

State Office of Administrative Hearings



Cathleen Parsley
Chief Administrative Law Judge

September 30, 2013

Les Trobman, General Counsel
Texas Commission on Environmental Quality
P.O. Box 13087
Austin Texas 78711-3087

Re: **SOAH Docket No. 582-13-1520; TCEQ Docket No. 2012-2608-Air; In Re: Application of El Paso Electric Company for Air Quality Permit Nos. 102294 and PSD-TX-1290**

Dear Mr. Trobman:

The above-referenced matter will be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Enclosed are copies of the Proposal for Decision and Order that have been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than **October 21, 2013**. Any replies to exceptions or briefs must be filed in the same manner no later than **October 31, 2013**.

This matter has been designated **TCEQ Docket No. 2012-2608-AIR; SOAH Docket No. 582-13-1520**. All documents to be filed must clearly reference these assigned docket numbers. All exceptions, briefs and replies along with certification of service to the above parties shall be filed with the Chief Clerk of the TCEQ electronically at <http://www10.tceq.state.tx.us/epic/efilings/> or by filing an original and seven copies with the Chief Clerk of the TCEQ. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

A handwritten signature in black ink that reads "Richard R. Wilfong".

Richard R. Wilfong
Administrative Law Judge

RRW/lis
Enclosures
cc: Mailing List

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STYLE/CASE: EL PASO ELECTRIC COMPANY
SOAH DOCKET NUMBER: 582-13-1520
REFERRING AGENCY CASE: 2012-2608-AIR

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SOAH DOCKET NO. 582-13-1520
TCEQ DOCKET NO. 2012-2608-AIR

APPLICATION OF EL PASO	§	BEFORE THE STATE OFFICE
ELECTRIC COMPANY FOR AIR	§	
QUALITY PERMIT NOS. 102294 AND	§	OF
PSD-TX-1290	§	
	§	ADMINISTRATIVE HEARINGS

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III. NOTICE AND JURISDICITON

No party disputed the adequacy of notice or the jurisdiction of either the Commission or the State Office of Administrative Hearings (SOAH). The attached Proposed Order contains the necessary findings and conclusions concerning jurisdiction.

IV. PROCEDURAL HISTORY

The most important procedural events are listed below:

DATE	EVENT
April 20, 2012	State Air Quality and PSD Permit Applications filed. ²
April 26, 2012	The ED declared the Application administratively complete. ³
May 7, 2012	EPE published a Notice of Receipt of Application and Intent to Obtain Air Permit in English in the <i>El Paso Times</i> and in Spanish in the <i>El Diario de El Paso</i> . ⁴
October 9, 2012	The ED concluded that the Application was technically complete, issued a Draft Permit, and recommended that the Application be approved. ⁵
October 15, 2012	EPE published Notice of Application and Preliminary Decision in English in the <i>El Paso Times</i> and in Spanish in the <i>El Diario de El Paso</i> . ⁶
December 6, 2012	Notice of Public Meeting was published in the <i>El Paso Times</i> .
December 10, 2012	EPE requested that the Application be directly referred to SOAH.
December 13, 2012	A public meeting was held in El Paso. The public comment period ended at the close of this public meeting.
December 19, 2012	The Commission referred the matter to SOAH to conduct a contested case hearing and issue a PFD.

² EPE Ex. 1 at 21.

³ EPE Ex. 100 at 19.

⁴ EPE Ex. 100 at 19; ED Ex. B.

⁵ EPE Exs. 100 at 23-24, and 106.

⁶ EPE Ex. 100 at 24; ED Ex. A.

January 22, 2013	Preliminary hearing was held in El Paso, Texas. ED Exhibits A, B, and C were admitted establishing notice and jurisdiction. Protestants and Rafael Carrasco, Jr. were named parties.
June 4, 2013	Hearing on the merits (HOM) began in Austin, Texas.
June 6, 2012	Last day of HOM.
July 12, 2013	Deadline to file closing arguments.
August 2, 2013	Deadline to file responses to closing arguments and case record closed.

V. BACKGROUND FACTS

Montana Power Station will be a “greenfield”⁷ electric generating facility comprised of four General Electric LMS100 CTGs each with a maximum base-load electric power output of approximately 100 megawatts (MW), two cooling towers, one fire water pump, and auxiliary equipment.⁸ Each CTG will be limited to 5,000 hours of operation per year, including start-up and shut-down events.⁹

The LMS100 is the first production CTG to utilize off-engine intercooling technology with the use of an external heat exchanger that provides the highest simple cycle efficiency in the industry. The unique feature of the LMS100 is the use of intercooling between both the first, low-pressure compressor and the second, high-pressure compressor to achieve lower inlet air temperature enabling more air to pass through the turbine thus boosting performance. This feature makes the LMS100 a superior choice for power generation during high ambient temperatures.¹⁰ Utilization of a wet intercooler system maximizes the generating capacity and efficiency of the LMS100 on the hottest summer days when peak power is most needed.¹¹

⁷ An undeveloped land site.

⁸ EPE Ex. 1 at 9-10, 17-18.

⁹ EPE Ex. 100 at 37.

¹⁰ EPE Exs. 1 at 9-10, and 4U.

¹¹ EPE Ex. 1 at 12-13.

For PSD purposes, the Montana Power Station would emit the following air contaminants: carbon monoxide (CO); nitrogen oxides (NO_x); and particulate matter (PM), including particulate matter less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}). In addition, the plant would emit sulfuric acid mist (H₂SO₄); ammonia (NH₃); volatile organic compounds (VOC); and sulfur dioxide (SO₂), each below the PSD significance level.¹² The Montana Power Station will also emit greenhouse gases which are regulated by the U. S. Environmental Protection Agency (EPA), but not by TCEQ. EPE has submitted a separate application to EPA to authorize the greenhouse gas emissions from the Montana Power Station.¹³ Except for the recently initiated EPA permitting requirements for greenhouse gases, the Montana Power Station would not have triggered PSD review, and would have satisfied the requirements for a Commission-issued standard permit, i.e., a proposed facility that meets the conditions of the standard permit are deemed to categorically satisfy BACT and have acceptable ambient air impacts.¹⁴

EPE will employ a suite of emissions control devices and techniques to reduce emissions from Montana Power Station, including:

- water injection with selective catalytic reduction (SCR) and staged air burners for NO_x,
- good combustion practices and oxidation catalyst for control of CO and VOC,
- high efficiency drift eliminators for control of PM, PM₁₀, and PM_{2.5} emissions from the cooling towers, and
- use of pipeline-quality natural gas and good combustion controls for control of PM, PM₁₀, and PM_{2.5} from the CTGs.

¹² This Proposal for Decision (PFD) uses many acronyms. They are identified in the text and for ease of reference, many are also identified in an appendix at the end of the PFD.

¹³ EPE Ex. 100 at 33-34.

¹⁴ EPE Ex. 100 at 12-13; Tr. at 154-156.

TCEQ's Air Permits Division (APD) Staff performed a BACT analysis on all facilities proposed by EPE's Application. The BACT emission limits appear in the Draft Permit's Special Conditions and Maximum Allowable Emission Rate Table (MAERT).¹⁵

According to EPE and the ED, the Draft Permit satisfies all applicable requirements for permit issuance under the Texas Clean Air Act (TCAA) and TCEQ's implementing rules in 30 Texas Administrative Code (TAC) Chapter 116 for state air quality and PSD permitting, including the PSD air quality analysis requirements and the establishment of PSD BACT emission limitations for the Montana Power Station facilities. The Draft Permit includes sampling, testing, and monitoring provisions that will require EPE to demonstrate both initial compliance and continuous compliance with the permit's emission limitations and operating restrictions.

VI. APPLICABLE LAW

A. Texas Clean Air Act Standards

Under Texas law, EPE may not construct Montana Power Station until it has obtained a permit from the Commission. Texas Health and Safety Code § 382.0518(a) provides:

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.

Subsection (b) of section 382.0518 sets out two overarching standards for obtaining a pre-construction permit. It states:

The commission shall grant within a reasonable time a permit or permit amendment to construct or modify a facility if, from the information available . . . the commission finds:

- (1) **the proposed facility** for which a permit, permit amendment, or a special permit is sought **will use at least the best available control technology**, considering the technical practicability and economic

¹⁵ ED Ex. 11.

reasonableness of reducing or eliminating the emissions resulting from the facility; and

(2) **no indication that the emissions from the facility will contravene the intent of [the TCAA]**, including protection of the public's health and physical property.

The intent of the TCAA is set out in Texas Health and Safety Code § 382.002(a), which provides:

The policy of this state and the purpose of [the TCAA] are to safeguard the state's air resources from pollution by controlling or abating **air pollution** and emissions of air contaminants, consistent with the protection of public health, general welfare, and physical property, including the esthetic enjoyment of air resources by the public and the maintenance of adequate visibility.¹⁶

Air pollution is defined by Texas Health and Safety Code § 382.003(3) as follows:

“Air pollution” means the presence in the atmosphere of one or more air contaminants or combination of air contaminants in such concentration and of such duration that:

- (1) are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property; or
- (2) interfere with the normal use or enjoyment of animal life, vegetation, or property.

To simplify writing, the ALJ collectively refers to the above effects of air pollution as “adverse effects.”

B. Standards in TCEQ’s Rules

1. Permit Requirement

Under 30 TAC § 116.110, before any actual work is begun on a facility, any person who plans to construct any new facility or to engage in the modification of any existing facility which

¹⁶ Emphasis added.

may emit air contaminants into the air of this state shall either obtain a permit under 30 TAC §116.111, or comply with an alternative requirement. EPE has chosen to apply for a permit.

2. BACT

Both the Texas Health and Safety Code and the Commission's rules require that the proposed facility use BACT. The Commission's rule at 30 TAC § 116.111(a)(2)(C) states:

(a) In order to be granted a permit, amendment, or special permit amendment, the application must include:

.....

(2) information which demonstrates that all of the following are met.

.....

(C) Best available control technology (BACT). The proposed facility will utilize BACT, with consideration given to the technical practicability and economic reasonableness of reducing or eliminating the emissions from the facility.

C. NAAQS and PSD

In the Federal Clean Air Act (FCAA),¹⁷ Congress directed EPA to adopt National Ambient Air Quality Standards (NAAQS).¹⁸ The Commission has adopted the NAAQS by reference and specified that they be enforced throughout Texas.¹⁹ The NAAQS most relevant to this case are listed below:

¹⁷ As amended, 42 United States Code (U.S.C.) § 7401 *et seq.*

¹⁸ 42 U.S.C. § 7409(a).

¹⁹ 30 TAC § 101.21.

NAAQS ²⁰				
Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm ²¹ (10 mg/m ³)	8-hour	None	
	35 ppm (40 mg/m ³)	1-hour		
Nitrogen Dioxide	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Same as Primary	
PM ₁₀	150 µg/m ³	24-hour	Same as Primary	
PM _{2.5}	15.0 µg/m ³	Annual (Arithmetic Mean)	Same as Primary	
	35 µg/m ³	24-hour	Same as Primary	

An area that meets the NAAQS for a particular criteria pollutant is deemed to be in attainment for that pollutant. An area that does not meet the NAAQS is a nonattainment area. An area that cannot be classified due to insufficient data is unclassifiable, which allows the area to be treated for regulatory purposes as though it were an attainment area for the particular criteria pollutant in question.²²

Under 30 TAC § 116.111(a)(2)(I), a proposed facility located in a NAAQS attainment area must comply with all applicable requirements of 30 TAC Chapter 116 concerning PSD review. Additionally, 30 TAC § 116.161 provides:

The commission may not issue a permit to any new major stationary source or major modification located in an area designated as attainment or unclassifiable, for any National Ambient Air Quality Standard (NAAQS) under FCAA, §107, if ambient air impacts from the proposed source would cause or contribute to a violation of any NAAQS. In order to obtain a permit, the source must reduce the impact of its emissions upon air quality by obtaining sufficient emission reductions to eliminate the predicted exceedances of the NAAQS. A major source or major modification will be considered to cause or contribute to a violation of a

²⁰ 40 C.F.R. Part 50. Transitioning provisions and calculation details are not included. Table layout, with minor modifications, can be found at <http://epa.gov/air/criteria.html>.

²¹ Parts per million.

²² 42 U.S.C. § 7407(d).

NAAQS when the emissions from such source or modification would, at a minimum, exceed the *de minimis* impact levels specified in §101.1 of this title (relating to Definitions) at any locality that is designated as nonattainment or is predicted to be nonattainment for the applicable standard.²³

Further, 30 TAC § 116.160 adopts by reference EPA's rules at 40 C.F.R. § 52.21. In relevant part, 40 C.F.R. § 52.21(k) states the following:

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

- (1) Any [NAAQS] in any air quality control region; or
- (2) Any applicable maximum allowable increase over the baseline concentration in any area.

D. Burden of Proof

The parties agree that EPE bears the burden of proving by a preponderance of the evidence that its Application complies with all applicable statutes and rules.²⁴

VII. CONTESTED ISSUES

A. Issues to be Addressed

EPE asked the Commission to directly refer this case to SOAH for a contested case hearing. Therefore, EPE has the burden of showing compliance with all applicable state and federal standards. But as a practical matter, the contested issues were framed by Protestants who, through evidence and arguments, identified the principal areas of concern with the EPE's Application. Protestants raised five primary issues:

²³ Emphasis added.

²⁴ 30 TAC §§ 55.210(b) and 80.17(a).

- (1) Whether to satisfy BACT for PM, EPE should be required to construct the Montana Power Station without cooling towers. Protestants contend the dry or dry-hybrid intercooler system for the LMS100 CTGs is BACT for the LMS100 CTGs, rather than the wet intercooler system proposed by EPE, because the cooling towers required for the wet intercooler system and their associated PM emissions could be eliminated;
- (2) Whether EPE's proposed simple cycle generating facility should be required to meet the BACT emission limits of a combined cycle generating facility for NO_x, CO, NH₃, and VOC because of proposed comparable operating hours;
- (3) Whether EPE's modeling protocol failed to analyze the effects of the Montana Power Station on the El Paso area using updated data and computer models that most accurately predict emission impacts. Protestants contend that by using outdated science and technology, EPE was able to avoid conducting a full impact analysis;
- (4) Whether EPE's modeling failed to account for secondary PM_{2.5} impacts; and
- (5) Whether EPE was required to include pre-construction continuous monitoring data in its Application and failed to do so.

B. Protestants' Related Concerns

In addition to Protestants' five primary issues, they argued that the Draft Permit conditions are inconsistent with BACT requirements and should be revised and that an environmental justice review should have been conducted. Each of these additional concerns are discussed below following the discussion and findings concerning the five primary issues.

VIII. EXPERT WITNESSES

Several expert witnesses testified at the hearing. For ease of reference they are identified and their qualifications are briefly outlined in this section. Their testimony and exhibits are described in the sections that relate to the specific issues.

EPE's engineering witness, Paul F. Greywall, P.E., was responsible for the preparation and submittal of EPE's Application. He holds bachelors and masters degrees in mechanical engineering and an MBA. He works for Trinity Consultants in Dallas, Texas, and has managed

over 300 air permitting and environmental compliance projects for a wide variety of industrial clients, including over 30 PSD permit applications and a nonattainment new source review application in Texas.²⁵ Trinity Consultants has prepared over 5,000 air permit applications in the United States, within the last 10 years, including more than 1,000 in Texas.

Andy Ramirez, P.E., EPE's vice president of power generation, also testified. He holds a B.S. degree in electrical engineering and an MBA, and is an expert in power generation planning and development and electric utility management.²⁶

Thomas M. Dydek, Ph.D., D.A.B.T., P.E., was EPE's witness on toxicology issues. Dr. Dydek holds a B.S. in mechanical engineering and an M.S. in environmental engineering. His Ph.D. and post-doctoral studies focused on environmental toxicology. He is a board certified toxicologist as a Diplomate of the American Board of Toxicology and has his own consulting firm, Dydek Toxicology Consulting, Austin, Texas. Dr. Dydek has 18 years of experience in the public sector, including working as a toxicologist with the EPA human health research lab in Triangle Park, North Carolina, and with the Texas Air Control Board, a predecessor agency to the TCEQ.²⁷

Bill Powers, P.E., was Protestants' expert witness on BACT. Mr. Powers has a B.S. in mechanical engineering and a M.S. in public health with a focus on environmental sciences. He has been a consultant on environmental and energy matters with his own consulting firm, Powers Engineering in San Diego, California, for 20 years. He has performed over 40 BACT or Lowest Achievable Emission Rate analyses, and other control technology analyses primarily related to air pollution. He is also experienced in permitting, testing, and monitoring, combustion and emissions control equipment.²⁸

²⁵ EPE Exs. 101 and 102.

²⁶ EPE Exs. 2 and 3.

²⁷ EPE Exs. 200 and 201.

²⁸ Protestants Exs. 27 at 2-4, and 28.

Steven Klafka, P.E., was Protestants' expert witness on air dispersion modeling. Mr. Klafka has a B.S. in mechanical engineering and an M.S. in civil and environmental engineering. He is board certified as an environmental engineer by the American Academy of Environmental Engineers, and has worked as an environmental engineer with Wingra Engineering, S.C. in Madison, Wisconsin, since 1991. Mr. Klafka has been involved in hundreds of air permit projects over his 32-year career.²⁹

TCEQ's permit engineer, Sean O'Brien, is in the Combustion/Coatings Section of the APD. Mr. O'Brien holds a B.S. in chemical engineering and has attended numerous training events provided by TCEQ, including air permit seminars, air dispersion modeling methodologies, and methods of contaminate control. He has been employed by TCEQ and its predecessor agencies since 2001.³⁰

Justin Cheery, P.E., is the professional engineer with TCEQ's Air Dispersion Modeling Team who oversaw the audit of EPE's air dispersion modeling analysis. Mr. Cheery holds a B.S. degree in chemical engineering, is a licensed professional engineer in Texas, and has attended several training courses provided by TCEQ, including courses concerning Graphic Information Systems (GIS) and air dispersion modeling using AERMOD. Mr. Cheery joined TCEQ in 2008. He has reviewed over 300 air dispersion modeling projects and was the lead reviewer on most of those projects.³¹

IX. BEST AVAILABLE CONTROL TECHNOLOGY

The first issue requiring resolution is whether EPE has demonstrated that it will use BACT. BACT is an emission limit. A source may use any technology as long as it achieves the limitation.³² The ALJ begins with the Commission's past guidance and precedent on the BACT analysis.

²⁹ Protestants Exs. 1 at 3-7, and 2.

³⁰ ED Exs. 1 at 3-4, and 2.

³¹ ED Exs. 23 at 3-4 and 24.

³² ED Ex. 1 at 8.

A. TCEQ and EPA Guidance on BACT

TCEQ guidance document, Air Pollution Control: How to Conduct a Pollution Control Evaluation, APDG 6110, dated January 2011, and the EPA's Draft October 1990 New Source Review Workshop Manual Prevention of Significant Deterioration and Nonattainment Area Permitting, are used by the TCEQ APD Staff for preparing and evaluating BACT proposals submitted in new source review air permit applications. They discuss not only the TCEQ's three-tiered and EPA's top-down processes for conducting a BACT analysis, but also discuss the policy and regulatory basis for BACT.³³ Although there are differences between the TCEQ three-tiered BACT analysis and the EPA top-down analysis, they both reach the same result which is BACT for the specific pollutant.³⁴

In accordance with the TCEQ guidance document, APD Staff used the three-tiered approach in conducting its BACT evaluation of EPE's Application. With the approval of APD Staff, EPE's permit engineer used EPA's top-down methodology for NO_x, CO, PM, PM₁₀, and PM_{2.5}, and TCEQ's three-tiered BACT analysis for VOC and NH₃.³⁵ The choice of BACT methodologies was not contested. BACT emission limits were established by APD Staff for all Applicable emissions and incorporated into the Draft Permit Special Conditions and MAERT.³⁶

B. Pollutant Specific BACT

1. BACT for PM, PM₁₀, and PM_{2.5}

It is undisputed that no add-on controls have been required for natural gas-fueled CTGs to control PM, PM₁₀, and PM_{2.5}. Thus, the use of pipeline-quality natural gas and good combustion controls is BACT for PM, PM₁₀, and PM_{2.5} for the CTGs.³⁷ It is also undisputed that

³³ ED Exs. 1 at 7-9, 4 and 5.

³⁴ ED Ex. 1 at 10; EPE Ex. 100 at 58.

³⁵ EPE Ex. 100 at 58-59.

³⁶ ED Ex. 1 at 8-9, 11, and 15; ED Ex. 11.

³⁷ Protestants Ex. 27 at 21, 23; EPE Ex. 100 at 75; ED Ex. 1 at 14.

high efficiency drift eliminators meeting a design drift rate of 0.0005% represents BACT for PM, PM₁₀, and PM_{2.5}, for the cooling towers.³⁸ However, Protestants and OPIC argue that the Commission should require EPE to construct the Montana Power Station without cooling towers by installing CTGs equipped with a dry or dry-hybrid intercooler system rather than the wet intercooler system proposed by EPE. Protestants' expert witness, Mr. Powers, testified that the CTGs equipped with dry cooling represents BACT for PM emissions from the Montana Power Station.³⁹ EPE and the ED disagree. They contend BACT does not concern itself with the Applicant's selection of facilities. Rather, BACT is focused on emission control technologies and does not require consideration of alternative facilities that are the source of air emissions. Stated differently, EPE and the ED argue that BACT concerns the selection of emission controls designed to minimize the level of emissions from each facility that is a source of air contaminants and to which the air permit will apply. EPE and the ED rely on the TCEQ rule defining "facility" as "a discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment."⁴⁰

EPE argued that evaporative cooling towers are among the facilities that it proposes to build as part of the Montana Power Station, and it proposes to control the PM, PM₁₀, and PM_{2.5} emissions from the cooling towers with drift eliminators meeting a design drift rate of 0.0005%. The permitted emissions from the two cooling towers will be 1.56 tons per year (tpy) PM, 0.5 tpy PM₁₀, and less than 0.02 tpy PM_{2.5}, which represent BACT.⁴¹

The ED's witness, Mr. O'Brien, testified that "[a] BACT analysis was performed on all of the facilities proposed by the Applicant. The BACT review process does not include an analysis of alternate facilities as an available control technique. BACT was applied to the proposed facility. . . . The water cooling towers are proposed with drift eliminators that limit drift to 0.0005 percent, which is consistent with other recent PM, PM₁₀, PM_{2.5} BACT

³⁸ Tr. at 372-373, 418; EPE Ex 100 at 75; ED Ex. 1 at 14.

³⁹ Protestants Ex. 27 at 23-27.

⁴⁰ TCAA § 382.003(6); 30 TAC § 116.10(4); Tr. at 440.

⁴¹ ED Exs. 1 at 14, and 10.

determinations within the RBLC⁴² database. This was determined to be BACT for the facility.”⁴³ The ED further argued that TCEQ lacks regulatory authority to require one type of facility design over another so long as an applicant can demonstrate that the proposed facility meets the requirements of a particular authorization.⁴⁴

Based on the preponderance of the evidence and the authorities and arguments presented by EPE and the ED which the ALJ finds most persuasive, the ALJ concludes that the cooling towers are not methods to control emissions. Rather, they are component facilities that will be a source of PM, PM₁₀, and PM_{2.5} emissions. These emissions are caused by the evaporation of water mist that contains dissolved solids which become airborne particulate when the water droplet dries. The method of controlling these emissions from the cooling towers is the use of high efficiency drift eliminators with a drift rate (pound of water drift emission per pound of circulated water) of 0.0005% to knock out water particles containing dissolved solids. The emission limits in the Draft Permit for the cooling towers are 1.56 tpy PM, 0.5 tpy PM₁₀, and less than 0.02 tpy PM_{2.5} which is BACT for the cooling towers in accordance with TCEQ’s BACT guidelines.⁴⁵ EPE was not required to consider combined cycle technology or other industrial processes to generate electricity as part of its BACT analysis because that would constitute a redefinition of EPE’s proposed power plant design.⁴⁶ BACT analysis includes consideration only of those control technologies that can be incorporated into or added to the facility, as proposed.⁴⁷ Thus, it is not surprising that Protestants’ witness Mr. Powers could not identify a single permitting authority that has ever directed the use of a dry cooled LMS100 as BACT.⁴⁸ Further, the record contains no evidence that any power generation project has ever chosen or been required by any permitting authority to install a dry-hybrid intercooler system for an LMS100 CTG. Accordingly, the ALJ finds that EPE should not be required to construct the Montana

⁴² EPA’s RACT/BACT/LAER clearinghouse. RACT means “reasonably available control technology.” LAER means “lowest achievable emission rate.”

⁴³ Tr. at 418-419.

⁴⁴ ED Closing Argument at 2.

⁴⁵ ED Ex. 1 at 14.

⁴⁶ EPE Ex. 100 at 65.

⁴⁷ *Blue Skies Alliance v. TCEQ*, 283 S.W.3d 525 (Tex. Civ. App. – Amarillo 2009, no pet.).

⁴⁸ Tr. at 375-376.

Power Station without cooling towers by using a dry intercooler system, or use a dry-hybrid intercooler system rather than the wet intercooler system to satisfy BACT for PM.⁴⁹

2. BACT for NO_x, CO, NH₃, and VOC

The Draft Permit BACT emission rates for NO_x, CO, NH₃, and VOC and the corresponding lower BACT emission rates proposed by Protestants are as follows:

Draft Permit

- NO_x — 2.5 ppmvd corrected to 15% oxygen, 3-hour rolling average, excluding startup, shutdown, and maintenance emissions.
- CO — 6.0 ppmvd with a 3-hour rolling average.
- NH₃ — 7.0 ppmvd with a 24-hour rolling average.
- VOC — 2.0 ppmvd with a 3-hour rolling average using oxidation catalyst.

Protestants

- NO_x — 2.0 ppmvd
- CO — 2.0 ppmvd with a 1-hour rolling average.
- NH₃ — 5.0 ppmvd with a 1-hour rolling average.
- VOC — 1.0 ppmvd with a 1-hour rolling average using oxidation catalyst.

Mr. Powers testified that lower emission rates for these pollutants are BACT because the Montana Power Station will be allowed to operate up to 5,000 hours per year and its capacity factor will equal or exceed the typical capacity factor of combined cycle power plants. Therefore, Mr. Powers contends that the Montana Power Station simple cycle CTGs should meet

⁴⁹ Mr. Powers never mentions a “dry-hybrid” intercooler in either his prefiled direct testimony or his oral testimony. He only discusses the dry versus the wet intercooler systems. Protestants’ first mention that a dry-hybrid intercooler system is BACT for the LMS100 CTGs is in their initial post-hearing brief and is based solely on one short paragraph in a GE sales brochure which states: “In high ambient climates the performance of the air-to-air system can be enhanced with an evaporative cooling system integrated with a heat exchanger. This provides equivalent performance to the air-to-water system.” (EPE Ex. 4U at 7-8) Thus, it is apparent that the dry-hybrid intercooler system, like the wet intercooler system, uses evaporative cooling, i.e., a cooling tower. Accordingly, Protestants’ representations that there is “no water consumption in the Dry-Hybrid System” and that “the Dry-Hybrid system has the added benefit of eliminating particulate emissions from the cooling towers,” are inaccurate and misleading. (Protestants Brief at 6 and 7).

the lower BACT emission rates established for combined cycle plants. OPIC concurs with the Protestants at least with respect to NO_x and CO. EPE and the ED disagree.

According to EPE, Mr. Powers' emission rates may be appropriate for a combined cycle power plant. However, EPE is proposing to build a simple cycle plant, not a combined cycle plant. Permitting authorities nation-wide recognize the difference in thermodynamic performance of combined and simple cycle plants, and accordingly, have established different BACT emission rates for the two different types of plants. According to EPE, it is unclear whether Protestants' argument is: (1) because the Montana Power Station seeks authorization to operate 5,000 hours per year, EPE should be required to build a combined cycle plant rather than the proposed simple cycle plant, or (2) the number of operating hours somehow causes the hourly emissions from the exhaust of a simple cycle CTG to behave like emissions at the outlet of a heat recovery steam generator (HRSG) on a combined cycle plant. With regard to the first, EPE asserts it is not the function of an air quality permitting process to direct the choice of power generation technology. As to the second, the number of operating hours does not change the technology's performance capabilities in any given hour. According to EPE, It is for this obvious reason that no permitting authority in the nation makes BACT emission determinations for simple cycle plants based on combined cycle performance.⁵⁰

The ALJ agrees with EPE and finds no legal authority or technological equivalence that would justify requiring one generation technology, i.e., simple cycle, to meet the emission limits of another generation technology, i.e., combined cycle, simply because of comparable operating hours. Thus, the ALJ finds Mr. Powers' rationale for lower emission rates lacks merit.

In addition, the more persuasive evidence is found in the testimony of the ED's witness, Mr. O'Brien, who stated that the 2.0 ppm limit proposed by Mr. Powers for NO_x is not technically practicable for this type of facility because of the turbines exhaust NO_x concentration. He further testified that a NO_x limit lower than 2.5 ppm is not technically feasible because the SCR system proposed by EPE achieves 90% NO_x reduction and that is the highest reduction he has ever seen permitted. Even combined cycle plants are not required to

⁵⁰ ED Ex. 8 at 287 (establishing separate BACT limits for combined cycle and simple cycle units).

achieve that level of reduction.⁵¹ Based on his search of the RBLC for gas-fired simple cycle turbines that have been permitted in the last 10 years, NOx emission limits of 2.5 ppmvd,⁵² corrected to 15% oxygen, were the lowest and all of them used SCR to achieve that limit. Use of water injection and SCR to control NOx emissions to 2.5 ppmvd is consistent with the top levels of control for natural gas-fired simple cycle turbines included in the RBLC; therefore, BACT is satisfied.⁵³

With regard to CO, Mr. O'Brien testified that good combustion practices and the use of oxidation catalyst to control CO to 6.0 ppmvd, corrected to 15% oxygen, is at the low end of the BACT range for simple cycle combustion turbines, as published in the TCEQ's BACT requirements table and as recently permitted by TCEQ. His search of the RBLC for facilities recently permitted shows that CO emission limits ranged from 6.0 ppmvd to 25 ppmvd, corrected to 15% oxygen. Therefore, BACT for CO is satisfied in this case.⁵⁴ Mr. O'Brien further testified that Mr. Powers' proposed 2.0 ppm based on combined cycle plants permitted in Texas is not technically practicable because the equipment vendor for the oxidation catalyst guaranteed only 6 ppm. Additionally, Mr. O'Brien's BACT review did not discover any other simple cycle plant permitted at 2.0 ppm for CO.⁵⁵ Mr. Powers' advocacy of a 2.0 ppm BACT limit for CO is further belied by his testimony on cross-examination that he was not aware of any LMS100 project that had a BACT determination set at 2.0 ppm for CO. His admission is consistent with the testimony of Mr. O'Brien that a 2.0 ppm CO BACT limit for an LMS100 is not technically practicable.⁵⁶

Concerning BACT for NH₃ emissions, Mr. O'Brien explained that EPE will operate the SCR system so that the ammonia slip (emission of unreacted ammonia to the atmosphere) is minimized while ensuring that the NOx emission limits are met. Limiting the ammonia slip to 7 ppmvd, corrected to 15% oxygen, satisfies BACT as specified in the TCEQ's BACT

⁵¹ Tr. at 443.

⁵² Parts per million volumetric dry.

⁵³ ED Ex. 1 at 12.

⁵⁴ ED Ex. 1 at 12.

⁵⁵ Tr. at 444.

⁵⁶ Tr. at 444.

requirements table for simple cycle combustion turbines.⁵⁷ Mr. O'Brien further explained that the BACT emission limit was not designed to reduce the emissions of ammonia, but rather to ensure good design and proper catalyst replacement.⁵⁸ Curiously, when questioned about his claim that if EPE were required to meet a 5 ppm NH₃ BACT limit, 19 tons per year of ammonia emissions would be eliminated, he admitted that he had not reviewed the emission calculations in the Application, leaving him unaware that the pound-per-hour limits in the Draft Permit are actually based on an NH₃ concentration of 5 ppm.⁵⁹ Although this suggests that the 7 ppm emission rate should be lowered to the 5 ppm used in the calculation, the ALJ does not make this recommendation because NH₃ are a byproduct of injection into the SCR system to control Nox emissions.⁶⁰ Thus, the NH₃ limit is not the primary driver for reducing NH₃ emissions. Rather, it is the economic motivation of the power plant operator to use as little ammonia as possible to meet the Nox emission limit.⁶¹ A lower NH₃ BACT does not assure that greater control is achieved.⁶²

Regarding BACT for VOC emissions, Mr. O'Brien testified that using good combustion practices and an oxidation catalyst to limit VOC emissions to 2.0 ppmvd, corrected to 15% oxygen meets the TCEQ's BACT requirements for simple cycle combustion turbines, and is consistent with the top level of control for natural gas-fired simple cycle combustion turbines.⁶³

Based on the preponderance of the evidence, the ALJ finds that the emission limits in the Draft Permit are BACT for simple cycle combustion turbines, and EPE's simple cycle power plant should not be required to meet the lower BACT emission limits of a combined cycle plant because of comparable operating hours.

⁵⁷ ED Ex. 1 at 13-14.

⁵⁸ Tr. at 444-445.

⁵⁹ Tr. at 371-372; EPE Ex. 100 at 72-73.

⁶⁰ Tr. at 426.

⁶¹ Tr. at 372.

⁶² Tr. at 444-445.

⁶³ ED Ex. 1 at 13.

With regard to emission controls for Nox, Mr. Powers made a tangential argument that EPE should use dry low emission (DLE) combustors rather than water injection. Mr. Powers did not dispute the effectiveness of water injection along with a SCR system as proposed by EPE, but he did advocate that EPE should use DLE rather than water injection for the additional benefit of conserving approximately 150,000 gallons of water per day and eliminating about 30,000 gallons per day of reverse osmosis reject wastewater.⁶⁴ Although Protestants' water conservation argument has a certain appeal when Texas is experiencing serious water shortages caused by recurrent severe drought, the ALJ finds no authority in the statutes or TCEQ rules to consider comparative water consumption or wastewater reduction in the selection of technologies to achieve BACT air emission rates.⁶⁵ Therefore, EPE should not be required to use DLE combustors rather than water injection for Nox control.

X. AIR DISPERSION MODELING

A. Legal Standards and Issues

Under Texas statutes and rules, EPE is required to demonstrate that the expected emissions from its facility will not contravene the intent of the TCAA, including the protection of public health, public welfare, and physical property.⁶⁶ To satisfy these requirements, EPE's permit engineer, Mr. Greywall, conducted air dispersion modeling to demonstrate the anticipated air quality effects of the proposed Montana Power Station. EPE's modeling assumed that the worst-case meteorological conditions for dispersion would occur simultaneously with the worst-case emissions scenario, including the assumption that all emission sources would be operating simultaneously.⁶⁷ In its Air Quality Impact Assessment Report, EPE found that the maximum predicted concentrations of Nox, PM₁₀, CO, SO₂, and PM_{2.5} resulting from the Montana Power Station's emissions are less than the applicable NAAQS Significant Impact Levels (SILs or SIL)

⁶⁴ Protestants Ex. 27 at 18-19.

⁶⁵ This finding also applies to Protestants' water conservation arguments comparing the proposed wet intercooler system to the alternative dry intercooler system for the LMS100 CTGs.

⁶⁶ Tex. Health & Safety Code § 382.0518(b); 30 TAC § 116.111(a)(2)(A)(i).

⁶⁷ EPE Ex. 100 at 121.

and PSD monitoring *de minimis* concentrations.⁶⁸ Mr. Greywall testified that as a result of these determinations, no full-impact NAAQS analyses were required for any of these criteria pollutants, and no criteria pollutant monitor background concentrations are needed. According to Mr. Greywall, with the exception of PM_{2.5} (24-hour), no further analysis is required because maximum predicted concentrations were also less than the corresponding PSD Increment form of the SIL. However, since the maximum predicted concentrations for PM_{2.5} (24-hour) were greater than the PSD Increment form of the PM_{2.5} SIL at one or more receptors, a PSD Increment Analysis was required for PM_{2.5} (24-hour).⁶⁹

The ED's witness, Mr. Cherry, testified concerning his audit of EPE's air dispersion modeling as follows: (1) a NAAQS review was conducted that included a preliminary impact determination (modeling significance analysis); (2) all criteria pollutants were below the respective SILs, except in regard to the 24-hour PM_{2.5} increment analysis; (3) a cumulative PSD increment analysis was conducted for 24-hour PM_{2.5} which demonstrated that the increment would not be exceeded; and (4) that the predicted concentrations from the preliminary impact determination were below the respective Significant Modeling Concentrations (SMCs) to satisfy the PSD pre-application analysis.⁷⁰

EPE's modeling demonstrated that there would be no harm to public health, public welfare, or physical property, as addressed by the various state and federal standards (such as NAAQS, PSD increment standards, state property line standards, *etc.*). However, Protestants' witness, Mr. Klafka, raised two challenges to the reliability and sufficiency of EPE's air quality modeling: (1) EPE's use of meteorological data from the El Paso weather station during the years 1987 to 1991 resulting in an under-prediction of PM_{2.5} and NO_x impacts, and (2) EPE's prediction of PM_{2.5} impacts included only the direct PM_{2.5} emissions and failed to include concentrations of secondary PM_{2.5} formed by SO₂ and Nox. Mr. Klafka testified that if more recent meteorological data had been used, it would have shown that the predicted emissions of PM_{2.5} and Nox exceed the SIL. Likewise, if secondary PM_{2.5} concentrations had been

⁶⁸ The terms SIL and *de minimis* mean the same thing and are used synonymously.

⁶⁹ EPE Exs. 100 at 124 and 105.

⁷⁰ ED Ex. 23 at 445-460.

considered, the SIL would have been exceeded. When a SIL is exceeded, a full impact analysis is necessary to verify whether the project emissions along with off-site sources of these pollutants comply with the NAAQS.

1. Meteorological Data

Protestants contend that EPE did not use an appropriate set of meteorological data and associated improvements in modeling technology to conduct its modeling. EPE and the ED disagree. The ALJ finds that EPE used appropriate meteorological data and associated modeling technology for its air-dispersion modeling.

EPE used five years of National Weather Service (NWS) observer-based data recommended by TCEQ for any air-permitting project in El Paso County. The ED provides applicants with pre-processed meteorological data sets for each county in Texas. TCEQ's Air Quality Modeling Guidelines state: "[r]equired years for PSD modeling are the most recent, readily available five years of data for both short-term and long-term modeling. Most recent, readily available means that the data are available on the EPA SCRAM or the [TCEQ] ADMT Internet page."⁷¹

No party disputes that EPE followed the TCEQ Staff's recommendation to use the pre-processed data found on the TCEQ's website. However, Protestants claim this practice was inappropriate because it failed to comply with EPA guidance. EPE contends that Protestants' argument is a wholesale challenge to TCEQ's practices and would invalidate the use of the pre-processed meteorological data that the TCEQ Staff recommends.

The ED's witness, Mr. Cherry, testified that the TCEQ Air Dispersion Modeling Team (ADMT) considers the NWS observer-based data made available on the agency website to be reliable for use in conducting modeling with AERMOD.⁷²

⁷¹ EPE Ex. 30.

⁷² Tr. 1129-1130.

Protestants claim that it was not appropriate for EPE to use the pre-processed data from TCEQ. They pointed to the definition of preferred data found in EPA's Guideline on Air Quality Models at Section 8.3.1.2 which states: "[f]ive years of representative meteorological data should be used when estimating concentrations with an air quality model. Consecutive years from the most recent, readily available 5-year period are preferred. The meteorological data should be adequately representative and may be site specific or from a nearby NWS station."⁷³

Mr. Klafka claimed that the data EPE used did not meet that standard because the data that EPE used was 20 years old. The data set that Mr. Klafka recommended was the new TCEQ meteorological data set for El Paso County for 2006 to 2010 which was added to the TCEQ web site on December 20, 2012. He stated that this data was pre-processed using AERMET version 11059 which includes the new AERMINUTE program. This newer data and modeling technology improves the accuracy of dispersion modeling analyses by, among other things, reducing the number of hours with calm or missing wind conditions. According to Mr. Klafka, the AERMOD model which EPE used, cannot evaluate dispersion under calm or missing wind conditions. Therefore, lower wind conditions when you would expect higher emission concentrations are not included in the modeling results prepared by EPE. Mr. Klafka testified that he re-ran the modeling analysis using the more recent meteorological data from the TCEQ web site. While the October 9, 2012 TCEQ Preliminary Determination Summary⁷⁴ indicates a 24-hour average concentration of 1.19 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$, and 7.49 $\mu\text{g}/\text{m}^3$ for NO_x , both only slightly below the SIL, the updated modeling performed by Mr. Klafka showed the concentration of $\text{PM}_{2.5}$ to be 2.08 $\mu\text{g}/\text{m}^3$, and the concentration of NO_x to be 9.57 $\mu\text{g}/\text{m}^3$, both significantly in excess of the SIL. Therefore, a full impact analysis is necessary to verify that the facility along with off-site sources of these pollutants is compliant with the NAAQS.⁷⁵

EPE argued that before conducting its modeling, it engaged in an extensive back-and-forth with TCEQ's ADMT to develop a modeling protocol.⁷⁶ The protocol was approved by

⁷³ Protestants Ex. 11 (40 C.F.R. Part 51, Appendix W, § 8.3.1.2).

⁷⁴ Protestants Ex. 5.

⁷⁵ Protestants Ex. 1 at 14-17.

⁷⁶ EPE Exs. 100 at 100-105, 112, 113, 114, 115, 116, 117, 118, and 119; ED Ex. 23 at 445; Tr. at 241.

TCEQ,⁷⁷ and was submitted for review to Jeff Robinson, Chief of EPA's Region 6's Air Permits Section, who had no objections or comments.⁷⁸ The final approved modeling protocol prescribed use of the five years of pre-processed meteorological data for El Paso County then available on the TCEQ web site.⁷⁹ EPE followed that protocol in conducting its modeling.⁸⁰ Mr. Cherry then audited the Modeling Report, and found the air quality assessment acceptable.⁸¹ Moreover, on cross-examination, Mr. Klafka acknowledged the following:

- EPE used five years of pre-processed meteorological data compiled from information collected by the NWS;⁸²
- EPA has concluded that five years of meteorological data is sufficient to capture worst case conditions;⁸³
- The meteorological data was pre-processed with AERMET;⁸⁴
- TCEQ had QA/QC'd that meteorological data set;⁸⁵
- The protocol approved by TCEQ called for using the data EPE used for its modeling;⁸⁶
- Anyone seeking a permit for a project in El Paso County would have been required to use this same meteorological data set at the time EPE filed the Application;⁸⁷
- EPE conducted its modeling in accordance with the protocol;⁸⁸

⁷⁷ Tr. at 241, 262.

⁷⁸ EPE Ex. 100 at 101-102; Tr. at 213, 474.

⁷⁹ EPE Exs. 105 at 2, 112 at 1, and 114 at 1.

⁸⁰ EPE Ex. 100 at 105; Tr. at 241-242.

⁸¹ EPE Exs. 100 at 100, and 111 at 1.

⁸² Tr. at 261.

⁸³ Tr. at 261-262.

⁸⁴ Tr. at 261-262.

⁸⁵ Tr. at 262.

⁸⁶ Tr. at 241, 262.

⁸⁷ Tr. at 261-262.

⁸⁸ Tr. at 241-242.

- EPE was required to follow that protocol;⁸⁹
- The results presented in the Modeling Report submitted by EPE and approved by the ED reflect adherence to the methodologies set forth in the protocol;⁹⁰ and
- The Modeling Report “show[s] compliance with all the showings that are required for an air quality analysis to support issuance of this permit.”⁹¹

Additionally, when asked if he could identify anything objectively wrong in the meteorological data set that Trinity used in this case, Mr. Klafka answered “no.”⁹²

EPE further argued that the AERMINUTE-generated wind speeds included in the more recent meteorological data set that Mr. Klafka advocates, interjects a calm wind bias that EPA is working to address. As a result, in some cases it is more representative to use a model that ignores calm conditions.⁹³

The ALJ finds that the meteorological data that EPE used for modeling complied with both TCEQ’s and EPA’s guidelines and was suitable for modeling. The more recent meteorological data advocated by Mr. Klafka was not made available by TCEQ until after EPE conducted its modeling and months after TCEQ completed its audit of that modeling.⁹⁴ The meteorological data used by EPE satisfies EPA’s and TCEQ’s requirements that the data be a conservative representation of meteorological conditions in El Paso County.⁹⁵ More recent weather data does not necessarily equate to better weather data.⁹⁶ Meteorological data from 20 years ago is just as predictive of future meteorological conditions in an area as meteorological

⁸⁹ Tr. at 242.

⁹⁰ Tr. at 242.

⁹¹ Tr. at 242.

⁹² Tr. at 270.

⁹³ Tr. at 117, 214.

⁹⁴ ED Ex. 23 at 447.

⁹⁵ Tr. at 211.

⁹⁶ EPE Ex. 100 at 110.

data from a year or two ago.⁹⁷ The important factor is that worst-case meteorological conditions are sufficiently represented in the dataset used. The EPA guideline does not set strict rules. Instead, it contains lists of preferences, as indicated by the words “preferred” and “should.” The data set that EPE used complies with most of those preferences. Further, it is undisputed that dispersion modeling requires a lot of expert judgments, and the permitting authority is the proper arbiter of those judgments.⁹⁸ Mr. Cherry testified that the modeling conducted by Mr. Klafka using different meteorological data that predicted higher numbers than EPE’s modeling, did not change his opinion that the dataset used by EPE was representative of worst-case meteorological conditions.⁹⁹

After considering the evidence and arguments, the ALJ finds that EPE’s modeling protocol effectively analyzed the effects of the Montana Power Station on the El Paso area and demonstrated that predicted concentrations of PM_{2.5} and NO_x will be less than their respective SIL and will not cause NAAQS or PSD increment exceedances.

2. Secondary PM_{2.5} Concentrations

PM_{2.5} is either directly emitted from a source (primary emissions) or formed through chemical reactions (secondary formation) of emissions of non-particulates, mainly SO₂ and NO_x that transform into PM_{2.5} in the atmosphere. EPE’s proposed SO₂ emissions are less than the Significant Emission Rate (SER) of 40 tpy and would not be expected to result in significant secondary formation of PM_{2.5}. However, EPE’s proposed NO_x emissions of 96 tpy are significantly above the NO_x SER of 40 tpy.¹⁰⁰

Protestants contend that EPE was required to consider secondarily formed particulate in the evaluation of PM_{2.5} impacts, and failed to do so. This issue is particularly troubling to Protestants as Mr. Greywall’s predicted PM_{2.5} concentration was 1.19 µg/m³, very close to the

⁹⁷ Tr. at 212-213, 474; ED Ex. 23 at 448.

⁹⁸ Protestants Ex. 11 at 68,229-68,230; Tr. at 255.

⁹⁹ ED Ex. 23 at 448; Tr. at 498-499.

¹⁰⁰ ED Ex. 15 at 369-370; Protestants Ex. 18 at 10-13, and Brief at 30.

24-hour SIL of 1.2 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$. Protestants argue that had Mr. Greywall performed his modeling runs in accordance with the use of AERMINUTE, and more recent weather data, the plant's $\text{PM}_{2.5}$ impact, in all probability, would have been above the *de minimis* amount, necessitating a full impact analysis in order to prove its emissions would not cause or contribute to air pollution in excess of the PSD increment. They further contend that TCEQ's ADMT evaluation of secondary $\text{PM}_{2.5}$ in response to an EPA comment expressing concern that secondary $\text{PM}_{2.5}$ impacts should be considered, only considered the $\text{PM}_{2.5}$ and NO_x emissions from the project and failed to consider emissions from off-site sources. TCEQ's evaluation relied on data from an air monitor without demonstrating that it is representative of the air emissions at the site. EPE and the ED disagree with Protestants on each of these points.

EPE argued that it fully complied with guidance in effect at the time it conducted its $\text{PM}_{2.5}$ modeling analysis, which did not require modeling or estimation of $\text{PM}_{2.5}$ resulting from secondary formation.¹⁰¹ However, when it became aware of the draft EPA guidance recommending consideration of secondary $\text{PM}_{2.5}$ impacts which was released for public consideration and comment in March 2013, Mr. Greywall conducted an analysis to confirm that consideration of secondary $\text{PM}_{2.5}$ impacts would not affect the results of the modeling analyses he performed on behalf of EPE. He did so using the offset ratios in the recently issued draft EPA guidance relied on by Mr. Klafka for his criticisms. Mr. Greywall's analysis confirmed that secondary formation $\text{PM}_{2.5}$ from Montana Power Station's SO_2 and NO_x emissions would not influence direct $\text{PM}_{2.5}$ impacts.¹⁰²

The ED argued that EPE followed TCEQ and EPA guidance in conducting the $\text{PM}_{2.5}$ analyses, including the March 23, 2010, Page Memo.¹⁰³ In response to comments from EPA, the TCEQ ADMT performed an analysis assessing the potential secondary $\text{PM}_{2.5}$ impacts from the proposed Montana Power Station and surrounding background sources to verify that the Draft Permit emission limits will meet the $\text{PM}_{2.5}$ NAAQS and PSD increments.¹⁰⁴ In the analysis, the

¹⁰¹ EPE Exs. 100 at 129-130, and 108 at 11.

¹⁰² EPE Ex. 100 at 129.

¹⁰³ ED Ex. 15 at 369.

¹⁰⁴ ED Ex. 15 at 369-370.

ADMT included 24-hour and annual PM_{2.5} background concentrations obtained from the continuous EPA AIRS monitor 481410037 located at 250 Rim Rd. in El Paso County (the UTEP monitor). In response to Protestants claim that the monitor is located 10 miles from the proposed site, and therefore, may not be representative of the air emissions at the site, the ED noted that the Page Memo states, “due to the important role of secondary PM_{2.5}, background monitored concentrations of PM_{2.5} are likely to be more homogeneous across the modeling domain in most cases, compared to other pollutants.”¹⁰⁵ In other words, a monitor located in the same county is adequate to account for secondary contribution from background sources.¹⁰⁶ According to the ED, Protestants’ assertion that ADMT’s analysis considered only direct emissions from the Montana Power Station is wrong: the background concentration data necessarily includes contributions from all other sources in the vicinity.

With regard to Protestants’ contention based on the EPA’s draft guidance issued in March 2013, that ADMT’s analysis was flawed because any formation of secondary PM_{2.5} will exceed the SIL and require a full impact analysis, the ED notes that in the EPA guidance provided following the *Sierra Club* opinion,¹⁰⁷ the EPA maintains that states with SIP-approved PSD programs (like Texas) should issue permits in a manner consistent with EPA guidance for SILs. EPA states that that “it would be sufficient in most cases for permitting authorities to conclude that a proposed source having a PM_{2.5} impact below the PM_{2.5} SIL value will not cause or contribute to a violation of the PM_{2.5} NAAQS and to forgo a more comprehensive cumulative modeling analysis for PM_{2.5}.”¹⁰⁸

Based on a preponderance of the record evidence, the ALJ finds the positions advocated by EPE and the ED most persuasive. As Mr. Greywall testified, “both TCEQ and I agree that the Montana Power Station is protective of the PM_{2.5} NAAQS and PSD increments, even when

¹⁰⁵ ED Ex. 29 at 629.

¹⁰⁶ ED Ex. 29 at 631.

¹⁰⁷ *Sierra Club v. EPA*, 705 F.3d 458 (D.C. Cir. 2013).

¹⁰⁸ ED Ex. 38 at 771.

secondary PM_{2.5} impacts are included.”¹⁰⁹ Accordingly, the ALJ concludes that EPE’s modeling properly accounted for secondary PM_{2.5} impacts.

3. PM_{2.5} Background Concentration Monitoring

This issue was first raised by Protestants’ Motion for Directed Verdict filed during the hearing at the close of EPE’s direct case, which the ALJ denied following the hearing by Order No. 8. The ALJ found that genuine issues of material fact exist and allowed the parties to fully address the issues in post-hearing briefs. Although there is considerable overlap regarding consideration of the adequacy of the analyses of secondary PM_{2.5} emissions and PM_{2.5} background concentrations, the ALJ will endeavor to minimize redundant discussion.

For purposes of the source impact analysis and the air quality analysis required for a PSD demonstration, the federal rules require an application to include pre-construction air quality monitoring data to determine whether emissions from the proposed new source would cause or contribute to a violation of the NAAQS.¹¹⁰ However, the rules also include SILs¹¹¹ and significant monitoring concentrations (SMCs)¹¹² which are *de minimis* values for determining whether an applicant will have to conduct pre-construction ambient air quality monitoring. The SMCs and SILs allow permitting authorities to exempt air permit applicants from the background air quality monitoring requirement if the emissions from the new source are below the SMCs or SILs. These federal rules have been incorporated into TCEQ rules,¹¹³ and are approved as part of Texas’ State Implementation Plan (SIP). However, on January 22, 2013, the same day that the preliminary hearing in this case was held in El Paso, the U.S. Court of Appeals for the District of Columbia Circuit vacated and remanded the EPA exemption rule based on PM_{2.5} SILs and SMCs in *Sierra Club v. EPA*.¹¹⁴ The court held that EPA exceeded its statutory authority in adopting the SMC exemption rule.

¹⁰⁹ EPE Ex. 100 at 130.

¹¹⁰ 40 C.F.R. § 52.21(m).

¹¹¹ 40 C.F.R. §§ 52.21(k)(2) and 51.166(k)(2).

¹¹² 40 C.F.R. §§ 52.21(i)(5)(i)(c) and 51.166(i)(5)(i)(c).

¹¹³ 30 TAC § 116.160.

¹¹⁴ *Sierra Club v. U.S. EPA*, 705 F.3d 458 (D.C. Cir. 2013).

Protestants argued that post – *Sierra Club*, EPE’s failure to submit PM_{2.5} pre-construction air quality monitoring data as part of its Application requires denial of the permit. EPE and the ED disagree. The ALJ also disagrees.

Protestants explained that prior to January 2013, a PSD permit applicant could avoid submitting pre-construction PM_{2.5} monitoring data in its permit application as part of its NAAQS analysis if its modeled concentration of PM_{2.5} was below the SMC. The ability to avoid preconstruction monitoring existed because TCEQ had adopted EPA’s SMC exemption rule by reference.¹¹⁵ Because the SMC exemption rule was declared invalid, TCEQ’s rules now reference a vacated and unenforceable exemption rule. But, a different TCEQ rule also incorporates the federal requirement to include continuous preconstruction monitoring data in the permit application.¹¹⁶ According to Protestants, since EPE did not include continuous pre-construction ambient monitoring data in its Application, TCEQ did not review or audit any pre-construction background monitoring data. Therefore, Protestants contend EPE’s failure to include these data in the Application means that the permit must be denied.

Protestants stated that although EPE produced multiple pages of background monitoring data during discovery, EPE did not amend its Application to include this data, nor did it amend its Final Monitoring Report. Protestants noted Mr. Cherry’s testimony that he did not look at any background monitoring data provided by EPE during his audit or at any time prior to the hearing, and had the data been part of the modeling report, it would have to be verified for completion criteria.¹¹⁷

Protestants asserted that when state agencies such as TCEQ adopt federal regulations by reference, they do so to continue to comply with federal regulations without having to change and update state regulation when the federal regulations are revised, or in this case vacated. Protestants concluded that because TCEQ has not independently adopted its own exemption rule, and the federal rule adopted by reference is no longer valid, no rule currently exempts EPE from

¹¹⁵ 40 C.F.R. § 52.21(i)(5)(i)(c), incorporated by reference in 30 TAC § 116.160(2)(A).

¹¹⁶ 30 TAC § 116.160(2)(B).

¹¹⁷ Tr. at 456-457.

the pre-construction background monitoring requirement. Therefore, EPE should have submitted this background monitoring data with its Application. Because EPE made a conscious decision not to amend its Application after *Sierra Club* to include pre-construction background monitoring data, the Application must be denied.

EPE and the ED view the effect of *Sierra Club* differently from Protestants. EPE and the ED argued there is no dispute that TCEQ's SIP-approved rules incorporated the SILs and SMCs,¹¹⁸ which exempted EPE from any requirement to submit preconstruction monitoring data as part of the Application. They argued this was true when: (1) EPE submitted the Application; (2) the ED declared the Application administratively complete; (3) the ED declared the Application technically complete and recommended that the Draft Permit be approved; and (4) the preliminary hearing was held to commence the contested case hearing process.

Following the issuance of the *Sierra Club* mandate in March 2010, EPE requested that Mr. Greywall compile and evaluate hourly PM_{2.5} data from three monitors in the El Paso area which are available on TCEQ's website.¹¹⁹ On April 8, 2013, immediately after completing the gathering of background monitoring data (more than a month before the hearing on the merits), EPE provided the data concerning background concentrations to all parties as a supplemental Rule 194 disclosure.¹²⁰ EPE also offered the data and it was admitted into evidence at the hearing.¹²¹ Mr. Greywall testified that because the background monitoring data shows that the difference between the PM_{2.5} NAAQS and the PM_{2.5} background concentration is greater than EPA's PM_{2.5} SIL, no further modeling analysis is required under the draft EPA guidance issued in March after *Sierra Club*.¹²² In other words, the proposed Montana Power Station's air quality impacts, when added to background levels, do not exceed any applicable standards.¹²³

¹¹⁸ 30 TAC § 116.160.

¹¹⁹ EPE Exs. 100 at 127-129, and 123.

¹²⁰ Rule 194 of the Texas Rules of Civil Procedure.

¹²¹ EPE Exs. 108, 123 and 303.

¹²² EPE Ex. 100 at 127-129.

¹²³ EPE Exs. 100 at 128-129, and 108 at 13; ED Ex. 23 at 460-461.

Additionally, Mr. Cherry testified that the remand of the SILs did not affect his opinion regarding the modeling analysis submitted by EPE because EPA has stated, in guidance, that permitting authorities may continue to apply SILs for PM_{2.5} to support a PSD permitting decision so long as the permitting authority ensures that the SILs are not used in a manner that is inconsistent with the requirements of § 165(A)(3) of the FCAA (which lists criteria for ensuring emissions from construction or operation of the facility will not cause or contribute to air pollution). In this regard, Mr. Cherry testified that the results of the analysis conducted by the TCEQ ADMT verified EPE's conclusion that the proposed project is protective of the PM_{2.5} NAAQS and PSD increment.¹²⁴ Mr. Cherry further testified that the remand of the SMCs did not change his opinion regarding the modeling analysis because the draft modeling guidance indicated that applicants may continue to meet the pre-construction monitoring requirements by using data from existing monitors that are determined to be representative of background conditions in the affected area. He testified that the monitor used by the TCEQ ADMT for the PM_{2.5} analysis is representative of background conditions in the affected area.¹²⁵ ADMT's analysis of background monitoring data is more fully discussed in the preceding section concerning secondary PM_{2.5} and is incorporated here without repetition.

Based on the greater weight of the evidence and legal arguments, the ALJ concludes that although EPE was not required to include pre-construction background monitoring data when it filed its Application, or when the ED issued his determination that the Application was technically complete, EPE and the ED nonetheless compiled and analyzed background monitoring data from continuous monitors representative of the affected area. This analysis demonstrated that the difference between the PM_{2.5} NAAQS and the PM_{2.5} background concentrations is greater than the PM_{2.5} SIL. Therefore, in accordance with draft EPA guidance issued following the *Sierra Club* decision, EPE and the ED satisfied any requirement to address pre-construction background concentrations in the record of this proceeding.

¹²⁴ ED Ex. 23 at 457-461.

¹²⁵ ED Ex. 23 at 460-461.

XI. RELATED CONCERNS

In addition to Protestants' five primary issues, they raised two related concerns: (1) whether the Draft Permit conditions are consistent with BACT requirements, and (2) whether an environmental justice review should have been conducted. Each of these is addressed below.

A. **Whether the Draft Permit Conditions are Consistent with BACT**

In addition to Protestants' BACT arguments discussed previously in this PFD, Protestants also contend that: (1) start-up and shut-down emissions should not be excluded from the BACT emission limits; (2) continuous monitoring should be required for PM; (3) stack sampling should be required for PM; (4) a contradiction between start-up and shut-down conditions should be corrected; (5) start-ups and shut-downs should be limited to 300 per year with start-up events limited to 25 minutes and shut-down events limited to 10 minutes; and (6) vague conditions should be revised for practical enforceability.

1. **Start-Up and Shut-Down Emissions Should be Included in BACT Emission Limits**

Protestants argued that Draft Permit sections 5(A)(i), (ii), and (iii) allow EPE to exclude emissions during start-up and shut-down from their BACT emission calculations.¹²⁶ They contend BACT emission limits apply at all times and may not be excluded. Thus, they recommend that section 5(A)(i), (ii), and (iii) should be omitted from the Draft Permit.

EPE and the ED contended that start-up and shut-down emissions are not excluded, rather there are specific limits applicable to start-ups and shut-downs. The ED explained that start-ups and shut-downs are not included in the normal operation limits because their inclusion would not represent BACT for the majority of the actual operation of the CTGs when the SCR system is in operation.¹²⁷ However, the MAERT contains separate operating scenerios for start-up and shut-

¹²⁶ Protestants Exs. 27 at 30, and 30 at 83.

¹²⁷ ED Ex. 11 at 297.

down with short term (hourly) limits.¹²⁸ Also, the annual start-up and shut-down emissions are not expected to exceed the normal operations annual emissions and are included in the site-wide annual emission limits in the MAERT. The MAERT lb/hr and tpy limits do not exclude any periods of operation of the CTGs, including start-ups and shut-downs..¹²⁹

The ALJ finds Protestants' concern that start-ups and shut-downs are excluded from the BACT emission rates is without merit.

2. Continuous Monitoring for PM

Protestants argued that although the Draft Permit conditions require continuous monitoring for NOx and CO, it fails to require continuous monitoring of PM, which is the most significant pollution issue for El Paso. Relying on an EPA comment concerning the Draft Permit, Protestants contended that since PSD is triggered for PM, there should be ongoing periodic monitoring for PM.

EPE pointed out that CO continuous emissions monitoring (CEMS) serves as a surrogate for PM monitoring. In response to the EPA comment, TCEQ stated, "the monitoring of fuel consumption allows applicants to employ engineering calculations to demonstrate compliance. In addition, the CO continuous emissions monitor is a surrogate for PM for gas-fired facilities, which was previously proposed as periodic monitoring in the stationary combustion turbine and reciprocating internal combustion engine National Emission Standards for Hazardous Air Pollutants (NESHAPS) on the understanding that compliance with CO limits in a permit will indicate good combustion and compliance with PM limits."¹³⁰ Mr. O'Brien testified similarly that "CO CEMS will be a surrogate to ensure that the unit is operating correctly and not emitting more PM than they're allowed. And then also they monitor the fuel usage, which will allow them to calculate compliance."¹³¹

¹²⁸ ED Ex. 12 at 312.

¹²⁹ ED Ex. 15 at 367-368.

¹³⁰ EPE Ex. 108.

¹³¹ Tr. at 432-432.

The evidence presented by EPE and the ED is persuasive that CO CEMS is a surrogate for PM CEMS. Therefore, the Draft Permit conditions need not be amended to require PM CEMS.

3. PM Stack Sampling

Protestants pointed out that although Section 12(B) of the Draft Permit requires stack sampling for emissions from the proposed Montana Power Station, stack sampling is not required for PM—the pollutant most likely to cause air pollution for El Paso. Thus, they argued that stack sampling for PM should be required.

In response, EPE stated there is no TCEQ rule requiring PM stack sampling, and there is no evidence indicating that the testing provisions are inadequate to meet TCEQ requirements.

In addition to the absence of any TCEQ rule requiring PM stack sampling, the ALJ is persuaded by the fact that neither TCEQ nor EPA found any fault with the adequacy of the testing requirements to demonstrate compliance. Thus, the ALJ finds the requirement of PM stack sampling unnecessary.

4. Start-Up and Shut-Down Conditions

Protestants contended there is an inconsistency between Draft Permit Condition 5D, which requires that no more than one of the four CTGs undergo a start-up or shut-down in any 30-minute period, and Draft Permit Condition 5E, which requires that infrequent simultaneous start-ups of multiple CTGs within a 30-minute period be limited to no more than 52 events per year.

EPE and the ED respond that no inconsistency exists. Mr. O'Brien testified that Condition 5D is a restriction and Condition 5E is an exception to that restriction and the two Conditions need to be read together.¹³² Specifically, no more than one of the four CTGs is to undergo a start-up or shut-down in any 30-minute period, except that the Montana Power Station

¹³² Tr. at 426-427.

will be allowed to simultaneously start-up or shut-down two or more CTGs no more than 52 times a year due to infrequent events such as forced outages.

The ALJ finds Mr. O'Brien's explanation helpful to understand the otherwise apparent inconsistency. Therefore, the ALJ requests that the ED submit proposed language in his exceptions to this PFD that clarifies the consistency of the two Conditions as Mr. O'Brien explained.

5. Limit Start-Ups and Shut-Downs to 300 Per Year, and 25 and 10 Minutes each, respectively

Protestants sole reason for requesting that the Montana Power Station be limited to 300 start-up/shut-down events per year, and that start-ups be limited to 25 minutes and shut-downs be limited to 10 minutes, is that two LMS100 air permits in California have those limits. Absent further comparison of those permits and the operating conditions of those California plants with Montana Power Station, the ALJ finds Protestants' request to lack merit.

6. Clarify Conditions for Practical Enforceability

Protestants contended a number of the Draft Permit conditions are so vague as to be unenforceable, but only specifically request that "emission events" be defined.

EPE and the ED pointed out that an "emission event" is defined in TCEQ's General Air Quality Rules as "any upset event or unscheduled maintenance, start-up, or shut-down activity, from a common cause that results in an unauthorized emissions of air contaminants from one or more emissions points at a regulated entity."¹³³ Mr. O'Brien explained during cross-examination by Protestants that an emission event "is specifically defined in our Chapter 101 definitions. It's an unauthorized emission."¹³⁴

The ALJ concludes that Protestants' request for clarification of the Draft Permit conditions lacks merit.

¹³³ 30 TAC § 101.1(28).

¹³⁴ Tr. at 427.

B. Whether an Environmental Justice Review Should Have Been Conducted

Protestants argued that the neighborhood where they live near the proposed Montana Power Station is a *colonia* and a community of concern (COC) such that an environmental justice review should have been conducted in accordance with Executive Order No. 12898 signed by President Bill Clinton in 1994 entitled, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” Relying on information claimed to be available on the U.S. Census website,¹³⁵ Protestants argued that EPE failed to determine whether significant adverse impacts would affect the COC to a greater extent than populations that are not minority or low income and whether the COC was overburdened, and if so, how to mitigate those impacts. Protestants further argued that EPE and the ED failed to comply with the public outreach required by environmental justice, thereby depriving residents of the COC meaningful public participation.

Protestants pointed out that the Executive Order provides that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”¹³⁶ It further provides that federal agencies are required to implement this order “consistent with, and to the extent permitted by, existing law.”¹³⁷ Protestants contend the Executive Order applies to SOAH’s hearing as the permit is a delegated federal permit.

Both EPE and the ED noted that Protestants presented no evidence of any injustice. Rather, they reference the U.S. Census website to support their position. EPE disputed Protestants assertion (without citation of any authority) that the Executive Order applies to SOAH’s hearing because the permit at issue is a delegated federal permit. To the contrary, EPE argued that TCEQ does not issue permits as a delegate for EPA, but as a sovereign state. No

¹³⁵ The website does not lead directly to the information cited by Protestants. Rather it leads to an interactive map where, presumably, a search can be made for the specific information.

¹³⁶ Executive Order 12,898, 59 Fed. Reg. 7629, 7629 (Feb. 11, 1994), available at: http://www.epa.gov/fedfac/documents/executive_order_12898.htm.

¹³⁷ *Id.*

federal action is involved that would invoke an Executive Order. Moreover, environmental justice matters are not relevant to the showings required under Section 382.0518 of the TCAA,¹³⁸ which is the statute controlling disposition of this case. To implement the TCAA, TCEQ adopted SIP-approved air permitting rules in Title 30, Chapter 116 of the Texas Administrative Code that do not include explicit consideration of environmental justice issues. TCEQ protects its citizens from injurious emissions using protective standards for ambient air quality. EPE argued it has demonstrated through the uncontroverted testimony of Mr. Dydek that the air quality impacts from Montana Power Station will be minimal and comply with conservatively established standards protective of all people.¹³⁹

The ED disputed Protestants' claim that EPE did not comply with public outreach and Protestants contention that nearby residents were deprived of meaningful public participation. The ED explained that applicants are required to provide public notice in accordance with TCEQ rules.¹⁴⁰ In accordance with 30 TAC Chapter 39, EPE's Application was subject to Spanish language publication. The public notices for the Application were published in the Spanish language newspaper generally circulated in El Paso, *El Diario de El Paso*. EPE also met TCEQ's sign posting rules requiring signs to be located within 10 feet of every property line paralleling a public highway, street, or road.¹⁴¹ The signs must be visible from the street and spaced at not more than 1,500-foot intervals.¹⁴² EPE complied with the signage requirements because the signs were in both English and Spanish.¹⁴³

The ED further argued that the public meeting held on December 13, 2012, in El Paso, was attended by about 200 people and included a Spanish translator. Forms provided at the public hearing for comments or to request being added to the mailing list were available in both English and Spanish. A Spanish translator was also available at the preliminary hearing held on January 23, 2013, in El Paso. Protestants were admitted as parties and have fully participated in

¹³⁸ Tex. Health & Safety Code § 382.0518.

¹³⁹ EPE Ex. 200 at 37-39.

¹⁴⁰ 30 TAC ch 39.

¹⁴¹ 30 TAC § 39.604(c).

¹⁴² 30 TAC § 39.604(c).

¹⁴³ EPE Exs. 1 at 22, and 7 at 4-5.

the contested case hearing through counsel. For these reasons, the ED contended the public had sufficient notice and was able to fully participate in the administrative process.

Additionally, the ED stated that TCEQ's review of the Application evaluated the potential impacts of emissions from the proposed facility in accordance with the TCAA, including the requirement that the applicant demonstrate it will use at least BACT. There is no indication that emissions from the facilities will contravene the TCAA, and the Draft Permit protects the public's health and physical property.¹⁴⁴

The ALJ is not aware of any Texas statute or rule that explicitly requires TCEQ, or an applicant for an air quality permit, to conduct an environmental justice review pursuant to Executive Order No. 12898, and Protestants have not cited any. Absent such authority, the ALJ concludes that no environmental justice review was required. The ALJ further finds from a preponderance of the evidence that EPE complied with all applicable notice requirements concerning its Application. Additionally, the efforts of both EPE and the ED were effective in providing all interested persons adequate opportunity for meaningful input and participation. This is evident from the significant number of attendees at the public meeting and the Preliminary Hearing, and Protestants' participation in the hearing on the merits. Moreover, Protestants raised no objection to the adequacy of notice of the Application or the hearing at the preliminary hearing. Thus, any objection to notice has been waived.

Most importantly, the evidence is persuasive that EPE's Application and the ED's review fully complied with the TCAA and TCEQ rules. Texas Health and Safety Code § 382.002 provides:

- (a) The policy of this state and the purpose of this chapter are to safeguard the state's air resources from pollution by controlling or abating air pollution and emissions of air contaminants, consistent with the protection of public health, general welfare, and physical property, including the esthetic enjoyment of air resources by the public and the maintenance of adequate visibility.

¹⁴⁴ Tex. Health & Safety Code § 382.0518; Tr. at 433.

- (b) It is intended that this chapter be vigorously enforced and that violations of this chapter or any rule or order of the [Commission] result in expeditious initiation of enforcement actions as provided by this chapter.

The Commission rule at 30 TAC § 116.111(a)(2)(A)(i), requires emissions from a proposed facility to comply with the Commission's rules and regulations and with the intent of the TCAA, "including the protection of the health and property of the public." The NAAQS apply throughout the U.S. and are set at levels protective of public health and welfare with an adequate margin of safety.¹⁴⁵ The record of this case demonstrates that emissions from the Montana Power Station will not cause or contribute to any exceedance of any NAAQS.

Accordingly, the ALJ concludes, based on the entirety of the record evidence, that EPE's Application and the ED's Draft Permit meet all applicable federal and state requirements and are protective of the public's health and welfare.

XII. TRANSCRIPT COSTS

In accordance with Commission rules, the ALJ required a transcript be prepared in this case because the hearing was scheduled to last longer than one day.¹⁴⁶ EPE requests the transcript cost be apportioned equally between EPE and Protestants. Protestants request that the Commission assess all transcript costs to EPE. After considering the factors set out in the TCEQ's rules, the ALJ recommends that the Commission assess all transcription costs against EPE.

The Commission's rules at 30 TAC § 80.23(d) list the factors to be considered in assessing reporting and transcription costs. The factors relevant to this case include the following, along with the ALJ's analysis of each factor as applied to the facts of this case:

- (A) "The party who requested the transcript." The ALJ requested the transcript.

¹⁴⁵ EPE Ex. 200 at 10.

¹⁴⁶ 30 TAC § 80.23(b)(4).

- (B) “The financial ability of the party to pay costs.” The aligned Protestants are individual residents in the neighborhood of the proposed power plant. The neighborhood where Protestants live is economically poor. Protestants qualified for legal aid by a non-profit organization that provides legal services to low income Texans. There was no specific evidence regarding Protestants’ ability to pay transcription costs, but EPE does have the financial ability to pay them.
- (C) “The extent to which the party participated in the hearing.” EPE and Protestants participated actively in the hearing. Questioning of witnesses was to the point and directed toward relevant issues, and none of the parties unduly burdened the transcript with frivolous arguments, irrelevant issues, or unnecessary questions.
- (D) “The relative benefits to the various parties of having a transcript.” Although all parties benefitted from having a transcript, the ALJ finds that EPE, as the party bearing the burden of proof, could anticipate the greatest potential benefit from an ability to cite and reassemble information within the record.
- (E) “The budgetary constraints of a state or federal administrative agency participating in the proceeding.” The rules preclude the Commission from assessing costs against parties that cannot appeal a Commission decision (the ED and OPIC).¹⁴⁷
- (F) “The extent to which the expense of the rate proceeding is included in the utility’s allowable expenses.” Because this is not a rate proceeding, this factor is inapplicable.
- (G) “Any other factor which is relevant to a just and reasonable assessment of costs.” The ALJ finds that all parties had plausible arguments for the issues they raised, and no party unduly burdened the transcript costs during the hearing.

Based on these factors, it appears that transcript costs could reasonably be assessed against EPE and Protestants. However, Protestants are individuals who have limited ability to

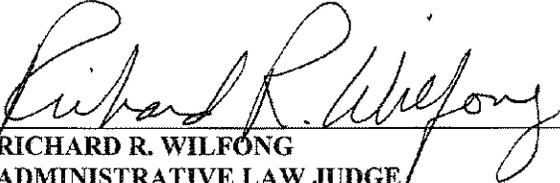
¹⁴⁷ 30 TAC § 80.23(d)(2).

pay and are represented by a non-profit organization that provides legal services to low income Texans. The ALJ does not believe it is appropriate to penalize Protestants for challenging the permit application when they have identified legitimate concerns regarding the Application. Therefore, the ALJ finds it appropriate to assess all transcript costs to EPE.

XIII. SUMMARY

As set out above, the ALJ concludes that EPE has prevailed on all issues, except for a minor clarification of the Draft Permit Conditions. Thus, the ALJ recommends that the Commission adopt the attached Proposed Order, approve EPE's Application, and issue the Draft Permit with the additional clarification of Conditions 5D and 5E concerning start-ups and shut-downs. The Proposed Order contains additional findings of fact and conclusions of law that are not discussed in this PFD because they are not contested.

SIGNED September 30, 2013.



RICHARD R. WILFONG
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

APPENDIX

Abbreviations

ADMT – Air Dispersion Modeling Team

APD Staff - Air Permits Division Staff

BACT - best available control technology

CEMS – continuous emissions monitoring systems

C.F.R. - Code of Federal Regulations

COC – community of concern

CTG – combustion turbine generator

EPA – Environmental Protection Agency

ESLs – effects screening levels

FCAA – Federal Clean Air Act

MMBtu - pounds per million British thermal units

NAAQS - National Ambient Air Quality Standards

PM – particulate matter

ppm – parts per million

ppmvd – parts per million, volumetric dry

PSD – Prevention of Significant Deterioration

RBLC – EPA’s RACT/BACT/LAER Clearinghouse

SCR - Selective Catalytic Reduction

SER – Significant Emission Rate

SIP - State Implementation Plan

SIL – Significant Impact Level

SMCs – Significant Monitoring Concentrations

TAC - Texas Administrative Code

TCAA - Texas Clean Air Act

tpy - tons per year

Particular Contaminants

CO - carbon monoxide

H₂SO₄ – sulfuric acid mist

NH₃ - ammonia

NO_x - nitrogen oxides

PM - particulate matter

PM₁₀ - particulate matter less than 10 microns in diameter

PM_{2.5} - particulate matter less than 2.5 microns in diameter

SO₂ - sulfur dioxide

VOC - volatile organic compounds

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**AN ORDER
GRANTING THE APPLICATION OF EL PASO ELECTRIC COMPANY
FOR STATE AIR QUALITY PERMIT NOS. 102294 AND PSD-TX-1290
TCEQ DOCKET NO. 2012-2608-AIR
SOAH DOCKET NO. 582-13-1520**

On _____, the Texas Commission on Environmental Quality (TCEQ or Commission) considered the application (Application) of El Paso Electric Company (EPE or Applicant) for State Air Quality Permit Nos. 102294 and PSD-TX-1290. A Proposal for Decision (PFD) was presented by Richard R. Wilfong, an Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH), who conducted a hearing concerning the Application on June 4 through 6, 2013, in Austin, Texas.

After considering the ALJ's PFD, the Commission adopts the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

Project Description and Procedural History

1. On April 20, 2012, El Paso Electric Company (EPE) filed an Application with the Texas Commission on Environmental Quality (TCEQ or Commission) for a permit (Permit) to construct and operate the Montana Power Station in El Paso County, Texas.
2. The Montana Power Station will be a greenfield electric generating facility comprised of four simple cycle, gas-fired General Electric LMS100 combustion turbines (CTGs) and ancillary equipment. Due to its use of an intercooler system, the LMS100 is the most efficient, simple cycle turbine available.
3. The Montana Power Station will have a nominal output capacity of 400 megawatts during winter and 360 megawatts during summer.

4. Because EPE is not connected to the ERCOT grid, it will deliver the power to service its native load. Four hundred megawatts is enough to supply about 160,000 homes in the El Paso region.
5. Each CTG will be limited to 5,000 hours of operation per year, including startup and shutdown events.
6. Ancillary equipment at the Montana Power Station will include two evaporative cooling towers, an ammonia unloading and storage system, a firewater pump to be used for emergencies, and a 300-gallon tank to store diesel fuel for the firewater pump engine.
7. The firewater pump engine will operate in non-emergency conditions for less than one hour per week for routine testing, maintenance, and inspection purposes only, with annual hours of operation limited to 52 hours per year.
8. Combustion turbine emission control techniques and technologies will include good combustion practices, fuel specifications, water injection, staged air burners, a selective catalytic reduction (SCR) system, and an oxidation catalyst system.
9. Control techniques and technologies on the ancillary equipment include a vapor return line for the ammonia unloading system, audio-visual-olfactory inspection of the ammonia system, drift eliminators on the cooling towers, combustion controls on the diesel engine, and submerged fill on the small diesel storage tank.
10. EPE evaluated several alternative generation technologies, including wind generation, solar generation, battery storage technology, and natural gas combined cycle technology, before selecting the LMS100 simple cycle combustion turbines as the appropriate means to meet its business objectives, which include using a technology that offers “quick-start” capabilities so that the resource addition would qualify to serve as capacity towards EPE’s required reserve margin.
11. On April 26, 2012, the Executive Director (ED) declared the Application administratively complete.
12. On May 7, 2012, EPE published a Notice of Receipt of Application and Intent to Obtain Air Permit in English in the *El Paso Times* and in Spanish in the *El Diario de El Paso*.
13. On July 5, 2012, the Application was supplemented with revised emissions calculations for the cooling towers. On September 12, 2012, the Modeling Report in support of the Application was submitted to TCEQ. And on September 24, 2012, a revised Appendix C to the Modeling Report was submitted to TCEQ.
14. On October 9, 2012, the ED concluded that the Application was technically complete, issued a Draft Permit, and recommended that the Application be approved.

15. On October 15, 2012, EPE published a Notice of Application and Preliminary Decision in the *El Paso Times* and the *El Diario de El Paso*.
16. EPE's Application was made available for public inspection during the entire public comment period.
17. EPE posted required signs, including alternative language signs, in accordance with TCEQ notice rules and instructions.
18. On December 10, 2012, EPE formally requested that the Application be directly referred to SOAH.
19. On December 13, 2012, a public meeting concerning the Application was held in El Paso County, Texas.
20. The public comment period closed on December 13, 2012.
21. On December 19, 2012, the Commission referred the matter to SOAH to conduct a contested case hearing and to issue a PFD.
22. On January 22, 2013, ALJ Richard R. Wilfong convened a preliminary hearing in El Paso, Texas. No party contested either notice or jurisdiction and jurisdiction, was established.
23. At the preliminary hearing, the ALJ granted party status to Far East El Paso Citizens United (FEEPCU) and Rafael Carrasco, Jr. FEEPCU and Rafael Carrasco, Jr. shared counsel and were aligned for purposes of their participation at the hearing.
24. On March 29, 2013, the ED issued his Response to Public Comment.
25. On June 4, 2013, the ALJ convened the hearing on the merits. On June 6, 2013, the ALJ adjourned the hearing.
26. Representatives of the parties at the hearing were:

Party	Status	Counsel
El Paso Electric	Applicant	Eric Groten and Taylor Holcomb
FEEPCU	Protestant	Verónica Carbajal, Enrique Valdivia, and Amy Johnson
OPIC	Statutory	Garrett Arthur
ED	Statutory	Booker Harrison and Betsy Peticolas

27. The evidentiary hearing record closed on August 2, 2013, after closing arguments, responses to closing arguments, and proposed findings of facts and conclusions of law were submitted by the parties.

Completeness of the Application

28. EPE's Application is for an air quality permit that would also satisfy the requirements for a Prevention of Significant Deterioration (PSD) permit.
29. TCEQ assigned the Draft Permit the following permit numbers: State Air Quality Permit No. 102294 and PSD Permit No. PSD-TX-1290.
30. EPE's Application includes a complete Form PI-1 General Application signed by Andy Ramirez, an authorized EPE representative. The Application also was signed and sealed by Paul Greywall in his capacity as a registered Texas Professional Engineer.
31. EPE paid the \$75,000 permit fee.
32. EPE's Application fully addresses all of TCEQ's requirements for an air permit Application.
33. EPE's Application addresses all sources of air emissions from the Montana Power Station that are subject to permitting under TCEQ's rules and policies.
34. The ED concluded that EPE's Application complies with all applicable rules and policies, and documented his conclusion in an internal report called the Construction Permit Source Analysis & Technical Review.

Emissions

35. The Montana Power Station may emit carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM) (including PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), volatile organic compounds (VOC), ammonia (NH₃), hydrogen sulfide mist (H₂SO₄), and trace metals.

Location

36. Montana Power Station will be located in a portion of El Paso County, Texas, that is not a designated nonattainment area for any air contaminant.
37. There are no schools located within 3,000 feet of the proposed site.

30 TAC § 116.111(a)(2)(A): Protection of public health and welfare

38. EPE performed atmospheric dispersion modeling to demonstrate that emissions from the Montana Power Station will be protective of public health and welfare.

39. EPE used the American Meteorological Society/Environmental Protection Agency Regulatory Model, or AERMOD, version 12060.
40. EPE's modeling assumed that the worst-case meteorological conditions for dispersion would occur simultaneously with the worst-case emissions scenarios.
41. EPE's modeling assumed that all emissions sources at the Montana Power Station would be operating simultaneously.
42. In performing emissions calculations, for those pollutants with higher hourly emissions during steady-state operating conditions rather than during periods of startup or shutdown, the higher hourly rate was used across all 5,000 hours of annual operations, with a restriction that startup and shutdown events for each combustion turbine would be limited to 832 events per year.
43. The modeling submitted by EPE yielded conservatively high predictions of ambient impacts.
44. EPE submitted a modeling protocol to both TCEQ and the U. S. Environmental Protection Agency (EPA) for review prior to conducting the air dispersion modeling. The ED ultimately approved the modeling protocol, and EPA offered no comments. The protocol addressed all assumptions, inputs, and procedures left to the discretion of the permitting authority, including the selection of meteorological data.
45. EPE and TCEQ conducted an analysis of secondary PM_{2.5} impacts to determine whether secondary formation of PM_{2.5} would influence direct PM_{2.5} impacts.
46. Secondary formation of PM_{2.5} from the Montana Power Station's SO₂ and NO_x emissions will not influence predicted PM_{2.5} impacts.
47. For all contaminants subject to review and for which National Ambient Air Quality Standards (NAAQS) and PSD Increments have been established, EPE used the pre-processed meteorological data for the El Paso area that was available on TCEQ's website. For all non-PSD modeling, EPE used a single year of meteorological data to conduct its modeling. This selection was appropriate and fully satisfied the EPA Guideline on Air Quality Models.
48. EPE modeled all emission sources associated with the facilities comprising the Montana Power Station using source parameters consistent with each facility's design.
49. Aqueous ammonia will be trucked in for use in the SCR system and will be removed from pressurized horizontal storage tanks by an ammonia unloading system equipped with a vapor return line that will be routed back to the tank trucks using a vacuum system. Accordingly, the ammonia storage tanks are not considered potential emission sources.

50. The maximum predicted concentrations of NO₂, PM₁₀, PM_{2.5}, CO, and SO₂ resulting from the Montana Power Station's emissions are less than PSD monitoring *de minimis* concentrations.
51. Both the ED and EPE submitted to the record continuous and representative ambient PM_{2.5} monitoring data from El Paso monitors, providing at least a full year's worth of background PM_{2.5} concentration data. The ED analyzed data from a monitor used by EPA to establish the attainment status of the area, and EPE analyzed data from monitors with hourly readings posted on TCEQ's web site. Each monitor was appropriate for the purpose of establishing a background concentration in support of a PSD permit application.
52. The ED concluded that the Montana Power Station's impacts, when added to background concentrations, would not exceed any applicable standards. The difference between the PM_{2.5} NAAQS and the PM_{2.5} background concentration is greater than EPA's PM_{2.5} significant impact level, such that no further modeling analysis would be necessary, even under draft, non-binding EPA policies.
53. Both the ED's and EPE's analysis of ambient PM_{2.5} monitoring data was presented to all parties in this case more than 31 days before the hearing on the merits and was available to the public prior to the hearing in this matter.
54. TCEQ's Air Dispersion Modeling Team performed an audit of the Modeling Report submitted by EPE and determined that the modeling performed was acceptable for all types of regulatory review and for all pollutants.
55. EPE has adequately demonstrated in its Modeling Report that the NAAQS and PSD Increments will not be exceeded. EPE has adequately demonstrated that all applicable state air quality standards will be met.
56. EPE presented an analysis to TCEQ comparing the TCEQ's ESLs to maximum expected off-property concentrations of ammonia, and TCEQ staff determined that the concentrations were acceptable.
57. The maximum expected off-property concentrations of ammonia are acceptable.

NAAQS Analysis

58. NAAQS apply throughout the U.S. and are set at levels protective of public health and welfare with an adequate margin of safety.
59. Primary or health-based NAAQS are set to protect the health of even the most sensitive individuals with an adequate margin of safety. Sensitive individuals include children, the elderly, and people with a pre-existing medical condition.

60. Secondary or welfare-based NAAQS are set to protect against welfare effects such as decreased visibility, effects on climate, effects on crops and other vegetation, effects on wildlife, and effects on the economy.
61. EPA has established NAAQS for six pollutants, referred to as the criteria pollutants: SO₂, two different size fractions of particulate matter (PM₁₀, consisting of particles with aerodynamic diameters less than 10 microns, and PM_{2.5}, consisting of particles with diameters less than 2.5 microns), ozone, NO_x, CO, and lead. The Montana Power Station will not emit lead.
62. If the predicted highest concentration of a pollutant at or beyond the property line due to the applicant's emissions falls below the corresponding NAAQS *de minimis* level, which is set by EPA, it is appropriate to conclude that the source's emissions of that pollutant will not cause or contribute to any adverse health or welfare effects. EPE directly modeled its emissions of NO₂, SO₂, PM₁₀, PM_{2.5}, and CO.
63. EPE's modeling showed maximum concentrations at or beyond the property line will not exceed the NAAQS *de minimis* levels for NO₂, SO₂, PM₁₀, PM_{2.5}, or CO.
64. No *de minimis* level has been established for ozone. However, because the emissions increases from the Montana Power Station of both VOC and NO_x (ozone precursors) are less than 100 tons per year (tpy), a further ambient impacts analysis for ozone is not required.
65. Emissions from the Montana Power Station will not cause or contribute to any exceedance of any NAAQS.

Increment Analysis

66. PSD increments are allowable incremental changes in off-property concentrations of certain pollutants for which PSD review has been triggered.
67. With the exception of PM_{2.5} (24-hour), maximum predicted concentrations of NO₂, PM₁₀, CO, SO₂, and PM_{2.5} (annual) were less than the corresponding PSD increment form of the Significant Impact Levels (SIL or SILs).
68. After considering all 24-hour PM_{2.5} significance analysis files to determine the receptor furthest from the Montana Power Station at which the modeled concentration exceeded the SIL for PM_{2.5} (24-hour), the radius of impact for PM_{2.5} (24-hour) was 1.2 kilometers.
69. To determine which inventory sources to include in the increment analysis, EPE evaluated all sources within the impact area (the circular area that circumscribes the radius of impact) and the annular area extending 50 kilometers beyond the impact area that could be expected to contribute to concentrations at the significant receptors. TCEQ

also specifically requested that minor sources with increment-consuming emissions from April 20, 2012 through August 23, 2012, be considered in the analysis.

70. Maximum predicted concentrations at all significant receptors within the radius of impact, including impacts from inventory sources, will be below the PSD increment for PM_{2.5} (24-hour).

State Property Line Analysis

71. State property line standards, also called Chapter 112 standards or NGLC standards, are maximum allowable concentrations resulting from all sources on a contiguous property.
72. The Montana Power Station will emit two substances for which State property line standards exist, SO₂ and sulfuric acid mist (H₂SO₄).
73. The maximum modeled SO₂ concentration predicted to result from the Montana Power Station's emissions is 78.82 µg/m³, which is below TCEQ's 1-hour standard of 1,021 µg/m³.
74. EPE's emissions will not cause any exceedance of the SO₂ state property line standard.
75. The Montana Power Station's emissions of H₂SO₄ will not cause any exceedance of applicable state property line standards as shown by a ratio analysis conducted by EPE.

State Property Line Analysis Summary

76. The Montana Power Station's emissions will not cause any exceedance of any state property line standard.

ESL Analysis

77. To assist in evaluating the potential for adverse health or welfare effects from exposure to air contaminants for which no ambient standards exist, TCEQ has developed approximately 4,700 guideline levels called Effects Screening Levels (ESLs).
78. Some ESLs are based on health effects, while others are based on welfare effects, including odor, nuisance, vegetation damage, or materials damage such as corrosion.
79. Health-based ESLs are set by TCEQ at levels lower than levels 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.
80. ESLs incorporate margins of safety to take into account even the most sensitive individual, typically using 1/100th of occupational health exposure limits for short-term ESLs and 1/1000th for long-term ESLs.

81. ESLs are typically lower, or more restrictive, than comparable guidelines established by the EPA and state air pollution control agencies.
82. If a modeled air concentration of a constituent is below the ESL, adverse effects are not expected. If an air concentration of a constituent is above the ESL, it is not indicative that an adverse effect will occur, but rather that further evaluation is warranted.
83. EPE modeled expected emissions of ammonia, for which no ambient standards exist. Maximum predicted concentrations for ammonia are less than the corresponding ESLs.
84. EPE estimated impacts of 14 trace metals that may be emitted by the Montana Power Station for comparison with the ESL. The estimated ground level concentrations for each of these metals were less than 1 percent of the corresponding ESL.
85. No adverse health or welfare effects will result from any emissions of any non-criteria air contaminant that may be emitted from the Montana Power Station.

Protection of Public Health and Welfare Summary

86. Emissions from the Montana Power Station will not cause any adverse health or welfare effects.

30 T.A.C. § 116.111(a)(2)(B): Measurement of Emissions

87. The Draft Permit requires EPE to perform initial stack testing to confirm that the actual quantities of air contaminants being emitted into the atmosphere from the combustion turbines are in compliance with the emission limits established in the Draft Permit.
88. EPE will be required by the Draft Permit to properly install, operate, and maintain continuous emissions monitoring systems (CEMS) to provide a continuous demonstration of compliance with limits on emissions of NO_x, CO, and diluents, and the CEMS will be operated in accordance with the monitoring requirements in 40 C.F.R. § 60.13 and the performance specifications of 40 C.F.R. Part 60, Appendix B, which satisfies applicable CEMS requirements.
89. The CO CEMS is a suitable surrogate for monitoring effective control of PM emissions from the combustion turbines.
90. EPE will be required to continuously monitor ammonia emissions when the SCR system is in operation.
91. The Draft Permit requires monitoring of the average hourly natural gas consumption of each combustion turbine, which, combined with the natural gas sulfur concentration limitation, suffices to establish continuous compliance with the Draft Permit's limits on SO₂ emissions.

92. Fuel for the combustion turbines will be limited to pipeline-quality natural gas containing no more than 0.6 grain total sulfur per 100 dry standard cubic feet. Upon request by the ED or any local air pollution control program having jurisdiction, EPE will be required to provide a sample and/or an analysis of the fuel-fired in the combustion turbines.
93. The Draft Permit requires EPE to limit total dissolved solids (TDS) concentrations in the cooling towers' circulating water to no more than 9,000 ppmw. To demonstrate continuous compliance with this TDS concentration, EPE will be required to either measure conductivity (in order to convert to TDS) or conduct a direct TDS analysis. Compliance with TDS limits contained in the Draft Permit will ensure continuous compliance with the cooling tower PM emission rates in the MAERT.
94. EPE will use a firewater pump engine certified by its manufacturer to meet the applicable new source performance standards. Operation of the firewater pump engine will be infrequent, and emissions will be limited by fuel specifications. The firewater pump engine is authorized to fire only diesel fuel containing no more than 15 ppm sulfur by weight, and upon request by the ED or any local air pollution control program having jurisdiction, EPE will be required to provide samples.
95. There are no active pollution control devices associated with the diesel storage tank that require monitoring. Emissions will be very small and will be a product of tank throughput and design, and throughput will be limited by the annual hours of operation for the firewater pump engine that the tank services.
96. The Draft Permit requires EPE to keep records, conduct regular opacity inspections, and undertake other actions at various Montana Power Station emission points to ensure that emissions are within permit limits.
97. The Draft Permit contains appropriate emissions-measuring provisions for each type of emission from each emission point, with consideration given to the relative significance of each, as well as to the measurement methods and data that were used to determine the limits, and any emissions-measurement requirements of federal programs such as the New Source Performance Standards (NSPS) and Acid Rain Rules.
98. The Draft Permit's provisions for measuring emissions from the Montana Power Station are similar to other issued permits and draft permits approved by TCEQ for larger combined cycle natural gas-fired electric generating facilities, and are more rigorous in their monitoring requirements than the standard permit for electric generating units for which the Montana Power Station would be eligible but for its emissions of greenhouse gases.
99. The methods for measuring emissions from the Montana Power Station required by the Draft Permit are adequate to assure compliance with the permit conditions and emissions limitations.

30 TAC § 116.111(a)(2)(C): Best Available Control Technology (BACT)

100. Because potential of emissions of NO_x, CO, PM, PM₁₀, and PM_{2.5} are greater than PSD Significant Emission Rates, EPE's BACT analysis for those pollutants was done in accordance with EPA's top-down methodology. Because potential emissions of VOC and NH₃ are less than PSD Significant Emission Rates, EPE's BACT analysis for those pollutants was done in accordance with TCEQ's three-tiered analysis. Either analytical methodology is expected to yield the same conclusions.
101. In undertaking its BACT analysis, EPE considered information from the TCEQ's BACT guidelines for simple cycle turbines, the RBLC database, vendors and engineering experts, and other permit applications and other states' websites.
102. The simple cycle combustion turbines in the RBLC or otherwise identified in the record, do not use control technologies in addition to or more effective than those that will be used by the Montana Power Station.
103. There are no new technical developments that are both technically practicable and economically reasonable that offer the potential for EPE to further reduce the Montana Power Station's emissions.
104. EPE did not consider combined cycle technology or other industrial processes to generate electricity as part of its BACT analysis because that would constitute redefinition of EPE's proposed power plant design.
105. EPE included in its Application an alternatives analysis to explain to the public how its fundamental business purpose informed the scope and design of the Montana Power Station.
106. The ED performed his own BACT review of EPE's project and concluded that the Montana Power Station's proposed control technologies and emission limits constituted BACT.

CTG BACT Analysis

107. EPE will control NO_x emissions from the combustion turbines during steady-state operations to 2.5 ppmvd corrected to 15% oxygen (on a three-hour rolling average basis) through the use of water injection, SCR technology, and staged air burners. This limit is lower than or equal to all prior BACT determinations for any comparable project, and the record includes no evidence to suggest that a lower limit can be achieved.
108. EPE will control CO emissions from the combustion turbines during steady-state operations to 6.0 ppmvd corrected to 15% oxygen (on a three-hour rolling average basis) through the use of good combustion practices and an oxidation catalyst. This is consistent with prior BACT determinations for comparable projects, and the record includes no evidence to suggest that a lower limit can be cost-effectively achieved.

109. EPE will control SO₂ emissions by using pipeline grade natural gas with sulfur content no greater than 0.6 grain per 100 standard cubic feet. This is consistent with all prior BACT determinations for any comparable project, and the record includes no evidence to suggest that a lower limit can be achieved.
110. EPE will meet a PM/PM₁₀/PM_{2.5} limit of 6.0 lbs/hr, as guaranteed by the vendor of the combustion turbines. This is lower than or equal to all prior BACT determinations for any comparable project, and the record includes no evidence to suggest that a lower limit can be achieved.
111. EPE will control VOC emissions from the combustion turbines to 2 ppmvd at 15% O₂ through the use of an oxidation catalyst. This is lower than or equal to all prior BACT determinations for any comparable project, and the record includes no evidence to suggest that a lower limit can be achieved.
112. EPE will control NH₃ emissions to 5 ppmvd at 15% oxygen in order to meet the emission rate limits in the Draft Permit's MAERT, through careful control of NH₃ injection and operation of the SCR per the manufacturer's recommendations. This exceeds TCEQ's BACT level of 7-10 ppmvd for NH₃. The Draft Permit establishes 7 ppmvd at 15% oxygen as NH₃ BACT, which is within TCEQ's discretion.

Firewater Pump Engine BACT Analysis

113. The firewater pump engine will meet a combined emission limit for NO_x and non-methane hydrocarbon equal to 2.7 g/bhp-hr, an emission limit for CO equal to 0.7 g/bhp-hr, and an emission limit for PM/PM₁₀/PM_{2.5} equal to 0.11 g/bhp-hr, as certified by the manufacturer. Compliance with these certified limits is BACT.
114. SO₂ emissions from the firewater pump engine will be limited by the required use of ultra-low sulfur diesel fuel, which is BACT.
115. VOC emissions from the firewater pump engine will be limited to the manufacturer-guaranteed value of 0.1 g/KW-hr and limited hours of operation, which is BACT.

Cooling Tower BACT Analysis

116. The Draft Permit will require EPE to control PM emissions from the cooling towers by the use of mist eliminators designed to achieve a 0.0005% drift rate. This is BACT for evaporative cooling towers.
117. EPE reasonably calculated the PM₁₀ and PM_{2.5} mass fractions of total PM emissions from the evaporative cooling towers through the use of drift droplet diameter data presented in Joel Reisman and Gordon Frisbie's "Calculating Realistic PM₁₀ Emissions from Cooling Towers."

118. Because of hotter combustion air temperatures, a dry-cooled LMS100 would lose about 10 percent of its maximum-rated capacity in the peak summer months. In addition, a dry cooling system would impose a parasitic load of approximately 1% of net power output due to the power needed to drive the fan motors required in a dry cooling system.
119. Dry cooling of the intercoolers used at the Montana Power Station would result in reduced summer peaking capacity, higher auxiliary power requirements (parasitic losses), higher overall emissions, and higher costs relative to the configuration for which EPE seeks a permit.

Storage Tank BACT Analysis

120. Per the TCEQ's Tier I BACT, the minimum acceptable control for emissions of VOCs from storage tanks with a capacity of less than 25 Mgal storing liquids with a vapor pressure less than 0.5 psia is fixed-roof design with submerged fill, with any exterior surfaces exposed to the sun required to be painted white or aluminum non-insulated. The diesel storage tank at the Montana Power Station will have a nominal capacity of 300 gallons and will be located inside the firewater pump building. The tank will be painted safety red, and tank surfaces will not be exposed to the sun. Therefore, the diesel storage tank will meet the TCEQ's Tier I BACT requirements.

Piping Components BACT Analysis

121. EPE will minimize fugitive emissions from process equipment in ammonia service by using an audio/visual/olfactory leak detection and repair program. The audio/visual/olfactory program meets TCEQ's Tier I BACT requirements.

Control of emissions from combustion during startup

122. During startup and shutdown scenarios, the combustors do not operate at their maximum efficiency which, for CO and NO_x, increases their concentration in the exhaust. In addition, the catalytic controls for CO and NO_x emission require relatively higher exhaust temperatures, which are not present at startup. These factors combine to make CO and NO_x emissions higher when ramping up to or down from full load than during steady-state operations. For other pollutants, the emission rates are more or less directly proportional to gas input, and so the lower gas inputs during startup and shutdown mean that full load operations represent worst-case emission rates.
123. EPE established separate NO_x and CO BACT emission limits for steady-state operations and start-up/shutdown periods. The Draft Permit's emission limits for startups and shutdowns reflect prudent operation of the turbines and their associated emission control equipment.

BACT summary

124. The Draft Permit imposes conditions that meet or exceed BACT requirements for all proposed facilities and pollutants under all permitted operating conditions.

30 TAC § 116.111(a)(2)(D): New Source Performance Standards (NSPS)

125. Compliance with NSPS requirements is a condition of the Draft Permit.

30 TAC § 116.111(a)(2)(E): National Emission Standards for Hazardous Air Pollutants (NESHAPs)

126. The Montana Power Station is not an affected source category under any of the NESHAP subparts in 40 C.F.R. Part 61. Therefore, the requirements of Part 61 do not apply.

30 TAC § 116.111(a)(2)(F): NESHAP for Source Categories

127. The emergency firewater pump is subject to the emission and operating limitations of 40 C.F.R. Part 63, Subpart ZZZZ. EPE will comply with the requirements of this maximum achievable control technology (MACT) standard for the firewater pump engine by complying with NSPS Subpart IIII, in accordance with 40 C.F.R. § 63.6590(c)(1).

30 TAC § 116.111(a)(2)(G): Performance Demonstration

128. EPE provided information sufficient to demonstrate that the Montana Power Station has been planned to operate, and can and will be operated, in a manner such that the performance specified in the Application and the Draft Permit will be achieved.
129. EPE will be required by the terms of the Draft Permit to demonstrate achievement of the performance specified in the Application once the Montana Power Station is operating.
130. EPE will be required by the terms of the Draft Permit to perform testing of emissions from the combustion turbines and various other emission sources, and to operate CEMS to demonstrate continuous compliance with applicable emission limits, including during periods of startup and shutdown.
131. EPE will be required by the terms of the Draft Permit to maintain, report, and make available a variety of records related to the fuels it uses and its ongoing operations under the Permit, which will be available to TCEQ and any other authorized officials to confirm that the facilities achieve the performance represented in the Application and specified in the Draft Permit.

30 TAC §116.111(a)(2)(H): Nonattainment Review

132. EPE will be located in El Paso County, Texas, which is not a designated nonattainment area for any air contaminant; therefore, it is not subject to nonattainment new source review requirements.

30 TAC § 116.111(a)(2)(I): Prevention of Significant Deterioration

133. But for the emergence of EPA-driven permitting requirements for greenhouse gases, the Montana Power Station project would not have triggered PSD review, and would have satisfied the requirements for a standard permit.
134. The Montana Power Station has the potential to emit NO_x, CO, PM, PM₁₀, and PM_{2.5}, in quantities greater than their published significant emissions levels, and therefore triggers PSD review for those pollutants.
135. EPE conducted an appropriate source impact analysis showing that the Montana Power Station's allowable emissions will not cause or contribute to air pollution in violation of any NAAQS or PSD increment.
136. EPE conducted an appropriate additional impacts analysis to assess the impairment to visibility, soils, and vegetation as a result of the Montana Power Station and associated commercial, residential, and industrial growth, and to assess air quality impacts as a result of such growth. EPE's analysis reveals that negligible growth-related ambient air impacts are expected.
137. The Montana Power Station will not have adverse impacts on visibility because its emissions will comply with the opacity and PM requirements in 30 TAC Chapter 111, and will be located greater than 100 kilometers from the nearest Class I area.
138. A Class I area visibility analysis is not required because the nearest Class I area is more than 100 kilometers from the site of the Montana Power Station.

30 TAC § 116.111(a)(2)(J): Air Dispersion Modeling

139. EPE performed computerized air dispersion modeling to demonstrate the maximum air impacts expected to result from the Montana Power Station's emissions.
140. EPE's modeling analysis demonstrates that the proposed project will not violate the NAAQS, cause an exceedance of the increment, cause an exceedance of ESLs, or have any adverse impacts on soils, vegetation, or Class I areas.

30 TAC § 116.111(a)(2)(K): Hazardous Air Pollutants (HAPs)

141. The Montana Power Station will not be a major source of HAPs. Therefore, this rule does not apply.

30 TAC § 116.111(a)(2)(L): Mass cap and trade allowances

142. The Montana Power Station will not be located in the Houston-Galveston-Brazoria nonattainment area. Therefore, this rule does not apply.

Additional Findings Concerning Air Emissions

143. In addition to the existing cap-and-trade program established by the Acid Rain Program under Title IV of the federal Clean Air Act, the Clean Air Interstate Rule is a cap-and-trade program in which EPE will participate.
144. Emissions of particulate matter from the Montana Power Station will not be greater than the limit established under 30 TAC § 111.151.
145. Opacity from stationary vents at the Montana Power Station will not exceed the opacity limit of 15% averaged over a 6-minute period established at 30 TAC § 111.111(a)(1)(C). In addition, visible emissions from the Montana Power Station will not exceed an opacity of 30% for any 6-minute period from any building, enclosed facility, or other structure.
146. This permit does not authorize any non-road, large spark ignition engines. Therefore, 30 TAC ch. 114 does not apply.
147. Because the vapor pressure of stored liquid at the Montana Power Station will be less than 0.5 psia, diesel unloading operations are exempt from the loading and unloading requirements of Chapter 115, Subchapter C, Division 1 of TCEQ's rules. Pursuant to Chapter 115, after unloading them, EPE will keep transport vessels vapor-tight until the vapors are returned to a loading, cleaning, or degassing operation and discharged in accordance with control requirements; will inspect for visible liquid leaks during each VOC transfer; will discontinue loading or unloading immediately if a leak is observed; will comply with vapor pressure test methods; and will maintain test results for testing conducted in accordance with 30 TAC § 115.215 for two years.
148. The requirement to prepare a Risk Management Plan for the Montana Power Station is not triggered by the proposed on-site storage of aqueous ammonia because the concentration of aqueous ammonia is less than the concentration threshold in regulations implementing Section 112(r) of the federal Clean Air Act.
149. As an owner and operator of a major stationary source in El Paso County that emits 100 tons or more per year of any air contaminant specified in Table 1 of 30 TAC § 118.1 or volatile organic compounds, EPE will be required to prepare and maintain an emission reduction plan.

Draft Permit

150. The special conditions contained in the Draft Permit are comparable to those contained in other permits issued by the Commission for sources subject to PSD review.

151. The Montana Power Station, as designed, is expected to comply with the terms of the Draft Permit.
152. The Draft Permit prescribes requirements for demonstrating initial and ongoing compliance with all applicable requirements of the permit and of the Texas Clean Air Act (TCAA).
153. On May 7, 2013, the ED transmitted to all parties a revised Maximum Allowable Emissions Rate Table (MAERT). The ED updated the MAERT to accurately reflect PM_{2.5} emission rates from the cooling towers consistent with the representations made in the Application.

Compliance history

154. EPE's compliance history is classified as high.

Transcript Costs

155. EPE has been billed reporting and transcription costs in the amount of \$3,285.25 for the evidentiary hearing in this matter.
156. Protestants participated extensively in the hearing and have benefited from having a transcript, but they have limited financial ability to pay a portion of the costs.
157. The reporting and transcription costs should be assessed to EPE.

Other remaining issues

158. With respect to all other contested issues, the Application and the remainder of the evidentiary record contain factual information sufficient to satisfy all applicable statutory and regulatory requirements.

CONCLUSIONS OF LAW

Jurisdiction

1. The Commission has jurisdiction over EPE's Application pursuant to Tex. Health & Safety Code Chapter 382 and Tex. Water Code Chapter 5.
2. EPE's Application was directly referred to SOAH pursuant to Tex. Water Code § 5.557.
3. Pursuant to Tex. Gov't Code § 2003.047, SOAH has jurisdiction to conduct a hearing and to prepare a PFD in this matter.

4. Proper notice of EPE's Application was provided pursuant to Tex. Health & Safety Code §§ 382.0516, 382.0517, and 382.056; Tex. Gov't Code §§ 2001.051 and 2001.052; and 30 Tex. Admin. Code (TAC) § 39.601, *et seq.*
5. EPE properly submitted a complete Application pursuant to Tex. Health & Safety Code §§ 382.0515 and 382.0518; and 30 TAC §§ 116.110, 116.111, 116.140, and 116.404.

Burden of Proof

6. Pursuant to 30 TAC §§ 55.210 and 80.17(a), in a contested case hearing involving an air quality permit application that has been directly referred to SOAH, the burden of proof is on the applicant to prove by a preponderance of the evidence that the application satisfies all statutory and regulatory requirements.
7. EPE met its burden of proof that the Application satisfies all applicable statutory and regulatory requirements.

30 TAC § 116.111(a)(2)(A): Protection of Public Health and Welfare

8. In accordance with 40 C.F.R. § 52.21(k), as incorporated into TCEQ's rules at 30 TAC § 116.160(c)(2)(B), the Montana Power Station's emissions will not cause or contribute to air pollution in violation of any NAAQS in any air quality control region, or any applicable maximum allowable increase over the baseline concentration in any area.
9. In accordance with 30 TAC § 101.4, the Montana Power Station's emissions will not cause any nuisance conditions.
10. The Montana Power Station's emissions will comply with the opacity limits and particulate matter emission rates set forth in 30 TAC ch. 111 concerning control of air pollution from visible emissions and particulate matter.
11. The Montana Power Station's emissions will comply with the sulfur compound emission requirements set forth in 30 TAC ch. 112 concerning control of air pollution from sulfur compounds.
12. The Montana Power Station will comply with all applicable standards adopted by reference in 30 TAC ch. 113.
13. The Application does not seek authorization for the activities covered by 30 TAC ch. 114; therefore, the provisions of Chapter 114 do not apply to this decision.
14. The unloading of diesel fuel from trucks into storage tanks at the Montana Power Station will comply with applicable requirements set forth in 30 TAC ch. 115.
15. TCEQ modeling guidance excludes the requirement to model road dust emissions for short-term averaging periods and excludes the requirement to model road dust emissions

for annual averaging periods if these emissions cannot be accurately quantified, or if they will not be generated in association with the transport, storage, or transfer of road-based aggregate materials, and the applicant plans to use best management practices to control them. EPE will not be transporting aggregate materials and it plans to use best management practices to control road dust emissions. Therefore, it was not necessary to include road dust emissions for modeling purposes.

16. An applicant is not required to evaluate background concentrations of a particular criteria pollutant if the highest predicted concentration of that pollutant due to the applicant's emissions at or beyond the property line falls below the corresponding *de minimis* or significant monitoring concentration set by the EPA, in which case it is appropriate to conclude that the source's emissions of that pollutant will not cause or contribute to any adverse health or welfare effects.
17. Because EPE's modeling showed maximum concentrations did not exceed the NAAQS *de minimis* levels for NO₂, SO₂, PM₁₀, PM_{2.5}, or CO, no full impact NAAQS analyses were required, and no criteria pollutant monitor background concentrations were needed.
18. Because the maximum predicted concentrations for the PM_{2.5} 24-hour averaging period were greater than the PSD Increment form of the PM_{2.5} SIL at one or more receptors, a PSD increment analysis was required for the PM_{2.5} 24-hour averaging period.
19. Because the PSD Increment modeling results demonstrate that maximum predicted concentrations at all significant receptors within the radius of impact, including impacts from inventory sources, were below the PSD increment for PM_{2.5} (24-hour), compliance with the PSD Increment requirement was demonstrated, and no further analysis was required.
20. State property line standards are enforced only through actual measurement, but it is TCEQ's policy to require a preconstruction modeling demonstration that they are not likely to be exceeded.
21. Per TCEQ guidance, the maximum modeled SO₂ ground-level concentration for the 1-hour averaging period is used for comparison with the 30-minute property line standard.
22. In accordance with 30 TAC § 116.111(a)(2)(A)(i), emissions from the Montana Power Station will comply with all Commission rules and regulations and the intent of the TCAA, including protection of the health and property of the public.
23. The Montana Power Station is not subject to the rules set forth in 30 TAC ch. 117 regarding the control of NO_x because it will not be located in an ozone nonattainment area.

24. The Montana Power Station is required to operate in compliance with any orders of the Commission relating to generalized and localized air pollution episodes under 30 TAC ch. 118.
25. EPE must prepare an emissions reduction plan as required by 30 TAC ch. 118 within six months of commencement of operations.
26. EPE is not required to evaluate any impacts from the Montana Power Station's emissions of substances that are not regulated under the TCAA, such as water vapor, nitrogen, or ethane.
27. There is no legally effective TCEQ or EPA rule or guidance document requiring EPE to have accounted for secondarily formed PM_{2.5} in its modeling analyses.

30 TAC § 116.611(a)(2)(B): Measurement of Emissions

28. In accordance with 30 TAC § 116.111(a)(2)(B), the Montana Power Station will have provisions for measuring the emission of air contaminants as determined by the Commission's ED.

30 TAC § 116.111(a)(2)(C): Best Available Control Technology

29. BACT is "an air pollution control method for a new or modified facility that through experience and research, has proven to be operational, obtainable, and capable of reducing or eliminating emissions from the facility, and is considered technically practical and economically reasonable for the facility." 30 TAC § 116.10(1).
30. The TCEQ BACT evaluation is conducted using a tiered analysis approach, involving three different tiers.
31. In the first tier, controls accepted as BACT in recent permit reviews for the same process or industry are approvable as BACT in a current review if no new technical developments have occurred that would justify additional controls as economically or technically reasonable. The review of control technologies under the first tier is relatively straightforward in that technical practicability and economic reasonableness have already been demonstrated by use.
32. If it can be determined that a source's proposed performance is equal to or better than that accepted as BACT in recent permit reviews for the same process or industry, then only a Tier I BACT analysis is required. If not, then a Tier II BACT analysis is required. A Tier II evaluation involves consideration of controls that have been accepted as BACT in recent permits for similar air emission streams in a different process or industry.
33. A Tier III evaluation is a detailed technical and quantitative economic analysis of all emission reduction options available for the process under review.

34. Technical practicability is established through demonstrated success of an emission reduction option based on previous use and/or engineering evaluation of a new technology. Economic reasonableness is determined solely by the cost effectiveness of controlling emissions and does not take into account the effect of control cost on the permit applicant's corporate economics.
35. EPA uses a top-down approach for BACT analyses and requires the following steps: (1) identify all potential control technologies; (2) eliminate technically infeasible options; (3) rank remaining control technologies by control effectiveness; (4) evaluate the most effective controls and document the results; and (5) select the BACT by choosing the best technology not eliminated in step four (based upon concerns regarding collateral energy, environmental, or economic impacts).
36. An applicant that is proposing to construct a simple cycle natural gas-fired power plant with cooling towers is not required to include other electric generation technologies, such as combined cycle technology, in its BACT analysis.
37. BACT does not require the Commission to consider the need for or alternatives to the facilities for which the applicant seeks a permit; rather, the Commission's obligation is to ensure that BACT is applied to the facilities for which the applicant seeks a permit.
38. In accordance with 30 TAC § 116.111(a)(2)(C) and applicable Commission and EPA policies, the Montana Power Station will utilize BACT, with consideration given to the technical practicability and economic reasonableness of reducing or eliminating emissions from the facilities of which it will be comprised.

30 TAC § 116.111(a)(2)(D): New Source Performance Standards

39. In accordance with 30 TAC § 116.111(a)(2)(D), the emissions from the Montana Power Station will meet the requirements of any applicable NSPS as listed under 40 C.F.R. Part 60, promulgated by the EPA under authority granted under Section 111 of the FCAA, as amended.

30 TAC § 116.111(a)(2)(E): National Emissions Standards for Hazardous Air Pollutants (NESHAP)

40. There are no NESHAPs applicable to facilities of the type comprising the Montana Power Station.

30 TAC § 116.111(a)(2)(F): NESHAP for Source Categories

41. EPE will comply with the requirements of 40 C.F.R. Part 63, Subpart ZZZZ for the firewater pump engine by complying with NSPS Subpart IIII, in accordance with 40 C.F.R. § 63.6590(c)(1).

30 TAC § 116.111(a)(2)(G): Performance Demonstration

42. In accordance with 30 TAC § 116.111(a)(2)(G), the Montana Power Station will achieve the performance specified in the Application.

30 TAC § 116.111(a)(2)(H): Nonattainment Review

43. Nonattainment review requirements are not applicable to the Montana Power Station.

30 TAC § 116.111(a)(2)(I): Prevention of Significant Deterioration

44. Because the Montana Power Station is a “major source” of greenhouse gas emissions, it is disqualified from using the Commission’s standard permit for simple cycle turbines. Under EPA’s “major for one, major for all” policy, if a site is a major source for one pollutant, then any other pollutant emitted above so-called “significant emission rates” also must go through PSD review.
45. In accordance with 30 TAC § 116.111(a)(2)(I), the Montana Power Station complies with all applicable requirements regarding PSD review.

30 TAC § 116.111(a)(2)(J): Air Dispersion Modeling

46. In accordance with 30 TAC § 116.111(a)(2)(J), computerized air dispersion modeling was performed as required to determine the air quality impacts of the Montana Power Station.
47. Neither the submittal of a modeling report or of monitoring data in support of any application is considered an amendment of that application, as that term is used in Texas Health & Safety Code § 382.0291(d).
48. Emissions from the Montana Power Station will not cause a violation of any NAAQS, an exceedance of any increment, an exceedance of ESLs, or have any adverse impacts on soils, vegetation, or Class I areas.

30 TAC § 116.111(a)(2)(K): Hazardous Air Pollutants

49. The Montana Power Station is not a major source of HAPs. Therefore, this rule does not apply.

30 TAC § 116.111(a)(2)(L): Mass Cap and Trade Allowances

50. The Montana Power Station is not subject to the Mass Emissions Cap and Trade program.

EPE's Permit

51. The special conditions in the Draft Permit are appropriately imposed under 30 TAC §§ 116.115(c)(1) and 116.186(c) and are consistent with the TCAA.
52. Based on these Findings of Fact and Conclusions of Law, EPE has made all demonstrations required under applicable statutes and regulations, including 30 TAC § 116.111 regarding air permit applications, to be issued an air quality permit with PSD review, with conditions as set out in the Draft Permit.
53. In accordance with Tex. Health & Safety Code § 382.0518(b)(2), emissions from the Montana Power Station will not contravene the intent of the TCAA and will be protective of the public's health and physical property, consistent with the long-standing interpretations of the Commission's rules, regulations, and guidance.
54. In accordance with Tex. Health & Safety Code § 382.0518(b), the Application for Air Quality Permit Nos. 102294 and PSD-TX-1290 should be granted, under the terms expressed in the Draft Permit.

Transcript costs

55. All transcript costs are assessed against EPE.

ISSUED:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**Bryan W. Shaw, Ph.D., Chairman
For the Commission**