyses must consider both front- and back-half PM (Levin). Commenter states that

secondary particulate formation from sulfur and nitrogen compounds emitted from the stack will impact surrounding airsheds' PM₁₀ ambient air concentrations (Levin).

RESPONSE 3: Particulate matter consists of solid particles and liquid droplets found in the air. Particles less than 10 micrometers or microns (μm) in diameter (PM₁₀) are referred to as "coarse" particles and particles less than 2.5 μm in diameter are referred to as "fine" particles. The negative health impacts of particulate matter (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 particulate emissions.

Particulates are regulated by EPA's NAAQS. The permit was reviewed under the NAAQS for PM₁₀ based on a 24-hour and an annual time period. The measurement for predicted concentrations of air contaminants in modeling exercises is expressed in terms of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Predicted air concentrations for this facility were below the NAAQS established for PM₁₀ and, therefore, the emissions are not expected to exacerbate existing conditions or cause adverse health effects. For the 24-hour PM₁₀ standard of 150 $\mu\text{g}/\text{m}^3$, the project contributes 4.7 $\mu\text{g}/\text{m}^3$ which is below the significant impact level of 5 $\mu\text{g}/\text{m}^3$. For the annual PM₁₀ standard of 50 $\mu\text{g}/\text{m}^3$, the project contributes 0.9 $\mu\text{g}/\text{m}^3$ which is below the significant impact level of 1 $\mu\text{g}/\text{m}^3$. The distance of the proposed plant from population centers will further reduce the potential for adverse effects.

The EPA proposed revisions to the standard for PM_{2.5} and is currently on track to implement the new standard. Once the new standard is implemented, this facility cannot cause an exceedance of the new standard and this permit would not authorize such a violation. In February 1997, the EPA issued a memorandum establishing a policy that enabled permitting authorities to use the implementation of the Prevention of Significant Deterioration (PSD) program for PM₁₀ as a surrogate for a PM_{2.5} PSD Program until the necessary tools were in place to measure PM_{2.5} and implement PSD permitting programs for PM_{2.5}.⁶ Based on the modeling using PM₁₀ as a surrogate, PM_{2.5} is not expected to cause harm to human health or the environment.

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, Applicants are 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.

⁶ See 71 FR 27,6718, 6727 (February 9, 2006).

Secondary particulate matter is solid material that coalesces from gases. The main type of secondary particulate matter 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.

Regulatory programs that are in place are expected to further reduce the levels of sulfate from power plants in Texas. Texas has already 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, with further reductions to approximately 60 percent below 2005 levels in 2015.

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) has conducted elaborate projection modeling to predict future emissions under the CAIR requirements. The CAMD's Integrated Planning Model (IPM) predicts 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 and buy fewer credits to avoid having to buy SO₂ emission credits in unpredictable future markets.

The CAIR program applies in Texas and states to the east and northeast of Texas that affect secondary particulate matter concentrations in Texas, so the best projections available are that the sulfate, the largest component of secondary PM_{2.5} in central and eastern areas of Texas, will be decreasing. While the D.C. Circuit Court of Appeals has vacated CAIR, North Carolina v. EPA, 531 F.3d 896 (D.C. Cir. Jul 11, 2008) (per curiam), the Court later ruled that remand without vacatur was appropriate, thereby leaving CAIR in place until replaced by a rule consistent with the prior opinion. North Carolina v. EPA, 550 F.3d 1176 (D.C. Cir. Dec 23, 2008).

See Response 10 for more information on cumulative effects of power plants.

The draft permit maximum allowable emission rate table includes an emission limit for total PM which includes PM_{2.5}.

Total PM₁₀, front- and back-half, emissions were modeled in the Applicant's ambient air quality analysis.

Impacts from secondary formation of PM can be addressed statewide using programs such as CAIR instead of a permit by permit basis. The Applicant is required to use BACT for all pollutants in the draft permit. If further reductions are necessary for statewide compliance with any federal standard, the State Implementation Plan, with which all facilities must comply regardless of permit status, will be updated to achieve the required reductions.

COMMENT 4 (SO₂/ACID GASES): Commenter states that the toxic chemicals emitted by the plant form acid rain (Sherwood). Commenter states private property damage will occur from acid rain (Levin).

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 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.

COMMENT 5 (RADON/RADIONUCLIDES): Commenter asserts the permit should regulate radon and its carcinogenic byproducts resulting from stack and fugitive radionuclide emissions (Levin). Radon and its relatives, Polonium 210 and Lead 210 are known human carcinogens and there is no safe level of exposure to humans except zero concentration (Levin).

Commenter indicates the applicant must conduct site-wide baseline radionuclide ambient air monitoring in for Radon, Polonium 210 and Lead 210, especially considering the cumulative impacts from the 12 proposed plants (Levin). Commenter asserts 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 (Levin).

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 almost thirty years ago 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 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 (LIMITS NOT PROTECTIVE OF HEALTH): Commenter believes the emission limits in the draft permit and the impacts on ambient concentrations are not protective of public health and may lead to adverse health effects such as an increase in death, hospital admissions, and respiratory problems in the population (Levin).

Commenter believes the EPA's standard for PM₁₀, which the TCEQ relies on, is not protective of public health, and does not take into account the carcinogenic potential of exposure to PM₁₀, nor premature deaths resulting from short-term exposure in setting the national daily standard for PM₁₀ (Levin).

RESPONSE 6: The permit was reviewed under the NAAQS for all criteria pollutants. Predicted air concentrations for this facility were below the NAAQS established for PM₁₀ and, therefore, the emissions are not expected to exacerbate existing conditions or cause adverse health effects.

The Federal Clean Air Act (FCAA) sets out the standards the EPA must follow in developing NAAQS. The FCAA requires the EPA to develop primary and secondary NAAQS. The EPA is required to periodically review the NAAQS and update them as new scientific information is developed to ensure the NAAQS protect human health with an adequate margin of safety. BACT may be reevaluated if predicted ambient air concentrations exceed the NAAQS. The TCEQ's jurisdiction is established by the Texas Legislature and is limited to the issues set forth in statute. Accordingly, the TCEQ does not have jurisdiction to prohibit owners and operators from seeking authorization to emit air contaminants if they comply with all statutory and regulatory requirements.

See Response 1 and 3 for more information on health effects and particulate matter.

COMMENT 7 (SITE NEW SOURCE REVIEW): Commenter states that the entire site including all existing sources must undergo new source review because the proposed coal-fired boiler will increase the operating life of the entire site (Levin).

RESPONSE 7: Only new or modified sources are required to undergo new source review. All new or modified sources have been reviewed in the application. Sources such as the existing coal-fired boiler (Unit 1) are not being modified and there is no indication that Unit 2 will increase the operating life of Unit 1.

COMMENT 8 (PUBLIC COMMENT/PUBLIC NOTICE): Commenter states Governor Perry's Executive Order RP49 does not apply (Hammond).

Commenter states that public notices for the application have been deficient because of missing application information and technical analysis which forces the public to review and comment on an

incomplete application and draft permit. Commenter also states 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 (Hammond).

Commenter states that the notice of the HAP application is deficient because there was no NORI as required by TCEQ's own rules (Weber).

RESPONSE 8: Neither the applicant nor the TCEQ has relied on RP49 in processing this permit application.

While the submitted application and all updates were required to be at the public location and available for viewing throughout the permit review, certain parts of the application required for a complete technical review are not in existence at the time of application submittal and first public notice. Modeling was not submitted at the time of the application because this would be impractical for such a large project. This is typical of TCEQ practice for projects of this size. However, before the technical review is complete, modeling must be submitted by the applicant, audited, and a health effects review must be conducted.

Once the technical review is completed and a draft permit is written, the applicant is required to publish Notice of Application and Preliminary Decision. This notice informs the public of the Executive Director's Preliminary Decision (which summarizes the modeling results) and the draft permit. The Applicant published notice of application and preliminary decision requesting comments on December 1 and 3, 2008. At this time the public had another thirty days to examine the modeling, draft permit and specific emission limits therein, and to submit additional comments. Therefore the comment period ended on January 2, 2009. The applicant was required to make the Executive Director's preliminary decision and draft permit available at the Goliad Public Library, 320 South Commercial Street, Goliad, Goliad County, Texas, the TCEQ Corpus Christi Regional Office, and the TCEQ headquarters office in Austin, Texas after it had been published.

When the applicant submitted the original application on January 4, 2008, coal-fired electric generating facilities were not regulated under Section 112 of the Clean Air Act and therefore did not require a HAP application. After first public notice (NORI) had been published on February 4 and 6, 2008, the United States Court of Appeals for the District of Columbia Circuit ruled on February 8, 2008 that the EPA had acted improperly in removing coal-fired electric generating facilities from regulation under Section 112. The applicant then was required to submit a request for a case-by-case MACT determination under Section 112(g). The applicant submitted this request on June 23, 2008 and it was reviewed along with the existing application. This was not an application for any new facility that was not in the application at the time the NORI was published. The information contained in the NORI was correct. The public notice published on December 1 and 3, 2008 contained the Executive Director's preliminary decision to approve the case-by-case MACT determination. The public was given 30 days to comment on the proposed case-by-case MACT determination.

COMMENT 9 (OZONE IMPACT ANALYSIS): Commenters state a full impacts analysis for ozone in the surrounding airsheds is required (Levin and Hammond). Ozone is known to trigger asthma attacks and other respiratory symptoms (Levin and Hammond).

Commenter commented on the inaccuracy of Scheffe Point Source Screening Tables and noted that a modeling protocol was not submitted by the Applicant (EPA and Hammond).

Commenter states the ozone impacts analysis entitled, "Estimation of the Potential 8-hr Ozone Impacts Associated with the Proposed IPA Coletto Creek Unit 2 Power Plant" (Alpine Geophysics, 9 May 2008) is flawed (Weber). The TCEQ did not audit the photochemical modeling (Levin). The ozone modeling is invalid and flawed (Levin).

RESPONSE 9: The applicant performed an ozone analysis consistent with TCEQ modeling guidance in RG-25. The Coletto Creek site is VOC-limited. This analysis did not use the Scheffe Method, as this method is not applicable to VOC-limited sources. The Preliminary Determination Summary (PDS) included the TCEQ's review of the Coletto Creek ozone analysis. The following information was included in the PDS: "The ozone analysis conducted by the applicant shows that the project is O₃-neutral. Based on historical analyses using the EKMA model, O₃-neutral sources would not be expected to have a discernible impact on the maximum ozone concentration in an area."

For NO_x-limited sources, the TCEQ will work with the EPA to develop an appropriate modeling protocol. From the analysis performed, an increase in ambient ozone would not be expected for the area in the vicinity of the site. 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.

Additionally, EPA's current Guideline on Air Quality Models (40 CFR 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 in the Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hr Ozone NAAQS (Environmental Protection Agency, 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 State Implementation Plan (SIP) attainment demonstration modeling techniques for NSR permitting purposes.

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.

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

COMMENT 10 (CUMULATIVE IMPACTS/OFFSETTING EMISSIONS): Commenters state the proposed facility will affect the ability of downwind regions to achieve compliance with the NAAQS, specifically ozone standards and impair the SIP for nonattainment regions (Levin and Hammond). Commenter states the application and draft permit do not consider cumulative effects of the existing Unit 1 at Coletto Creek or the synergistic effects of multiple pollutants being emitted at the same time from the proposed source and existing sources (Hammond).

Commenter states that the proposed unit will increase the air pollution and affect her property in a greater degree (V. Gutmann). Commenter states the plant will have cumulative impacts (G.A. Gutmann, Faupel, V. Gutmann, and Huber).

Commenter states that the applicant has not proposed to offset emissions by reducing emissions at the existing Coletto Creek site or by other means (Levin).

Commenters question why the existing Coletto Creek Unit 1 is not adding controls (Huber, Sherwood and G.A. Gutmann).

RESPONSE 10: The applicant did perform a cumulative air dispersion modeling analysis for the criteria pollutants that is consistent with EPA guidance (1990 EPA Draft Guidance for PSD). When predicted concentrations of a criteria pollutant for the project were greater than an applicable de minimis level, the applicant included all known sources of that pollutant within the Radius of Impact (ROI) plus 50 kilometers, which is consistent with EPA guidance. The ROI for the Coletto Creek site for SO₂ is 6 kilometers.

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.⁷

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.

The TCEQ cannot require reductions in existing sources or the procurement of offsets for new emissions unless it is required by a specific statute or rule. This application is in an attainment area and therefore no offsets are required. The applicant is not required to achieve emission reductions from the existing Coletto Creek Unit 1 because it is not being modified or changed. Therefore, Unit 1 is not part of this review.

COMMENT 11 (DIESEL): Commenter wants the application and permit to 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 plying the Trans Texas corridor (Levin).

Commenter states that TCEQ did not evaluate the additional impacts of daily PM_{2.5} emissions from diesel locomotives (Levin).

Commenter states the handling of rail and/or truck tailpipe emissions in the analysis, including modeling, should be explicitly addressed (Weber).

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, and that the applicant perform plume modeling to determine whether expected five minute peak SO₂ concentrations will remain below 0.60 ppm (Levin).

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 Response 1 and 4 for more information). The TCEQ has no requirement to determine possible health impacts of SO₂ over a five-minute averaging

⁷ Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard – Phase 1, 69 Fed. Reg. 23951, 23986 (April 30m 2004).

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): Commenter wants TCEQ to require the applicant to install and operate a mercury continuous monitoring system (CEMS) (Levin). Commenter states that TCEQ typically only requires a single stack test to demonstrate continuous compliance with the PM standard (Weber). Commenters recommend TCEQ consider requiring PM CEMS (EPA, Levin, Hammond, and Weber). If COMS are used to demonstrate compliance with the PM emission limits then the permit must establish a correlation between opacity and PM emissions (EPA). Commenter claims COMS is a poor indication of actual PM emissions and can not be used for compliance with PM allowables (Levin). Commenter requests that annual PM stack testing should be required if the TCEQ does not require CEMS for particulate matter (Levin). Commenter claims the technology exists to continuously monitor a long list of pollutants including toxic metals, acid gases, dioxins, furans, polycyclic aromatic hydrocarbons, particulate matter and more, and Coletto Creek should have all CEM data available real-time on a publicly-available website (Levin). Commenter states CEMS should be required for HCl and certain other HAPs (Weber).

RESPONSE 13: The draft permit requires that continuous emissions monitors (CEMS) be installed, calibrated, operated and maintained to continuously measure NO_x, CO, SO₂ (Special Condition No. 23), opacity (COMS-Special Condition No. 24), mercury CEMS or alternative (Special Condition No. 25), and ammonia CEMS or alternative (Special Condition No. 26). Mercury may be monitored continuously via an instrument 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. This suite of CEMS is typical of recently issued air permits for coal-fired power plants. The EPA proposed, but recently elected not to require, PM CEMS for coal-fired power plants as part of NSPS Subpart Da. In addition, annual stack testing for H₂SO₄, HCl, HF, VOC and total PM/PM₁₀, is a requirement of Special Condition No. 29.

Continuous stack monitoring for acid gases such as H₂SO₄ and HF is not required for coal-fired power plants because the emissions are small, and, because acid gases are primarily controlled by the SO₂ controls, the SO₂ CEMS provides a good surrogate. 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 its formation. Opacity monitoring, while not equivalent to a PM CEMS, is used as a surrogate 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 29E contains requirements to ensure that the control devices for filterable PM, PM₁₀, H₂SO₄, and fluorides such as HF are 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.

COMMENT 14 (PSD AMBIENT MONITORING): Commenter states the applicant did not comply with the preconstruction monitoring requirements of 40 CFR §52.21(m) (Weber). Commenter states preconstruction meteorological monitoring should have been required (Levin).

Commenter states applicant must conduct community and plant fence-line baseline ambient air monitoring for ozone, nitrogen oxides, sulfur dioxide, particulate matter, and meteorological conditions (Levin).

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 collection of ambient air quality data representative of the air quality in the area that the major source would affect. For ozone, the requirement for ambient air quality data is interpreted to apply via footnote 1 in 40 CFR 52.21(i)(5)(i), if the source would emit 100 tons per year or more of NO_x or VOC. The PSD rules at (i)(5) also allow exemption from the preconstruction monitoring 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 SO₂ were below the monitoring exemption level at 40 CFR 52.21(i)(5)(i). For SO₂ at a concentration of 14 µg/m³ which did not meet the EPA monitoring exemption of 13 µg/m³ based on modeling, 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 quality levels, as discussed in the TCEQ guidance document RG-25, pages 24-26. The Applicant used monitoring data from Nueces County for SO₂. TCEQ believes these monitored concentrations provide a conservative estimate of background levels in Goliad County for these pollutants.

COMMENT 15 (BACT, IGCC): Commenters feel the application is particularly deficient with respect to Best Available Control Technology (BACT) analysis and the applicant should consider IGCC technology (Hammond, Levin, and Weber). Commenters claim the 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 and Levin).

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.⁸ 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.”⁹ 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 simply that it wishes to do something (i.e. generate electricity) and have the TCEQ tell it how (i.e. 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 RACT/BACT/LAER Clearinghouse (RBLC), and EPA's National Coal Fired Utility Projects Spreadsheet. The final end result of a BACT review is the development of a number – an emissions limitation.¹⁰ Applicants may use a variety of control strategies to meet BACT.

Applicant is proposing to generate electricity with a PC Boiler. As part of its application, IPA Coletto Creek has proposed a suite of controls. A PC Boiler is a very specific type of process within the electric generating industry. As stated above, 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. Further, emission limits from IGCC or CFB Boilers cannot be compared because of the differences in the processes. 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 through 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.

⁸ TCAA § 382.0518(b)(1).

⁹ TCAA § 382.003(6) & 30 TAC §116.10(6).

¹⁰ 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.

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 pulverized coal 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 facilities.

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.¹¹ 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.¹²

States have wide discretion in formulating SIPs.¹³ Nothing in the FCAA or its implementing regulations mandates using the BACT top-down approach.¹⁴ In response to public comments, when approving Texas’ PSD program, the EPA acknowledged that States have latitude in developing their programs.¹⁵ 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.¹⁶ Commenters contended such a condition would be unlawful and would improperly limit the State’s flexibility.¹⁷ 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.”¹⁸ 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.¹⁹ Commenters also stated that the EPA improperly

¹¹ 57 FR 28093 (June 24, 1992).

¹² 42 USC §§7407, 7470-7492.

¹³ *Alaska*, 540 U.S. at 470.

¹⁴ 42 USC §7479(3); 40 CFR § 52.21(j); and *Alaska*, 540 US at 476, fn. 7.

¹⁵ 57 FR 28093 (June 24, 1992).

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

included provisions mandating Texas follow EPA's top-down approach.²⁰ In response, the EPA stated it "does not mandate the State follow a top-down approach to BACT."²¹

The 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."

In the 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.²² The EPA interpreted the FCAA BACT definition as possessing two fundamental concepts.²³ First, the most stringent available control technology (and associated emission limitation) must be evaluated.²⁴

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.²⁵ 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 RACT/BACT/LAER Clearinghouse (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 leveled were selected.

The TCEQ does not follow the top-down approach found in EPA's guidance. As stated previously, 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).²⁶ 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.

COMMENT 16 (BACT; GENERALLY): Commenters claim BACT limits and BACT analysis are flawed (Weber, Hammond, and Levin). Commenter claims 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). Permitted emission limits for NO_x, SO₂, CO,

²⁰ *Id.*

²¹ *Id.* Protestants also claim Texas by letter committed to implementing EPA interpretive guidance including the top-down approach. 54 FR 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 FR 28093 (June 24, 1992).

²² 54 FR 52823 (December 22, 1989).

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

²⁶ Draft RG-383, April 2001.

VOC, Hg, NH₃, PM/PM₁₀, PM (front), H₂SO₄, HCl, HF, and Pb do not satisfy either BACT or MACT (Levin).

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

Commenter states the BACT record should be supplemented with reviews of actual emission data from existing units (Weber).

RESPONSE 16: The administrative record containing the rationale for the BACT determinations is contained in the permit application, preliminary determination summaries, and draft technical review for Coletto Creek Unit 2. For the BACT performance standards which were not equal or lower than the lowest limits in any other pulverized coal boiler 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.

Specific controls are not required by law to be included in the BACT analysis. The purpose of the BACT analysis is to review control devices to determine an emission rate. Applicants can meet the emissions rate however they choose. 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 permitted limits.

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 see what technologies are generally capable of. However, there are reasons for the existing data being lower than BACT (such as emission reduction credit generation). Refer to Response 15 for how BACT is set.

COMMENT 17 (BACT, SULFUR): Commenter states that the Coletto Creek Unit 2 application and draft permit do not utilize best available control technologies for sulfur pollution and does not even come close to the application filed prior for the City Public Service plant in San Antonio (Levin).

Commenter states the SO₂ BACT analysis is flawed because wet flue gas desulfurization is rejected on flawed grounds (Weber).

RESPONSE 17: City Public Service Spruce 2 Unit has a higher 30-day rolling average limit of 0.10 lb SO₂/MMBtu compared to Coletto Creek Unit 2's 30-day rolling average limit of 0.06 lb SO₂/MMBtu. The annual limits are equal at 0.06 lb SO₂/MMBtu. The Executive Director disagrees with the commenter's assertion.

The applicant proposes to operate a spray dry adsorber/ fabric filter control device to reduce SO₂ emissions to the limits mentioned above which is equivalent to or better than the most recent draft permit for a coal-fired boiler, APPLICANT Limestone Unit 3, which uses wet flue gas desulfurization and proposes similar fuels. The TCEQ does not dictate the use of certain control technologies if they achieve equivalent or better emissions.

COMMENT 18 (BACT/MACT, MERCURY): Commenters state that a BACT determination must also consider use of coal washing to reduce mercury (Levin).

Commenter states the permit should require carbon sorbent injection (CSI) to control mercury emission to 2×10^{-6} lb/MWh (Levin).

No details of the proposed sorbent injection are provided (Weber).

RESPONSE 18: CSI is technology designed to minimize mercury emissions. Although CSI is the most widely demonstrated and deployed mercury control technology, the deployment on electric utility boilers is limited because several other technologies promise improved removal and/or cost effectiveness. Specific mercury controls are not required by law. The purpose of MACT and BACT analysis is to review control devices and existing facilities' actual emissions to determine an emission rate. Applicants can meet the emissions rate however they choose. The Applicant has represented they will use a combination of SCR, spray dry adsorbers, fabric filters, and other methods to control mercury. The applicant has represented a performance standard not to exceed 0.015 lb/GWh of mercury and Special Condition No. 8.A requires compliance with that standard. The applicant has represented in its application it will evaluate control technologies such as sorbent or other additives, and will deploy proven technologies to achieve the proposed emission limit as necessary.

The proposed mercury MACT emission limit of 0.015 lb/GWh (15×10^{-6} lb/MWh) was based on a thorough review of available control technologies and existing similar facilities. The applicant has committed to meet a lower limit for bituminous coal even when firing subbituminous coal based on the formula in Special Condition 8 footnote 3.

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 given how the applicant

operates the other control devices, may not be required to achieve the proposed mercury emission limit.

See Response 2 for more information on mercury, Response 15 for more information on the BACT analysis, and Response 21 for more information on the MACT analysis.

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 0.06 lb/MMBtu (30-day rolling average) but that lower emissions are possible (Hammond and Weber) through alternative technologies or processes (Weber). Commenter further claims that lower levels have been achieved and maintained by numerous existing sources and is documented in the EPA's Clean Air Markets database (Weber). Commenter states that 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 and that 90 percent removal efficiency has been achieved and BACT should therefore be lower than the proposed BACT (Weber). Commenter states Applicant must consider ultra-supercritical coal combustion to achieve lower emissions (Weber).

Commenter stated that lower emissions were contained in the PSD application for Taylor Energy Center in Taylor County, Florida (Hammond).

Commenter stated that lower emissions were contained in the PSD application for FPL Glades Power Park in Glades County, Florida (Hammond).

EPA Region 6 suggested a shorter averaging time for NO_x from 30-day to 24-hour. EPA Region 6 pointed to two permits that had a 24-hour averaging period and asked why a lower period was not in the proposed permit.

RESPONSE 19: 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) and 0.06 lb/MMBtu (30-day rolling average) is as stringent as any recently permitted pulverized coal utility boiler burning only subbituminous coal. The applicant proposes a mix of bituminous coal and subbituminous coal. 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 15 for more detailed explanation of why IGCC and ultra-supercritical coal combustion was not evaluated.

According to the Florida Department of Environmental Protection website, the application for Taylor Energy Center was withdrawn on July 12, 2007 and the application for FPL Glades Power Park was

withdrawn on July 23, 2007. These permits were never issued and therefore have no bearing on BACT determinations.

The EPA referenced two permits that had a NO_x short term averaging period of 24 hours rather than the proposed 30 days in this draft permit (Newmont Nevada Energy and Desert Rock). Newmont Nevada Energy has a 12 percent higher numerical short term limit than the proposed draft permit (0.067 lb NO_x/MMBtu vs. 0.06 lb NO_x/MMBtu). According to the Nevada Division of Environmental Protection Bureau of Air Pollution Control website, the Newmont Nevada Energy permit does not appear to contain a specific long term limit other than a mass ton per year limit. If one were to calculate an annual limit using the maximum heat input limitation contained in that permit and the allowable tons per year, the annual NO_x limit for Newmont appears to be based on 0.067 lb/MMBtu which is no more restrictive than the short term limit. There is no requirement in the Newmont permit for the unit to actually operate with lower emissions than the proposed Coletto Creek Unit 2 draft permit limit of 0.06 lb NO_x/MMBtu 30 day rolling average and 0.05 lb NO_x/MMBtu rolling twelve month average.

The Desert Rock permit has an equal numerical short term limit (both are 0.06 lb NO_x/MMBtu). The Desert Rock facility has been issued a permit but the facility has not been constructed and therefore; has not shown reasonable compliance with the shorter averaging period. The Executive Director has determined the proposed permit compliance averaging periods for NO_x, 30 days rolling (short term) and 12 month rolling (long term) are appropriate.

COMMENT 20 (BACT, PM/PM₁₀/PM_{2.5}): Commenter states that application notes there are final permits with lower filterable PM₁₀ limits of 0.012 lb/MMBtu (Weber). Commenters claim lower PM/PM₁₀ emission rates have been permitted as BACT and Coletto Creek Unit 2's limits must not be considered BACT in light of the lower emitting units (Weber). Commenters state that PM_{2.5} was not analyzed for BACT and the permit does not contain an enforceable PM_{2.5} limit (Weber and Levin).

Commenter requests clarification of whether the opacity limit of 10% is being proposed as BACT for emissions of particulate matter (PM) (Hammond and EPA).

RESPONSE 20: The applicant has stated that the limits proposed in the application have been given 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. A combination of factors including expected bag replacements from wear and tear due to abrasion and the clogging of bags due to wet particles, both of which reduce overall particulate control on average compared to a theoretical baghouse that never requires bag replacement and never has clogged bags, led the applicant to propose a number that was not the lowest permitted value on record. The Executive Director has determined this is appropriate and meets BACT. PM_{2.5} is considered part of PM₁₀ and total PM and the applicant included it in the BACT analysis. The permit contains limits

for PM_{2.5} under the PM₁₀ category. TCEQ currently uses PM₁₀ as a surrogate for PM_{2.5}. See Response 3. The control devices proposed would be expected to control PM_{2.5} as well.

The opacity limit does not represent a BACT determination for PM. While opacity can be caused by PM and excess opacity can indicate excess PM, the limit is an opacity limit and not a PM limit.

COMMENT 21 (MACT, GENERALLY): Commenter states that MACT analysis is flawed or incomplete (Weber and Levin). Commenter states there was an improper analysis of the case by case MACT determination (Hammond and Levin). Commenter states that "TCEQ's entire 'BACT equals MACT' approach amounts to a highly flawed and illegal MACT determination" (Levin). Permitted emission limits for NO_x, SO₂, CO, VOC, Hg, NH₃, PM/PM₁₀, PM (front), H₂SO₄, HCl, HF, and Pb do not satisfy BACT or MACT (Levin). Commenter states that the best controlled sources are not identified for each HAP (Weber). Commenter states no beyond-the-floor analysis was conducted (Weber). The analysis improperly dismisses the use of wet ESP (Weber). The application should contain test data from CC1 for all HAPs and proposed surrogates to support assumptions for CC2 (Weber). TCEQ has failed to conduct a MACT review that complies with FCAA §112(g) (Weber).

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 Coletto Creek Unit 2. The TCEQ reviewed the applicant's research of MACT to ensure all available data was reviewed. 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. The TCEQ ensured that the applicant's proposal represented MACT. 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.

COMMENT 22 (MACT, NUMBER OF HAPS/GROUPING HAPS): Commenters state the permit does not contain a list or limit for all the HAPs that can be emitted from the coal-fired boiler (Levin and Weber). Commenters state that HAPs are inappropriately grouped (Levin and Weber). Commenters state that there is no explanation for organic and PM groupings for HAPs or why they would have similar properties within the grouping (Levin and Weber).

RESPONSE 22: 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. Not all HAPs listed in Section 112 are expected to be emitted as noted in the applicant's 112(g) analysis. The applicant calculated emissions for and examined individual HAPs in the modeling analysis for comparison to ESLs to ensure protectiveness of public health. For the analysis of control technologies, the applicant grouped the HAPs. Mercury will be controlled using the suite of controls already proposed plus the addition of sorbents or other compounds necessary to achieve

the proposed mercury MACT. Non-mercury metals are particulates and are expected to be controlled and captured in the baghouse as PM₁₀. Acid gases (HF and HCl) are reactive to the lime used in the proposed spray dry adsorber for H₂SO₄ and SO₂ control. Additional control of acid gases would occur in the filter cake of the bags in the baghouse. 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.

COMMENT 23 (MACT, CONTROL EFFICIENCIES): The MACT analysis assumes that all non-mercury metals will be controlled at 99.7% level (see Table 1 from Applicant letter dated November 7, 2008), but no basis is provided (Weber).

RESPONSE 23: Table 1 referred to in the comment lists metals referenced on Attachment A of the draft permit. Since the PM (front half) limit represents the performance standard for non-mercury metals, the applicant had to apply an efficiency to the baghouse to get speciated metal emission rates from the baghouse in order to perform a health impacts review. The applicant applied an assumed control efficiency of the baghouse as noted in Table 1 (99.7%). The efficiency assumed is conservative for modern bag filters.

COMMENT 24 (MACT, PM₁₀ and VOC AS SURROGATE): Metal HAPs will be emitted as the very finest particulate, in the PM_{2.5} or even PM_{1.0} size range and smaller. Thus, using PM₁₀ as a surrogate is incorrect. Similarly, not all organic HAPs are created, controlled, or emitted as VOCs -- therefore using VOCs as surrogate is incorrect. (Weber)

RESPONSE 24: While metal HAPs may be emitted at less than PM_{2.5} or PM_{1.0} size, the only EPA promulgated test method for smaller particulate is applicable to PM₁₀ which includes PM_{2.5} or PM_{1.0}. The same controls that control particulate in general are still effective against smaller particulate. The emission standard must be set to correlate with something measurable by promulgated test methods. 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. An emission standard exists in the permit for either type of HAP emission, volatile (VOC) or solid (PM₁₀), in the stack. Therefore even though all organic-based HAPs are not volatile, they are all controlled in one of the proposed categories.

COMMENT 25 (MACT, FLUORINE): The analysis assumes the fluorine content of the coal is 100 ppm and that control level will be 95%. The basis for this is not provided and should be provided (Weber).

RESPONSE 25: The applicant originally used that as a basis. The letter dated September 29, 2008 and submitted by Applicant to the TCEQ, contains a rationale based on the best efficiency of an existing plant and the highest expected fluorine content of the coal. The Executive Director agreed with that analysis.

COMMENT 26 (MACT, DEMONSTRATION OF COMPLIANCE): The proposed performance indicator for HAP metals is an annual stack test. The application does not indicate how a single stack test will represent HAP emissions for all conditions. (Weber)

The performance indicator for organic HAPs is a single annual stack test for VOC plus the CO CEMS. However, the analysis omits the important step where CC2 has to demonstrate that CO actually correlates to organic HAP emissions (Weber).

RESPONSE 26: The baghouse leak detection system provides continuous assurance that the baghouse, which is the control device for particulate and metal HAPs, is functioning properly. The annual stack test will provide additional assurance that the particulate emission limit is not exceeded when the baghouse is functioning.

The annual VOC stack test ensures that the emission factors for VOC and therefore organic HAPs are not exceeded. The applicant must use the emission factor developed during the test to calculate compliance with the MAERT. The CO CEMS provides a means of continuously monitoring combustion conditions in the boiler. Since good combustion and proper burner operation minimize CO, VOC, and organic HAPs, the CO CEMS would provide an additional although indirect means of monitoring whether the unit is below the VOC limits.

COMMENT 27 (MSS): Commenter states start-up, shut-down, maintenance, and malfunction emissions must be included in the modeling (Levin). Commenter states that compliance with the NAAQS and PSD increment is required for startup and shutdown emissions (Hammond, Weber, and EPA). Commenter states that start up, shut down and maintenance are normal operating conditions and should be included in the enforceable limits during normal operations (Levin).

Commenters state that BACT emission limits may not be waived during SSM, without an on-the-record determination that compliance during SSM is infeasible (Hammond, Weber, and EPA). Commenter states that permit should set a time limit on startup and shutdown and operating condition during startup and shutdown (Hammond and EPA).

Commenter states the written startup and shutdown plan referenced in Special Condition 10 should be provided for review by the public (Weber).

Commenter states that SSM emissions are improperly characterized. For example, the preliminary determination summary states that control devices other than fabric filters may not function during SS. Commenter asks what the exact load conditions that make the SCR or dry FGD unable to function. Commenter also asks whether this was considered as a factor for rejecting wet FGD (Weber).

SS definitions are improper. They are tied to the inability to meet permit limits. (Weber)

The ESL modeling assumes that CC2 will be at 40% load, corresponding to worst-case conditions, reflecting SS. The basis for the 40% load must be provided. (Weber)

Proposed SSM would allow nuisance-level PM emissions (Levin).

RESPONSE 27: The Applicant did evaluate 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 did perform a cumulative air dispersion modeling analysis with the worst-case operating scenario for the criteria pollutants SO₂, NO₂, PM, and CO that is consistent with EPA guidance (1990 EPA Draft Guidance for PSD). 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.

SCR systems require minimum flue gas operating temperatures before the chemical reagents used by these systems can be injected. Because of this constraint, it is not technically feasible during periods when the flue gas is below the requisite minimum temperatures, to control the NO_x emissions to the same performance level as during normal operation BACT. Therefore, Special Condition No. 8 of the draft permit specifies that the performance standards in the condition are not applicable during planned startup and shutdown. While the emission standards in lb/MMBtu cannot always be met when control devices are not fully operational, the emission rate in pounds/hour may not necessarily be greater than the maximum hourly rate at full load. Coletto Creek provided calculations of start up emissions addressing each hour of the 12 hour cold startup to identify the maximum pounds/hour emission rates based upon operating the control devices as early in the startup sequence as possible to represent BACT during startup and shutdown.

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 Coletto Creek Unit 2 Utility Boiler and associated air pollution control equipment in accordance with

good air pollution control practices to minimize emissions.” The first part of this sentence identifies the hourly mass emission rates of the MAERT as constituting the BACT emission rates for planned startup and shutdown. The second part of the sentence requires minimization of MSS emissions and is further developed in Special Condition No. 10 which requires operating the boiler and associated control equipment properly and developing detailed procedures to minimize excess emissions during startup or shutdown. Because of the complex nature of a large coal-fired electric generating facility, the startup characteristics may vary from instance to instance and it is not possible to identify every variation which may affect the emissions profile. Special Condition 8 has been altered to include the maximum startup time of 12 hours as represented in the permit application. Also, the permit does contain a long term emission rate that represents the total emissions including startup and shutdown but the rate is based on normal operation BACT with no extra allowance for startup and shutdown emissions.

The written startup and shutdown plan will be created as part of the initial operation of the unit. The plan will be kept at the site and available for inspection by TCEQ personnel.

The only control device not affected by flows, temperature, or other variables is the passive fabric filter. Since the unit does not possess a bypass of the baghouse, the fabric filter is the only device always operating.

Startup and shutdown are defined by the plain language of the words. The TCEQ would not accept a claim that a unit was operating normally one hour and then operating in startup the next hour.

Maintenance activities were not addressed by the applicant and are not part of this permit. The hourly emission rates containing planned startup and shutdown were evaluated to ensure they are in compliance with BACT. The TCEQ does not authorize malfunction emissions and any excess emissions from malfunctions or during normal operations are not authorized and are subject to enforcement.

Nuisance conditions are not expected as a result of the limitations contained in this permit. In any case, nuisance is a violation of the Texas Clean Air Act and cannot be waived by any permit condition.

COMMENT 28 (NONATTAINMENT: DFW, AUSTIN/RR, SAN ANTONIO, WACO, VICTORIA): Commenter claims nitrogen oxide emissions from this plant would impair the ability of the DFW area to come into attainment with the one-hour and the eight-hour ozone standards (Levin). Commenter states the TCEQ has failed to evaluate the impact of high background NOx and ozone upwind of Waco that will be transported throughout the regional airshed (Levin).

Commenters express concern that this plant may adversely affect the Austin and San Antonio area's ability to remain in attainment, as a result of the increased emissions (Levin).

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 (BIG BEND/CLASS ONE): Commenter states the permit application does not adequately examine the impact of the SO₂ secondary particulate and NO_x secondary particulate emissions on Class I areas such as Big Bend National Park (Levin and Hammond).

Commenter states IPA failed to perform the most rudimentary analysis of potential Class I area impacts including impacts to Big Bend National Park, Caney Creek Wilderness, Upper Buffalo Wilderness, Wichita Mountain Wilderness, and Breton Islands Wilderness (Weber).

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 source or major modifications which propose to locate within 100 kilometers (km) (62 miles) of a Class I area. Since the nearest Class I area, Big Bend National Park, is more than 550 km (342 miles) from the proposed facility, emissions from the facility are not expected to affect the visibility, soils, or vegetation in any Class I or Class II areas.

COMMENT 30 (GLOBAL WARMING/CO₂): Commenters indicate the permit application and potentially the draft permit do not address CO₂ or global warming gases (Weber, Hammond, V. Guttman, and Levin). Commenters assert global warming poses an imminent threat to the health and safety of everyone (Levin). Commenters state global warming will lead to increased heat waves, ozone pollution, floods, droughts, disease and pests, species extinction, rising sea levels, and higher insurance rates (Levin). The TCEQ has the authority and the responsibility to regulate global warming gases and should do so (Weber and Levin). 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 emissions (Weber and Levin). Commenters state Texas should look at energy efficiency, renewables and wind to provide for growth and not coal fired power plants

(Levin). Commenters state the TCEQ is required to consider emissions of CO₂ in its BACT analysis, as part of the required environmental impacts assessment (Levin and Weber).

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 Public Citizen's Texas Office, Clean Water Action, Lone Star Sierra Club, Sustainable Energy and Economic Development Coalition, and Texas Campaign for the Environment. The petition requested the TCEQ create new air rules to encourage reductions in greenhouse gases, 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. Furthermore, the ED does not agree that the Massachusetts opinion requires 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. *Massachusetts, et al v. EPA*, 549 U.S. 497, 534 (2007).

COMMENT 31 (ESL): Commenter states the effects screening levels used in the permit review are not set at levels known to protect the public health. The ESLs have never been subject to an external peer-review process, the process has no scientific basis, and is not designed or used to protect public health (Levin). Commenter identifies ten major flaws with the ESL process, each which represents a concern with the permit: 1) the ESLs are often set at artificial levels too high to be truly protective of the health of the public, including children; 2) ESLs are not state ambient air quality standards set to protect public health, but are merely internally developed guidelines; 3) there are no Texas regulations governing the ESL process; the TCEQ uses an internally developed purely informal discretionary process; 4) ESLs have not been subjected to true scientific peer review process; 5) questionable, if not faulty bases were used for at least a third of the ESLs; 6) questionable, if not faulty, processes have been used to derive the ESLs; 7) there is no method for validating either the process or the final ESL values; 8) there is no complete agency documentation of the ESL derivation process; 9) the guideline approach reduces accountability of the ESL process and 10) the toxicology review does not consider synergistic impacts (Levin).

The state health effects review conducted by TCEQ is not consistent with TCAA §382.0518 and the federal and state definitions of ambient air (Weber).

RESPONSE 31: Health-based ESLs are set well below the concentrations reported to cause adverse health effects in any of the organisms studied. 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.

Standard toxicological practices/processes are used to derive ESLs. Simply described, the majority of current ESLs were derived in one of three ways. First, occupational standards, which are scientifically peer-reviewed values, are considered to be No Observed Adverse Effect Levels (NOAELs) set to protect workers. If an occupational standard is used as a NOAEL to derive an ESL, the occupational standard is divided by two safety factors of 10 each to derive the short-term ESL. The first safety factor is used to account for the uncertainty of differences in exposure time (using a chronic occupational value to derive an acute value) and the second safety factor is used to assure ESLs are protective of the sensitive individuals within the general population (total safety factor of 100). Another safety factor of 10 to account for differences in exposure time is applied to the short-term ESL to derive the long-term ESL (total safety factor of 1000). Therefore, if occupational standards are used to derive short-term and long-term ESLs, the ESLs are fractions of the occupational standards.

Second, 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 have an ESL. In these situations, ESLs are calculated based on an estimation of relative toxicities. Lesser certainty regarding a specific constituent's toxicity results in a lower or more conservative ESL.

Finally, if only lethality data exist, the concentration that causes death in 50 percent of animals (LC_{50}) is divided by a total safety factor of 10,000. This total safety factor includes: a factor of 10 to account for uncertainty in exposure between the LC_{50} and the Lowest Observable Adverse Effect Level (LOAEL); a factor of 10 to account for uncertainty in exposure between a LOAEL and a NOAEL; a factor of 10 to consider differences between animals and humans; and a factor of 10 to consider differences between people to ensure that ESLs are protective of sensitive individuals within the general population.

ESLs are guideline concentrations set to protect public health and welfare; they are not enforceable standards. The setting of standards through rulemaking is not as flexible as guidelines 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 Texas Clean Air Act (Chapter 382 of the Texas Health and Safety Code) authorizes the TCEQ to conduct air permit reviews of all new and modified facilities to ensure that the operation of a proposed facility will not cause or contribute to a condition of air pollution. The Texas Health and Safety Code is comprehensive in that it states that ESLs should be developed for as many air contaminants as possible, even for chemicals with limited toxicity data. Therefore, the ESL process is comprehensive. The TCEQ evaluates the emissions of all substances, not just a "short list" of Hazardous Air Pollutants, for example, or those for which the EPA has established reference concentrations or unit risk factors (about 100 substances). Additionally, the Toxicology Section of the TCEQ 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 others states in that it considers non-health impacts (odor and vegetative) for substances, as warranted by the available information.

The majority of current ESLs were derived based on occupational standards, which are scientifically peer-reviewed values set to protect workers. When obtaining toxicity data or toxicity values from other sources, preference is given to values that have undergone external peer review and public involvement. However, external scientific peer reviews are expensive and the TCEQ does not have the resources to conduct peer reviews for every chemical for which it develops ESLs.

It is a common approach to identify NOAELs and Lowest Observable Adverse Effects Levels (LOAELs) from the available published literature and to subsequently apply safety factors in deriving concentrations which are protective of members of the general public, including sensitive subpopulations. This is the general approach used by the EPA in deriving reference concentrations and by other states in deriving their own ambient air levels.

The ESL system has been in place for more than 20 years. Improvements in air quality seen in ambient air monitoring data despite population and industrial growth during that time indicate that the ESL system is valid. Conservative ESLs, along with the comprehensive review process provided by the *Modeling and Effects Review Applicability: How to Determine the Scope of Modeling and Effects Review for Air Permits* procedure combine to provide a time-proven system that is protective of the general public's health and welfare.

Any person and/or interested parties who requested how a chemical-specific ESL was derived may contact Toxicology Section staff to obtain documentation of a chemical-specific ESL. Prior to November 2006, the ESL derivation procedures were not included in an official agency document. Beginning in October 2003, staff from the Toxicology Section wrote a draft document entitled "Development of Effects Screening Levels, Reference Values, and Unit Risk Factors," also referred to as the ESL Methodology. A peer-review panel of eight scientific experts met to review the ESL Methodology, and interested parties submitted written and oral comments. The ESL Methodology was revised by the Toxicology Section to address the issues raised by the scientific peer review panel and public comments. The revised methodology was then submitted for additional public comment, which was again addressed. The final TCEQ regulatory guidance document, RG-442 entitled "*Guidelines to Develop Effects Screening Levels, Reference Values, and Unit Risk Factors*" was completed in November 2006. As indicated, this methodology is the process currently in place for developing ESLs. Furthermore, the methodology was extensively peer reviewed and was subjected to public comment.

In order for synergism to occur, adverse health effects must occur due to exposure to high concentrations of each chemical individually. Because ESLs are set well below concentrations at which adverse health effects are observed, synergistic effects are not anticipated.

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.

The health effects review is performed according to the TCEQ's guidance document entitled 'Modeling and Effects Review Applicability' located at <http://www.tceq.state.tx.us/assets/public/permitting/air/Guidance/NewSourceReview/mera.pdf>.

Finally, the state health effects review is consistent with the TCAA and the definitions of ambient air found in the commission's rules and guidance as it considered health effects to the general public.

COMMENT 32 (COAL WASHING): Commenter states 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 (Levin).

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 (PRECONSTRUCTION MONITORING): Commenter states preconstruction meteorological monitoring, in accordance with EPA's guidance document Meteorological Monitoring Guidance for Regulatory Modeling Applications, should have been required (Levin).

RESPONSE 33: While the meteorological data used in the air dispersion modeling analysis were not collected at the project site, use of the Victoria meteorological dataset in the air dispersion modeling analysis is reasonable and does not constitute a serious flaw with the air quality analysis submitted by the Applicant.

The Environmental Protection Agency (EPA) Guideline on Air Quality Models - Appendix W of 40 Code of Federal Regulations (CFR) 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 Waco airport. 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 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. With more than 40,000 hourly samples contained within the 5-year meteorological dataset used in the air dispersion modeling analysis, the worst-case meteorological conditions have been sufficiently represented in the dataset.

COMMENT 34 (ADDITIONAL IMPACTS): Commenter states additional impact analyses are required, including soil and vegetation analyses and an ESL for coal dust (Levin).

RESPONSE 34: An additional impacts analysis was submitted by the Applicant. The applicant concluded that secondary growth from this project is not expected to be substantial and an in-depth growth analysis was not proposed. TCEQ staff concurred with the Applicant's assessment. The project is located at a site with one existing boiler unit, and population census data are available for the area. The addition of a second boiler unit is not expected to lead to a significant shift in population.

An air quality analysis was conducted by the Applicant for criteria pollutants and non-criteria pollutants. The NAAQS are set in order to protect health and welfare for criteria pollutants, and Effects Screening Levels (ESLs) are set to protect health and welfare for non-criteria pollutants. Because these pollutants listed in the draft permit are below the NAAQS and satisfied a health effects review, adverse effects to animals, vegetation, or the environment are not expected as a result of these emissions.

Please refer to Response No. 1 for more information on the NAAQS and ESLs.

COMMENT 35 (30-DAY AVERAGING PERIOD FOR HEAT INPUT): Commenter states that the permit should include a short term (i.e., hourly or daily) maximum heat input rate to determine compliance with estimates and assumptions relied upon throughout the application and draft permit (Hammond).

RESPONSE 35: The boiler rating is established during the design phase of the boiler, but due to safety factors used in the design, it may be possible to fire at a different rate than designed. Special Condition 6 allows for a 30-day average to account for the varying BTU content of the fuel and is meant to be a maximum heat input rate to ensure the boiler is operated as represented.

COMMENT 36 (PERMIT APPLICATION CALCULATIONS/EMISSION FACTORS/ENGINEERING ESTIMATES/ASSUMPTIONS): Commenter states the startup emissions calculations are not supported and the CO and VOC emissions are not correlated as stated for normal operation. No temperature data are provided to support emissions. The emission factors

provided by Black and Veatch should be described. (Weber) Emission calculations are deficient or are not justified in the application (Levin).

The design basis for assuming that coal storage and handling PM control efficiency will be 95% (see App. E, page 23 of 28) and that the coal pile control efficiency will be 50% should be described. There is no permit condition that requires a certain minimum level of water usage to support this assumption. (Weber)

The basis of the assumption that the mean wind speed for transfer points will be 3 mph should be provided. The basis for the assumption that the moisture content of the coal throughout the handling process will be the same as the design coal (i.e., 30.6%) should be provided. There is no basis for assuming that the silt content of the coal pile will be 2.2%. There is no basis for assuming that the road surface silt content is 9.7% (Weber).

No calculations are indicated why only a 30% expansion of the coal pile is enough to support CC2 (Weber).

The basis for assuming that the chlorine content of the coal will be 0.01% or in the range of 0-0.02% should be explicitly defined (Weber).

Section 3.2.2.1 of the application notes that the EPA Draft NSR Manual was considered in the BACT analysis. The applicant should explicitly indicate in what way the manual was considered. (Weber)

RESPONSE 36: The startup emissions represent the applicant's best judgment with regard to rapidly changing boiler conditions and the functionality of any pollution control equipment. CO and VOC cannot be correlated during startup due to the unsteady state nature of ramping up boiler firing rate quickly. However during normal operation, the relationship between NO_x, CO, and VOC is more observable. Newer burner designs can mitigate the unsteady relationship, but not eliminate it. The emissions in the application represent a combination of the applicant's and his consultants' experience and knowledge. The Executive Director finds the applicant methodology and emission rates to be reasonable.

The applicant has represented that water sprays and enclosures will be used to achieve the control efficiency of 95% for coal handling. The applicant has represented that water sprays will be used to achieve the control efficiency of 50% for the coal piles. The applicant bases these efficiencies on the advice of their engineering firm, Black & Veatch. They are consistent with TCEQ guidance. The minimum usage of water will be determined by the applicant as necessary to prevent nuisance conditions or excess opacity. The control factors are estimates meant to establish reasonable emission rates from sources that are not amenable to testing.

The basis for coal silt content and road silt content is based on EPA's AP-42 factors as described in the application. The mean wind speed was based on engineering judgment as described in the

application. The Executive Director finds the assumptions reasonable.

The coal pile expansion is but one piece of the increase in coal usage. More frequent rail deliveries along with a quicker consumption of coal could explain why the coal pile wouldn't increase proportionally to the site electrical production increase. The increase in the draft permit for coal handling facilities accounts for the increased coal usage. The Executive Director has concluded that the applicant's assumption was reasonable.

The basis of the coal chlorine content is the applicant's experience with coal at the site and in general the range the applicant assumed could occur appeared reasonable. Also, the incoming chlorine will turn to HCl which contains enforceable limitations in the permit. Older coal fired boiler permits that did not have periodic monitoring for acid gases including HCl and H₂SO₄ in the stack gas included coal chlorine and sulfur content limitations as the compliance measures for acid gases.

The applicant was not required to use the EPA manual. The application was reviewed under the rules of the TCEQ and EPA. Refer to Response 15 and 16 for further explanation of the BACT analysis.

COMMENT 37 (DRAFT PERMIT, ATTACHMENT A): The basis for Permit Attachment A is unclear and should be provided and there is no indication of how these numbers were derived (Weber).

Special Conditions 6A and 28 allow the applicant to demonstrate compliance with the non-mercury metal performance standards identified in Attachment A by merely 'periodically' sampling and analyzing the coal. It is completely inadequate to determine compliance with estimates and assumptions relied upon throughout the application and draft permit (Hammond).

The special condition is so vague as to allow the permit holder to sample and analyze only one, rather than both, coal types. The special condition allows the permit holder to average the analytical results without specific guidelines, requirements, or limits. This vagueness allows circumvention of the performance standards altogether (Hammond).

All pollutants listed in Attachment A do not satisfy either BACT or MACT (Levin).

RESPONSE 37: Attachment A provides a mechanism to ensure the emission rates modeled for the impacts analysis performed during the permit review do not increase enough to cause estimated ground level impacts above the ESLs. See Comment 1 for the discussion about health impacts. Instead of deriving an allowable emission rate from acceptable modeled impacts and control device efficiencies, the applicant was asked to provide a realistic concentration of metals in the fired coal. The numbers in Attachment A were provided by the applicant as expected values in the coal. The modeling performed by the applicant showed the expected impacts from estimated metal concentration to be well below the respective ESLs for each metal. The numbers do not represent a

separate BACT or MACT limit for each metal. Metals other than mercury are considered under the PM category. Lead is specifically given a limit on the MAERT because it is a criteria pollutant and not a HAP.

Special Conditions 6A and 28 require the 'as-fired' coal to meet the metal limits. The applicant will sample the coal prior to combustion but after coal shipments have been stockpiled. Special Condition 28 contains periodic testing to demonstrate that the metals are within the range that was reviewed by the TCEQ. An exceedance of Attachment A would be a violation of the condition but not necessary represent an exceedance of the ESL. It is possible that only one type of coal will be sampled because the applicant does not blend coals on site to achieve any certain ratio of sub-bituminous to bituminous. The permit requires that over any 12 month period no more than 40% of coal fired be bituminous. The permit is as specific as necessary without being overly prescriptive because the samples represent as-fired coal not averages of coal over any period. Special Condition 34(H) was altered to explicitly require the coal type to be also recorded. Also, Attachment A does not represent a performance standard for the boiler. The performance standard for non-mercury metals is the PM(front half) BACT and MACT limit which is expected to represent the majority of metals emitted from the stack. See the above discussion on impacts for why Attachment A is used in the draft permit.

COMMENT 38 (COAL BLEND, BACT AND AVERAGING PERIOD): The application does not provide a proper BACT analysis regarding the choice of fuel to be fired including an analysis of firing only sub-bituminous coal (Hammond).

Permit Condition 6E allows for up to 40% use of bituminous coal over a 12 month period. This significant contingency in which 40% bituminous/60% PRB is used is not analyzed for BACT and MACT. (Weber) Information regarding the source of the coal should have been included in the application. (Weber).

Taking in to consideration the numerous other special conditions that fail to specify hourly and daily limits, Special Condition 6E is completely inadequate to determine compliance with estimates and assumptions relied upon throughout the application and draft permit (Hammond).

RESPONSE 38: The applicant has requested up to 40% bituminous coal in the as-fired heat input to the boiler for any 12 month period to account for the potential of supply variations. The emissions limits other than mercury in the draft permit were based on 100% sub-bituminous coal which represented the expected operations of the plant. The applicant stated on page 2-7 that primarily coal from the Powder River Basin (PRB) in Wyoming will be used as fuel and that additional coal specifications may be received. The BACT and MACT analysis accounted for the potential of other coal specifications. Specifically, the applicant represented and the TCEQ is requiring that controls will be operated at the necessary level to achieve emissions rates substantially equal to the emissions rates of units firing only PRB coal. The applicant did not request higher emission limits when firing blends of coal. Additionally the MACT determination contains a formula that lowers the allowable mercury emissions if coal other than PRB is used.

The draft permit as a whole ensures compliance with the estimates and assumptions contained in the application.

COMMENT 39 (DESIGN AND OPERATING PARAMETERS, BOILER AND CONTROLS): 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 (Levin). No SCR design information is provided (Weber).

The application notes that the efficiency of the boiler will be 39-45% but 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)

The range of SO₂ removal considered in the application's Table 2-1 is incorrect (Weber).

CC2 will generate 745 MW gross and 650 MW net. The applicant should describe the basis for and justify this very large difference. (Weber)

Commenter asks how ammonia emissions will be created as discussed in the application (Weber). Commenter asks whether the ammonia slip 7 ppm as noted on page 4-8 of the application or 10 ppm as noted in the draft permit (Weber). No basis for allowing a 10 ppm ammonia slip is provided (Weber).

RESPONSE 39: A PC Boiler, and its associated control devices, requires 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 36 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 36. Guaranteed emission levels were used to set the PM emissions levels since the fabric filter performance is usually a manufacturer guarantee and easily quoted but other pollutants will depend on specific design and operating parameters. 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 identify the efficiency of the unit since emission limits contained in the special conditions and MAERT are based upon heat input not efficiency.

The applicant's Table 2-1 had no relevance to the setting of BACT or any other part of the draft permit. Whether or not it is correct was irrelevant to the review of the application.

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. The MW output is only relevant to the mercury emission limits. 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.

Ammonia will be created by the thermal decomposition of a urea and water solution. This will produce ammonia which can be used in the SCR. SCRs require ammonia to operate. Urea is safer to handle than ammonia and does not require elaborate equipment to produce the necessary ammonia. The applicant proposed 10 ppm ammonia slip based on a stack test and 7 ppm ammonia slip on an annual average. The Executive Director determined that continuous compliance would be necessary for something as variable as ammonia slip which depends directly on ammonia injected into the SCR. Ammonia will be continuously monitored as referenced in Special Condition 26 of the draft permit. Since continuous monitoring is stricter than one or multiple stack tests, the higher emission limit of 10 ppm was agreed upon by the applicant and the Executive Director. A 10 ppm slip limit is still within the range of acceptable BACT determinations made by the Executive Director.

COMMENT 40 (FUGITIVES): The application does not adequately manage fugitive dust emissions either from coal and bottom or fly ash or during startup and shutdown (Levin).

RESPONSE 40: 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 41 (PSD INCREMENT ANALYSIS): The analysis of PSD increment consumption underestimated the maximum increment consumed for sulfur dioxide and other criteria pollutants (Hammond).

Maximum SO₂ increment consumed (24-hr) 83 ug/m³ is very close to allowable increment of 91 ug/m³. The applicant should clarify that the highest emission rate for 24-hr period is used in this modeling demonstration. Further, TCEQ should confirm in writing that the applicant has considered all point sources within the area of impact plus 50 km. It is not clear whether the increment analysis included emissions from all permit by rules or standard permits within the area of impact plus 50 km. (Weber)

RESPONSE 41: The Applicant performed the air quality analysis in support of federal permit PSD-TX-1118 and state permit 83778. TCEQ staff reviewed the air quality analysis found it to be complete. Only SO₂ was predicted to have an impact above de minimis and therefore only SO₂ was subject to the increment analysis.

The applicant requested Point Source Database (PSDB) retrieval from the TCEQ. The Applicant

also reviewed the TCEQ air permit database to find all air permits, including registered standard permits and permit by rule registrations, issued since 2000 occurring within 56 km (the area of impact plus 50 km) to supplement the PSDB.

The applicant followed TCEQ guidance but used allowable emission rates from the PSDB for the increment modeling which is a conservative approach.

The applicant modeled a SO₂ 24-hour emission rate for the 24-hour averaging time, an appropriate approach.

COMMENT 42 (COAL WASTE): The applicant fails to address how the coal waste will be stored, handled, and disposed, including coal ash piles (Levin).

RESPONSE 42: 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. If the applicant requires any other authorizations it is up to the applicant to apply for them.

COMMENT 43: The draft permit references several subparts of 40 CFR Part 60 and Part 63. These subparts allow the applicant to choose between alternative requirements. Since the permit fails to specify Applicant's choice of requirements, and therefore exactly which requirements are federally enforceable, the permit undermines enforceability by the public. (Hammond).

RESPONSE 43: The applicant is not subject to those subparts until construction of the affected facilities has commenced. If the subpart requires the applicant to submit a notification to the TCEQ, the TCEQ will maintain that as a public record open to viewing by the public.

COMMENT 44: Commenter stated that Special Condition 21.A.5 discusses boiler load during testing and asks what the basis of the 80% of maximum condition in (a) is (Weber). Commenter state that this condition should be revised to indicate that the source test should be under conditions that are likely to maximize emissions (Weber). Commenter states that Special Condition 21.A.5.b states that 'load must be representative of future operating conditions,' but no explanation is provided as to what that means. Commenter states that it should mean maximum load. (Weber)

RESPONSE 44: Testing must occur no later than 180 days as required by 40 CFR 60.8 because the unit is subject to a standard under 40 CFR Part 60. The applicant may be unable to operate at 100% or base load by the time the deadline occurs. This is a large and complicated set of facilities which will require considerable tuning upon initial startup. Certified CEMS will provide continuous measurement of NO_x, CO, and SO₂ to ensure compliance with emission limits. Special Condition 21.A.5.b provides the option for additional testing if deemed necessary.

COMMENT 45: Commenter states that the mercury standards must meet the BACT standards (Levin).

RESPONSE 45: Refer to Response 18 for the discussion on why the Executive Director has determined that the proposed mercury limit meets BACT and MACT.

COMMENT 46: Commenter states that the Coletto Creek Unit 2 proposes to emit 540 pounds of lead pollution in to the ambient air of Goliad County and that the Coletto Creek Unit 2 needs to conduct baseline ambient air monitoring for lead to determine the existing levels at the site, particularly in light of the new NAAQS for lead (Levin).

Commenter states that a CEMS for lead should be installed on the unit (Levin).

RESPONSE 46: The applicant did not propose to emit lead in a significant amount and therefore was not required to do any ambient air monitoring to determine existing levels of lead in the air at the site. The TCEQ does not require applicants to monitor ambient air concentrations of pollutant to show compliance with the NAAQS. The TCEQ requires modeling to indicate whether a proposed facility will cause a violation of the NAAQS. The applicant's modeling analysis indicates the emission of lead, which was predicted at a GLC of less than $0.01 \mu\text{g}/\text{m}^3$, would not violate the NAAQS.

The emissions of lead are very small and do not warrant a CEMS. Special Condition 21 requires initial stack sampling for lead. The monitoring of the baghouse for proper operation will indicate proper control of lead which is controlled by the baghouse.

COMMENT 47: Commenter states that the NO_x BACT analysis incorrectly states that there is an inverse relationship between NO_x and products of incomplete combustion. This statement does not reflect current burner designs and boiler operating technology. (Weber)

RESPONSE 47: While newer technology and increased understanding of pollutant formation have reduced the impact of the relationship between NO_x and products of incomplete combustion, the relationship still exists. Newer burners take advantage of technological and operational developments to reduce the impact of the relationship.

CHANGES MADE IN RESPONSE TO COMMENT

In response to public comment, the Executive Director has made the following changes to the draft permit:

In response to Comment 36, Special Condition 8 has been altered to include a restriction, which is 12 hours, on the amount of time startup or shutdown may take.

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In response to Comment 37, Special Condition 34(H) has been altered to require that the type of coal received at the site also be recorded.

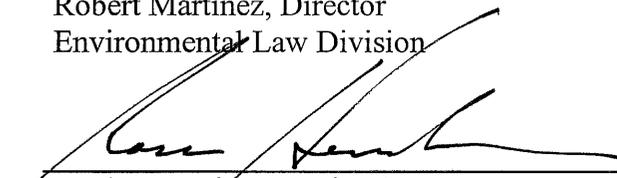
Respectfully submitted,

Texas Commission on Environmental Quality

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

Stephanie Bergeron Perdue, Deputy Director
Office of Legal Services

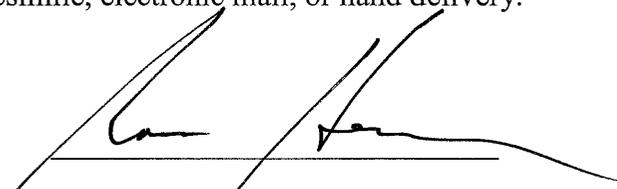
Robert Martinez, Director
Environmental Law Division

A handwritten signature in black ink, appearing to read "Booker Harrison", is written over a horizontal line. The signature is stylized and cursive.

Booker Harrison, Senior Attorney
State Bar Number 00793910
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Environmental Law Division
PO Box 13087, MC 173
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CERTIFICATE OF SERVICE

On this 1st day of April, 2009, a true and correct copy of the foregoing instrument (ED's Response to Comment) was served on all persons on the attached mailing list by the undersigned via deposit into the U.S. Mail, inter-agency mail, facsimile, electronic mail, or hand delivery.



Ross Henderson