

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT**



**IN THE MATTER OF THE APPLICATION TO REVISE
NSR PERMIT 1554-M1, EL PASO ELECTRIC COMPANY,
RIO GRANDE GENERATING STATION**

AQCA 11-02(P)

HEARING OFFICER'S REPORT

INTRODUCTION

El Paso Electric Company (“EPEC” or “Applicant”) seeks an air quality permit to construct a 95.3 MW electrical generating unit at the Rio Grande Generating Station in Sunland Park, Dona Ana County, New Mexico. The proposed new generating unit is a General Electric LMS100 natural gas-fired turbine. EPEC also proposes to install a new cooling tower and piping in conjunction with the new turbine.

The New Mexico Environment Department Air Quality Bureau (Bureau) supports the approval of the permit allowing construction and operation of the unit with conditions necessary to protect human health and welfare and the environment.

The matter was heard on March 29, 2011, by Felicia Orth, Department Hearing Officer, in Sunland Park, New Mexico. The Bureau was represented by Eric Ames of the Department’s Office of General Counsel. Mr. Ames was joined by several employees of the AQB, including Cember Hardison, Sufi Mustafa and Ned Jerabek.

The Applicant was represented by Louis Rose of Montgomery and Andrews. Mr. Rose was joined by Applicant’s environmental engineer Luis Perez, and by Karen Olson and David Castro of Zephyr Environmental Corporation.

Taylor Moore of the Sunland Park Grassroots Environmental Group (SPGEG) entered an appearance, and presented Olga Arguelles and Robert Ardovino for non-technical testimony.

Non-technical public comment was offered by Councilor Carmen Rodriguez and Francisco Uvino.

Written public comment was submitted at the hearing by Glenn Landers, Chair of the Southern Group of the Rio Grande Chapter of the Sierra Club; Mr. Landers summarized the Chapter's concerns during the hearing.

A team of interpreters brought by Jim Ficklin of Southwest Video and Sound were present to provide simultaneous interpretation between English and Spanish. The hearing was recorded and transcribed by Cheryl Arreguin of Kathy Townsend Court Reporters.

The hearing took place over the course of one day, and was conducted in accordance with 20 NMAC 1.4, the Department's Permitting Procedures. The sign-in sheets reflect attendance of approximately 50 people; not everyone signed in.

The record proper includes, *inter alia*, the application for air quality permit (Application); the public hearing determination memo; notice of docketing; notices of public hearing in English and in Spanish; notices of intent to present technical testimony from the Bureau and Applicant; the administrative record submitted by the Bureau, with supplementation; notices of filing and affidavits of publication; a motion filed by SPGEG to recuse the Hearing Officer; the hearing transcript; written public comment and other documents and exhibits submitted at the hearing; the notice of transcript filing; a joint post-hearing submittal from the Applicant and the Bureau; and this Report.

An independent summary of the testimony is not set out here; the Bureau and Applicant submitted excellent summaries of the testimony as part of their proposed findings and conclusions, which are adopted below. The Motion to Recuse filed by SPGEG and argued at the hearing was denied prior to the parties' presentations.

APPLICABLE LAW

New Mexico Air Quality Control Act, NMSA 1978, §§ 74-2-1 to 74-2-17

New Mexico Air Quality Regulations - Construction Permits, 20.2.72 NMAC

New Mexico Environment Department Permitting Procedures – 20.1.4 NMAC

RECOMMENDATION

Based upon the administrative record in its entirety, including the post-hearing submittal, I recommend that the proposed final draft permit be issued, as set forth in the Administrative Record.

RECOMMENDED FINDINGS AND CONCLUSIONS

What follows is drawn from the Applicant's and Bureau's joint proposed findings of fact, based on the evidence.

FINDINGS OF FACT

Rio Grande Generating Station

1. EPEC's Rio Grande Generating Station (Rio Grande) is located in Sunland Park New Mexico. Rio Grande, which has been in operation since the 1920s, is comprised of three natural gas-fired boilers (Boilers 6, 7 and 8) and associated cooling towers and piping. The total annual average electric power production from Rio Grande is 245 MW. Perez Testimony at 4.

2. Boilers 6, 7 and 8 are dry bottom, wall-fired gas steam boilers. EPEC operates three high pressure, superheated steam driven turbine generator units in conjunction with the boilers. Unit 8 is equipped with emissions controls, which include water injection, low NOx burners and flue gas recirculation. *Id.*

3. Boilers 6, 7 and 8 were constructed prior to 1972, the effective date of New Mexico's pre-construction (NSR) permit program, and were capable of firing both natural gas and fuel oil. *Id.* Since the construction of those units pre-dates the permit program and the units have not been modified since that date, the facility does not have an NSR permit.

4. Since the early 1970s, emissions from Boilers 6, 7 and 8 have been subject to limits for NOx and opacity, and Boilers 6 and 8 have been subject to limits for PM under regulations adopted by the New Mexico Environmental Improvement Board. *See* 20.2.18 NMAC (Oil Burning Equipment—Particulate Matter); 20.2.33 NMAC (Gas Burning Equipment—Nitrogen Dioxide); 20.2.34 NMAC (Oil Burning Equipment—Nitrogen Dioxide); and 20.2.61 NMAC (Smoke and Visible Emissions).

5. Rio Grande has a potential emission rate for NOx and other air contaminants in excess of 100 tons per year and is therefore subject to 20.2.70 NMAC (Operating Permits).

6. On January 27, 2000, the Department issued Operating Permit P127 for Rio Grande, which established limits on NOx, CO, SO2, and TSP. On September 22, 2005, the Department renewed the permit as Operating Permit P127R1, which established limits on NOx, CO, SO2, PM10 and VOC emissions from Boiler 8 and limits on NOx, CO, and SO₂ emissions from Boilers 6 and 7, when firing natural gas and No. 2

diesel fuel, and established operational, record keeping and reporting requirements.

7. On September 18, 2009, EPEC submitted an application to renew Permit P127R1. The renewal application seeks to revise the emission limits for certain contaminants and to withdraw the authorization to fire Boilers 6, 7 and 8 on No. 2 diesel fuel. The renewal application is pending.

2010 NSR Permit Application

8. On June 15, 2010, EPEC submitted an application to the Bureau for authorization to construct a 95.3 MW electrical generating unit at Rio Grande.

9. The proposed new generating unit is a General Electric LMS100 natural gas-fired turbine (Unit GT-9). EPEC also proposed to install a new cooling tower (Unit CT-9) and piping in conjunction with the new turbine. Perez Testimony at 5.

10. The application included a description of Units GT-9 and CT-9 and the associated piping; the identification of expected emission rates for the new units, the associated cooling towers and piping; the identification of applicable ambient air quality standards and air quality regulations; an analysis of the ambient air quality impacts of emissions from the new equipment and the existing units at Rio Grande, and surrounding sources; and other information required by 20.2.72.203.A NMAC. Record Index No. 1. Perez Testimony at 7-11. It also included a discussion of why installation of the new equipment was not subject to prevention of significant deterioration (PSD) or nonattainment pre-construction permitting requirements.

11. EPEC proposed that emissions from the turbine would be sent through two control devices before being emitted through the exhaust stack. *Id.*; Perez Testimony at 5. Specifically, EPEC proposed to install a selective catalytic reduction system to reduce

NOx emissions and a catalytic oxidizer to reduce CO and VOC emissions. EPEC committed to follow manufacturers' operating and maintenance guidance in operating the turbine and the control equipment.

12. EPEC gave notice of the application by certified mail to all property owners within 100 feet of the Rio Grande property boundary and the government officials in Dona Ana County and Sunland Park. In addition, EPEC published two English language notices of the filing of the application in the El Paso Times and two Spanish language notices in the El Diario de El Paso. EPEC also posted the public notice in four publically accessible and conspicuous places and submitted a public service announcement to KGRT radio station in Las Cruces. Hardison Testimony at 17 & 18.

13. On July 16, 2010, the Bureau determined that the application was not complete and requested that EPEC submit additional information on the proposed construction.

14. On August 25, 2010, EPEC responded to the July 16, 2010 determination and request for information. Specifically, EPEC's response described the Boiler 8 water injection and flue gas recirculation control system and the turbine SCR/COR emission control system, Perez Testimony at 8, and included updated documentation on EPEC's public notice on the application, *Id.* at 9.

15. On September 25, 2010, the Bureau held a community meeting at the Desert View Elementary School in Sunland Park. At the meeting, the Bureau provided a Spanish-English interpreter, a Spanish translation of the Bureau's presentation, and a handout in English and Spanish with contact information and instructions on obtaining more information. Those documents were posted on the Department's website. *Id.*

16. On October 7, 2010, the Bureau determined the application to be administratively complete.

17. The Bureau posted the application on the Department's website, mailed a copy of the notice to the State of Texas, published notice in English and Spanish in the Las Cruces Sun News, provided copies of the application and the Bureau's preliminary determination (including subsequent revisions) to the Department's Santa Fe and Las Cruces offices, and sent written notification that the Bureau's analysis of the application was available to each person who had submitted written comments within thirty (30) days of the Department's public notice. *Id.*

18. To comply with Executive Order 2005-056, the Bureau mailed copies of the application to the Sunland Park Library, San Martin de Porres Catholic Church, and La Casita Community Center; mailed or sent electronically 172 plain language public notices in English and Spanish to Sunland Park-area citizens and local government officials; mailed or sent electronically 116 flyers in English and Spanish to Sunland Park-area citizens and local government officials announcing the September 25, 2010 community meeting; responded to all written comments in Spanish, as applicable, and provided in every notification and on the website the contact information for the Bureau's Spanish language contact person; for the hearing mailed or sent electronically more than 200 hearing notices in English and Spanish to Sunland Park-area citizens and local government officials; and provided Spanish-English interpretation at both the community meeting and hearing.

19. Between December 8 and 12, 2010, the Bureau received three letters and 62 signatures requesting a public hearing on the Application.

20. At all relevant times, the Secretary delegated to the Director of the Environmental Protection Division the authority to decide whether to conduct a public hearing. *In the Matter of Delegations by the Secretary of Environment of Signatory Authorities*; March 14, 2008, at 4.

21. On December 17, 2010, the Director of the Environmental Protection Division determined, pursuant to 20.2.72.206.C NMAC, that there was significant public interest in the Application and required that a public hearing be held on the Application.

22. On February 10, 2011, EPEC updated the expected emission rates for PM, including TSP, PM₁₀ and PM_{2.5} (condensable and filterable particulate), from the turbine and PM_{2.5} from Boiler 6, and submitted an analysis of PSD and nonattainment permitting applicability for these pollutants. Record Index No. 10; Perez Testimony at 5 & 12; Olson Testimony at 14 & 16. The PSD and nonattainment permitting applicability analysis demonstrated that the net emissions increase from the installation and operation of the new equipment, together with other changes in emissions at Rio Grande, was less than the TSP and PM₁₀ significance levels in 20.2.74 NMAC and the PM_{2.5} significance level specified in the May 16, 2008 Federal Register.

Public Hearing

23. The Department scheduled the public hearing on the Application to begin on March 29, 2011 in Sunland Park, New Mexico.

24. On February 24, 2011, the Department issued notice of the public hearing in English and Spanish, (a) stating that the hearing would begin at 10:30 am on March 29, 2011 in the Signature Room at the Sunland Park Racetrack and Casino in Sunland Park, New Mexico; (b) stating that the hearing would be conducted in accordance the

Department's permitting procedures, the procedures in the Environmental Improvement Board's pre-construction permitting regulation, 20.2.72 NMAC, and other applicable hearing procedures; (c) describing EPEC's application to construct a 95.3 MW natural gas-fired turbine at Rio Grande; identifying where interested persons can review the application, the Bureau's analysis of the Application, the Bureau's draft permit and the applicable regulations; (d) describing how technical and non-technical written and oral testimony could be presented.; (e) specifying that any person wishing to present technical testimony regarding the draft permit must file a Statement of Intent to Present Technical Testimony on or before March 15, 2011; (f) describing the required content of a Statement of Intent; (g) describing the manner in which a person could become a party to the permitting proceeding; and (h) describing the post-hearing process for the Application.

25. On February 24, 2011, the Department published Spanish and English language hearing notices in two newspapers of general circulation in the Sunland Park area, the Albuquerque Journal and the Las Cruces Sun News. During the week of February 28, 2011, the Department mailed or sent electronically more than 200 Spanish and English language notices to Sunland Park-area citizens and local government officials, including all persons who expressed an interest in the application.

26. On March 15, 2011, the Department filed the Administrative Record.

27. On March 15, 2011, EPEC filed its Statement of Intent to Present Technical Testimony. The Statement identified Luis G. Perez, Karen N.T. Olson and David Castro as their technical witnesses, identified the expected length of the direct testimony of each witness, and submitted a copy of the direct testimony of each witness,

including a copy of the exhibits offered by each witness in their direct testimony.

28. On March 15, 2011, the Bureau filed its Notice of Intent to Present Technical Testimony. The Notice identified Cember Hardison, Ned Jerabek, Sufi Mustafa and Michael Baca as their technical witnesses, identified the expected length of the direct testimony, and submitted a copy of Ms. Hardison's direct testimony.

29. No person or entity other than the Bureau and Applicant filed a notice of intent to provide technical testimony.

30. Mr. Taylor Moore filed an entry of appearance on behalf of the Sunland Park Grassroots Environmental Group.

31. The hearing was held on March 29, 2011, at 10:30 a.m., Tr. at 1, and continued until adjournment at approximately 4:46 p.m. Tr. at 199.

32. The hearing was held in Sunland Park, New Mexico, which is in the geographic area likely to be impacted by Rio Grande.

33. A transcript of the hearing was made at the request of the Department and at the expense of the Department in compliance with the requirements of 20.2.72.206.C NMAC. Tr. at 1-128.

34. All persons at the hearing were given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing.

EPEC Witnesses' Testimony

35. EPEC offered technical testimony at the Hearing from Mr. Perez, an environmental engineer with EPEC; Ms. Olson, a principal with Zephyr Environmental Corporation; and Mr. Castro, a project engineering associate with Zephyr.

36. Mr. Perez has a B.S. degree in civil engineering and a M.S. degree in engineering from the University of Texas at El Paso. He has been employed by EPEC since 2004. His complete resume was attached as Exhibit E to his Direct Testimony.

37. Mr. Perez testified about Rio Grande and the proposed turbine and associated equipment, including operations and emissions from Boilers 6, 7 and 8; proposed new Unit GT-9, including expected emissions and proposed control equipment; and the Application's compliance with the requirements of 20.2.72.303.A NMAC.

38. Mr. Perez also testified that EPEC had reviewed the Bureau's draft permit and that "[e]ven though [EPEC] does not believe that the stack testing required by the permit is necessary to assure compliance with the emissions limits in the permit or to assure that certain conditions are federally enforceable, it is willing to accept those requirements." Perez Testimony at 13.

39. Ms. Olson has a B.S. degree in chemical engineering from the University of Texas at Austin. She is a principal with Zephyr Environmental Corporation of Austin, Texas and has over 30 years' experience in air permitting. She worked in air permitting for 26 years with the Texas Air Control Board and its successor agencies. Her complete resume was attached as Exhibit D to her Direct Testimony.

40. Ms. Olson testified about emissions from the proposed turbine and associated equipment, including emissions during startup and shutdown of the unit. She testified that expected maximum emissions from Unit GT-9 of NO_x, CO, VOCs, SO_x, condensable and filterable particulate matter (including TSP, PM₁₀ and PM_{2.5}), H₂S, HAPS and TAPS are included in the permit application, NMED Form UA-2. Olson Testimony at 7. She also testified that Chlorine HAP emissions were calculated for the

cooling tower piping and equipment in chlorine service. *Id.* She also testified that ammonia TAP emissions were calculated for Unit GT-9 and for the SCR ammonia injection system piping components in ammonia service. *Id.*

41. Ms. Olson testified that the turbine would be equipped with selective catalytic reduction (“SCR”) and carbon monoxide reduction (“COR”) control system. The SCR provides NO_x emission reduction through a catalytic process using aqueous ammonia. The COR provides CO and VOC emission reduction through the use of an oxidation catalyst. She testified that the control efficiencies and controlled emission rates included in the Application were based on manufacturers’ information. Olson Testimony at 8.

42. Ms. Olson discussed how emissions from the new turbine (Unit GT-9), Olson Testimony at 9; from the cooling tower (Unit CT-9), *Id.* at 10-11; and the piping and equipment were calculated. She also testified that emissions from the aqueous ammonia storage tank for the turbine SCR emission control system were not calculated because the tank is designed to maintain a working pressure that will prevent emissions during operation. Olson Testimony at 11.

43. Ms. Olson testified on criteria pollutant emission calculations for the existing boilers, Boilers 6, 7 and 8, Olson Testimony at 12-13; the existing cooling towers, *Id.* at 13; and the existing piping and equipment. *Id.* Specifically, Ms. Olson testified that the NO_x pound per hour emission rates for Boiler 8 were calculated using the 20.2.33.108.B NMAC emission limits and that the annual emissions were calculated using the expected annual average emission based on operation of the low NO_x burners, water injection and flue gas recirculation installed on Boiler 8. *Id.* at 12.

44. Ms. Olson testified that the methods used to calculate emissions from the existing and proposed new equipment included in the application were proper and accepted methods for calculating emission rates for air permits. Olson Testimony at 14 & 16.

45. Finally, Ms. Olson testified that EPEC had appropriately calculated emissions, had demonstrated that all application requirements specified in 20.2.72.203 NMAC had been met, and had demonstrated that PSD significance levels would not be exceeded. Therefore, she concluded that PSD permitting requirements would not apply to EPEC's project. Olson Testimony at 15-17.

46. Mr. Castro has a B.S. degree in nuclear engineering from the University of Wisconsin. He is a project engineering associate with Zephyr. Mr. Castro has over 21 years' experience in air quality and environmental engineering. A complete copy of his resume was attached as Exhibit A to his Direct Testimony.

47. Mr. Castro testified about the air dispersion modeling conducted for the Application. Castro Testimony at 4. He also testified that a supplemental air dispersion modeling analysis was conducted and a report submitted to the Bureau. *Id.*

48. Mr. Castro described air dispersion modeling and its role in air permitting for the new turbine and related equipment. Castro Testimony at 6-8. He testified that the air dispersion modeling conducted for the Application conformed to the Department's modeling guidance, titled "Air Dispersion Modeling Guidelines," which was revised in April 2010. *Id. at 8.* Mr. Castro testified that on May 20, 2010, Zephyr submitted a modeling protocol to the Bureau summarizing the modeling methods and assumptions that were proposed for the air dispersion modeling analysis. *Id. at 9.* He testified that the

Bureau approved the proposed methods and assumptions in a May 27, 2010 email. *Id.*

49. Mr. Castro testified that Zephyr used American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), Version 09292. He stated that emissions from the new equipment, the existing boilers and the other sources at Rio Grande were modeled, along with all of the surrounding sources, to predict maximum concentrations resulting from the expected maximum emissions from EPEC and neighboring sources. *Id.* Zephyr used the latest version of AERMOD available at the time the analysis was conducted. Zephyr ran AERMOD with the default regulatory options recommended in Appendix W to 40 CFR Part 51, as required by the Bureau. *Id.* at 11. Mr. Castro also testified that the modeling analysis took into account the terrain at the site and the area surrounding Rio Grande. *Id.* at 12. Zephyr also modeled the emissions from neighboring sources using information obtained from the Department and the Texas Commission on Environmental Quality.

50. EPEC's modeling report included analyses of applicable National Ambient Air Quality Standards (NAAQS), New Mexico Ambient Air Quality Standards (NMAAQs) and prevention of significant deterioration (PSD) increments. Zephyr modeled the NO₂, CO, TSP, PM₁₀ and PM_{2.5} emissions from the existing and proposed units at Rio Grande. Castro Testimony at 19.

51. Zephyr did not model for the impacts on the federal ozone or the 1-hour NO₂ standards because the Bureau did not require modeling for those standards to be conducted for this application. Castro Testimony at 15.

52. The modeling demonstrated that emissions from Rio Grande, when added to ambient impacts from surrounding sources, would not cause or contribute to ambient

concentrations in excess of the NAAQS for NO₂, CO, PM₁₀ and PM_{2.5} or the NMAAQs for NO₂, CO and TSP.

53. Mr. Castro testified that the Bureau reviewed the modeling analysis and concluded that “EPE[C]’s modeling analysis demonstrates that operation of the facility described in the application neither causes or contributes to any exceedances of applicable air quality standards.” *Id.* He testified that ‘the NMED staff accepted and approved the modeling analysis submitted in support of the Permit Application.” *Id.*

Bureau Witnesses’ Testimony

54. The Bureau offered technical testimony at the hearing from Ms. Hardison, Mr. Jerabek and Dr. Mustafa.

55. Ms. Hardison is an advanced permitting specialist in the Major Source Permitting Section of the Bureau. Hardison Testimony at 1. As a permitting specialist, she reviews permit applications for administrative completeness, technical completeness and regulatory compliance, and drafts permits. *Id.* at 2. Ms. Hardison has been a permitting specialist since 2007 and has processed over 86 NSR permits in that time. *Id.* Of those 86 applications, five have involved electric utility generating facilities. *Id.*

56. Ms. Hardison has a B.S. degree in Environmental Sciences from New Mexico Tech in Socorro. *Id.*

57. Ms. Hardison described the process for the Bureau’s review of the application. She testified that she reviewed the application and emissions from Rio Grande and provided a copy of EPEC’s air dispersion modeling analysis to the Bureau’s modelers for their review. *Id.* at 4. Based on that review, she determined that the application would satisfy all applicable regulatory requirements and “that EPEC required

neither a PSD nor Nonattainment permit application for the proposed change to the Rio Grande Generating Station.” *Id.*

58. Ms. Hardison testified that she reviewed EPEC’s emissions calculations, including the assumptions used for those calculations, for each emissions unit at Rio Grande. She also reviewed the manufacturer’s information for Unit GT-9 and the control technology proposed for the unit. She further testified that she reviewed the modeling reports prepared by EPEC and the Bureau to verify that emissions from Rio Grande, as proposed in the Application, would meet the applicable state and federal ambient air quality standards and would not violate any PSD increment, and that the ambient impacts from ammonia emissions were below 1/100th of the occupational exposure limit specified in 20.2.72.502 NMAC. Ms. Hardison’s technical review is summarized in the proposed Statement of Basis, contained in the Administrative Record.

59. Ms. Hardison testified that she reviewed the following federal and state regulations that may apply to Rio Grande and the Application:

- a. 20.2.33 NMAC, which limits NO_x emissions from the boilers;
 - b. 40 CFR Part 60, Subpart KKKK, which limits NO_x and SO₂ emissions from Unit GT-9;
 - c. 20.2.70 NMAC (Title V operating permit) and 20.2.84 NMAC/40 CFR Part 72 (Title IV acid rain permit), which is applicable to the entire facility;
 - d. 20.2.300 NMAC, 20.2.73 NMAC and 40 CFR Part 98, which require reporting of greenhouse gas and criteria pollutant emissions;
 - e. 20.2.74 NMAC (prevention of significant deterioration permitting) and 20.2.79 NMAC (nonattainment area permitting), which specify requirements for major modifications of existing sources that result in a significant net emissions increase; and
 - f. 20.2.72 NMAC (construction permits), which requires a permit before construction of a new source or the modification of an existing source with a potential emission rate of any regulated air contaminant for which there is a NAAQS or NMAAQs which exceeds 10 pounds per hour or 25 tons per year.
- Hardison Testimony at 10-11.

60. Ms. Hardison also described her review of EPEC's PSD and nonattainment new source review (NNSR) applicability analysis for TSP, PM₁₀ and PM_{2.5} submitted on February 11, 2011. *Id.* at 11. She testified that she reviewed the assumptions and emissions calculations for Unit GT-9 and Boiler 6 and "concluded that they were reasonable and appropriate, provided that the permit contained a method for determining compliance with the emission limits." *Id.* She also verified that the netting analysis complied with the regulatory requirements in 20.2.74 NMAC and 20.2.79 NMAC. She determined that "[t]he projected net emission increase of NO_x, CO, VOC, TSP, PM₁₀, and PM_{2.5} are less than the significance levels for PSD and [nonattainment permitting], so neither permit is required for this facility." *Id.*

61. Ms. Hardison described the Bureau's review of the air dispersion modeling submitted by EPEC. *Id.* at 12. She testified that Dr. Sufi Mustafa, the Bureau's modeling manager both reviewed EPEC's modeling report and conducted his own modeling, and that he had concluded that emissions from Rio Grande would not cause or contribute to the exceedance of the NAAQS for CO, NO₂, PM_{2.5} and PM₁₀, the NMAAQs for CO, NO₂ and TSP, or the Class I and Class II PSD increments for NO₂ and PM₁₀. *Id.* Finally, she testified that ammonia emissions from Rio Grande would not cause an exceedance of 1/100th of the Occupational Exposure Level and therefore, no further analysis was required for Toxic Air Pollutants from Rio Grande. *Id.*

62. In addition to testifying on her review of the Application, Ms. Hardison testified on her preparation of a draft permit for the installation and operation of Units GT-9 and CT-9 and the associated piping and equipment. *Id.* at 14. She testified that she reviewed the application and other information submitted by EPEC to determine

appropriate facility-specific conditions for inclusion in the draft permit. *Id.* at 15. She testified that she developed the permit conditions to ensure compliance with the emission limits in the draft permit, including requirements for testing, monitoring, recordkeeping and reporting. *Id.*

63. Ms. Hardison testified that the draft permit only regulates emissions from the new sources at Rio Grande (Units GT-9 and CT-9 and associated equipment), except for specific conditions that apply to Boiler 6 as part of EPEC's netting analysis, and Boiler 8 to comply with the ambient air quality standards for NO₂. *Id.* She also testified that Rio Grande's Title V permit contains emission limits and related conditions for all of the existing units (Boilers 6, 7, and 8) at the facility. *Id.*

64. She testified that for the new turbine (Unit GT-9), the draft permit specifies that EPEC must use a selective catalytic reduction system to reduce NO_x emissions and a catalytic oxidizer to reduce CO and VOC emissions. *Id.* EPEC must operate the SCR within manufacturer specifications to control ammonia slip and limit the fuel type to natural gas that contains no more than 0.25 gr total sulfur/100 scf of fuel to control SO₂ and PM emissions. *Id.*

65. She testified that for the new cooling tower (Unit CT-9), the draft permit specifies that EPEC must control PM emissions by using a drift eliminator and limiting the circulation rate and total dissolved solids content of the water used in the cooling tower. *Id.*

66. She testified that for Boiler 6, the draft permit specifies that EPEC must control PM_{2.5} emissions by limiting the annual operation of the unit. *Id.*

67. She testified that for Boiler 8, the draft permit requires EPEC to meet federally enforceable emission limits for NOx emissions. *Id.* at 16.

68. She testified that the draft permit requires EPEC to conduct stack tests of Unit GT-9 for NOx, CO, TSP, PM10 and PM2.5 and of Boiler 6 for PM2.5. The draft permit also requires EPEC to monitor the turbine's NOx and CO emissions with a continuous emissions monitoring system (CEMS). To verify compliance with the ammonia emission limit, the draft permit requires EPEC to keep records showing that it purchased and used no more than 19 percent aqueous ammonia and complied with the SCR operating temperature and ammonia injection rate. Also, the draft permit requires that EPEC continuously monitor NOx emissions from Boiler 8 using a CEMS. *Id.*

69. Ms. Hardison testified on the public notice and participation requirements under the permitting regulations and Executive Order 2005-056. *Id.* at 17-19.

70. She testified that EPEC complied with the public notice requirements in 20.2.72.203.B, C and D NMAC, *Id.* at 17, and that the Bureau complied with the public notice and public participation requirements in 20.2.72.206 NMAC, *Id.* at 18.

71. She also identified the actions taken by the Bureau to comply with Executive Order 2005-056. *Id.* at 18-19.

72. Ms. Hardison was cross examined by Mr. Rose on behalf of EPEC.

73. In response to a question regarding the EPA regulations referenced on page 10, line 16 of her pre-filed direct testimony, Ms. Hardison explained the EPA had amended both 40 CFR § 50.166 and 40 CFR § 52.21 with an effective date of January 1, 2011, as announced in the May 16, 2008 Federal Register. Tr. 115-116.

74. Ms. Hardison, Dr. Mustafa and Mr. Jerabek were cross examined by Mr.

Landers on behalf of the Sunland Park Grassroots Environmental Group (SPGEG).

75. Ms. Hardison was questioned by Mr. Landers concerning the PSD netting analysis for PM_{2.5}. She was also questioned concerning the hourly and annual NOx emissions from Boiler 8. Tr. at 117-118.

76. In his questioning, Mr. Landers asserted that the hourly NOx emissions estimate in the application would result in a 108.6 ton per year increase over the current Title V annual emission limit. Based on his calculations, Mr. Landers asserted that emissions from the new equipment should be subject to PSD permitting review for NOx emissions. *Id.*

77. Ms. Hardison explained her evaluation of EPEC's calculated pre and post change emissions of PM_{2.5} for Boiler 6 and Boiler 8, and how the draft permit assured that the net emissions increase would be less than the federal significance levels. Ms. Hardison also explained her evaluation of EPEC's hourly and annual NOx emissions calculations for Boiler 8.

78. She explained that the NOx pound per hour emission rates in the application and included in the draft permit were hourly rates, and that the existing Title V hourly limits for Boiler 8 were three-hour averages. She further explained that the hourly pound per hour emission rates were calculated using the same heat input firing rate as that used in the application for the current Title V permit, and therefore there was no modification to Boiler 8. She also explained that compliance with the Title V ton per year emission limit is assured by the CEM required by the permit and "[s]o there is no increase in [the] ton per year emission limit." Tr. at 119-124.

79. Ms. Hardison also was questioned about environmental justice issues and the Department's compliance with Executive Order 2005-056. Tr. 137-144.

80. Ms. Hardison stated that the Bureau took extra steps to ensure that it had communicated with the community and provided opportunities for community members to ask questions and participate in the permitting action. Tr. 140. She stated that the Bureau "actually submitted public notice above and beyond what's required by the [Environmental Improvement Board] regulations." She also stated that the air dispersion modeling analyses addressed the ambient air impacts from Rio Grande, including the new equipment, and the surrounding sources. *Id.*

81. Dr. Mustafa is the manager of the Bureau's Modeling Section. He has ten years' experience at the Bureau reviewing and conducting air dispersion modeling analyses. Dr. Mustafa holds a B.S. degree in chemistry and an M.S. degree in organic chemistry from the University of the Punjab. He also holds a Ph.D. in chemistry from the New Mexico Institute of Mining and Technology.

82. Dr. Mustafa did not present any direct testimony, but was part of the Department's panel on cross examination.

83. In response to cross examination questions from Mr. Landers, Dr. Mustafa described the modeling analysis for compliance with the PSD increments. Tr. 125-126.

84. Dr. Mustafa also confirmed the pre-filed direct testimony of Mr. Castro concerning modeling for the federal one-hour NO₂ ambient air quality standard and the Bureau's decision not to require that modeling be submitted for the standard. Tr. at 131. Specifically, Dr. Mustafa testified that "[w]e have not gotten to a point where we could successfully model realistic concentrations using the model. . . For minor sources, we are

not prepared to model it as yet.” *Id.* at 131-132.

85. In further response to questions from Mr. Landers regarding modeling receptors in the community of Anapra, Dr. Mustafa explained that the air dispersion modeling conducted for the application included receptors uniformly distributed across the area at intervals of 15 and 100 meters from the property boundary. Tr. 145-147.

86. Ned Jerabek is currently the Permitting Major Source Section Manager with the Bureau. He has been employed by the Bureau’s permitting section since 1992. Prior to his employment with the Bureau, Mr. Jerabek had ten years’ experience in environmental compliance work with Phelps Dodge Corporation and two years’ experience in environmental research with the National Oceanic and Atmospheric Administration as the Meteorological Science Officer aboard the Ship Discoverer.

87. Mr. Jerabek holds a B.S. degree in Physical Science/Atmospheric Physics – Meteorology Emphasis from Northern Arizona University. He attended a semester at the United States Merchant Marine Academy while on special duty with NOAA.

88. Mr. Jerabek did not present any direct testimony, but was part of the Department’s panel on cross examination.

89. Mr. Jerabek responded to questions from Mr. Landers concerning whether a company that had obtained a construction permit from the Department, but not begun construction for a period of time, could avoid federal permitting requirements. He described the New Mexico construction permitting requirements for revoking a permit for failure to begin construction within two years. Tr. at 134-137.

Public Comment

90. SPGEG presented the non-technical testimony of Olga Arguelles and

Robert Ardovino.

91. Ms. Arguelles testified about problems that she has seen and her view of the state of physical and mental health of the people that live in Anapra. Tr. 153-157. She explained her efforts to do something about the those problems in the community. Tr. 157-166.

92. Mr. Ardovino discussed the SPGEG and its purpose. Tr. 170 to 171. He described his involvement with SPGEG and interest in environmental matters in the area. TR at 182-186.

93. Carmen Rodriguez, Francisco Uvino and Glenn Landers also presented non-technical public testimony.

94. Ms. Rodriguez testified that she was a City Councilor for the City of Sunland Park. Tr. 190. She stated that she and her constituents were not aware of the public hearing on the EPEC permit application. Tr. 191. She stated that she did not think it was fair for the Department “to make a decision when [her] residents [weren’t] aware – completely aware of everything that is going on, especially using a service . . . we need.” *Id.* She also stated that she thought it was unfair because the emissions are going to affect the health of her residents.

95. Mr. Uvino testified that he has lived in Sunland Park for approximately 35 years. Tr. at 192. He testified about his wife's health and cancer deaths in the community, and his view that these health issues are related to pollution in the area, as well as his efforts to obtain signatures to a petition in opposition to the permit application. Tr. 193-195.

96. Mr. Landers testified on behalf of the Southern Group of the Rio Grande Chapter of the Sierra Club. Tr. 196. He stated that it was the Sierra Club's position that the changes to the NO_x emission limits for Boiler 8 between the Title V permit and the draft NSR permit "amounts to a major modification to a major source" for which PSD review was required. *Id.* He further testified that there were not enough PM_{2.5} emissions available from Boiler 6 to net out of nonattainment review. Finally, he testified that the Department incorrectly determined that the permit could be granted without doing ambient air quality modeling for the one-hour NO₂ NAAQS. (Mr. Landers' testimony referred to carbon monoxide (CO), but it was clear from the context of his question that he meant the new 1-hr NO₂ standard.) *Id.*

Draft Permit Terms and Conditions

97. The Bureau recommended issuance of the permit with conditions as set forth below:

(a) individual emission limits on the source to the extent necessary to meet the requirements of the New Mexico Air Quality Control Act (Act) and the federal Clean Air Act (Federal Act);

(b) installation and operation of control technology sufficient to meet the requirements of the Act and the Federal Act and regulations promulgated thereunder; and

(c) requirements to establish and maintain such records of the nature and amount of emissions and to make such periodic reports to the Department regarding the nature and amounts of emissions and the performance of air pollution control equipment, as are necessary to carry out the purpose of the Act.

98. No person challenged any permit condition contained in the draft permit.

99. No person presented any evidence that the application should be denied or the draft permit not granted for the reasons contained in § 74-2-7.C of the State Act or 20.2.72.208 NMAC.

CONCLUSIONS OF LAW

1. EPEC is required to obtain a construction permit from the Department prior to beginning construction of Unit GT-9 and the associated equipment because Rio Grande is a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a NAAQS or NMAAQs and the proposed addition of Unit GT-9 is a “modification” of Rio Grande. 20.2.72.200.A(2) NMAC.

2. The Application complies with all the applicable requirements of 20.2.72.203 NMAC and all applicable requirements of the State and Federal Acts and the Air Quality Control Regulations for issuance of a construction permit.

3. The Secretary of the NMED has jurisdiction over the subject matter of EPEC’S application and the parties to this proceeding and he is authorized by the New Mexico Air Quality Control Act to issue or deny air quality construction permits based upon information submitted in a permit application and relevant information received during the public hearing.

4. Pursuant to § 74-2-7.C, the Department may deny an application for a construction permit if it appears that the construction: (a) will not meet applicable standards, rules or requirements of the State or Federal Acts; (b) will cause or contribute

to air contaminant levels in excess of a national or state standard; or (c) will violate any other provision of the Act or the Federal act.

5. Pursuant to 20.2.72.208 NMAC, the Department shall deny an application for a permit if, after considering emissions after controls: (a) it appears that the construction will not meet applicable regulations adopted pursuant to the State Act (section A);(b) the source will emit a hazardous air pollutant or an air contaminant in excess of any applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants or a regulation of the board (section B);(c) the construction will cause or contribute to air contaminant levels in excess of any NAAQS or NMAAQs unless the ambient air impact is offset by meeting the requirements of either 20.2.79 NMAC or 20.2.72.216 NMAC, whichever is applicable (section D);(d) the construction would cause or contribute to ambient concentrations in excess of a PSD increment (section E);(e) any provision of the State Act will be violated (section F); or (f) it appears that the construction of the new source will not be completed within a reasonable time (Section G).

6. No evidence was presented at the hearing to support any basis for denying a permit under § 74-2-7.C of the State Act or 20.2.72.208 NMAC

7. Section 74-2-7.D of the State Act authorizes the Department to impose condition on a construction permit, including: (a) a requirement that the source install and operate control technology, determined on a case-by-case basis, sufficient to meet applicable standards, rules and requirements under the State or Federal Acts; (b) individual emission limits, determined on a case-by-case basis, but only as restrictive as necessary to meet the requirements of the State or Federal Acts, or the emission rate

specified in the permit application, whichever is more stringent; (c) compliance with federal New Source Performance Standards, Emission Standards for Hazardous Air Pollutants and Maximum Achievable Control Technology Standards; (d) reasonable restrictions and limitations not relating to emission limits or emission rates; or (e) any combination of the above.

8. Section 20.2.72.210.B NMAC repeats the statutory authority to impose conditions in a construction permit, except that for a modification, this authority applies only to the facility or facilities involved in the modification.

9. The conditions proposed by the Department satisfy the requirements of Section 74-2-7.D of the State Act and 20.2.72.210.B NMAC.

10. The Department complied with the requirements of 20.1.4.400 NMAC and 20.2.72.206 NMAC in conducting the hearing.

11. EPEC has complied with all requirements of the Act and the New Mexico Air Quality Control Regulations for the filing of its application including, without limitation, the submission of proof of mailing of notice of its filing of the application to adjacent property owners and other interested persons.

12. Notice of the public hearing on EPEC's application was given as required by the Act and the Regulations.

13. EPEC has demonstrated that its operations at the facility do not pose and will not pose an undue hazard to public health, to the environment, or to property.

14. EPEC has demonstrated that air emissions at the Rio Grande facility do not and will not cause or contribute to exceedances of the National Ambient Air Quality Standards (NAAQS), the New Mexico Ambient Air Quality Standards (NMAAQS), or

Prevention of Significant Deterioration (PSD) increments.

15. EPEC and the NMED have fully complied with the public participation requirements of Environmental Justice Executive Order 2205-056.

16. The following conditions should be included in EPEC's air quality permit to protect public health and welfare and the environment:

a. individual emission limits on the source to the extent necessary to meet the requirements of the New Mexico Air Quality Control Act (Act) and the federal Clean Air Act (Federal Act);

b. installation and operation of control technology sufficient to meet the requirements of the Act and the Federal Act and regulations promulgated thereunder; and

c. requirements to establish and maintain such records of the nature and amount of emissions and to make such periodic reports to the Department regarding the nature and amounts of emissions and the performance of air pollution control equipment, as are necessary to carry out the purpose of the Act.

17. The application, the public hearing, and the administrative record reveal no basis under the Act or the Regulations or the Environmental Justice Executive Order upon which to deny the permit to EPEC.

18. The permit conditions proposed by the Bureau in the draft permit are necessary and appropriate to protect human health and the environment and to ensure compliance with the Act and the Regulations.

19. Issuance of an air quality construction permit to EPEC, as requested in the application and with the operational limits, controls, requirements, and emission levels in the NMED's draft permit, is in conformance with the Act and the Regulations.

RECOMMENDED FINAL ORDER

A draft Final Order consistent with the recommendations above is attached and incorporated by reference.

Respectfully submitted,



FELICIA L. ORTH
Hearing Officer

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT**

DRAFT

**IN THE MATTER OF THE APPLICATION TO REVISE
NSR PERMIT 1554-M1, EL PASO ELECTRIC COMPANY,
RIO GRANDE GENERATING STATION**

AQCA 11-02(P)

FINAL ORDER

This matter comes before the Secretary of Environment following a hearing before the Hearing Officer on March 29, 2011, in Sunland Park, New Mexico.

El Paso Electric Company (“EPEC” or “Applicant”) seeks an air quality permit to construct a 95.3 MW electrical generating unit at the Rio Grande Generating Station in Sunland Park, Dona Ana County, New Mexico. The proposed new generating unit is a General Electric LMS100 natural gas-fired turbine. EPEC also proposes to install a new cooling tower and piping in conjunction with the new turbine.

The New Mexico Environment Department Air Quality Bureau supports the approval of the permit allowing construction and operation of the plant with conditions necessary to protect human health and welfare and the environment.

Having considered the administrative record, including all post-hearing submittals and the Hearing Officer’s Report; and being otherwise fully advised regarding this matter;

**THE SECRETARY HEREBY ADOPTS THE HEARING OFFICER’S REPORT
AND RECOMMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW.**

IT IS THEREFORE ORDERED:

The application for an air quality permit is granted, and the permit shall be issued by the Air Quality Bureau in the form set forth in the Draft Permit, as shown in the Administrative Record.

F. DAVID MARTIN, Secretary of Environment

NOTICE OF RIGHT TO REVIEW

Pursuant to Section 74-2-7.H, NMSA 1978, any person who participated in this permitting action and who is adversely affected by the action may file a petition for hearing by the Environmental Improvement Board, c/o Felicia Orth, 1190 St. Francis Drive, Santa Fe, New Mexico 87502. The petition shall be made in writing to the Board within thirty days from the date notice is given of this action.