



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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ROD R. BLAGOJEVICH, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR 1:26

UNITED STATES GOVERNMENT

217-782-5544

July 28, 2005

Eurika Durr,
Clerk of the Board
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G Street, N.W. Suite 600
Washington, D.C. 20005

Re: *Prairie State Generating Station*
PSD Appeal No. ~~05-02~~

Dear Ms. Durr:

05-05-ed

Please find enclosed the original (1) and five (5) copies of the **RESPONSE, CERTIFIED INDEX OF THE ADMINISTRATIVE RECORD** and **AFFIDAVITS** of the Respondent, Illinois Environmental Protection Agency, for filing with the United States Environmental Protection Agency's Environmental Appeals Board in regards to the above-captioned matter. The documents are being shipped by Federal Express for delivery on Friday, July 29, 2005.

If you have any questions or concerns regarding this matter, please do not hesitate to reach my co-counsel, Ms. Sally Carter, or myself at the above-referenced phone number. Thank you for your attention to this matter.

Sincerely,

Robb H. Layman
Assistant Counsel
Illinois EPA

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

IN THE MATTER OF:)
)
PRAIRIE STATE)
GENERATING STATION)
I.D. NO. 189808AAB)
PERMIT APPLICATION NO. 01100065)

PSD APPEAL NO. 05-02

05-05-ed

NOTICE

To:

Eurika Durr,
Clerk of the Board
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G Street, N.W. Suite 600
Washington, D.C. 20005

Bertram C. Frey,
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Office of Regional Counsel
U.S. Environmental Protection Agency,
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77 W. Jackson Boulevard
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Clean Air Task Force
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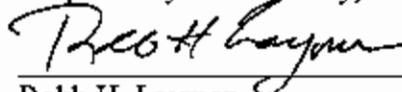
Kathy Andria
American Bottom Conservancy
614 North 7th Street
East St. Louis, Illinois 62201-1372

Kathleen Logan-Smith
Health & Environmental
Justice - St. Louis
P.O. Box 2038
St. Louis, Missouri 63158

Brian Urbaszewski
American Lung Association of
Metropolitan Chicago
1440 West Washington Blvd.
Chicago, Illinois 60607

PLEASE TAKE NOTICE that I have today filed with the Clerk of the Environmental Appeals Board an original (1) and five (5) copies of **RESPONSE, CERTIFIED INDEX OF THE ADMINISTRATIVE RECORD** and **AFFIDAVITS** of the Respondent, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, a copy of which is herewith served upon you.

Respectfully submitted by,



Robb H. Layman
Assistant Counsel
Division of Legal Counsel

Dated: July 28, 2005
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217)524-9137

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

IN THE MATTER OF:)	
)	
PRAIRIE STATE)	
GENERATING STATION)	PSD APPEAL NO. 05-05
I.D. NO. 189809AAB)	
PERMIT APPLICATION NO. 01100065)	

CERTIFIED INDEX OF ADMINISTRATIVE RECORD

1. Kaskaskia Generating Station, Illinois, Ambient Air Quality Impact Analysis Workplan, Prepared by Black & Veatch, dated July 2001.
2. Letter from Lars Scott to Chris Romaine regarding Peabody Energy - Kaskaskia Generating Station Request for Information, dated August 31, 2001.
3. PSD Air Construction Permit Application and two CD-ROMS containing air dispersion modeling for proposed Prairie State Generating Station, dated October 19, 2001.
4. Memorandum from Rob Kaleel to Dennis Lawler concerning PSGS and Dynegy's Expansion of the Baldwin Generating Station - Modeling and Monitoring Considerations, dated November 20, 2001.
5. Attendance sheet from December 10, 2001, meeting between the Illinois EPA and Peabody.
6. Facsimile from Heather Markmen, Illinois DNR, Office of Realty & Environmental Planning, to Lainie Decker, Black & Veatch, dated December 10, 2001.
7. Letter from Joyce Collins to Lainie Decker, Black & Veatch, dated December 19, 2001.
8. Letter from Jeff Sprague, Air Quality Planning Section, to Kyle L. Lucas, Air Quality Scientist, Black & Veatch Corporation, dated December 28, 2001, concerning Photochemical Modeling Guidance for the Proposed Prairie State Generating Station, and attachment.
9. Memorandum from Jeffrey Sprague to Shashi Shaw concerning PSD Air Quality Modeling Analysis, dated December 28, 2001.
10. Facsimile from Chris Romaine to Kyle Lucas, Black & Veatch, dated January 13, 2002, providing Draft Request for Additional Information.

11. Letter from Lars Scott to Jeffrey Sprague concerning photochemical modeling, dated January 21, 2002.
12. Request for Additional Information from Illinois EPA to PSGC, dated January 25, 2002.
13. Memorandum from Bob Lawley, Illinois DNR, to Consultation Meeting Participants regarding the requirement to consult, dated January 30, 2002.
14. Illinois Department of Commerce and Community Affairs, Agency Action Plan, Pursuant to the Interagency Wetland Policy Act of 1989.
15. Illinois DNR Consultation Agency Action Report.
16. Letter from Lars Scott to Donald Sutton concerning Illinois EPA's request for additional information, dated February 4, 2002.
17. Letter from Prairie State to Illinois EPA, dated March 19, 2002, concerning change in engineering consultants.
18. Email from Bud Rolofson, USFWS, to Chris Romaine, dated April 10, 2002.
19. Letter from Lars Scott to Donald Sutton, dated April 15, 2002, and attached summary of the April 9, 2002, conference call regarding Class I modeling.
20. Miscellaneous documents from Illinois EPA to Bud Rolofson.
21. Letter from Donald Sutton to Bryan Handy, Kentuckiana Engineering Company, concerning FOIA request, dated April 26, 2002.
22. Email from Kelly John, United States EPA to Shashi Shah concerning mine-mouth example, dated July 8, 2002, and attachment.
23. Tree Mitigation Plan, Prairie State Energy Campus, St. Clair, Washington & Randolph Counties, Illinois, July 2002.
24. Attendance Sheet, entitled "Meeting at IEPA with 'Peabody at Marissa' Project, dated August 26, 2002.
25. Facsimile from Jeff Sprague to J. Dwain Kincaid, dated August 26, 2002.
26. Electronic mail (Email) from USEPA account, Acevedo.Jorge@epamail.epa.gov to Shashi Shah, dated August 29, 2002.
27. Facsimile from Lars Scott to Donald Sutton, dated September 23, 2002.

28. Letter from Prairie State to Illinois EPA, dated September 30, 2002, responding to the January 25, 2002, request for additional information.
29. Facsimile from Bryan Handy to Don Sutton regarding draft letter regarding pre-construction monitoring, dated October 3, 2002.
30. Letter to Don Sutton from Bryan Handy, dated October 7, 2002, concerning pre-construction monitoring waiver and attachments.
31. Transmittal Record from Bryan Handy to Donald Sutton concerning copy of TGS Class I modeling information in electronic format, dated October 8, 2002.
32. PSD Permit Revised Application, Title IV Permit Application and Case-By-Case MACT Determination, Volume 1, dated October 2002.
33. Letter and attached Informational Literature from Lars W. Scott, Vice President, PSGC, to Donald Sutton, dated October 21, 2002.
34. Letter from Bryan Handy to Donald Sutton, dated October 29, 2002, concerning revisions to the Prairie State Generating Station PSD Application Submitted on October 11, 2002, and attachments.
35. Letter from Lars Scott to Donald Sutton, dated December 13, 2002, concerning contact information.
36. Document entitled, "Source Pathway - Source Inputs" by ISC -AERMOD View by Lakes Environmental Software, dated January 6, 2003.
37. Mingo National Wildlife Refuge, dated January 21, 2003.
38. Coal-Fired Boiler Survey, dated January 28, 2003.
39. Letter from Bryan C. Handy, Project Manager, Kentuckiana Engineering Company, Inc., to Jeff Sprague, dated March 18, 2003, and attached materials responding to questions raised in an email message dated March 5, 2003.
40. Prairie State Class I Air Quality Modeling Protocol, submitted by Earth Tech, dated March 2003.
41. Letter from Dianna Tickner to Don Sutton concerning PSD Permit Application, dated March 18, 2003.
42. Letter from Dianna Tickner to Don Sutton concerning choice of equipment considered BACT, dated March 18, 2003, and attached materials.

43. Facsimile from Brad Fredkin to Chris Romaine regarding findings by the Department of Energy - 2003, dated March 19, 2003.
44. Facsimile from Chris Romaine to Dianna Tickner, dated March 24, 2003, concerning "page 5."
45. Letter from Dianna Tickner to Chris Romaine and Robert Kaleel concerning CALPUFF Presentation by Joe Scire - Prairie State Visibility Modeling, dated March 24, 2003.
46. Memorandum to File from Chris Romaine regarding Prairie State submittal of information on March 18, 2003, dated March 24, 2003.
47. Facsimile from Dianna Tickner to Chris Romaine concerning coal quality, dated March 25, 2003.
48. Request for Additional Information from Illinois EPA to PSGC, dated March 29, 2003.
49. Letter from Bryan Handy to Jeff Sprague providing responses to questions received via email on March 28, 2003, dated April 14, 2003.
50. Attendance Sheet, dated April 21, 2003.
51. Class I Visibility Modeling Analysis for IEPA, dated April 21, 2003.
52. Human Perception of Visibility Impairment at the Mingo NWR and Wilderness, dated April 21, 2003.
53. Letter from Dianna Tickner to Chris Romaine, dated April 25, 2003, and attached materials concerning visibility analysis.
54. Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo National Wildlife Refuge, April 2003.
55. Action Items from Meeting with FWS on May 6, 2003, re PState.
56. Email from Diana Tickner to Chris Romaine, dated May 8, 2003, concerning language on visibility items.
57. Letter from Dianna Tickner to Chris Romaine providing comments on the proposed draft permit, dated May 9, 2003.
58. Evaluation of IGCC to Supplement BACT Analysis of Planned Prairie State Generating Station, dated May 11, 2003.
59. Letter and attached materials from Diana Tickner to Don Sutton providing additional information on gasification technology and BACT, dated May 12, 2003.

60. Electronic mail (Email) from Dianna Tickner to Shashi Shah and Chris Romaine, dated May 12, 2003, submitting a report on the Evaluation of IGCC to Supplement, BACT Analysis of Planned Prairie State Generating Station.
61. Letter from Dianna Tickner to Chris Romaine, dated May 13, 2003, and additional mercury removal information.
62. Letter from Elwyn Rolofson, Meteorologist, USFWS, to Rob Kaleel regarding review of the Class I Air Quality Modeling Protocol, dated June 10, 2003.
63. Miscellaneous emails from Dianna Tickner to representatives of the Illinois EPA, dated May 21, 2003 through June 16, 2003, and attachments.
64. Letter from Dianna Tickner to Rob Kaleel, dated June 16, 2003, concerning Prairie State CALPUFF Protocol.
65. Emails and attachments concerning Prairie State Visibility Modeling Results, dated July 7, 2003.
66. Transmittal of PSD Application & Support Information, dated July 10, 2003.
67. Letter from Jelena Popovic, Project Meteorologist, Atmospheric Studies Group, Earth Tech, to Bud Rolofson, dated August 3, 2003, and enclosed copy of the Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area.
68. Letter from Dianna Tickner to Rob Kaleel concerning Final Results of Class I Modeling, dated August 8, 2003, and attached documents.
69. Letter from Jelena Popovic, Project Meteorologist, Earth Tech, to Bud Rolofson, dated August 14, 2003, and attached Addendum Cumulative Impact Analysis, Prairie State Generating Stations.
70. Email from Brad Fredkin to Shashi Shah concerning files in e-version for edit to create projects summary, dated September 12, 2003.
71. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning status of the Reheinbraun HTW Gasification Process, dated September 15, 2003.
72. Memorandum from Jeffrey Sprague to Shashi Shaw concerning Significant Impact Modeling, dated September 22, 2003.
73. Transmittal Record from Bryan Handy to Donald Sutton of list of potential fugitive emission points from Appendix A, dated September 23, 2003.

74. Letter from Jeff Sprague to Bud Rolofson, dated September 24, 2003.
75. Letter from Dianna Tickner to Chris Romaine relating to Prairie State Comments on pre-draft permit, dated September 25, 2003, and attachments.
76. Email from Dianna Tickner to Illinois EPA personnel concerning information on Class I requirements, dated September 25, 2003, and attachment.
77. Letter from David Kolaz, Illinois EPA, Bureau of Air, Chief, to Karla Kramer, Acting Field Supervisor, United States Department of Interior, requesting Formal Consultation under the Endangered Species Act (ESA), dated September 26, 2003, and attached materials.
78. Letter from David Kolaz, to Stephen Davis, Chief, Division of Resource Review & Coordination, Illinois DNR, concerning request for Consultation under the Illinois Endangered Species Act, dated September 26, 2003, and attached materials.
79. Memorandum from Jeffrey Sprague to Shashi Shaw concerning PSD Air Quality Modeling Analysis, dated October 1, 2003.
80. Email from Diana Tickner to Rob Kaleel, Chris Romaine and Shashi Shah, dated October 3, 2003, supplying USFWS submittal to West Virginia.
81. Draft Current Air Quality Conditions and Trends at Mingo Wilderness, USFWS, dated October 3, 2003.
82. October 4, 2003, Attendance Sheet.
83. Letter from Michael Teague, Highland Marine, to Bud Rolofson providing an update on Prairie State, dated October 7, 2003, and attachments.
84. Email from Bud Rolofson to Rob Kaleel concerning BACT review for Peabody/Prairie State, dated October 9, 2003.
85. Letter from David Kolaz to Karla Kramer regarding Rescission of Request for Informal Consultation, dated October 9, 2003.
86. Letter from David Kolaz to Karla Kramer, Acting Field Supervisor, USFWS, concerning rescission of request for Formal Consultation, dated October 10, 2003, and attachments.
87. Email from Bryan Handy to Shashi Shaw, Dianna Tickner, Bryan Handy and Dwain Kincaid, dated October 15, 2003, supplying Comment Table 10 15 03 KEC Edit.
88. Facsimile from Bryan Handy to Shashi Shaw concerning particulate matter information, dated October 15, 2003.

89. Email from Bryan Handy to Shashi Shaw, Dianna Tickner, Bryan Handy, Dwain Kincaid, and Penny Shamblin, dated October 16, 2003, concerning PSGS Annual PM10 Modeling Results and attachments.
90. Email from Dianna Tickner to Chris Romaine and Shashi Shaw, dated October 17, 2003, forwarding email and attachments of Bryan Handy.
91. Email from Hank Naour to Dennis Lawler regarding Iowa plant required to use activated carbon for mercury control, dated October 17, 2003, and attachment.
92. Email from Hank Naour to Shashi Shah concerning controversial EGU in West Virginia, dated October 20, 2003, and attachment.
93. Email from Dianna Tickner to Chris Romaine and Shashi Shaw, dated October 22, 2003, submitting information concerning the recalculation of cooling tower PM.
94. Various PSD Permit Application Attachments, dated October 22, 2003.
95. Email from Dianna Tickner to Chris Romaine, dated October 24, 2003, concerning form of SO2 limits and attachment.
96. Email from Dianna Tickner to Chris Romaine & Shashi Shah concerning recalculation of cooling tower PM, dated October 24, 2003.
97. Email from Dianna Tickner to Chris Romaine and Shashi Shah, dated October 27, 2003, forwarding WE Energies letter.
98. Transmittal of PSD Application & Supporting Information, dated October 27, 2003.
99. Information Submittal Timeline for the Prairie State Generating Station PSD Permit Application, dated October 27, 2003.
100. Facsimile from Steve Davis to David Kolaz, dated October 27, 2003.
101. "Prairie State Generating Station Meets Visibility Test at Mingo ", dated October 27, 2003.
102. Email from Dianna Tickner to Chris Romaine, Shashi Shah, and Rob Kaleel, dated October 28, 2003, submitting PSGS Long Term Analysis (SO2 & NOX).
103. Email from Dwain Kincaid, Vice President, Kentuckiana Engineering, to Jeff Sprague, Rob Kaleel, and Chris Romaine submitting final short term modeling results #1, dated October 28, 2003.

104. Email from Bryan C. Handy, Project Manager, Kentuckiana Engineering Company, to Shashi Shaw, dated October 29, 2003, submitting Revised Table 2.3-1 of PSGS Application.
105. Transmittal of PSD Application & Supporting Information, dated October 30, 2003.
106. Facsimile from Laurel Kroack to Diana Tickner transmitting Indeck - Elwood Energy Center PSD Construction Permit Application (Volume II), dated October 30, 2003.
107. Facsimile from Shashi Shah to Dwain Kincaid, dated October 30, 2003.
108. Facsimile from Dianna Tickner to Chris Romaine and Laurel Kroack providing information received on threatened and endangered species, dated October 30, 2003.
109. Transmittal from Brad Fredkin, Prairie State, to Chris Romaine submitting recent information on permitting issues affecting coal-fired power plant development in states outside of Illinois, dated October 31, 2003.
110. The Prairie State Energy Campus Serves the Environmental, Economic, and Energy Policies of the United States, October 2003, Prepared by PSGC.
111. Letter from Vicky VonLanken, Illinois EPA, to Janet McCabe, Assistant Commissioner, Indiana DEM, dated November 7, 2003.
112. Letter from David Kolaz to David Thomas requesting assistance of the Illinois Natural History Survey in determining whether any threatened and endangered species will be impacted by PSGC, dated November 10, 2003.
113. Email from David Kolaz to David Thomas, regarding threatened and endangered species, dated November 11, 2003.
114. Letter from David L. Thomas, Chief, Illinois Natural History Survey, to David Kolaz concerning literature review of potential impacts of PSGC to threatened and endangered species, dated November 17, 2003.
115. Transmittal from Brad Fredkin to Chris Romaine of recent information on permitting issues affecting coal-fired power plant development in states outside of Illinois, dated November 20, 2003.
116. Letter from Stephen Davis, Chief, Division of Resource Review and Coordination, Illinois Department of Natural Resources, to David Kolaz concerning Agency Action Report, dated November 24, 2003.
117. Letter from Richard Nelson, US Department of Interior (DOI) to David Kolaz concerning ESA, dated November 25, 2003.

118. BACT Comparison of New, Proposed, and Permitted Coal Fired Power Plant Emission Limits from Prairie State, dated December 2, 2003.
119. Additional supporting information submitted to Chris Romaine and Rob Kaleel, from Dianna Tickner, dated December 9, 2003.
120. Letter from Kathy Young, Associate Director, Grant and Contract Administration, University of Illinois, to David Kolaz, dated December 11, 2003, and attachment.
121. Additional items for PSGS's permit application file, dated December 16, 2003.
122. Email from Dianna Tickner to Chris Romaine and Laurel Kroack concerning comment period on visibility analysis, dated December 17, 2003, and attachment.
123. Email from Dianna Tickner to Chris Romaine, Rob Kaleel, Jeff Sprague and Laurel Kroack, concerning items sent to Bud Rolofson, USFWS, dated December 18, 2003, and attachments.
124. Letter from Diana Tickner to Chris Romaine, dated December 19, 2003 [sic], and attached supplemental information regarding application.
125. Document beginning "Table 2.a SO2 Rankings (1- & 3-hr averaging periods)" from USFWS, Denver, Winter 2003.
126. Transmittal from Dianna Tickner to Jeff Sprague concerning additional items for Prairie State Generating Station's permit application file, dated January 6, 2004.
127. Addendum: Updated Class I Increment Analysis for the Prairie State Generating Station and Calculation of the Maximum Compliant Emission Rate, dated January 14, 2004.
128. Email from Gerald Shea to David Kolaz forwarding copy of Governor Freudenthal letter to DOI, DOE, USDA and EPA, dated January 14, 2004.
129. Email from Bud Rolofson, USFWS, concerning public notice to Laurel, Rob, dated January 15, 2004, and attachment.
130. Public Notice Information Regarding the Class I Mingo Wilderness Area and Prevention of Significant Deterioration Permit Application For the proposed Prairie State Generating Station (PSGS) Marissa, Illinois, Prepared by Air Quality Branch, U.S. Fish and Wildlife Service - Denver, January 15, 2004.
131. Facsimile from Diana Tickner to Shashi Shah supplying additional requested information, dated January 15, 2004.
132. Letter from Donald Sutton to Dianna Tickner, dated January 16, 2004, concerning PSGC's request for exemption from pre-construction ambient monitoring.

133. Email from Dianna Tickner to Chris Romaine, Shashi Shah, and Laurel Kroack concerning Elm Road Air Permit, dated January 16, 2004.
134. Facsimile from Dianna Tickner to Shashi Shah concerning revised coal quality for Prairie State in October 2002 application, dated January 19, 2004.
135. Email from Dianna Tickner to Jeff Sprague and Chris Romaine regarding write-up with Plume Pointe Results, dated January 20, 2004, and attachments.
136. Report on Updated Class I Increment Analysis submitted by Dianna Tickner to Jeff Sprague and Chris Romaine, dated January 21, 2004.
137. Transmittal from Brad Fredkin to Jeff Sprague concerning Prairie State Generating Station 27 km Radius Soil Maps, dated January 21, 2004.
138. Transmittal from Dianna Tickner to Jeff Sprague providing report on updated Class I Increment Analysis, dated January 21, 2004.
139. Letter from Dianna Tickner to Donald Sutton, dated January 23, 2004, discussing pre-construction monitoring for ozone.
140. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning ozone pre-construction monitoring waiver, dated January 23, 2004, and attachment.
141. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning HF, dated January 23, 2004.
142. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning Dry Coal Cleaning, dated January 23, 2004.
143. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning details of PM emissions, dated January 23, 2004, and attachments.
144. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning NEPA statement, dated January 23, 2004, and attachment.
145. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning Table I - suggested revisions, dated January 23, 2004, and attachment.
146. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning information on problems with Method 202 (back half catch), dated January 23, 2004, and attachments.
147. Letter from Jeff Sprague to Ken Ritter, Indiana Department of Environmental Management, dated January 23, 2004, and attachments.

148. Email from Bryan Handy to Shashi Shah concerning PSGS information, dated January 26, 2004.
149. Email from Dianna Tickner to Chris Romaine regarding vendor letters on fabric filters, dated January 26, 2004.
150. Email from Meredith Bond to Laurel Kroack to Chris Romaine discussing coal washing options, dated January 28, 2004.
151. Facsimile from Meredith Bond to Laurel Kroack regarding Coal Cleaning Options for PSGS, dated January 28, 2004.
152. Email from Dianna Tickner to Jeff Sprague, Chris Romaine, Shashi Shah concerning Coal Quality Calculations rev12102003.xls, dated January 29, 2004.
153. Transmittal from Dianna Tickner to Jeff Sprague providing PSD Application and Supporting Information, dated January 30, 2004.
154. Transmittal from Dianna Tickner to Jeff Sprague providing PSD Application and Supporting Information, dated January 30, 2004.
155. Facsimile from Chris Romaine to Dianna Tickner, dated February 1, 2004.
156. Email from Colin Kelly to Chris Romaine concerning the draft air permit: CO & VOM emission rates, dated February 3, 2004.
157. Email from Penny Shamblin to Chris Romaine regarding Table I of draft Prairie State permit, dated February 3, 2004, and attachments.
158. Letter from Dianna Tickner to Chris Romaine concerning vendor's guaranteed emission rates, dated February 3, 2004.
159. Letter from Dianna Tickner to Chris Romaine concerning VOM and CO emission rates, dated February 3, 2004.
160. Notice Of Public Hearing and Comment Period.
161. Letter from Dianna Tickner to Chris Romaine regarding in-accurate press reports of Prairie State Construction Schedule, dated February 6, 2004, and attachments.
162. Email from Jacob Williams to David Kolaz regarding AP Story on Prairie State Delay Incorrect, dated February 6, 2004.
163. Letter from Dianna Tickner to Chris Romaine regarding EPA Method 202 for Condensables Measurement and attachments, dated February 6, 2004.

164. Project Summary for a Construction Permit Application from the Prairie State Generating Company, LLC for the Prairie State Generating Station, Washington County, Illinois.
165. Letter from Kevin Finto to Chris Romaine providing Earth Tech files on Class I modeling, dated February 9, 2004, and attachments.
166. Email from Jacob Williams to Dave Kolaz regarding the Forest Service's View of the FLAG, dated February 10, 2004, and attachment.
167. Memorandum from Jeffrey Sprague to Shashi Shaw and Chris Romaine concerning PSD Air Quality Modeling Analysis, dated February 10, 2004.
168. Transmittal from Dianna Tickner to Jeff Sprague, dated February 16, 2004.
169. Letter from Dianna Tickner to Chris Romaine concerning FLAG Guidelines, dated February 18, 2004, and attachment.
170. Draft Protocol Screening Level Ecological Risk Assessment, Prairie State Generating Station, dated February 19, 2004.
171. Letter from Brad Frost to Marissa Public Library providing additional material to be kept at library, dated February 19, 2004.
172. State of Illinois EPA Intergovernmental Contract.
173. Letter from Dianna Tickner to Chris Romaine concerning Revised Pollutants of Concern Table, dated February 25, 2004, and attachment.
174. Protocol Screening Level Ecological Risk Assessment, Prairie State Generating Station, Washington County, Illinois, dated February 27, 2004.
175. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning air hearing and monitoring, dated February 27, 2004.
176. Letter from Charles J. Reith, Jr., P.E., Senior Associate, Malcolm Pirnie, Inc., to Jeff Sprage submitting Screening Level Ecological Risk Assessment Protocol, dated March 2, 2004.
177. Letter from Michael Nickey, Babcock & Wilcox Company, to Dianna Tickner concerning mercury removal efficiency for coal fired plants, dated March 8, 2004 - Corrected, and attachments.
178. Letter from Dianna Tickner to Chris Romaine concerning Harvard Study Financing ICGG, February 2004, dated March 9, 2004, and attachment.

179. Miscellaneous emails and attachments exchanged between Dianna Tickner and Illinois EPA representatives between January 16, 2004, and April 19, 2004.
180. Letter from Donald Sutton to Dianna Tickner concerning request for exemption from pre-construction ambient monitoring for ozone, dated March 11, 2004.
181. Email from Tim Allen, USFWS, to Laurel Kroack, dated March 15, 2004.
182. Email from Dianna Tickner to Chris Romaine, Shashi Shah, and Jeff Sprague concerning PSGS SLERA Indiana Bat rationale, dated March 16, 2004.
183. Letter from Kathleen Maycroft, Refuge Manager, USFWS, to Illinois EPA, Public Hearing Officer, dated March 19, 2004.
184. Email from Dianna Tickner to Chris Romaine, Rob Kaleel, Jeff Sprague, Shashi Shah, concerning new letter from Mingo, dated March 23, 2004.
185. Transmittal from Phyllis Diosey, Associate, Air Quality Services, Malcolm Pirnie, to Jeff Sprague, dated March 23, 2004.
186. Facsimile from Steve Davis to Charles Matoesian, dated March 24, 2004.
187. Letter from Richard Califano to Jeff Sprague regarding Final Draft SLERA, dated March 24, 2004.
188. Letter from C. Barranger, Alstom Power, Inc, to Ms. Dianna Tickner, Vice President, (PSGC), dated March 27, 2004, concerning Mercury Removal for Prairie State Generating Station.
189. Transmittal from Hope Nemickas, Project Environmental Scientist, Malcolm Pirnie, to Jeff Sprague, dated March 29, 2004, and attachment.
190. Draft Screening Level Ecological Risk Assessment (SLERA) Report for Prairie State Generating Station, dated March 2004.
191. Final SLERA Report for Prairie State Generating Station, dated March 2004.
192. SLERA, Final, for Prairie State Generating Station, dated April 2004.
193. Letter from Richard Califano, Associate, Malcolm Pirnie to Jeff Sprague concerning Attachment C, Final Draft Screening Level Ecological Risk Assessment Report, dated April 1, 2004, and attachments.
194. Initial Conclusions from a Quick Look at the Data for the Mingo NWR Area, 1 April [sic] 2004.

195. Letter from Renee Cipriano to Dawn Gallagher, Commissioner, Maine Department of Environmental Protection, dated April 5, 2004.
196. Email from Dianna Tickner to Illinois EPA representatives concerning preliminary Mingo Analysis, dated April 6, 2004, and attachments.
197. Illinois DNR Consultation Agency Action Report, dated April 14, 2004.
198. Letter from Richard Califano to Jeff Sprague concerning Final SLERA, dated April 16, 2004, and attachment.
199. Letter from Dianna Tickner to Chris Romaine including additional information considered in BACT and MACT analysis, response to US Fish and Wildlife Service (USFWS) January 15, 2004, comments, other mercury information, and public policy information, dated April 19, 2004.
200. Email from Jeff Levensgood, INHS, to Jeff Sprague concerning literature review preliminary report, dated April 19, 2004.
201. Email exchange between Jeff Sprague and Diana Tickner concerning visibility modeling inquiry, dated April 19, 2004.
202. Documents relating to Missouri SO2 PSD Inventory and Missouri SO2 NAAQS Sources from Penny Shamblin, dated April 26, 2004.
203. Prairie State Energy Campus, Clean, Low-Cost Electricity Fueling Economic Progress for Illinois, dated April 27, 2004.
204. Letter from Richard Califano to Jeff Sprague regarding Final SLERA, dated April 28, 2004, and attachment.
205. Letter from Brad Frost to Bruce Nilles regarding request for additional copies of application, dated April 28, 2004.
206. Information Submittal Timeline for the Prairie State Generating Station PSD Permit Application, dated revised May 2, 2004.
207. Transmittal from Dwain Kincaid to Jeff Sprague providing CD of Culp Run 12/03 for SO2, dated May 3, 2004.
208. Letter from David Kolaz to Stephen Rothblatt, dated May 6, 2004.
209. PSGC Response, dated May 7, 2004, to the DOI FWS Request for Information, dated December 19, 2001, Volumes 1 and 2.

210. Letter from Dianna Tickner to Joyce Collins, dated May 7, 2004, regarding response to USFWS letter dated December 19, 2001.
211. Email from Dianna Tickner to Chris Romaine and Shashi Shah, dated May 11, 2004.
212. Email from Dianna Tickner to Chris Romaine and Shashi Shah concerning coal quality parameters for WE Energy Elm Road and Longview, dated May 19, 2004.
213. Facsimile from Paul Hoff, Acting Assistant Secretary, Fish & Wildlife & Parks, USFWS, to David Kolaz concerning adverse impact on air quality related values at Mingo Wilderness, dated May 17, 2004.
214. Email from Jeff Sprague to Dwain Kincaid concerning Gateway FS, Inc., dated May 17, 2004.
215. Email from Jeff Sprague to Dwain Kincaid regarding Old Ben Coal Company (formerly Ziegler) Emissions Sources, dated May 17, 2004.
216. Facsimile from Jeff Sprague to Dwain Kincaid, dated May 18, 2004.
217. Email from Dianna Tickner to Chris Romaine, Shashi Shah and Dennis Lawler providing scanned document, dated May 21, 2004.
218. Memorandum from Ralph L. Roberson, RMB Consulting & Research, Inc., to Dianna Tickner regarding Technical Comments on Measuring Condensable Particulate Matter Emissions, dated May 24, 2004.
219. Email from Dianna Tickner to Jeff Sprague regarding SO2 Inventory Corrections - Final, dated June 1, 2004.
220. Facsimile from Jeff Sprague to Dwain Kincaid, dated June 9, 2004.
221. Letter from Dianna Tickner to Hearing Officer, Illinois EPA, responding to comments submitted on behalf of Dynegy Midwest Generation, Inc. ("Dynegy"), dated June 14, 2004.
222. Letter from Dianna Tickner to Chris Romaine and Rob Kaleel concerning Revised Class I Cumulative Modeling for SO2 Increment with Additional Illinois Sources, dated June 15, 2004, and attachments.
223. Prairie State Generating Station, Pollutants of Concern Table, Pulverized Coal, dated Revised June 17, 2004.
224. Letter from Dianna Tickner to Chris Romaine concerning Lead and Beryllium Emissions, dated June 18, 2004, and attachments.

225. Letter from Dianna Tickner to Chris Romaine submitting additional information in support of previously submitted additional impact analysis of growth and visibility impacts, dated June 18, 2004.
226. Letter from Dianna Tickner to David Kolaz responding to the issues raised by USFWS in a May 14, 2004, letter, dated June 21, 2004, and attachment.
227. Letter from Dianna Tickner to Chris Romaine providing Prairie State Generating Station Supplemental MACT, dated June 21, 2004.
228. Miscellaneous graphs of Mingo and Mammoth Cave National Park, dated June 28, 2004.
229. Letter from Jeff Levensgood, Illinois Natural History Survey, to Jeff Sprague, dated July 1, 2004, and attached report "Coal-Fired Power Plant Emissions Chemistry and Effects on Soil and Biota: A Review."
230. Submittal to Charles Matoesian from Dianna Tickner concerning information sent to Illinois EPA on why fabric filter is not feasible for Prairie State, dated July 12, 2004 [sic].
231. Letter from Prairie State to Charles Matoesian responding to comments of the United Mine Workers of America (UMWA), dated July 12, 2004, and attachments.
232. Letter from Prairie State to Charles Matoesian, dated July 12, 2004, responding to comments of the Sierra Club prepared by J. Phyllis Fox dated June 21, 2004, and attachments.
233. Letter from Prairie State to Charles Matoesian, dated July 12, 2004, responding to comments submitted June 17, 2004 by Robert Ukeiley on behalf of the Sierra Club, Clean Air Task Force, and the Lake County Conservation Alliance.
234. Letter from Diana Tickner to Hearing Officer, providing further comments on the draft permit for Prairie State Generating Station's proposal for location near Marissa, Washington County, Illinois, dated July 12, 2004, and attachment.
235. Letter from Prairie State to Charles Matoesian, responding to comments from Dr. Kristin Schrader-Frechette, dated July 12, 2004, and attachments.
236. Letter from Prairie State to Charles Matoesian, responding to comments from various residents, dated July 12, 2004, and attachments.
237. Letter from Prairie State to Charles Matoesian, responding to comments from Carmeuse North America (Carmeuse), dated July 12, 2004, and attachments.
238. Prairie State's re-submittal of a copy of original permit application, date received July 12, 2004.

239. Letter from Dianna Tickner to Charles Matoesian, responding to April 16, 2004, comments of Dynege and May 14, 2004, comments of USFWS, dated July 12, 2004, including the submittal of additional modeling.
240. Letters to Verena Owen, Bruce Nilles, Kathy Andria, and John Thompson, dated July 13, 2004, regarding air quality modeling comments from PSGC submitted on July 12, 2004, and attachment.
241. Letter from Renee Cipriano to Bruce Nilles regarding Request for Extension of Comment Period, dated July 15, 2004.
242. Lead Modeling Files.
243. Transmittal of information discussed in a July 12, 2004, conversation, from Dianna Tickner to Chris Romaine, dated July 16, 2004.
244. Letter from Pamela Blakley, Chief, Air Permits Section, USEPA, to Don Sutton supplying comments to the draft PSD permit, dated July 26, 2004.
245. Letter from Dianna Tickner to David Kolaz providing review of threatened and endangered species and critical habitat species within significant impact area of the proposed Prairie State Generating Station, Washington County, Illinois, dated July 27, 2004.
246. Commonwealth of Virginia, Department of Environmental Quality, Intra-Agency Memorandum regarding Engineering Evaluation of PSD permit application submitted by CPV Warren LLC, Registration No. 81391, dated July 28, 2004.
247. Letter from Joyce Collins, Assistant Field Supervisor, FWS, to Diana Tickner, dated August 4, 2004.
248. Letter from David Kolaz to Cheryl Newton regarding Prairie State's application to construct a coal-fired river plant, dated August 9, 2004.
249. Letter from Renee Cipriano to Joel Brunsvold, Director, Illinois DNR, providing information to supplement the Agency Action Report for the Prairie State project, dated August 10, 2004, and attachments.
250. Letter from Dianna Tickner to Ms. Joyce A. Collins, Assistant Field Supervisor, US DOI Fish and Wildlife Service, dated August 26, 2004.
251. Letter from Richard Califano to Dianna Tickner regarding USFWS Concerns Regarding the Indiana Bat and the Proposed Prairie State Generating Station, dated August 27, 2004, and attachments.

252. Letter from Susan Horneman, Project Manager, Illinois Permits Region, Army Corps of Engineers, to Colin Kelley, dated August 27, 2004.
253. Letter from Dianna Tickner to Pamela Blakley providing proposed agenda for September 9 meeting, dated September 3, 2004.
254. Letter from Dianna Tickner to Todd Rettig, Division Chief, Division of Resource Review and Conservation, concerning Eastern Mouth Toad, dated September 17, 2004.
255. Letter from Dianna Tickner to Kenneth Westlake, Chief, Environmental Planning & Evaluation Branch, USEPA, responding to email of October 1, 2004, dated October 5, 2004, and attachments.
256. Email from Dianna Tickner to Chris Romaine concerning KY PSC Terminates KY Pioneer, dated October 20, 2004, and attachment.
257. Letter from Dianna Tickner to Dave Kolaz, dated October 28, 2004, responding to a May 14, 2004, letter from the Federal Land Manager, and attachments.
258. Letter from Todd Rettig, Manager, Division of Resource Review and Coordination, Illinois DNR, to Laurel Kroack concerning the Detailed Action Report, dated November 1, 2004.
259. Letter from Joyce Collins to Diana Tickner, dated November 4, 2004.
260. Air Pollution Emitting Facilities Near Mingo, Wilderness Area by USFWS, dated November 8, 2004.
261. Email from Dianna Tickner to Laurel Kroack and Chris Romaine concerning interactions with FWS, dated November 8, 2004.
262. Email from Yi Zhu, Administrator, Emissions Inventory Section, Florida Department of Environmental Protection, to Shashi Shah regarding requested information, dated November 8, 2004, and attachments.
263. Letter from Dianna Tickner to Joyce Collins, dated November 12, and attachments.
264. Email from Dianna Tickner to Chris Romaine concerning formula from Tbred permit, dated November 15, 2004, and attachment.
265. Letter from Dianna Tickner to Dave Kolaz regarding the Illinois cave amphipod, dated November 22, 2004.
266. Attachment 1, Chronology of PSGC's Air Permit Issues Related to Threatened and Endangered Species from October 19, 2001, through December 1, 2004.

267. Email from Erik Hendrickson, Texas, to Shashi Shah concerning request for information for the Washington Parish Power Plant, dated December 2, 2004.
268. Email from Francisco Acevedo, Acting Chief, Air Permits Section, USEPA - Region V to Laurel Kroack, dated December 3, 2004.
269. Email from Bill Hoback, Office of Coal Development, to Daniel Simon, Kristin Richards, Dave Kolaz and Renee Cipriano, dated December 3, 2004.
270. Letter from Dianna Tickner to Jerri-Anne Garl, Director, Office of Strategic Environmental Analysis, USEPA, Region V, and Steve Rothblatt concerning ESA issues, dated December 6, 2004, and attachments.
271. Chronology of Prairie State Generating Company Air Permit Issues Related to Threatened & Endangered Species, dated through December 6, 2004.
272. Agenda and Attendance Sheet from Prairie State Coal Fired Generation Project Meeting, dated December 7, 2004.
273. Letter from Kevin Finto to Steve Rothblatt concerning caselaw on threatened and endangered species, dated December 10, 2004.
274. Letter from Richard Califano to Dianna Tickner regarding Federal Listed Threatened & Endangered Species Summary, dated December 13, 2004, and attachments.
275. Facsimile from Dianna Tickner to Chris Romaine, dated December 14, 2004.
276. Facsimile from Chris Romaine to Dianna Tickner, dated December 14, 2004.
277. Facsimile from Dianna Tickner to Chris Romaine, dated December 15, 2004.
278. Letter from Todd Rettig to Dianna Tickner regarding known occurrence of seven federally-listed and a candidate species in Southern Illinois, dated December 14, 2004.
279. Letter from Laurel Kroack to Steve Rothblatt providing biological evaluation, dated December 14, 2004.
280. Region 5 Coal-fired Power Plants generated by Prairie State, dated December 15, 2004.
281. Memorandum from Kenneth Westlake to Jerri-Anne Garl, Steve Rothblatt, and Susan Tennenbaum regarding findings of USEPA and USFWS technical workgroup for the proposed PSGS review related to ESA issues, dated December 17, 2004.
282. Email from Dianna Tickner to Meredith Bond, dated December 17, 2004, regarding conference call to discuss Prairie State.

283. Agenda Prairie State Generating Station ESA Discussion, dated Monday, December 20, 2004.
284. Letter from Laurel Kroack to Sandra Silva, Chief, Air Quality Branch, USFWS, concerning potential impacts from proposed Prairie State Generating Station on visibility at Mingo, dated December 22, 2004.
285. Letter from Dianna Tickner to Laurel Kroack concerning potential visibility impacts at Mingo, dated December 22, 2004.
286. Facsimile from Chris Romaine to Jacob Williams regarding current draft of changes, dated December 22, 2004.
287. Facsimile from Chris Romaine to Dianna Tickner providing two pages on the additional comments, dated December 22, 2004.
288. Letter from Kevin Finto to Steve Rothblatt regarding threatened and endangered species, dated December 22, 2004.
289. Facsimile from Dianna Tickner to Chris Romaine concerning Condition 1.10 Supplemental Requirements for SO2 Allowances, dated December 23, 2004.
290. Letter from Frederick Palmer, Attorney for Prairie State Generating Company, to Jeffrey Holmstead, Assistant Administrator for Air & Radiation, USEPA, dated December 23, 2004.
291. Agenda Prairie State Generating Station ESA Discussion, dated Wednesday, December 29, 2004.
292. Prairie State Generating Company ESA Biological Evaluation, Winter 2004.
293. Email from Chris Romaine to Constantine Blathras, Meredith Bond, Sandra Silva and Tim Allen concerning proposed changes to permit, dated January 3, 2005.
294. Email from John Thompson to Laurel Kroack supplying Cash Creek information, dated January 3, 2005, and attached documents.
295. Facsimile from Chris Romaine to Dianna Tickner, dated January 3, 2005.
296. Facsimile from Dianna Tickner to Chris Romaine regarding "a couple of questions from Penny," dated January 4, 2005.
297. Letter from Dianna Tickner to Cheryl Newton regarding December 29, 2004, meeting concerning threatened and endangered species, dated January 4, 2004, and attachments.
298. Facsimile from Jeff Sprague to Rich Califano, dated January 5, 2005.

299. Facsimile from Chris Romaine to Dianna Tickner, dated January 6, 2005.
300. Email from Dianna Tickner to Chris Romaine regarding correction to SLREA tables, dated January 7, 2005.
301. Letter from Steve Rothblatt to Richard Nelson, Supervisor, Rock Island Field Office, USFWS, regarding ESA, dated January 7, 2005.
302. Letter from Dianna Tickner to Cheryl Newton regarding ESA requirements, dated January 7, 2005, and attachments.
303. Letter from Dianna Tickner to Jeff Sprague regarding SLERA, dated January 7, 2005 [sic], and attachments.
304. Email from Dianna Tickner to Jeff Sprague and Chris Romaine regarding scanned document, dated January 7, 2005, and attachment.
305. Letter from Richard Nelson, Field Service, USFWS, to Steve Rothblatt, Director, Air & Radiation Division, USEPA, Region V, concerning Endangered Species Act (ESA) consultation, dated January 10, 2005, and attachment.
306. Facsimile from Dianna Tickner to Chris Romaine concerning carbon monoxide and volatile organic material emission limits, dated January 11, 2005.
307. Letter from Steve Rothblatt to Laurel Kroack concerning ESA consultation, dated January 11, 2005, and attachments.
308. Email from Tracy Turner, Peabody Energy - Generation Development, to Chris Romaine concerning information on Raring Corp. Permit, Power River Coal, dated January 12, 2005, and attachments.
309. Email from Jerri-Anne Garl, Director, Office of Science, Ecosystems and Communities, USEPA, to a number of federal representatives of the USEPA, USFWS and Chris Romaine concerning Prairie State issues list, dated January 12, 2005.
310. Email from Jerri-Anne Garl to Chris Romaine concerning Agenda for Monday's meeting, dated January 12, 2005.
311. Email from Dianna Tickner to Chris Romaine concerning Weston CO, dated January 12, 2005, and attachments.
312. Letter from Laurel Kroack to Paul Hoffman, Deputy Assistant Secretary, Fish and Wildlife and Parks, dated January 13, 2005, and attachments.

313. Draft letter to Paul Hoffman, Deputy Assistant Secretary, Fish and Wildlife and Parks, US DOI, from Laurel Kroack, dated January 13, 2005.
314. Construction Permit - Prevention of Significant Deterioration (PSD) Approval, NSPS - NESHAP Emission Units, to Prairie State Generating Company (PSGC), LLC, dated January 14, 2005.
315. Illinois EPA, Bureau of Air, January 2005, Responsiveness Summary.
316. Illinois EPA Coal Washing documents.
317. Calculation Sheet.
318. Letter from Sally Carter to Bruce Nilles, dated April 17, 2005.
319. Memorandum to File from Chris Pressnall, Assistant Counsel, regarding Environmental Justice, dated April 10, 2005.
320. Letter from Dianna Tickner to Don Sutton, dated April 27, 2005.
321. Letter from Sally Carter to Bruce Nilles, dated April 28, 2005.
322. Construction Permit - Prevention of Significant Deterioration (PSD) Approval, NSPS - NESHAP Emission Units, to Prairie State Generating Company (PSGC), LLC, dated April 28, 2005.
323. Illinois EPA, Bureau of Air, April 2005, Responsiveness Summary.
324. Illinois Annual Air Quality Reports.
325. Prairie State Generating Station Threatened & Endangered Species "Response Package" for USEPA Region V, undated.
326. Miscellaneous documents likely submitted by Prairie State.
327. Draft condition 2.1.2(c) provided to Prairie State Generating Station, unknown date.
328. Map entitled, "Resources Within 27 Kilometers of the Prairie State Generating Station," by Illinois DNR, undated.
329. Miscellaneous undated documents.
330. Miscellaneous documents of Jeff Sprague relating to USFWS - Consultation - Prairie State - ESA.
331. Miscellaneous documents of Jeff Sprague relating to Class I Analysis.

332. Miscellaneous documents of Jeff Sprague relating to Updated Inventories Based Upon State-Wide Database.
333. Miscellaneous documents of Jeff Sprague relating to PSGS - Biological Assessment/ Ecological Risk Assessment.
334. Miscellaneous documents of Jeff Sprague relating to PSGS - Final Comment Modeling Submittal.
335. Miscellaneous documents of Jeff Sprague relating to PSGS - Agency Review/ Audit Materials - Part I.
336. Miscellaneous documents of Jeff Sprague relating to PSGS - Agency Review/ Audit Materials - Part II.
337. Miscellaneous documents of Jeff Sprague relating to PSGS - Agency Review/ Audit Materials - Part III.
338. Miscellaneous documents of Jeff Sprague relating to PSGS - Agency Review/ Audit Materials - Part IV.
339. Miscellaneous documents of Jeff Sprague relating to PSGS - Agency Review/ Audit Materials - Part V.
340. Documents relating to Prairie State Generating Station Modeling - PC Side.
341. Documents relating to Prairie State Generating Station General Modeling (Class I Area).
342. Documents relating to Prairie State Generating Station Modeling - Unix Side.
343. Map Receptor Graphics.
344. Compilation of documents pertaining to CALPUFF.
345. Compilation of documents pertaining to SO2 Inventories.
346. Compilation of documents pertaining to PM Inventories.
347. October 2002 Application Inventories.
348. Compilation of documents pertaining to Missouri Inventories.
349. General Correspondence File & Notes of Jeff Sprague.

350. Sprague's General Correspondence Emails & Attachments - September 2001 through January 2005.
351. Sprague's Correspondence Emails Concerning Class I Analysis & Attachments - January 2002 through January 2005.
352. Sprague's Miscellaneous Emails Concerning PSGS Biological Assessment/ Ecological Risk Assessment & Attachments.
353. Miscellaneous emails from various authors from 2001 through December 2003.
354. Miscellaneous emails from various authors from January 2004 through February 2004.
355. Miscellaneous emails from various authors from March 2004 through May 2004.
356. Miscellaneous emails from various authors from June 2004 through December 2004.
357. Miscellaneous emails from various authors from 2005.
358. USEPA - IEPA Delegation of Authority.
359. Miscellaneous News Articles.
360. Miscellaneous Maps and/or Diagrams concerning Prairie State Generating Station.
361. Miscellaneous Public Hearing documents.
362. MACT Rulemaking for Industrial Boilers.
363. Miscellaneous MACT documents.
364. Collection of data reviewed concerning particulate matter and other emissions.
365. Information generated in review of Florida data base concerning particulate matter emissions.
366. Miscellaneous reference material re: particulate matter.
367. Miscellaneous documents prepared by USFWS.
368. Miscellaneous technical comparison documents.
369. Miscellaneous document referencing Holcim.
370. Miscellaneous document regarding Old Ben Coal Company.

371. Miscellaneous document regarding Peabody Coal Company.
372. Miscellaneous documents concerning Thoroughbred.
373. Miscellaneous documents concerning CPV Warren LLC, Virginia.
374. Miscellaneous documents concerning Dynegy.
375. Miscellaneous documents concerning Hazardous Air Pollutants.
376. Control of Mercury Emissions from Coal Fired Electric Utility Boilers: An Update.
377. Assessing the Impact on the St. Louis Ozone Attainment Demonstration from Proposed Electrical Generating Units in Illinois, September 25, 2003.
378. Miscellaneous documents concerning selective catalytic reduction.
379. Miscellaneous information compiled from Georgia and Texas permitting actions.
380. Miscellaneous information concerning coal-fired power plants.
381. Miscellaneous document relating to Tuscon Electric Power Company.
382. Miscellaneous information relating to Endangered Species Act.
383. USEPA Pacific Southwest/ Region 9 Clean Air Permitting Programs.
384. New Source Review Workshop Manual.
385. Miscellaneous information concerning dioxins.
386. Miscellaneous information concerning Federal Land Managers and FLAG Guidance.
387. FLAG - Phase I Report.
388. EPA Interagency Workgroup on Air Quality Modeling - Phase 2 Summary Report & Recommendations for Modeling Long Range Transport Impacts.
389. Guide for Estimating Natural Visibility Conditions Under the Regional Haze Rule.
390. Class I General Reference Information.
391. "Demonstration of Pulse-Jet Fabric Filters for Utility High-Sulfur Coal Applications" Prepared by Southern Research Institute.
392. Miscellaneous information regarding Modeling a Flare.

393. "A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals."
394. Miscellaneous information regarding anemometer heights.
395. Miscellaneous information concerning Cooling Tower Particulate Emissions Calculation.
396. Miscellaneous reference material concerning the permitting of Assorted Plants.
397. Miscellaneous reference material concerning the permitting of Cash Creek.
398. Miscellaneous reference material concerning the permitting of Cedar Falls - Streeter.
399. Miscellaneous reference material concerning the permitting of City Utilities of Springfield (Missouri) Southwest Station - Unit 2.
400. Miscellaneous reference material concerning the permitting of Indeck.
401. Miscellaneous reference material concerning the permitting of Intermountain Power - Unit 3.
402. Miscellaneous reference material concerning the permitting of Longleaf Energy.
403. Miscellaneous reference material concerning the permitting of Longview Power.
404. Miscellaneous reference material concerning the permitting of Mid American Public Energy.
405. Miscellaneous reference material concerning the permitting of Montour.
406. Miscellaneous reference material concerning the permitting of Northampton.
407. Miscellaneous reference material concerning the permitting of Plum Point Energy.
408. Miscellaneous reference material concerning the permitting of Roundup Power.
409. Miscellaneous reference material concerning the permitting of San Antonio - Service 2 (City Public Service).
410. Miscellaneous reference material concerning permitting of Sound Sage - Holcomb 2.
411. Miscellaneous reference material concerning the permitting of Sevier.
412. Miscellaneous reference material concerning the permitting of Thoroughbred.

413. Miscellaneous reference material concerning the permitting of Trimble.
414. Miscellaneous reference material concerning the permitting of Tuscon Electric Springerville.
415. Miscellaneous reference material concerning the permitting of W.A. Parish.
416. Miscellaneous reference material concerning the permitting of Wisconsin Public Service - Weston 4.
417. Miscellaneous reference material concerning the permitting of Wisconsin Electric - Elm Road Generating Station.
418. Miscellaneous reference material concerning the permitting of Wygen 2.
419. Miscellaneous reference material concerning Air Quality Data.
420. Miscellaneous reference material concerning CALPUFF.
421. Miscellaneous reference material concerning Carbon Dioxide.
422. Miscellaneous reference material concerning Coal Background.
423. Miscellaneous reference material concerning Coal Preparation - "Breakers".
424. Miscellaneous reference material concerning Coal Washing - Environmental Impacts.
425. Miscellaneous reference material concerning Coal Washing- Innovative Technology.
426. Miscellaneous reference material concerning Coal Washing - Technology.
427. Miscellaneous reference material concerning Combustion Waste.
428. Miscellaneous reference material concerning Cooling Towers.
429. Miscellaneous reference material concerning Endangered Species - Bald Eagles.
430. Miscellaneous reference material concerning Environmental Justice.
431. Miscellaneous reference material concerning Existing Power Plants in Illinois.
432. Miscellaneous reference material concerning Fogging.
433. Miscellaneous reference material concerning Grand Tower.
434. Miscellaneous reference material concerning IGCC Financing.

435. Miscellaneous reference material concerning Illinois EPA Power Plant Report.
436. Miscellaneous reference material concerning Kincaid Power Plant.
437. Miscellaneous reference material concerning Mingo - Details.
438. Miscellaneous reference material concerning Multi-Pollutant Program.
439. Miscellaneous reference material concerning Particulate Matter Condensibles - Measurement.
440. Miscellaneous reference material concerning Particulate Matter Condensibles - Rate.
441. Miscellaneous reference material concerning Particulate Matter Continuous Emissions Monitoring.
442. Miscellaneous reference material concerning Particulate Matter - Control Technology.
443. Miscellaneous reference material concerning PM 2.5 Designation.
444. Miscellaneous reference material concerning PM 2.5 Implementation.
445. Miscellaneous reference material concerning Power Plant Design - Pulverized Coal Boilers.
446. Miscellaneous reference material concerning Sulfuric Acid Mist.
447. Miscellaneous reference material concerning Ultra Low Sulfur Diesel Fuel.
448. Miscellaneous reference material concerning USEPA Cost Manual.
449. Miscellaneous reference material concerning Visibility.
450. Miscellaneous reference material concerning Baghouses- High Sulfur Coal.
451. Miscellaneous reference material concerning Gasification Conference.
452. Miscellaneous reference material concerning MEGA Symposium including notes, mercury - sorbent control, multi-pollutant, SO₂ scrubber control and SO₃ control.
453. Miscellaneous reference material concerning visibility.
454. Miscellaneous reference material concerning mercury.

455. Miscellaneous comments from a variety of commenters, dated from March 5, 2004, through August 25, 2004.
456. Miscellaneous Resolutions and Letters of Support for the Prairie State Energy Campus.
457. Approximately 180 comment forms submitted by various members of the public in opposition to the issuance of a permit for the Prairie State project.
458. Approximately 120 standardized registration forms filled out by the public at the public hearing for the Prairie State project.
459. Transcript of a March 22, 2004, Public Hearing held before Hearing Officer Charles E. Matoesian concerning the Proposed Issuance of a Construction Permit/ PSD Approval to Prairie State Generating Company, LLC.
460. Illinois EPA Hearing Officer Orders In the Matter of: Proposed Issuance of a Construction Permit and Prevention of Significant Deterioration Approval and Acid Rain and Budge Permits for Prairie State Generation Company near Marissa, Illinois.
461. Letter from Kathy Andria, Brian Urbaszewski, John Thompson and Bruce Nilles to Charles Matoesian regarding request for sixty-day extension of the public comment period for the draft air permit for the proposed Peabody Prairie State Generating Station, dated March 30, 2004.
462. Letter from Richard Fleming, President and Chief Executive Officer, St. Louis Regional Chamber & Growth Association, to Hearing Officer supporting the Prairie State Generating Station, dated May 21, 2004.
463. Miscellaneous May 2004 emails from citizens to Hearing Officer supporting the Prairie State Energy Campus.
464. Letter from Colin Kelly to Charles Matoesian providing Prairie State Energy Campus supporting documentation, dated May 28, 2004, and approximately 725 comment forms submitted by various members of the public in support of the issuance of a permit for the Prairie State project.
465. Facsimile from Bruce Nilles to Renee Cipriano and Dave Kolaz concerning request for extension of comment period, dated June 9, 2004.
466. Letter from Colin Kelly to Charles Matoesian providing additional letters regarding Prairie State Energy Campus dated June 14, 2004, and
467. attachments.
468. Letter from Robert Ukeiley to Charles Matoesian and Michael Leavitt, Administrator, USEPA, providing comments to the air permit for Prairie State Generating Station, dated June 17, 2004, and attachments.

469. Letter from Dianna Tincker to Chris Romaine concerning PSGC Lead and Beryllium Emissions, dated June 18, 2004, and attachments.
470. Letter from Dianna Tickner to Chris Romaine providing additional information in support of previously submitted additional impact analysis of growth and visibility impacts, dated June 18, 2004, and attachments.
471. Letter from Jerry Cross, Director, Region III, United Mine Workers of America to Charles Matoesian, providing comments on the draft air permit for the proposed Peabody Prairie State Generating Station, dated June 18, 2004, and attachments.
472. Comments on Draft Construction Permit - PSD Approval NSPS - NESHAP Emission Units PSGC, Prepared for Sierra Club, Prepared by J. Phyllis Fox, dated June 21, 2004, and attachments.
473. Letter from Dianna Tickner to Hearing Officer providing comments on the draft permit for Prairie State Generating Station's propose for location near Marissa, Washington County, Illinois, dated June 21, 2004.
474. Letter from Dianna Tickner to David Kolaz, dated June 21, 2004, responding to a May 14, 2004, letter from USFWS, and attachments.
475. Email from Phyllis Fox to Charles Matoesian providing comments on behalf of Sierra Club, dated June 22, 2004.
476. Letter from Dianna Tickner to Charles Matoesian providing additional information for Prairie State Generating Company Air Permit, dated July 1, 2004, and attachments.
477. Letter from Colin M. Kelly, President, PSGC, to Charles Matoesian providing support letters regarding the Prairie State Energy Campus, dated July 7, 2004, and attachments.
478. Letter from Michael Ames, Associate Engineer, Cambridge Environmental, Inc, to Hearing Officer, dated July 8, 2004, and attachments.
479. Miscellaneous July 2004 emails from citizens to Hearing Officer supporting the Prairie State Energy Campus.
480. Comments from Dr. Kristin Shrader-Frechette, O'Neill Family Professor, to Charles Matoesian, dated July 21, 2004 and June 19, 2004.
481. Email from John Blair, President, Valley Watch, Inc., to Charles Matoesian, Brad Frost, Blathras Constantine and Steve Rothblatt, providing comments to proposed Prairie State Generating Station, dated July 26, 2004.

482. Letter from Colin Kelley to Charles Matoesian providing citizen letter regarding the Prairie State Energy Campus, dated July 27, 2004, and attachments.
483. Letter from Colin Kelley to Charles Matoesian providing support letters regarding the Prairie State Energy Campus, dated July 27, 2004, and attachments.
484. Letter from Dianna Tickner to Charles Matoesian providing further comments on the draft permit for Prairie State Generating Station's proposal for location near Marissa, Washington County, Illinois, dated July 27, 2004, and attachments.
485. Letter from Dianna Tickner to David Kolaz concerning review of threatened and endangered species and critical habitat species within significant impact area of the proposed Prairie State Generating Station, Washington County, Illinois, dated July 27, 2004, and attachments.
486. Submittal of EPRI - Demonstration of Pulse - Jet Fabric Filters for Utility High - Sulfur Coal Applications from Prairie State to Charles Mateosian, dated August 18, 2004.
487. Letter from Dianna Tickner to Cathy Willis, Regional FOIA Officer, USFWS, concerning Sierra Club FOIA Request, dated August 18, 2004.
488. Letter from Dianna Tickner to Pamela Blakley providing Response to Comments on Proposed Prairie State Generating Station, dated August 23, 2004, and attachments.
489. Comments submitted by American Lung Association of Metropolitan Chicago, American Bottom Conservancy, Lake County Conservation Alliance, Prairie Rivers Network, Sierra Club to Illinois EPA Hearing Examiner, dated August 23, 2004, and attachments.
490. Email from Cindy Salopek, Sierra Club, Illinois Chapter, to Charles Matoesian, dated August 24, 2004.
491. Letter from Colin Kelly to Charles Matoesian concerning 5th Mailing; Support letters regarding the Prairie State Energy Campus, dated August 25, 2004, and attached documents.
492. Letter from John Thompson to Charles Matoesian providing public comments on Prairie State Generating Station, dated August 26, 2004, and attached documents.
493. Document entitled, "Peabody Comments Key Points and Explanation" by John Thompson, Clean Air Task Force, undated.
494. Letter from Dianna Tickner to Joyce Collins, dated August 26, 2004, and responding to USFWS's letter dated August 4, 2004, and attached documents.

495. Letter from Jerry Cross to Charles Matoesian, providing comments on the draft air permit for the proposed Peabody Prairie State Generating Station, dated August 26, 2004, and attachments.
496. Letter from J. Phyllis Fox to Shashi Shah regarding Draft Construction - PSD Approval NSPS - NESHAP Emission Units: Prairie State Generating Company, LLC, dated August 26, 2004, and attachments.
497. Letter from Dianna Tickner to Charles Matoesian providing further comments on and additional information in support of the draft permit for Prairie State Generating Station, dated August 27, 2004, and attached documents.
498. Email from Penny Shamblin to Shashi Shah concerning EcoRisk, dated August 27, 2004, and attached disc.
499. Email from John Thompson, Advocacy Coordinator, Clean Air Task Force, to Chris Romaine, dated August 29, 2004.

STATE OF ILLINOIS
COUNTY OF SANGAMON

AFFIDAVIT

I, Shashi Shah, being first duly sworn, depose and state that the following statements set forth in this instrument are true and correct, except as to matters therein stated to on information and belief and, as to such matters, the undersigned certifies that he believes the same to be true:

1. I am employed by the Illinois Environmental Protection Agency ("Illinois EPA") as a permit analyst for the Division of Air Pollution Control's ("DAPC") Air Permits Section located at 1021 North Grand Avenue East, Springfield, Illinois. I have been employed by the Illinois EPA since April 1987.

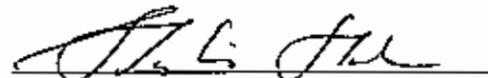
2. As a permit analyst for the Illinois EPA's Utility Unit, my primary job responsibility is to conduct reviews of permit applications involving the utility projects. In this regard, I am familiar with the various air emission units and pollution control technologies associated with operations of coal-fired power plants. I am also familiar with the applicable environmental regulatory and permitting requirements for the utility projects, including, but not limited to, the Prevention of Significant Deterioration program. Among other things, I work closely with, and at the direction of, my supervisor, Mr. Christopher Romaine, Manager, Utility Unit, to prepare draft and final versions of construction and operating permits. I am also involved in directing communications with permit applicants and interested person in the permitting process, and researching, as necessary, available records and documents related to my review of permit applications and other associated work tasks.

3. As part of my responsibilities, I became the assigned permit analyst in the Illinois EPA's review of a permit application, Permit Application No. 01100065, involving Prairie State Generating Station ("Prairie State") and its proposed construction of 1500 MW mine-mouth coal-fired power plant in Washington County, Illinois. I was assigned the permit application shortly after it was received by the Illinois EPA on October 19, 2001.

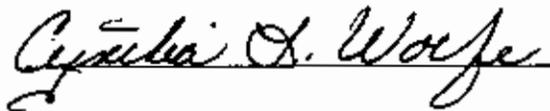
4. Since becoming the assigned permit analyst for this application, I have maintained responsibility for the application file and have overseen management of all documents, as they were acquired, that related to the permit application. Such documents included materials pertaining to the permit application, including written correspondence and other documents needed to evaluate the permit application, and extraneous materials assembled by Mr. Romaine, myself and other Illinois EPA personnel during the course of permit review.

5. Based on my review of the application file for the Prairie State project, I have identified individual documents, including attachments thereto, and miscellaneous materials (some of which have been categorized by subject matter) that were directly or indirectly relied upon by the Illinois EPA in review of the permit application and the resulting permit issuance. I am thus able to certify that those documents are identified in the Administrative Record that has been prepared for the pending appeal before the Environmental Appeals Board.

Further affiant sayeth not.


Shashi Shah

Subscribed and sworn
To Before Me this 18th Day of July 2005





STATE OF ILLINOIS
COUNTY OF SANGAMON

AFFIDAVIT

I, Jeffrey Sprague, being first duly sworn, depose and state that the following statements set forth in this instrument are true and correct, except as to matters therein stated to on information and belief and, as to such matters, the undersigned certifies that he believes the same to be true:

1. I am employed by the Illinois Environmental Protection Agency ("Illinois EPA") as a modeling analyst for the Division of Air Pollution Control's ("DAPC") Air Quality Planning Section located at 1021 North Grand Avenue East, Springfield, Illinois. I have been employed by the Illinois EPA since March 1988.

2. As a modeling analyst for the Illinois EPA's Air Quality Planning Section, my primary responsibility is to conduct modeling in support of the Illinois State Implementation Plan ("SIP"), and secondarily to review air quality modeling analyses for permit or related applications. I have had the added responsibility for participating in federal and state-level consultation for threatened and endangered species in support of permitting actions. In this regard, I am familiar with the applicable requirements for SIP development modeling, modeling to support the Prevention of Significant Deterioration program and analyses associated with consultation for threatened and endangered species.

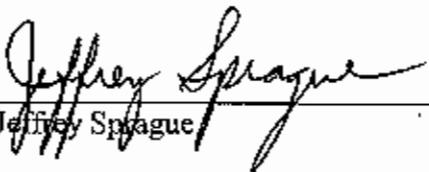
3. As part of my responsibilities, I participated in the Illinois EPA's review of a permit application, Permit Application No. 01100065, involving Prairie State Generating Station ("Prairie State") and its proposed construction of 1500 MW mine-mouth coal-fired power plant in Washington County, Illinois. Specifically, I reviewed

modeling information submitted as part of the permit application and the various analyses pertaining to the consultation for threatened and endangered species.

4. Since becoming the assigned modeling analyst for this application, I have maintained responsibility for the modeling file and have overseen the management of all documents, as they were acquired, that related to the modeling portion of the permit application and the various analyses pertaining to the threatened and endangered species consultation. Such documents included materials pertaining to the modeling information submitted as part of the permit application, including documents relating to the threatened and endangered species consultation and Class I analyses for the Mingo National Wildlife Refuge, written correspondence and other documents needed to evaluate all modeling information, and extraneous materials assembled by myself and other Illinois EPA personnel during the course of modeling review.

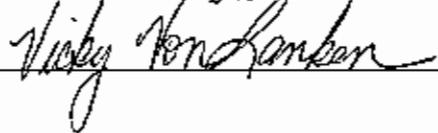
5. Based on my review of the modeling file for the Prairie State project, I have identified individual documents, including attachments thereto, and miscellaneous materials (some of which have been categorized by subject matter) that were directly or indirectly relied upon by the Illinois EPA in review of the modeling information submitted as part of the permit application, the threatened and endangered species consultation, and the resulting permit issuance. I am thus able to certify that those documents are identified in the Administrative Record that has been prepared for the pending appeal before the Environmental Appeals Board.

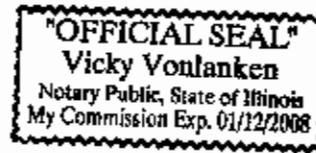
Further affiant sayeth not.



Jeffrey Sprague

Subscribed and sworn
To Before Me this 26th Day of July 2005





CERTIFICATE OF SERVICE

I hereby certify that on the 28th day of July, 2005, I did send, by express mail for next-day delivery, one (1) original and five (5) copies of the following instruments entitled **RESPONSE, CERTIFIED INDEX OF THE ADMINISTRATIVE RECORD** and **AFFIDAVITS** to:

Eurika Durr,
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G Street N.W. Suite 600
Washington, D.C. 20005

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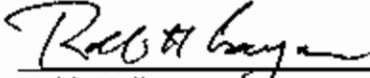
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This filing is submitted on recycled paper.

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

1:26

11/10/05

IN THE MATTER OF:

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PRAIRIE STATE GENERATING
COMPANY, LLC

PSD APPEAL NO. 05-05

PERMIT NUMBER
189808AAB

RESPONSE TO PETITION

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**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

IN THE MATTER OF:)	
)	
PRAIRIE STATE GENERATING)	
COMPANY, LLC)	PSD APPEAL NO. 05-05
)	
PERMIT NUMBER)	
189808AAB)	

RESPONSE TO PETITION

NOW COMES the Respondent, the ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (“Illinois EPA”), and files its Response to the Petition for Review (“Response”) filed by the Petitioners in the above-referenced cause. The Illinois EPA formally requests that the Environmental Appeals Board (hereinafter “EAB” or “Board”) deny the Petition for Review for the reasons set forth within this Response.

I.

INTRODUCTION

The Petition for Review (“Petition”) involves a Construction Permit/PSD Approval issued by the Illinois EPA on April 28, 2005, to Prairie State Generating Company, LLC (“Prairie State”) for the construction of an electricity generating facility in Washington County, Illinois.

A. Relevant Case History.

The permitting of the proposed facility has represented one of the largest and time-consuming undertakings for the Illinois EPA’s air pollution program in recent years. As a result, the record of this proceeding is voluminous, estimated to consist of 40,000 pages of documents and an unknown, yet undoubtedly massive, body of electronic data that was compiled during the review of the permit application. The Responsiveness Summary, which responded to public

comments about the project, contained detailed and complex responses to 353 different comments raised during the course of the lengthy public participation process. While the Construction Permit/PSD Approval document is only seventy-odd pages in length, it represents a comprehensive embodiment of applicable environmental requirements that will ensure the facility's compliance with applicable rules and regulations.

Admittedly, this Response Brief, together with its accompanying exhibits, is mammoth in size. Nonetheless, it is fairly proportional in its response given both the complexity and, in some instances, the potential significance of the issues raised by the Petitioners in their appeal. The Petition raised twenty-one principal issues for appeal. However, the number of off-shooting arguments and miscellaneous issues was considerably greater. In many instances, the Illinois EPA identified procedural deficiencies with respect to the issues or arguments addressed in the Petition. In nearly all instances, the Illinois EPA sought to provide a detailed overview of its permitting decision, together with relevant supporting facts from the Administrative Record. Where possible, the Illinois EPA sought to minimize its responses to trivial or collateral matters, which, due mostly to the Petitioners' prose, were prevalent throughout.

To simply give a bit overview to the permit application submittal and the permit review, Prairie State submitted an initial application for the Construction Permit/PSD Approval to the Illinois EPA's Division of Air Pollution Control/Permit Section on October 19, 2001. [*See, Respondent's Exhibit 68*]. Thereafter, Prairie State continued to participate in discussions with equipment suppliers, resulting in changes to the potential emissions tendered in Prairie State's initial permit application. In October 2002, Prairie State revised its permit application, and subsequently, continued to provide the Illinois EPA with additional supplemental information. [*See, Petitioners' Exhibit 27*]. In the application, Prairie State proposed the construction of a

mine-mouth coal-fired power plant consisting of two identical pulverized coal-fired boilers each with a nominal electrical generating capacity of 750 net megawatts and associated ancillary facilities. The site of the proposed plant is roughly 600 acres located approximately five miles east northeast of Marissa, Washington County, in an area that is currently designated attainment for all criteria pollutants. The Mingo Wilderness Area ("Mingo") at the United States Fish and Wildlife Service's ("USFWS") Mingo Wildlife Refuge in southeastern Missouri is located approximately 140 km from the site of the proposed plant. This wildlife refuge extends over 21,700 acres, approximately 7,700 acres of which is a wilderness area; the wilderness area is designated as a Class I area under the Prevention of Significant Deterioration ("PSD") program. Public access to the wilderness area is allowed only by foot or non-motorized boat, and hunting, which is allowed seasonally elsewhere in the wildlife refuge, is prohibited in the wilderness area.

The fuel for the two boilers would be Illinois No. 6 coal from the underground mine to be developed adjacent to the boiler facility. The plant would be located on a reserve of approximately 240 million recoverable tons of coal sufficient to meet Prairie State's needs for more than 30 years. To address potential interruptions in the mine-mouth coal supply and to facilitate reliable operation of the power plant, in narrowly defined circumstances, the two boilers would be allowed to use washed Illinois No. 5 and 6 coal and from other mines. In addition, the two boilers would use natural gas as an auxiliary fuel, including use for start-up and shutdown of the boilers.

A description of boiler operations is provided in greater detail in the permit application. [See, *Petitioners' Exhibit 27*]. In general terms, the coal will be ground (pulverized) to a fine powder immediately before being burned and will be blown with the primary combustion air into the boiler through a series of nozzles. Secondary air will be blown into the boilers through other

nozzles to complete combustion. While the proposed boilers reflect modern design for high-energy efficiency, the facility is also designed to operate as a base-load facility, running for months at a stretch, ideally at or near capacity.

The two coal-fired boilers will each be equipped with multi-stage pollution controls to minimize and control emissions. The pollution controls will consist of low nitrogen oxides (“NO_x”) burners on the boilers and additional add-on controls consisting of selective catalytic reduction (“SCR”) for control of NO_x, an electrostatic precipitator (“ESP”) for control of particulate matter (“PM”), wet flue gas desulfurization (“WFGD” or “scrubber”) for control of sulfur dioxide (“SO₂”), and a wet electrostatic precipitator (“WESP”) for control of sulfuric acid mist (“H₂SO₄”) and condensable PM. Good combustion practices will also reduce emissions of NO_x, carbon monoxide (“CO”), and volatile organic material (“VOM”). The boilers could also be required to use sorbent injection to control mercury emissions, if the effective control of mercury cannot be assured through the “co-benefit” of the control devices for other pollutants. After passing through the add-on controls, boiler exhaust will be vented through individual flues, one for each boiler, and out a single 700-foot high stack.

Other emission units at the plant include cooling towers, fuel and other bulk material handling, processing, and storage operations, an auxiliary gas-fired boiler, emergency diesel engines, other ancillary operations, and roadways and parking areas.

After reviewing the materials submitted by Prairie State, the Illinois EPA determined that the proposed project would comply with applicable State emissions standards, meet applicable federal emissions standards, including applicable New Source Performance Standards (“NSPS”), and utilize Best Available Control Technology (“BACT”) as required by the federal PSD

program.¹ The BACT determinations are generally reflected in the control technology determinations and emissions limits included in the permit.

Further, the Illinois EPA reviewed the air quality analysis submitted by Prairie State and determined that the proposed project would not cause or contribute to a violation of the National Ambient Air Quality Standards ("NAAQS") for criteria pollutants other than ozone. The Illinois EPA performed its own analysis indicating that the proposed plant would not cause or contribute to a violation of the St. Louis/Metro-East ozone attainment demonstration. A separate analysis by Prairie State also showed that the proposed project would not violate the Class I air quality increment, as applicable to the Mingo Wilderness Area. While the USFWS submitted comments suggesting that it believed the proposed project would adversely impact air quality related values at Mingo, the Illinois EPA thoroughly considered USFWS' comments and other information contained within the Administrative Record concluding that the proposed project will not have an adverse impact on Mingo. Moreover, the requirements of the permit limit the emissions and air quality impacts of the proposed plant to levels that were not considered in USFWS' original evaluation.

On February 4, 2004, the Illinois EPA made a draft permit available for public comment, together with a project summary. [*See, Petitioners' Exhibit 2*]. Public notice of the availability of the draft permit was placed in the Nashville News on February 4, 2004. Notice was also published in the Sparta News-Plaindealer/New Athens Journal Messenger that same week. Additional notices were published in the Nashville News on February 11 and 18, 2004, and in the Sparta News-Plaindealer/New Athens Journal Messenger those same weeks. A public

¹ In addition, the facility will utilize Maximum Achievable Control Technology ("MACT") as required by Section 112(g) of the Clean Air Act. As emission limits for specific hazardous air pollutants ("HAPs") were not established, the MACT determination relies upon the limits established for other pollutants to restrict HAP emissions. *See*, 42 U.S.C. § 7412 (g).

hearing was held at the Marissa High School in Marissa on the evening of March 22, 2004. A panel of representatives from the Illinois EPA was present to take comments and questions from the public, including the Petitioners, regarding the permit application and the draft permit. A written transcript of the public hearing is available on the United States Environmental Protection Agency ("USEPA")/Region V webpage.² The comment period for the submittal of written comments on the draft permit was scheduled to close on April 21, 2004. However, due, in part, to public interest in this proposed project, the Illinois EPA extended the comment period five times, ultimately closing it on August 27, 2004. During the public comment period, Petitioners submitted a variety of written comments to the Illinois EPA.

On January 14, 2005, the Illinois EPA issued a Construction Permit/PSD Approval to Prairie State authorizing construction of the mine-mouth coal-fired power plant (Construction Permit No. 01100065). The Illinois EPA also issued an Acid Rain Permit for the proposed project to address applicable requirements of the Acid Rain Deposition Control Program. As affected units under the Acid Rain Program, Prairie State is required to hold SO₂ allowances each year for its actual emissions of SO₂ from the boilers. In addition, the Illinois EPA issued Prairie State a Budget Permit to address the requirements of the NO_x Trading Program. As these permits related to the Acid Rain Program and the NO_x Trading Program, respectively, neither permit is considered part of the PSD approval. The Illinois EPA made a 163-page *Responsiveness Summary* available four business days following the Construction Permit/PSD Approval on January 21, 2005. [See, *Petitioners' Exhibit 12*].

On February 23, 2005, Petitioners filed a Petition for Review with the EAB, alleging, among other things, that the Illinois EPA committed a procedural error by failing to

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[http://yosenuete.epa.gov/r5/il_permt.nsf/f6a6e842b457fe2b86256ee80050d983/68b5945a1c2877b085256e3000546221/\\$FILE/PrairieStateHearingTranscript.pdf](http://yosenuete.epa.gov/r5/il_permt.nsf/f6a6e842b457fe2b86256ee80050d983/68b5945a1c2877b085256e3000546221/$FILE/PrairieStateHearingTranscript.pdf)

simultaneously issue the permit and the *Responsiveness Summary*. On March 25, 2005, the EAB remanded the permit to the Illinois EPA finding that the Illinois EPA “must reconsider and reissue the final permit decision, after due consideration of comments received and of the response to comments document, exercising its discretion as appropriate and in accordance with the facts and the law.” *In re Prairie State Generating Station*, PSD Appeal No. 05-02, slip op. at 7 (EAB, March 25, 2005). In addition, the EAB encouraged further discussion between the parties. In accordance with the EAB’s order, the Illinois EPA again fully considered comments and met with representatives of a number of the Petitioners. This further consideration and discussion facilitated changes to the issued permit, as compared to both the draft permit and the permit issued on January 14, 2005.

On April 28, 2005, the Illinois EPA issued the Construction Permit/PSD Approval to Prairie State authorizing construction of the mine-mouth coal-fired power plant. On the same date, the Illinois EPA also released the *Responsiveness Summary*. [See, *Petitioners’ Exhibit 12*]. The April 28, 2005 permit and *Responsiveness Summary* supersede the January 2005 permit and *Responsiveness Summary*. On or about June 8, 2005, Petitioners filed a Petition for Review, challenging the Illinois EPA’s permit decision on a variety of grounds relating to the PSD Approval.

B. Statutory Background.

The federal PSD program principally regulates proposed new major sources and major modifications to existing sources in areas of the nation that are deemed attainment or unclassifiable with respect to the NAAQS, the exception is the emissions of pollutants from a project for which an area is designated nonattainment. See, 42 U.S.C. §7471. Among other things, the regulations require a pre-construction review of such proposed projects to ensure that

resulting emissions are not responsible for a violation of the NAAQS or applicable PSD ambient air quality increments, 40 C.F.R. §52.21(k), and a demonstration that subject sources will employ the BACT to minimize emissions for all PSD pollutants emitted in major or significant amounts. 40 C.F.R. §52.21(j).

The Illinois EPA administers the PSD program in Illinois pursuant to a delegation agreement with the USEPA/Region V. *See*, 46 Fed. Reg. 9,580 (January 29, 1981). For purposes related to this appeal, the Illinois EPA is a delegated state permit authority who “stands in the shoes” of the Administrator of the USEPA in implementing the federal PSD program. *See*, 46 Fed. Reg. 9,580 (January 29, 1981); *In re Zion Energy, LLC*, 9 E.A.D. 701, 701-702, fn.1 (EAB, 2001). A PSD permit issued by the Illinois EPA is subject to review by the EAB in accordance with 40 C.F.R. §124.19. [*Id.*].

In taking action on the PSD Approval, the Illinois EPA determined that Prairie State’s proposed coal-fired electricity generating facility is a major source for SO₂, NO_x, PM, CO, VOM, and sulfuric acid mist because potential emissions for each pollutant from the proposed facility exceed the significance threshold for that pollutant.³

II.

STANDARD OF REVIEW

The EAB’s review of final PSD permit decisions is governed by the procedural requirements of 40 C.F.R. Part 124. Review is warranted where the permit decision involves a “finding of fact or conclusion of law which is clearly erroneous” or where it involves “an exercise of discretion or an important policy consideration.” 40 C.F.R. §124.19(a)(1) and (2). In construing these requirements, the EAB has consistently recognized that its review authority is

³ Further, the proposed facility is a major source of HAPs, having potential emissions greater than 10 tons of an individual HAP (hydrogen chloride and hydrogen fluoride) and more than 25 tons in aggregate for a combination of HAPs, including mercury, hydrogen chloride, fluorides, lead, and beryllium.

exercised “sparingly” and that the scope of such review is carefully circumscribed. *See*, 45 Fed. Reg. 33, 290, 33, 412 (May 19, 1980); *accord*, *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 126-127 (EAB 1999); *In re Zion Energy, LLC*, 9 E.A.D. 701, 705 (EAB 2001).

It is a long-standing USEPA policy to favor final adjudication of most permitting decisions at the Regional [or appropriate state] level. *See*, *In re MCN Oil & Gas Company*, UIC Appeal No. 02-03, slip op. at 6 (EAB, September 4, 2002). In the absence of clear error or other compelling reason warranting review, the EAB frequently defers to the Regional or delegated permitting authorities. *In re Metcalf Energy*, PSD Appeals Nos. 01-07 and 01-08, slip op. at 12 (EAB, August 10, 2001). Nowhere is the EAB’s deference more evident than in matters that are “quintessentially technical” in nature. [*Id.*]; *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 54 (EAB 2001).

As a rule, only those issues that have been preserved for appeal may be raised with the EAB. Accordingly, a petitioner seeking review must demonstrate that the issues and/or arguments supporting its position were raised, either by the petitioner or another commenter, during the public comment period. *See*, 40 C.F.R. §124.19; *In re Kendall New Century Development*, PSD Permit Appeal No. 03-01, slip op. at 9, 11 E.A.D. __ (EAB, April 29, 2003); *In re Avon Custom Mixing Services, Inc.*, 10 E.A.D. 700, 704-705 (EAB 2002). Alternatively, a petitioner may plead that the issue for which review is sought was not “reasonably ascertainable” during the public comment period. *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 250, fn. 8 (EAB 1999), *citing In re Keystone Cogeneration Systems*, 3 E.A.D. 766 (EAB 1992). In either event, the burden rests with the petitioner. The EAB has stated that it will not “scour the record” but, rather, will expect the petitioner to prove that an issue has been properly raised. *In re Encogen Facility*, 8 E.A.D. 244, 250 fn. 10 (EAB 1999).

Other procedural requirements borne by a petitioner in permit appeals are equally demanding. A petitioner may only rely upon those issues that were “reasonably ascertainable” and may only advance those arguments supporting a position that were “reasonably available” during the public comment period. *See*, 40 C.F.R. §124.13. Those issues and/or arguments must have been raised with “sufficient specificity” in order to ensure that the permit authority is afforded notice and an opportunity to cure the alleged deficiencies in the permit prior to issuance. *In re Kendall New Century Development*, PSD Permit Appeal No. 03-01, slip op. at 9, 11 E.A.D. ___ (EAB, April 29, 2003).

In a similar vein, a petitioner is obligated to “explain why the permitting authority’s response to those objections is clearly erroneous or otherwise merits review.” *Zion Energy, L.L.C.*, 9 E.A.D. 701, 705 (EAB 2001), citing *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 127 (EAB 1999). A petitioner cannot simply repeat or restate the arguments presented during the public notice period but must, instead, supply information or technical grounds in its petition that demonstrate the merits of administrative review. *See, In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 226 (EAB 2000), citing *In re Maui Electric Company*, 8 E.A.D. 1, 8 (EAB 1998).

The EAB also demands that a petitioner, in identifying its objections to a permit, make its allegations both “specific and substantiated,” especially where the object involves the “technical judgments” of the permit authority. *See, In re Avon Custom Mixing Services, Inc.*, 10 E.A.D. 700, 705 (EAB 2002). This burden ensures that the issues and/or arguments on appeal are well defined and actually represent a “bona fide” disagreement between the petitioner and the permit authority. If expert opinions or data are in conflict, the EAB examines the record of the proceeding to determine whether the permit authority has adequately considered the issue and whether its decision is “rational in light of all the information in the record, including the

conflicting opinions and data." *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 50 (EAB 2001), citing, *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 180, fn. 16 (EAB 2000).

III.

ARGUMENTS

Each of the Petitioners' arguments, as discussed below, fails to satisfy the EAB's threshold requirements for obtaining review. Some of the Petitioners' arguments lack sufficient specificity or substance to warrant review, or alternatively, were simply not raised during public comment. Other arguments presented by the Petitioners are merely restatements of earlier objections and fail to address the Illinois EPA's previous explanation. In the event the EAB determines that any one of the Petitioners' arguments satisfies the procedural prerequisites for obtaining review, such review should nevertheless be declined for the reason that the Illinois EPA's permit decision reflects considered judgment and is supported by the Administrative Record.⁴

A. **The Deliberations Between the Illinois EPA and a Sister State Agency Involving the Illinois Endangered Species Act Do Not Warrant Review.**

The opening salvo in Petitioners' challenge to the Illinois EPA's permit decision is a highly-charged and caustic denunciation of the state consultation process that accompanied the review of the Illinois Endangered Species Act⁵ (hereinafter "Illinois ESA") for the Prairie State

⁴ Certain portions of the Administrative Record relied upon in this Response to Petition are attached hereto and are identified throughout as "Respondent's Exhibits." Unfortunately, due to the logistics of extended distance between counsel for the Illinois EPA and Prairie State, the Illinois EPA was not able to coordinate with Prairie State so as to avoid both parties filing the same exhibits. However, those documents within the Administrative Record that were identified by the Petitioners in their attachments, such as the copy of the final permit and the *Responsiveness Summary*, have not been duplicated here in the interests of conserving paper and minimizing the size of this filing. Where the Respondent has referred to a part of the Administrative Record that was contained within the Petitioners' Exhibits, they are denominated herein as "Petitioners' Exhibits." The Certified Index of the Administrative Record, with attached affidavit, is also included in the Respondent's filing.

⁵ See, 520 ILCS 10/1-11 (2004).

project. The Petition presents a derisive view of the Illinois EPA's role in the final conclusions of a biological opinion prepared by a sister state agency, the Illinois Department of Natural Resources (hereinafter "Illinois DNR"). The gist of the argument accuses "high level state officials" of thwarting an unspecified conclusion by Illinois DNR staff concerning the project's impacts to a state-listed protected species, the Eastern Narrow Mouth Toad (*Gastrophryne carolinensis*). [See, *Petition at pages 5-6*]. Allegations of wrong-doing do not end there, as state officials from the Illinois EPA and elsewhere are accused, in essence, of practicing deceit by withholding critical information from the public. [See, *Petition at pages 6-8*]. Aside from wonderful hyperbole, the Petitioners' arguments do not contain evidence showing either clear error or important public policy considerations.

1. The Administrative Record does not indicate any discrepancies in the Illinois EPA's involvement with the state ESA consultation process.

The demonstrable facts are perhaps the best place to start with this discussion. In furtherance to the statute and implementing regulations promulgated by the Illinois DNR for the consultation process,⁶ the Illinois EPA forwarded information relative to the Prairie State project to Illinois DNR in the latter part of August 2004. Following the disclosure of additional information by Illinois EPA, as well as several weeks of inter-agency communications, the issue concerning the Eastern Narrow Mouth Toad came to the forefront of consultation review. The issue was initially highlighted in a conversation between a DNR manager and Ms. Laurel Kroack, formerly the Division Manager for the Illinois EPA's Bureau of Air. [See, *Respondent's*

⁶ The Illinois ESA provides for the protection of endangered and threatened species in Illinois. Among other things, the statute mandates an evaluation, through consultation with the Illinois DNR, of any authorized action or funding by a state agency or local government that might "jeopardize" listed and threatened species, or might adversely impact their essential habitat. See, 520 ILCS 10/11 (2004). Implementing regulations governing the consultation are promulgated at 17 Ill. Adm. Code Part 1075.

Exhibit 1 (Electronic Mail from Dianna Tickner, Vice President, Prairie State to Laurel Kroack, Illinois EPA, dated September 10, 2004, 12:50:50 PM). The information was subsequently relayed to Ms. Dianna Tickner, a representative from Prairie State, via an electronic mail message on September 10, 2004.⁷ [*Id.*].

The Illinois DNR completed a biological assessment of the projected impacts of the project with respect to any state listed species or its essential habitat. A formal "Biological Opinion" was announced by Illinois DNR on November 1, 2004. [*See, Respondent's Exhibit 2*].⁸ In unequivocal language, the document stated: "...the Department's opinion, ... is that the adverse impacts resulting from the proposed action are not likely to jeopardize a listed species or its essential habitat or cause adverse modification of a Natural Area.

[*Id.*]. As a consequence of this finding, the Illinois DNR proclaimed the consultation process to be terminated. [*Id.*].

Petitioners look past the important aspects signified by the issuance of the final Biological Opinion by training their attention on events occurring between Illinois EPA, Illinois DNR and Prairie State prior to November 1, 2004. In particular, Petitioners sharpen their focus on two electronic mail messages that purportedly reveal insights into the deliberative thought processes for both of the respective agencies.

The first email reflected an initial message from Laurel Kroack to Dianna Tickner. [*See, Petitioners' Exhibit 36*]. The message indicated that a "draft" biological opinion had been

⁷ In response to the earlier September 10, 2004, email concerning the potential adverse impacts to the Eastern Narrow Mouth Toad, Prairie State submitted a letter and an attached technical report to the Illinois DNR on September 17, 2004. [*See, Respondent's Exhibit 3*]. The submission revealed that the species was not known to exist in Washington County or within the 27-kilometer radius examined under applicable guidance. [*Id. at Attachment, pages 3-4*]. The nearest populations of the toad were known to exist approximately 65 kilometers to the southwest of the proposed site. [*Id. at Attachment, page 4*]. Maximum predicted impact from the proposed source's projected mercury emissions was estimated to fall within the 27-kilometer radius, thus suggesting lower impacts at the population site 65 kilometers away. [*Id.*].

⁸ [*Letter from Richard Califano, Ph.D., Malcolm Pirnie to Todd Rettig, Illinois Department of Natural Resources, dated September 15, 2004*].

shared with the Illinois EPA, which preliminarily showed the Illinois DNR's decision that no adverse impacts would affect sensitive species.⁹ [*Id.*]. Ms. Kroack went on to report that the draft document posed an incidental question about Prairie State's use of locally available limestone "which could affect habitat of the toad." [*Id.*].

Petitioners seize upon this last statement by the Illinois EPA's Air Bureau Chief as if it was presumptively conspiratorial and tantamount to an admission of guilt. Contrary to Petitioners' insinuations, the message does not expressly state or otherwise imply that the Illinois EPA was intent on coercing Illinois DNR to modify its draft findings. In fact, the statement is relatively innocuous by itself. When earlier passages are read in conjunction with it, an altogether different meaning can be ascribed to the text. Specifically, Ms. Kroack asked whether Prairie State would obtain their limestone, as needed for use in emissions control, from a local source and, if so, the whereabouts of the source's general locality (i.e., "along a river"). This context merely suggests an interest on the part of the Illinois EPA's Air Division Manager in learning whether Prairie State could satisfactorily respond to the Illinois DNR's concern about potential impacts to the Eastern Narrow Mouth Toad's habitat.

Ms. Tickner's email response to the original message is also illuminating, which might explain why Petitioners ignored it in their Petition. Ms. Tickner generally observed that no decision had been reached on a limestone supplier, as bids had gone out to sources located in Illinois and Missouri, including some with quarries located in the vicinity of the Mississippi river. [*See, Petitioners' Exhibit 36*]. Notably, she continued with the following observations:

The quarry which we purchase limestone from must be permitted so in order to get or keep their mining permit they would have to protect any endangered species I think under the mining laws. I know on our mine permit we had to address each species and a study was completed.

⁹ The draft document from Illinois DNR was not shared with Prairie State, as available records of the email evidence no such attachment. The Administrative Record is void of any such transmittal as well.

[*Id.*]. Ms. Tickner concluded her response by expressing the belief that the Illinois DNR's permitting process, as necessarily being relative to limestone and other quarries under applicable mining laws, would afford protection to any endangered species. [*Id.*].

Petitioners maintain that the draft Biological Opinion contained an important reference to the Eastern Narrow Mouth Toad that was subsequently removed by the Illinois DNR in the final document. Absent the disclosure of the "draft," which has been lawfully withheld by both state agencies pursuant to exemptions in the state's Freedom of Information Act, Petitioners have been left to speculate about the document's contents as it relates to the toad. While the Illinois EPA remains obliged under existing state law to protect against disclosure of the "draft," it seems perfectly clear that the discussion evidenced from the above-referenced email exchange is addressing some aspect of the Illinois DNR's concern regarding the toad. Prairie State was told that the impact would potentially affect the toad's habitat, to which Ms. Tickner responded by addressing quarry-related requirements that are peripheral to the construction and operation of the proposed coal-fired power plant.¹⁰ Additional circumstantial evidence to this effect is found in the other email referenced by Petitioners.

Approximately three weeks after the Illinois DNR's issuance of the final Biological Opinion, a staff representative from within the organization apparently forwarded an email to his supervisor relating to the previous editing of the subject document. [*See, Petitioners' Exhibit 38*]. Petitioners point to the email, which was presumably leaked by an unspecified person with

¹⁰ While this discussion may have inadvertently disclosed the nature of Illinois DNR's concerns, and thus revealed an unseen glimpse at some or all of the draft Biological Opinion's contents, it should be noted that the document was not formally requested under the state's Freedom of Information Act ("FOIA") until sometime after the release of the final Biological Opinion. The Illinois DNR did not claim the "draft" as exempt until after the receipt the FOIA request and, by the same token, the Illinois EPA was likewise not made consciously aware of the confidential nature of the document until later. [*See, Petitioners' Exhibit 37*].

unknown motives, to support their suspensions that Illinois DNR's staff was forced to alter the final Biological Opinion in the face of undue influence by high-level officials. However, the email does not indicate how such influence, even assuming it came to bear, changed the outcome of the actual deliberations or otherwise compromised the legitimacy of the final Biological Opinion.

Without waiving any objections as to the reliability of the document, the contents of the email also suggest that its author was mostly concerned about the "appearance" caused by the edited omission in the Biological Opinion, rather than what was actually considered during consultation. Indeed, this document appears to confirm that the omission did, in fact, relate to the potential "secondary indirect" impacts of the Eastern Narrow Mouth Toad. Further, the consultation process that had run its course by the first day of November 2004 did not result in any recommendation by Illinois DNR regarding the secondary indirect impacts, as the substance of the omitted materials was apparently not directly within the agency's purview.

As it relates to this proceeding, Petitioners should not be able to rely on unsubstantiated hearsay alone to obtain EAB review of an issue. In this instance, the most important piece of evidence offered by Petitioners is not contained in the Administrative Record and has not otherwise been subject to any means of verification. When coupled with the unverifiable contents of the draft Biological Opinion, it becomes readily apparent how much of Petitioners' argument is based on pure supposition. The EAB has declined review under similar circumstances. *See, In re Tondu Energy Company*, 9 E.A.D. 710, 725 (EAB 2001)(allegations of "general error" will not satisfy threshold requirements); *see also, In re Hudson Power 14 – Buena Vista*, 4 E.A.D. 258, 275 (EAB 1992) ("speculation as to the possible applicability" of a permit provision will not suffice to establish review).

Petitioners try to bolster their argument with allegations that the State, implying the Illinois EPA, Illinois DNR and possibly others, violated the public's right of participation under the federal Clean Air Act and the PSD program. [See, *Petition at pages 7-8*]. As mentioned, the only document addressed in Petitioners' argument that has been withheld from disclosure is the "draft" Biological Opinion. Following discovery of the document during the latter part of May 2004 and a contemporaneous FOIA request by Sierra Club,¹¹ the Illinois EPA inquired of Illinois DNR about the nature of the document and its potential exemption status under the state's Freedom of Information Act ("FOIA"). Upon request of the Illinois DNR and in accordance with express legal authority under state law, the Illinois EPA honored the asserted confidentiality of the "draft" document and refused to disclose its contents to the requestor. [See, *Petitioners' Exhibit 37*].

Petitioners can cite to no legal authority for the proposition that the federal Clean Air Act or the PSD regulations compel the disclosure of confidential or exempt materials. The important role of public participation aside, the public's right of participation in federal or state pollution programs do not render meaningless any and all confidentiality or privacy laws. Neither USEPA nor a delegated state permit authority violate the basic rules for public disclosure whenever confidentiality is asserted, provided that the basis for the withholding is valid and not otherwise overturned on appeal. Sierra Club chose not to pursue an appeal of the responses to its state Freedom of Information Act requests, so they cannot be heard to complain about the denial of access to exempt records.

¹¹ A facsimile of the document had been directed to the Illinois EPA's Division Manager in early October of 2004 but was subsequently overlooked by Illinois EPA staff in the preparation of the Administrative Record. In fact, the discovery of the document within the Illinois EPA's files did not occur until sometime in middle May 2004, after both the issuance of the Prairie State permit and the completed assembly of the Administrative Record. [See, *Petitioners' Exhibit 37*].

2. The state ESA issue raised by Petitioners is outside of the purview of the EAB's jurisdiction to review.

In practice, the EAB has not hesitated to carve out certain matters that are outside the scope of its review, including the review of permit appeals brought under 40 C.F.R. Part 124. The EAB's approach in any given case is shaped by those regulations that govern the permit and/or conditions of permits that are the subject of appeal. The Board's Practice Manual generally observes that jurisdiction is principally established "by regulation." *See, The Environmental Appeals Board Practice Manual at page 2 (September 2002).*¹²

In permit appeals brought under the Clean Air Act's PSD program, the EAB's review is governed by the PSD regulations. In short, issues that are encompassed by the PSD regulations are reviewable. Issues that fall outside of the purview of the regulations will not warrant the EAB's review even if they satisfy other procedural requirements for obtaining review. *See supra, In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 127 (EAB 1999). Stated more broadly, the EAB's permit review process for PSD permit appeals "is not an open forum for consideration of every environmental aspect of a proposed project, or even every issue that bears on air quality." [*Id.*]. Unless the permitting issue is an "explicit" requirement of, or "directly relates" to, the PSD program, the EAB has consistently refused to assume jurisdiction in the matter. [*Id.* at pages 161-162]; *see also, In re Sutter Power Plant*, 6 E.A.D. 680, 689 (EAB 1999)(land use planning and emission reduction credits were not governed by PSD regulations); *In re Metcalf Energy Center*, PSD Appeal No. 01-07 and 01-08, slip op. at 43 (EAB, August 10, 2001) (partial

¹² The narrative discussion from USEPA's original Part 124 rule-making, which formally created the EAB in February 1992, implies the same conclusion by referring to the Administrator's delegation of authority to the Board to review penalty and permit appeal cases "arising under" the specified environmental programs. *See*, 57 Fed. Reg. 5,320, 5,320-5,321, entitled *Changes to Regulations to Reflect the Role of the New Environmental Appeals Board in Agency Adjudications* (February 13, 1992).

load emissions of certain toxic pollutants held not reviewable under PSD regulations); *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 59-60 (EAB 2001)(permit condition relating to emission offsets was not covered under PSD program).

The inquiry undertaken by the EAB in determining its jurisdiction looks to “how the issue is framed in the petition for review, such as the basis upon which relief is being sought.” *See, In re Knauf Fiber Glass, GmbH, supra* at pages 161-162. In this instance, it is obvious that Petitioners seek recourse before the EAB of a matter that derives its primary basis from the Illinois DNR’s actions in administering their state consultation obligations. The Petition is framed principally in terms of state law requirements, such as the Illinois ESA and the state FOIA, and the allegations speak exclusively in terms of state actors. Such conduct by state officials in the administration of state-only requirements are clearly beyond the statutory and regulatory framework of the PSD program.

As if anticipating this jurisdictional issue, Petitioners selectively cite excerpts from the USEPA’s *New Source Review Workshop Manual* (Draft 1990) (hereinafter “*NSR Workshop Manual*”) relating to the secondary or “collateral” impacts analysis that is frequently conducted in the context of the BACT. [*See, Respondent’s Exhibit 4 at page B.47*]. In doing so, Petitioners attempt to cloak their argument and consign the potential collateral impacts allegedly posed by the state-listed load to an action or event that triggers the requirement for a collateral impacts analysis under the BACT analysis. [*See, Petition at page 7*]. Petitioners thus contend that the Illinois EPA should have identified such an action or event arising from the use of locally available limestone needed for Prairie State’s selected use of SO₂ controls. Petitioners’ argument is a ruse.

Generally speaking, the EAB has recognized that the relevance of collateral environmental impacts is usually “couched in terms of discussing which available technology, among several, produces less adverse collateral effects, and, if it does, whether that justifies its utilization even if the technology is otherwise less stringent.”. *See, In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 116-117 (EAB 1997), *citing In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 792 (EAB 1992). The evaluation of the effects of collateral impacts essentially requires a level of detail commensurate with the nature of the potential harm, thus the EAB has held that “generalized concerns” are not sufficient to justify a rejection of a more stringent technology. *Compare, In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 134-142 (EAB 1999)(remand ordered where permit authority had neglected to substantiate nature of collateral impact in rejection of highest control option); *In re World Color Press, Inc.*, 3. E.A.D. 474, 479-81 (Adm'r 1990)(PSD permit remanded where “alleged negligible collateral impacts” were not shown to warrant rejection of more stringent controls as BACT).

In this instance, the Petition is bare of any facts or empirical data that would substantiate a collateral impact analysis under the facts alleged by Petitioners. Indeed, Petitioners do not present an evaluation or even a guess at the impacts caused by Prairie State’s selection of SO₂ controls but, rather, simply assert a generalized hypothesis that the use of locally available limestone is a “potential” source of collateral impact. [*See, Petition at page 8*]. Petitioners do not challenge the selection of SO₂ controls that require the use of limestone at the proposed plant or propose any kind of alternative technologies that would avert the supposed secondary impacts. If review in this case is granted, then every conceivable environmental or public health concern could arguably serve as a pretext for a collateral impacts analysis. *Compare, In re Metcalf Energy Center*, PSD Appeal Nos. 01-07 and 01-08, slip. op. at 43 (EAB, August 10, 2001)(issue

pertaining to toxic pollutants was not framed in terms of possible collateral impacts associated with the BACT determination, thus was not reviewable under PSD program). Because Petitioners are unable to articulate a basis for presenting any demonstrable showing of collateral impacts, their professed concerns must be deemed to reflect state law matters that necessarily fall outside of the purview of the EAB's jurisdiction. For this reason, review of this issue should be denied.

B. The Illinois EPA Lacked Authority to Consider Alternatives to a Proposed 1500 MW Coal-Fired Power Plant as Part of Its Review of an Application for a Proposed Plant.

Petitioners argue that the Illinois EPA failed to consider the need for and alternatives to the proposed Prairie State mine-mouth coal-fired power plant during the permit review process, allegedly ignoring federal PSD requirements prescribed by the federal Clean Air Act. In challenging the Illinois EPA's decision, Petitioners formulate three arguments drawn from the *Responsiveness Summary*, particularly, the Illinois EPA is not obligated to issue a permit authorizing construction of the proposed source in possible opposition to the interests of Illinois residents and businesses; the authority to deliberate upon the "public necessity" of power plants in a manner formerly exercised by the Illinois Commerce Commission is preempted by the Clean Air Act; and the Clean Air Act provides the Illinois EPA with broad authority to consider the need for or alternatives to the proposed source. [*See, Petition at pages 9-17*].

Petitioners' assertion that the Illinois EPA possesses broad authority to reevaluate alternatives such as natural gas or a smaller scale power plant, and thus, to require that a permit applicant explore such alternatives as a requirement of the PSD approval process, is unsubstantiated and without merit. Moreover, Petitioners' interpretation of the scope and meaning of the regulatory language and Board's previous decisions on the issue is misplaced.

Petitioners, by these arguments, fail to sustain their burden of identifying either a clear factual or legal error or an important policy consideration or an exercise of discretion that requires review.

1. **Whether the Illinois EPA is obligated to render a permit decision possibly opposing interests of Illinois residents and businesses after affording an opportunity for informed public participation in the decision making process.**

Petitioners' first argument asserts the Illinois EPA is not required to grant PSD approval to construct a proposed new source given public concerns about adverse air quality impacts and the need for and alternatives to the new facility. Petitioners point generally to available alternatives to coal, including renewable energy sources and energy efficiency to ensure less impacts to public health and the Mingo Wilderness Area. [See, *Petition at pages 9-10*]. While Petitioners are correct that the PSD regulations mandate interested persons must be provided an opportunity to comment concerning "alternatives" to the facility, their interpretation of the express statutory prerequisites for construction of a major facility subject to PSD review is in error.

The Illinois EPA previously responded to Petitioners' claim within the *Responsiveness Summary*, explaining that the statutory language cited by Petitioners merely defined the scope of the public hearing process. The Illinois EPA stated that language upon which the commenter relied does not "require a permitting authority to conduct an analysis or otherwise require from an applicant, information regarding alternative sites, locations or project types." [See, *Petitioners' Exhibit 12, Response to Comment No. 19*]. While the Clean Air Act mandates informed participation in the decision making process, "it cannot be assumed that Congress intended that a wide-ranging analysis of alternatives must be conducted by the permitting authority," and "neither the Illinois Environmental Protection Act nor the Clean Air Act dictates the type of plant that a source may propose to build." [*Id.*]. The Illinois EPA further responded to

the issue of alternative energy sources stating, “[t]he Illinois EPA does not have authority to consider alternatives to a proposed power plant, like wind turbines or energy efficiency measures, as part of its review of an application for a proposed plant.” [See, *Petitioners’ Exhibit 12, Response to Comment No. 24*]. As exhibited by the Illinois EPA’s response to comments, the Illinois EPA neither ignored nor muted the written or oral presentations of Petitioners relative to alternatives to the proposed new source and control technology requirements. Interestingly, Petitioners admit the Illinois EPA does not possess the authority to require Prairie State to construct alternative energy sources. [See, *Petition at page 10*].

However, Petitioners seek to compel the Illinois EPA and Prairie State to embark upon an exploration of an undefined and unlimited number of facility locations and alternative energy sources other than coal. Given the Clean Air Act’s emphasis on granting or denying complete PSD permit applications within one year of filing,¹³ Petitioners’ demand that a permitting authority or permit applicant conduct time consuming original research by generating new data for the purpose of discovering whether other potential alternative facility locations and energy sources exist is unreasonable. Petitioners fail to demonstrate a compelling reason that the Illinois EPA’s response to comments are fatally flawed, and that the Illinois EPA’s decision was erroneous.

Comment No. 24 relied upon by Petitioners simply illustrates a generalized concern about the Illinois EPA’s authority to deny PSD approval to Prairie State notwithstanding objections raised during public comment. [See, *Petitioners’ Exhibit 6, page 35*]. The Petitioners’ argument is clearly unsupported by fact and the *Responsiveness Summary*. The Petitioners

¹³ The one-year limitation is set forth within Section 165(c) of the Clean Air Act. See, 42 U.S.C. §7475(c).

simply fail to sustain their burden to demonstrate the Illinois EPA's response is clearly erroneous.

Nor did the Illinois EPA consider it necessary to evaluate alternative energy sources because to do so would fundamentally alter the scope of the project and the plant's design. As will be discussed in greater detail in Section E.1, the PSD regulations do not mandate a permit applicant, or permitting authority, to change the basic design of the proposed source so as to achieve emission reductions. *See, In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95 (EAB 1992). As the *NSR Workshop Manual* provides:

Historically, EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives. For example, applicants proposing to construct a coal-fired electric generator, have not been required by EPA as part of a BACT analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting per unit (in this case electricity). However, this is an aspect of the PSD permitting process in which states have the discretion to engage in a broader analysis if they so desire. Thus a gas turbine normally would not be included in the list of control alternatives for a coal-fired boiler.

[*See, Respondent's Exhibit 4, pages B.13-B.14*].

The policy against "redefining the source" is an unambiguous expression of USEPA policy acknowledged by the Board on several occasions. Most notably, the Board upheld a state-delegated permitting authority's rejection of an alternative boiler and cleaner-burning fuel requirements in evaluating BACT for coal-fired boilers. *See, In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95 (EAB 1992). The state agency argued that it lacked the authority to mandate such control options and that it had simply "evaluated the anticipated impacts of the facility with the type of boiler proposed and found them to be acceptable under the PSD regulations." [*Id. at page 99*]. The Board agreed that the petitioners' "preference as to the type of boilers and the fuel used ... would in effect redefine the source." [*Id. at page 100*]; *see also, In*

re Old Dominion Electric Cooperative Clover, Virginia, 3 E.A.D. 779, ___ (Adm'r 1992) (failure to consider natural gas as an alternative for a proposed coal-fired electric generating station did not constitute clear error); *see also, In re Pennsauken Resource Recovery Facility*, 2 E.A.D. 667 (Adm'r 1998) (request that in lieu of a proposed municipal waste combustor existing power plants be fired with a mixture of 20 percent refuse derived fuel and 80 percent coal derived fuel). Petitioners are fully aware that the proposed new source is a mine-mouth power plant. [See, *Petitioners' Exhibit 12, page 3*].

The Illinois EPA did not abuse its discretion in forgoing a broader BACT analysis on the basis of the "redefining the source" doctrine, and Petitioners do not offer any evidence to the contrary. As set forth above, the *NSR Workshop Manual* bestows wide discretion to the Administrator to determine whether to engage in a broader BACT analysis that includes a redefinition of the source. [See, *Respondent's Exhibit 4 at page B.13*]; *see also, In re Hillman Power Company, L.L.C.*, 10 E.A.D. 673, 692 (EAB 2002)(acknowledging discretion possessed by the Administrator); *see also, In re Old Dominion Electric Cooperative* 3 E.A.D. 779, ___(EAB 1992)(recognizing the Administrator's discretion). The permitting authority possesses "wide latitude" in determining the breadth of the BACT analysis that it seeks to conduct. *See, In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95, 100 (EAB 1992).

A mandate requiring the primary use of a specific type of process or fuel should not be considered as part of the BACT analysis if it is inconsistent with the basic function or design of the proposed source. In this instance, Prairie State should not be required to select an alternative location or method to generate electric power where the underlying basis for the project's design has been specifically tailored to the use of a specific reserve of fuel. Such circumstances are virtually indistinguishable from the examples cited in the *NSR Workshop Manual* or considered

by the Board in *Hawaiian Commercial & Sugar Company* and other rulings. Given the absence of clear error, the Illinois EPA's decision should be entitled to the same "wide latitude" afforded other permit authorities in this area. *See, In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95, 100 (EAB 1992).

2. Neither the Clean Air Act nor Illinois law authorizes regulation of power plant construction in Illinois through the PSD approval process based upon "public necessity."

Petitioners criticize the Illinois EPA's determination that any consideration of "public necessity" for additional coal-fired power plants during the PSD approval process is not within the scope of its authority, in the manner formerly exercised by the Illinois Commerce Commission ("ICC"), and argue "the authority to consider need flows from the federal PSD program administered by IEPA." [*See, Petition at page 11*]. While the Petitioners are correct in noting that the PSD regulations, not Illinois law, apply here, their interpretation of the scope and meaning of regulatory language and the Board's previous decisions on the issue is in error.

a. Petitioners' argument is not supported with fact.

Petitioners fail to cite to any provision of the Clean Air Act requiring that a state permitting authority consider "public necessity" during the PSD approval process, and mischaracterize the Illinois EPA's analysis in response to public comment. The Illinois EPA responded, in some detail, to specific concerns identified within the *Responsiveness Summary* that, as many new power plants are no longer subject to approval by the ICC, "the BACT process is arguably the only remaining opportunity to consider whether a new coal-fired plant should be built at all." [*See, Petitioners' Exhibit 12, Response to Comment No. 2; see also, Petitioners' Exhibit 6, page 35*]. This commentator clearly requested that the Illinois EPA consider utilizing the BACT process to determine whether a "public necessity" exists to construct the proposed source.

Recognizing the commentor's effort to merge conflicting regulatory schemes relative to federal PSD pre-construction review requirements and the oversight of new power plant construction formerly exercised by the ICC, the Illinois EPA responded stating:

Such action is only possible if it is supported by the Clean Air Act and the federal PSD program. The federal PSD program, as developed by USEPA, does not identify or provide for any difference in BACT determinations between states that have and have not deregulated the generation of electricity. At the State level, the Illinois EPA does not have the legal authority to deliberate upon the "public necessity" of power plants, in the manner formerly exercised by the Illinois Commerce Commission. Introducing the consideration of need into the BACT process would be in direct contradiction to the action taken by the Illinois Legislature to deregulate the generation of electricity in Illinois, as addressed by this comment.

[*Id.*]. The Illinois EPA expressed similar concerns in response to one additional comment stating "the proposed plant is not needed by the people of Illinois or the nation." [*See, Petitioners' Exhibit 12, Response to Comment No. 22*]. The Illinois EPA again responded stating "the comment is outside the scope of the Illinois EPA's review of the proposed plant." [*Id.*].

Judging from a plain reading of the *Responsiveness Summary*, Petitioners fail to show the Illinois EPA's decision is clearly erroneous or otherwise merits review. Although Petitioners seize upon the Illinois EPA's reference to State law in an attempt to bolster their argument that the Illinois EPA claims its role in the PSD approval process is, in part, controlled by State law, their argument is not substantiated by supporting fact drawn from the record. The record clearly supports the Illinois EPA's decision that the federal PSD program, not State law, determines whether authority exists to consider "public necessity" during the PSD approval process.

b. Petitioners' argument is contrary to PSD program requirements.

The *Responsiveness Summary* clearly articulates that neither the Clean Air Act nor Illinois law authorize the Illinois EPA to consider "public necessity" during the PSD approval process. Petitioners' request that the Illinois EPA regulate the construction of new power plants

based upon a present need for electric power, under the guise that the Illinois EPA is simply conducting the requisite BACT determination, is contrary to the policy against redefining the source prescribed by the *NSR Workshop Manual*. As the manual states, “[h]istorically, EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives.” [See, *Respondent’s Exhibit 4, page B.13*].

Petitioners’ allegation that the Illinois EPA possesses the authority to consider “public necessity” derived from the federal PSD program is unsubstantiated and fails to demonstrate that the Illinois EPA’s decision is clearly erroneous.

Petitioners’ citation to *In re West Suburban Recycling & Energy Center, L.P.*, 6 E.A.D. 692 (EAB 1996) and reference to the Illinois Electric Customer Choice and Rate Relief Law of 1997 are inapposite in this instance as neither sets forth a basis to support Petitioners’ assertion that the Illinois EPA possesses the authority to consider “public necessity” and that its authority is specifically derived from the PSD program. The Illinois EPA’s decision is clearly supported by the record.

c. The issue of “public necessity” is outside the scope of the Board’s jurisdiction.

The Illinois EPA recognizes the air quality benefits that may accrue to the State of Illinois from energy conservation measures, and encourages companies to pursue such projects. [See, *Petitioners’ Exhibit 12, Response to Comment No. 27*]. Even with conservation and efficiency improvements, electricity needs will increase in the future. [See, *Petitioners’ Exhibit 12, Response to Comment No. 23*]. However, questions concerning the need for the proposed source should be deferred to the appropriate state agency. As the Board has held, “the need for the proposed power plant will be more appropriately addressed by the state agency charged with making that determination.” *In re Ecoelectrica, L.P.*, 7 E.A.D. 56, 74 (EAB 1997); citing *In re*

Kentucky Utilities Co., PSD Appeal No. 82-5, slip op. at 2 (Adm'r, Dec. 21, 1982). In *Ecoelectrica, L.P.*, the Petitioner argued that if residential customers of the local electric utility replaced incandescent bulbs with fluorescent lighting, the measure would result in surplus power equal to the generating capacity of a cogeneration plant. The Board held "neither the Clean Air Act nor the PSD regulations specifically require a PSD permitting agency to demand that conservation alternatives to the building of a proposed power-generating facility be fully implemented before the permitting agency may authorize construction of such a facility." [*Id.* at 73].

Moreover, as a matter of routine practice, the Board designates those matters that are outside the scope of its review in permit appeals. The Board's approach in any given case is shaped by those regulations that govern the permit and/or permitting conditions that are the subject of appeal. The Board's Practice Manual generally observes that jurisdiction is principally established "by regulation." [*See, The Environmental Appeals Board Practice Manual at page 2* (September 2002)]. The narrative discussion contained within USEPA's original rule-making, which formally created the Board in February 1992, implies the same conclusion, referring to the Administrator's delegation of authority to the Board to review penalty and permit appeal cases "arising under" the specified environmental programs¹⁴

In permit appeals brought under the Clean Air Act's PSD program, the Board's review is governed by the PSD regulations. Issues that are "covered" by the PSD regulations are reviewable; issues that fall outside of the purview of the regulations will not warrant the Board's review even if they satisfy the Board's other procedural requirements. *See, In re Knauf Fiber*

¹⁴ *See, 57 Fed. Reg. 5,320, 5,320-5,321* (February 13, 1992). (The rule-making identified the various types of matters that the Board is permitted to review under both the applicable regulatory and delegated authority from the USEPA Administrator and outlined the specific appellate functions that the Board must serve).

Glass, GmbH, 8 E.A.D. 121, 127 (EAB 1999). Stated more broadly, the Board's permit review process for PSD permit appeals "is not an open forum for consideration of every environmental aspect of a proposed project, or even every issue that bears on air quality." [*Id.*]. Unless the permitting issue is an "explicit" requirement of, or "directly relates" to, the PSD program, the Board has consistently refused to assume jurisdiction in the matter. [*Id. at pages 161-162*]; see also, *In re Sutter Power Plant*, 8 E.A.D. 680, 690 (EAB 1999)(land use planning and emission reduction credits were not governed by PSD regulations); *In re Metcalf Energy Center*, PSD Appeal Nos. 01-07, 01-08 (EAB, August 10, 2001)(partial load emissions of certain toxic pollutants held not reviewable under PSD regulations); *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 60 (EAB 2001)(permit condition relating to emission offsets was not covered under PSD program). Consistent with such precedent, the Board has previously concluded that a challenge to whether the power from a proposed facility is needed is outside the scope of the Board's jurisdiction and does not warrant review. *In re SEI Birchwood, Inc.*, 5 E.A.D. 25 (EAB 1994). Given state and local energy planning authorities possess greater expertise concerning the specific demand for power, the need for a proposed power plant is more appropriately addressed by and deferred to the state agency empowered to make that specific determination. *In re Ecoelectrica, L.P.*, 7 E.A.D. 56 (EAB 1997); citing *In re Kentucky Utilities Co.*, PSD Appeal No. 82-5 (Adm'r, Dec. 21, 1982).

In this instance, the Illinois legislature has not mandated that the Illinois EPA oversee the construction of new power plants with respect to public necessity in a manner formerly performed by the ICC. Indeed, the Illinois legislature has taken affirmative action to eliminate the economic benefits that resulted for operators of power plants from a finding of necessity, as developers of power plants in Illinois, like Prairie State, are not guaranteed a rate base with a

return on investment. Nor is the Illinois EPA authorized by the Clean Air Act to consider the “public necessity” to construct the proposed new source during the PSD approval process. Petitioners fail to set forth any compelling reason to warrant the Board assuming jurisdiction over the issue of whether a “public necessity” exists to construct the proposed source. As such, the Petitioners have failed to show the Illinois EPA’s decision is clearly erroneous or otherwise warrants review.

3. The Clean Air Act does not authorize the Illinois EPA to consider “public necessity” during the PSD approval process or to redefine the proposed source.

Finally, Petitioners continue to challenge Illinois EPA’s authority to consider the need for and alternatives to the proposed source by repackaging earlier arguments and attempting to bolster these arguments through citations to portions of amicus briefs filed in unrelated proceedings, a footnote contained within one Board opinion, and comments published within an Environmental Law Reporter (“ELR”). Petitioners’ analysis and interpretation of these authorities and of the controlling regulatory language is misplaced.

Petitioners claim authority exists for the Illinois EPA to consider the need for and alternatives to the proposed source based upon “the broad purpose of the PSD program to ‘protect and enhance’ the nation’s air resources by preventing air quality degradation.” [*See, Petition at page 12*]. Preventing the deterioration of air quality is the central objective of the Clean Air Act. To that end, the Illinois EPA determined that air quality modeling analyses show that the proposed source will not have noticeable effects on the air quality in Washington County and surrounding areas. This determination is supported by computer dispersion modeling, which shows that the concentrations of these pollutants in the air would continue to be below the NAAQS established by the USEPA to protect human health and the environment. [*See,*

Petitioners' Exhibit 12, Response to Comment No. 20; see also, Respondent's Exhibit 5 (Prairie State Generating Station, Modeling Addendum #2, dated July 7, 2004). Petitioners fail to demonstrate that the absence of consideration of the need for and alternatives to the proposed new source so tainted the air quality impacts analysis that the permit determination is clearly erroneous. [See, *Response to Petition, Sections N and O*]. In addition, the Petitioners' fail to explain how the exercise of such authority in this manner would be of any benefit for the air quality resource as such action would only block development of the proposed plant. It would do nothing to assure implementation of alternatives to the proposed project, which would be both beyond the authority and capability of the Illinois EPA, and at most perpetuate the continued existence of and reliance upon existing coal-fired power plants in Illinois that were not subject to BACT.

Similarly, Petitioners state, without support, that authority exists for the Illinois EPA to deny PSD approval to construct the proposed source given "the PSD permitting authority has broad discretion in determining compliance with BACT and PSD increments." [See, *Petition at page 12*]. As Petitioners merely recite portions of an amicus brief filed in an unrelated proceeding, and fail to set forth specific arguments and provide sufficient substance to warrant review, the Illinois EPA is unable to foretell the precise legal basis on which Petitioners rely to challenge the Illinois EPA's decision. While the Illinois EPA agrees that a PSD permitting authority has broad discretion to determine compliance with BACT and PSD increments, such does not authorize a denial of PSD approval based upon the need for or alternatives to the proposed facility thereby causing a redefinition of the source. See, *In re Ecoelectrica, L.P.*, 7 E.A.D. 56 (EAB 1997); see also, *In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95 (EAB 1992).

Further, Petitioners restate their claim that authority exists for the Illinois EPA to deny PSD approval as PSD requirements are intended to “promote informed public participation and consideration of all the consequences of a decision to permit air quality deterioration.” [*See, Petition at page 13*]. While Petitioners recite, without further substantive legal argument, selective portions of amicus briefs filed in unrelated proceedings, a footnote contained within one Board opinion, and an isolated comment published within an ELR as authority, the thrust of Petitioners’ argument is simply that the Illinois EPA ignored Petitioners’ concerns during public comment, and the Clean Air Act authorizes the Illinois EPA to consider the need for and alternatives to the proposed source. [*See, Petition at pages 13-17*].

The *Responsiveness Summary* provides ample support for the Board to conclude that the public had been afforded the opportunity for informed public participation in the decision making process, and that the Illinois EPA fully considered Petitioners’ comments. However, Petitioners statement that “the agency does not agree that it has any obligation to consider those public comments, beyond stating that it lacks the authority to consider alternatives,” mischaracterizes the content and meaning of the Illinois EPA’s response to the necessary scope of agency action in response to public comment. [*See, Petition at page 14*]. The *Responsiveness Summary* states that “... it cannot be assumed that Congress intended that a wide-ranging analysis of alternatives must be *conducted* (emphasis added) by the permitting authority.” [*See, Petitioners’ Exhibit 12, Response to Comment No. 19*]. The Illinois EPA does not represent that it lacks authority to consider public comment, but simply that the Clean Air Act does not require that the Illinois EPA conduct an exploration of alternatives to the proposed new source. *See*, 42 U.S.C § 7475(c) (emphasizing the granting or denying of completed PSD applicability within one year of filing). Consistent with the Illinois EPA’s position, the Petitioners recognize that the

Illinois EPA does not have the authority to require Prairie State to construct alternative energy sources. [*See, Petition at page 10*].

While Petitioners rely upon selected portions of amicus briefs filed in unrelated proceedings and the published article of Gregory Foote, they fail to cite any opinion by the Board ruling a state permitting authority or facility must conduct a searching assessment to determine the need for or alternatives to the proposed new source based upon public comment. Accordingly, as Petitioners have failed to sustain their burden of identifying either a clear factual or legal error or an important policy consideration that requires review, the Board should deny review of this issue.

C. Federal NEPA Coordination in the PSD Permit Process.

Petitioners allege that USEPA failed to coordinate review under the Clean Air Act and 40 C.F.R. §52.21(s) with other federal agencies conducting National Environmental Policy Act (“NEPA”) reviews. Petitioners also allege that, in the absence of action on the part of the USEPA, the Illinois EPA should have facilitated NEPA coordination with these federal agencies. [*See, Petition at pages 17–21*]. To the extent the coordination allegation is directed toward the Illinois EPA, the Illinois EPA provides the following response.¹⁵ Petitioners have failed to satisfy threshold procedural requirements necessary to obtain Board review of the NEPA coordination issue. In addition, the NEPA coordination issue is not ripe for review as there was no federal action¹⁶ by another federal agency that triggered the requirement for a NEPA review nor would it be reasonable for the Illinois EPA to hold the Prairie State PSD permit decision in

¹⁵ To the extent this issue is applicable to the USEPA, the Illinois EPA respectfully defers to its federal counterparts at USEPA and/or the Office of General Counsel for any interpretation of applicable law in this matter.

¹⁶ “Federal action” includes actions regulated or approved by federal agencies, including approval of specific projects via a permit or some other regulatory decision. 40 CFR §1508.18.

abeyance pending the possibility of a NEPA review by another federal agency. Lastly, NEPA requirements are purely federal and not directly applicable to the Illinois EPA.

1. Petitioners' argument fails to satisfy the EAB's procedural requirements for obtaining review.

In written comments, Petitioners and others expressed concerns that the USEPA failed to comply with 40 CFR §52.21(s) during the permitting process by failing to coordinate with other federal agencies' actions that may require NEPA review.¹⁷ [*See, Petitioners' Exhibit 12, Response to Comment Nos. 317-318*]. Petitioners identified several actions by federal agencies that might trigger a NEPA review and the preparation of an environmental impact statement ("EIS"). However, in public comments, Petitioners acknowledged that the Illinois EPA could not fulfill USEPA's obligations to coordinate with other agencies, as the NEPA responsibilities are non-delegable. [*See, Petitioners' Exhibit 6 at page 6*].

The Illinois EPA responded to Petitioners' concerns regarding USEPA's alleged failure to comply with NEPA in the Responsiveness Summary. Specifically, the Illinois EPA responded that:

[a]s this comment addresses responsibilities of the USEPA, which the Illinois EPA cannot fulfill, this comment should be directed to USEPA. However, it should be noted that 40 CFR 52.21(s) only requires coordinated review "...to the maximum extent feasible and practical."¹⁸ It does not establish the mandate for coordination suggested by the comment. In addition, this comment does not identify any federal actions associated with the proposed plant that would require the preparation of an EIS, and, instead merely speculates that such a requirement might exist. Finally, Section 309 of the Clean Air Act does not place any obligations on federal agencies other than USEPA. Thus, it is improper to suggest that any permits issued by other federal agencies need to be reopened.

¹⁷ The public comments identified possible federal action by the Department of the Army, Corps of Engineers and the Federal Energy Regulatory Commission. Petitioners raised for the first time on appeal the possibility of federal action by the federal Surface Transportation Board. [*See, Petition at page 21; see also, Petitioners' Exhibit 12, Response to Comment Nos. 317-318*].

¹⁸ The word "practical" is a typographical error. The actual regulatory language is "reasonable" not "practical."

[See, *Petitioners' Exhibit 12, Response to Comment No. 317*].

Petitioners now attack the Illinois EPA's response and, apart from a few references to other federal actions that "might" be undertaken with respect to the proposed project, Petitioners have not set forth any sufficiently reliable information supporting their arguments. In particular, Petitioners cite to possible actions by U.S. Army Corps of Engineers ("Corps")¹⁹ and the Federal Energy Regulatory Commission ("FERC") that may trigger an environmental review pursuant to NEPA. [See, *Petition at page 20*]. As discussed herein, Petitioners have failed to demonstrate how the *Responsiveness Summary* failed to adequately respond to NEPA concerns. "In order to establish that a review of a permit is warranted, §124.19 requires a petitioner to both state the objections to the permit that are being raised for review, and to explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review." *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997), citing *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995). Specifically, Petitioners have not demonstrated that any federal actions occurred or have been proposed thereby triggering a NEPA review.²⁰

While the references to the Corps and FERC were specifically mentioned in the comments submitted during the public comment period, based on the Illinois EPA's review of the transcript and comments, the Petitioners' factual representations concerning the need for possible NEPA review by the federal Surface Transportation Board ("STB") were not included

¹⁹ As discussed herein, the Corps has issued a Nationwide Permit, which is a permit of general applicability. The Corps determined that an EIS was not required under NEPA and provided USEPA a copy of the determination. [See, *Respondent's Exhibit 6*].

²⁰ The court found in *Kleppe v. Sierra Club* that the statutory language of NEPA requires at least a proposed federal action to trigger the NEPA EIS requirement. NEPA "speaks solely in terms of proposed actions; it does not require an agency to consider the possible environmental impacts of less imminent actions when preparing the impact statement on proposed actions." 427 U.S. 390, 410, fn. 20 (1976).

in public comments. Petitioners were obligated to submit "all reasonably available arguments" supporting their position on a given issue by the close of the public comment period. *See*, 40 C.F.R. §124.13. The aforementioned representations are being offered for the first time on appeal as supporting arguments to this issue, however, Petitioners have not demonstrated that the information was part of the public comments, or alternatively, was not reasonably available at the close of the public comment period. For this reason, the EAB's consideration of those representations should be denied because they were not properly preserved for appeal. *See, In re Kendall New Century Development, supra* at 19-20; *In re AES Puerto Rico, LP*, 8 E.A.D. 324, 342, fn. 20 (EAB 1999).

Moreover, while Petitioners previously acknowledged that the requirements of 40 CFR §52.21(s) speak to a duty imposed on USEPA, they now contend that the Illinois EPA is, in the absence of action on the part of USEPA, required to facilitate coordination. This contention appears to have been raised for the first time on appeal. Although Petitioners had commented upon the requirement for NEPA coordination, because no mention of this precise issue can be found in the public comments, the EAB should decline consideration of this issue on procedural grounds. *See, In re Keystone Cogeneration Sys., Inc.*, 3 E.A.D. 766, 766 (Adm'r 1992); *see also, In re Encogen Cogeneration Facility*, 8 E.A.D. 244 (EAB 1999) (enables the permitting authority to have the first opportunity to respond to criticisms of the permit).

2. NEPA coordination issue is not ripe for EAB review.

NEPA is largely procedural in nature, requiring all federal agencies to assess the environmental impacts of their actions.²¹ Only federal actions significantly affecting the quality

²¹ 42 U.S.C. §4332(2)(c). However, the PSD permit process is explicitly exempt from the requirements of NEPA as it is not considered a major federal action significantly affecting the environment. [*See, Energy Supply and Environmental Coordination Act of 1974*, 15 U.S.C. §793(c)(1)].

of the human environment require further review under NEPA, which includes the preparation of an EIS.²² In turn, the USEPA has broad responsibilities to review and comment on those federal actions that necessitate the preparation of an EIS.²³

Subsection (s) of §52.21 further specifies USEPA's obligations in regard to NEPA.

Subsection (s) states the following:

(s) Environmental impact statements. Whenever any proposed source or modification is subject to action by a Federal Agency which might necessitate preparation of an environmental impact statement pursuant to the National Environmental Policy Act (42 U.S.C. 4321), review by the Administrator conducted pursuant to this section shall be coordinated with the broad environmental reviews under that Act and under Section 309 of the Clean Air Act to the maximum extent feasible and reasonable.

40 C.F.R. § 52.21(s). As the PSD regulations explain, the review and comment obligation necessarily arises when a federal action occurs or is reasonably contemplated, such as an application for a permit or the request for federal authorization to perform an activity in furtherance of the proposed project. It is neither reasonable nor practical to require the USEPA to coordinate with federal agencies, regardless of when the other federal agencies' actions triggering NEPA review occur. Without a federal action or proposed federal action, it would be impossible to determine the potential impacts to the environment, undermining the very purpose of NEPA.

The Petitioners have not identified, nor is the Illinois EPA aware of, any actions by a federal agency necessitating the preparation of an EIS.²⁴ Petitioners merely suggest that such

²² 42 U.S.C. §4332(2)(e).

²³ 42 U.S.C. §7609.

²⁴ The Department of the Army, Corps of Engineers ("Corps") issued a Nationwide Permit ("NWP") concerning wetlands to Prairie State on August 27, 2004, and furnished USEPA with a copy of that determination. [See, Respondent's Exhibit 6 (Letter from Susan L.J. Horneman, Department of the Army, St. Louis District, Corps of Engineers, to Colin Kelly, President, Prairie State Generating Station, dated August 27, 2004)]. Nationwide permits are permits of general applicability that are activity specific; they

actions might occur. If no federal action has occurred or is proposed that requires a NEPA review, the coordination requirement would not be triggered and thus, the issue is not ripe for Board review. [See, *Atchison, Topeka and Santa Fe Railway Company v. Callaway*, 459 F. Supp. 188, 191 (D.C. Cir. 1978) (“Under *Kleppe*, the threshold determination that must be made is whether these projects are ‘proposed,’ and, while the determination may be a combined question of fact and law, the court cannot make an appropriate determination in the absence of an adequate factual predicate.”)].

Furthermore, NEPA coordination is only required to “the maximum extent feasible and reasonable.”²⁵ According to the Petitioners, review of a PSD permit application must coincide with the review of all federal actions significantly affecting the quality of the environment, whether actually proposed or not. However, the Petitioners’ suggested reading of the USEPA’s coordination requirement is unreasonably narrow and inflexible. Unlike the instant matter, often the PSD permit review process and other federal actions must be coordinated given the potential ramifications to the issuance of the PSD permit. The *Hadson Power* case illustrates this very point, wherein a proposed power plant evaluated two different methods of coal conveyance: a coal conveyor through a park funded by the National Park Service (“NPS”) and the delivery of coal by truck. Each method of the coal conveyance had a unique impact on the air quality analysis conducted pursuant to the PSD regulations. *In re Hadson Power 14—Buena Vista*, 4 E.A.D. 253 (EAB 1992). No such impacts relevant to the PSD review process have been

are used nationally to permit the discharges of dredged or fill material that have been found to minimally effect the aquatic environment. The Department of Defense stated in a rulemaking pertaining to the issuance of NWP that it would not prepare an EIS in connection with an NWP and that, in the Department’s opinion, such an EIS was not required for compliance with NEPA. 67 Fed. Reg. 2,020, 2,025 (January 15, 2002).

²⁵ 40 C.F.R. § 52.21(s).

alleged. Petitioners' suggestion that all NEPA reviews must occur prior to the issuance of a PSD permit ignores the qualification that coordination should occur to the "maximum extent feasible and reasonable."²⁶

The NEPA coordination issue is not ripe, thus review should be denied as nothing precludes the USEPA from providing the required review and comment should subsequent federal actions require the preparation of an EIS. While this material illustrates the requirement for coordination, it does not suggest that the Illinois EPA has the duty to investigate whether other federal agencies were required to prepare an EIS, or to coordinate, when there was no other agency engaged in a NEPA review with whom to coordinate.

3. The Illinois EPA is not required to forgo the issuance of a PSD permit pending possible NEPA review.

Regardless of the USEPA's adherence or non-adherence to the coordination requirement of 40 CFR §124.19(s), the Illinois EPA is required to grant or deny an application for construction/PSD approval permit within statutorily established timeframes.²⁷ Assuming that completion of NEPA coordination could provide grounds for holding the permit in abeyance,²⁸ NEPA coordination is required only to the extent it is "feasible and reasonable."²⁹ It is not reasonable to forestall the issuance of Prairie State's final permit pending the *possibility* of a federal action requiring USEPA review and coordination. There is nothing in the record

²⁶ 40 CFR § 52.21(s).

²⁷ 415 ILCS 5/39(a).

²⁸ The only situation in which it would be appropriate to delay the issuance of a PSD permit pending the outcome of a NEPA review is when the NEPA review directly impacts the permit's issuance. The situation in *Hudson Power* is illustrative, wherein the method of coal conveyance impacted the PSD air quality analysis. If, unlike in *Hudson Power*, only one method of conveyance was proposed and subsequently found to be environmentally undesirable during the NEPA review process, it may then be appropriate to hold the issuance of the permit in abeyance until an alternative method of coal conveyance was reviewed for PSD ramifications.

²⁹ 40 C.F.R. §52.21(s).

suggesting, nor do the Petitioners demonstrate, that a NEPA review, or lack thereof, would affect the outcome of a PSD permit proceeding. See, *In re Hadson Power 14—Buena Vista*, 4 E.A.D. 253 (EAB 1992) (coordination of PSD permit process and NEPA review unnecessary as NEPA review would add no new information to the PSD permit process nor change the outcome of the process).

Petitioners also suggest that, to the extent the Corps and FERC have issued permits to Prairie State, the permits must be re-opened and USEPA review coordinated with the issuance of the PSD permit. [See, *Petition at page 7*]. Board precedent does not support the relief requested by the Petitioners, especially given the speculative nature of their claim. Presumably, in order to obtain Board review of the PSD permit based on a failure to sufficiently coordinate, Petitioners would need to establish that the lack of coordination was somehow relevant to the issuance of the PSD permit. For example, in *Hadson Power*, the method of coal conveyance (coal conveyor through the park or delivery by truck) impacted the PSD permit process, as it affected the air quality analysis performed pursuant to PSD. Nothing in the Administrative Record suggests, nor do the Petitioners allege, that any contemplated federal actions would impact the issuance of the PSD permit.

Significantly, this Board has held that a permitting authority need not wait until a NEPA review is completed before issuing its permit if it would not affect the outcome of the PSD permit process. [*Id.*, (§52.21(s) does not require a state to refrain from issuing a PSD permit until the NEPA review process is complete as *Hadson Power* evaluated each method of coal conveyance during PSD review)]. As it was unnecessary to require a state permitting authority to wait for a federal agency to complete its NEPA review in *Hadson Power*, it would be equally unnecessary to delay issuance of the Prairie State construction permit/PSD approval permit while

awaiting an as-yet hypothetical NEPA review. *See, In re Three Mountain Power, LLC.*, 10 E.A.D. 39, 58 (EAB 2001) (holding petitioners' objections did not warrant review as they were speculative in nature). Nothing in subsection (s) of §52.21 prohibits the Illinois EPA from issuing a PSD permit to Prairie State after completing the PSD permit process. Accordingly, Petitioners have failed to demonstrate that the Illinois EPA's decision was clearly erroneous or otherwise merits review.

4. NEPA obligations are purely federal in nature.

Petitioners acknowledge that the requirements of §52.21(s) speak to a duty imposed on USEPA.³⁰ [*See, Petition at pages 17-21*]. Petitioners now argue that because the USEPA's "compliance with the coordination provision is spotty and untimely at best," the Illinois EPA is required to facilitate NEPA coordination. [*See, Petition at page 21*]. Regardless of Petitioners' views on the need for USEPA coordination under §52.21(s) or the timeliness of USEPA's actions with respect thereto, the requirements of §52.21(s) are purely federal in nature.

The responsibilities borne by the USEPA under §52.21(s) appear to be non-delegable, as Petitioners observe in footnote 7 of the Petition. [*See, Petition at page 18*]. Petitioners, in fact, submitted their comments regarding NEPA review to the USEPA for USEPA action. [*See, Petitioners' Exhibit 6 at page 1*]. Further, the PSD delegation agreement that exists between the Illinois EPA and USEPA is wholly silent with respect to the requirements of §52.21(s). *See*, 46 Fed. Reg. 9,580 (January 29, 1981). Moreover, §309 of the Clean Air Act does not place a coordination obligation on a state or federal agency other than the USEPA. 42 U.S.C. §7609.

While Petitioners claim that the Illinois EPA may play a significant role in facilitating compliance with NEPA, Petitioners do not indicate how, in the absence of any express authority

³⁰ Again, Petitioners' written comments were wholly devoid of any reference to a need for the Illinois EPA to perform whatever duties may be required of the USEPA under 40 CFR §52.21(s).

to do so. The EAB has held that the petitioner bears the burden of demonstrating that review of a particular permit condition is warranted, and in doing so, the petitioner must include information specific to support its allegations. *See, In re Zion Energy, LLC*, 9 E.A.D. 701, 705 (EAB 2001); *see also, In re Sutter Power Plant*, 8 E.A.D. 680, 688 (EAB 1999). The Petitioners have not only failed to provide any legal support for their assertions, but have neglected to provide factual support as well. In fact, the coordination requirements speak to federal obligations of the federal agencies, and agencies of the federal government, rather than the state government, given that the federal government is in the best position to facilitate necessary reviews pursuant to NEPA. Petitioners simply do not state any facts supporting their argument. Petitioners have failed to show clear error in the Illinois EPA's handling of and response to this issue, accordingly review should be denied, or in the alternative, the Board should rule that the NEPA coordination is not ripe for review.

D. The Illinois EPA Appropriately Concluded that IGCC Is Not BACT for Prairie State.

Petitioners allege that the Illinois EPA erred as a matter of law in reaching its conclusion that integrated gasification combined cycle ("IGCC") technology was not BACT for Prairie State. However, as is clear from the Administrative Record, the Illinois EPA evaluated the potential use of IGCC as part of the BACT analysis, and for the reasons stated below, the EAB must recognize that while IGCC may be an available technology in terms of the technical feasibility of the technology, it is not BACT for the proposed Prairie State plant due to its economic impacts. Accordingly, the Illinois EPA did not err in determining that IGCC is not BACT for Prairie State.

1. IGCC is not BACT for Prairie State.

Petitioners argue that the Illinois EPA erroneously rejected IGCC technology not on the basis of its availability, but rather eliminated the technology due to financing concerns. [See, *Petition at page 27*]. As part of their argument, Petitioners state that the Illinois EPA applied the wrong test in assessing IGCC and that the Illinois EPA “twists the analysis required in the BACT regulations, which requires that ‘costs’ associated with a project be taken into account, ...into an analysis of whether financing is available for a particular project.” [Id.].

As part of its top-down BACT evaluation of control options and identification of selected controls in its PSD permit application, Prairie State evaluated IGCC as a possible alternative boiler technology for the proposed plant.³¹ [See, *Petitioners' Exhibit 27, pages C-12-C-14*]. When conducting a BACT analysis, USEPA has traditionally not considered the BACT requirement as a means to redefine the design of the source. [See, *Respondent's Exhibit 4 at B.13*]. However, USEPA acknowledges that this is a facet of the PSD permitting process where states may exercise discretion to engage in a broader analysis so as to include control technologies and processes that could result in such a redefinition. [Id.]. Illinois, along with a small number of other states, has concluded that it is appropriate for coal-fired power plants to consider IGCC as part of their BACT demonstrations. [See, *Petitioners' Exhibits 18 and 20*]. Accordingly, the Illinois EPA requested additional, detailed material from Prairie State addressing the emission performance levels of IGCC and the economic, environmental and/or energy impacts that would accompany application of IGCC to the proposed plant. [See,

³¹ Petitioners generally desire that the Illinois EPA declare IGCC to be BACT for coal-fired power plants in Illinois. [See, *Petition at page 29*]. However, “BACT” is “an emissions limitation...which the Administrator, on a case-by-case basis...determines is achievable for such source...” (emphasis added). See, 40 C.F.R. § 52.21(b)(12). The Illinois EPA emphasizes that the case-by-case BACT analysis provides the means for determining and applying BACT in each individual circumstance. Consistent with such definition, the Board has reasoned that all BACT determinations are site specific and what may be determined as BACT at one site would not necessarily be deemed BACT at another site. See, *In re New York Power Authority, Applicant Permit Application (Arthur Kill Station)*, 1 E.A.D. 825 (Adm'r 1983).

Respondent's Exhibit 7, Attachment C (Evaluation of IGCC to Supplement BACT Analysis of Planned Prairie State Generating Station, PFA, Pacifica, Inc., May 12, 2003, and attachments)). Additional cost data was requested of Prairie State to supplement its application so as to evaluate the economic impacts accompanying the use of IGCC at the proposed plant. Such information was required because standard methods were not available to the Illinois EPA to review cost estimates for IGCC and boilers, unlike add-on control systems for which the USEPA has developed cost-estimating methods. [*Id.*].

In response to the Illinois EPA's request, Prairie State evaluated whether IGCC would constitute BACT for the proposed plant and submitted a report with accompanying cost data prepared by SFA Pacific, Inc. Such report concluded that IGCC is not BACT for the proposed plant when performance, cost, reliability, and overall emissions are considered. [*See, Respondent's Exhibit 7*].

Clearly, such cost data requested of Prairie State to supplement its application in order to evaluate IGCC reflects "costs" associated with the project that are required to be taken into account, as maintained by the Petitioners. The term "cost," given its plain and ordinary meaning, means an amount paid or required in payment for a purchase; price. [*The American Heritage Dictionary 329 (2d ed. 1991)*]. An important purpose of any BACT analysis is to provide a comparison of the costs associated with each alternative control technology. *In re Hibbing Taconite Co.*, 2 E.A.D. 838, ___ (Adm'r 1989). Furthermore, contrary to Petitioners' assertions, there is a connection between costs and financing. Prairie State will be an energy provider that is in the business of providing electricity to its customers. Upon completion of the proposed plant, Prairie State will seek to provide reliable and competitive electricity to Illinois and the surrounding Midwest states. [*See, Petitioners' Exhibit 27, page 2-1*]. Prairie State plans to

construct the proposed plant to meet the electric demand, which is expected to increase by 13 percent over the next ten years for the region that includes Illinois. [*Id.*]. As with any large commercial endeavor, solid project development and implementation results in strong capital formation, which leads to commercially successful projects.

Contrary to Petitioners' claims, project financing can play a key role when considering whether IGCC is BACT for the proposed plant. Financing of the proposed plant involves not only a well thought-out business plan, but also a careful estimation of capital needs and the sources of funding, including lenders and investors. To lenders, forecasted profits and cash flow are indicative of repayment, whereas to equity investors, such forecasts represent the potential return on investment. In the case at hand, the facts indicate, as discussed *infra*, that IGCC technology, when compared to that of pulverized coal boiler technology, has higher capital costs and a substantially higher cost for the electricity that would be generated. When these cost differentials are taken into consideration with the lower reliabilities and lack of meaningful commercial performance and vendor guarantees, they result in a significantly increased risk for investors and lenders thereby blocking the availability of project financing for the proposed plant if it were to rely on IGCC technology.

In addition to direct costs, the other factor that is part of the economic impact analysis of a BACT determination is capital availability. There is very limited explicit guidance in this area; however, it is clear that capital availability is encompassed in the BACT analysis. Indeed, the statutory definition of BACT when listing the factors that are relevant to a determination of BACT specifically refers to "...economic impacts and other costs,..." See, 40 C.F.R. § 52.21(b)(12). Available USEPA guidance also clearly demonstrates this fact. "Capital availability addresses the difficulty that some sources may face in financing alternative control

systems.” [See, Respondent’s Exhibit 8, page 15 (*Guidance for Determining BACT Under PSD, Memorandum from David G. Hawkins, Assistant Administrator for Air, Noise, and Radiation, to Regional Administrators, I-X, January 4, 1979*)]. Accordingly, capital availability is a valid factor that is taken into consideration in evaluating economic impacts as part of the BACT determination, contrary to the claims of Petitioners. Consistent with this guidance, the Illinois EPA did not act improperly when it considered BACT capital availability as part of the economic impacts analysis for IGCC technology.

Prairie State’s evaluation of IGCC and the report prepared by SFA Pacific, Inc., included an analysis of the capital cost and the cost of electricity underlying the economics of power plants using IGCC and pulverized coal boilers. [See, Respondent’s Exhibit 7, pages 32-35]. SFA Pacific, Inc., performed an economic comparison of IGCC and pulverized coal power plants by updating EPRI (formerly, the Electric Power Research Institute) plant costs for two IGCC (ChevronTexaco and Global E-Gas) two-train systems, tailoring them for mine-mouth coal of the proposed plant, and down-sizing the IGCC plants to power outputs comparable to the proposed plant. Additional minor adjustments were made (i.e., heat rates, oxygen requirements), and to ensure the same 90+ percent availability for IGCC as the boiler plant, spare gasification trains were included. The results of the comparison indicate, “Prairie State coal-based IGCC capital and electricity production costs could be 30 percent to 60 percent higher than the corresponding costs for PC [pulverized coal] power plants with state-of-the-art emissions controls—depending on the gasification process and IGCC plant sizes.” [Id. at 34]. The analysis concludes that such economic penalties would make “IGCC plants non-competitive” and hence “non-financeable—without firm performance guarantees and other economic incentives (e.g., heavy government support).” [Id.]. These impacts are further augmented if the IGCCs cannot perform at the same

annual availabilities and capacity factors as the best coal-fired pulverized coal plants. Table 5-1 of the report summarizes the results of this economic comparison. [*Id.* at 35]. As can be seen from Table 5-1, the projected total cost of electricity (\$/MWh) based on total plant cost for the proposed plant is \$30.6 MWh compared to \$40.7 MWh for the ChevronTexaco system and \$41.7 MWh of the Global E-Gas system for plants of similar size (1,559 net MW compared to 1425 and 1683 net MW capacity, respectively). [*Id.*].

Prairie State's emission limits are comparable to IGCC plants, as shown by Prairie State in its permit application and evaluation of IGCC. [*See, Petitioners' Exhibit 27, page C-13, and Respondent's Exhibit 7, page 23*]. For example, Prairie State's permitted emission limits for SO₂, NO_x, and PM/PM₁₀, are 0.182 lb/mmBtu, 0.07 lb/mmBtu, and 0.015 lb/mmBtu, respectively, as compared to Tampa Electric's emission limits at 0.17 lb/mmBtu, 0.08 lb/mmBtu, and 0.13 lb/mmBtu, respectively. [*See, Petitioners' Exhibit 1, Table I, page 1-1, Petitioners' Exhibit 27, page C-13, and Respondent's Exhibit 7, page 23*].

In determining that an IGCC plant would have increased costs, the Illinois EPA explained, "A major factor in this additional cost is the need for a spare gasification reactor train needed to facilitate enhanced reliability of the IGCC plant." [*See, Petitioners' Exhibit 12, Response to Comment No. 40*]. During the course of conducting the BACT determination, the Illinois EPA reviewed *Deploying IGCC in this Decade with 3Party Covenant Financing*, William G. Rosenberg, et al., July 2004, which states, in part, as follows:

IGCC is not perceived in the U.S. to have sufficient operating experience to be ready to use in commercial applications. Each major component of IGCC has been broadly utilized in industrial and power generation applications, but the integration of a coal gasification island with a combined cycle power block to produce commercial electricity as a primary output is relatively new and has been demonstrated at only a handful of facilities around the world. The Overnight Capital Cost of the engineering, procurement, and construction (EPC) contract for IGCC is currently estimated to be about

20 percent higher than PC systems and commercial reliability has not yet been established. As a result, investments to build IGCC facilities to generate power have not materialized despite significant public and private sector interest in the technology.

[See, Respondent's Exhibit 9, pages 1-2]. This report substantiates the results of Prairie State's evaluation conducted by SFA Pacific, Inc. In addition, the Illinois EPA considered *An Analysis of the Institutional Challenges to Commercialization and Deployment of IGCC Technology in the U.S. Electric Industry: Recommended Policy, Regulatory, Executive and Legislative Initiatives*, Final Report, March 2004, by the National Association of Regulatory Utility Commissioners, which discusses the lack of financing that has accompanied the construction and operation of IGCC power plants. [See, Respondent's Exhibit 10].

In order to identify significant institutional challenges to the rapid commercialization and deployment of IGCC power plants, a survey of industry experts and institutional stakeholders was conducted and the results of the survey are presented in the report. [*Id.* at ES-2]. According to the survey, the lack of adequate developmental and project financing has been a major challenge to deployment of IGCC power plants. [*Id.* at 35]. "The basic institutional problem of IGCC project financing is that the logical participants...are unwilling to take significant risks with this technology..." [*Id.* at 36]. Further, the low availability rate of IGCC facilities in their early states of operations is a major challenge to their expanded deployment. [*Id.*]. The report suggests the development of federally sponsored programs and funds to partially protect developers against the capital cost overruns for such plants. [*Id.* at 36-37]. "One very significant challenge is that developers are exposed to considerable uncertainty regarding IGCC capital cost requirements, making it very difficult if not impossible to finance a project without direct subsidies." [*Id.* at 37]. "Utilities and the financial community are not in a position to accept the risk that the next generation of IGCC power plants could involve capital costs of that

magnitude.” [Id.]. A further impediment is the problem of equipment and technology procurement. [Id. at 38]. No single procurement source for the wide range of technology and equipment required to permit and construct an IGCC power plant exists. [Id.].

“IGCC is still encumbered by lower reliabilities and higher capital and electricity production costs than are required for it to compete with modern PC boiler power plants with state-of-the-art emissions controls. In addition, no overall commercial performance and cost guarantees are available for IGCC projects.” [See, Respondent’s Exhibit 7, page 1]. In considering the economic impacts of IGCC, “this is the critical aspect of IGCC technology that the Illinois EPA relied upon in determining that IGCC cannot be required as BACT for the proposed plant.” [See, Petitioners’ Exhibit 12, Response to Comment No. 37].

In sum, Prairie State evaluated whether the use of IGCC would be BACT for the proposed plant. Prairie State complied with the Illinois EPA’s request for additional material to supplement the BACT demonstration in the base application by submitting the report prepared by SFA Pacific, Inc., that assessed the emission performance levels and economic, environmental and energy impacts that would accompany application of IGCC to the proposed plant. A major component of such report is the additional cost data relevant to the economic impacts of utilizing IGCC technology at the proposed plant. Such report demonstrated that upon comparing the proposed pulverized coal boiler power plant with two well-established IGCC processes, “the estimated capital costs and costs of producing electricity with IGCCs are about 32-38 percent higher and 33-36 percent higher, respectively, than those estimated for the pulverized coal plant.” [See, Respondent’s Exhibit 7, page 2]. The SFA Pacific, Inc., report identifies an effective annual cost differential between the proposed plant and a plant using IGCC technology, when considering the cost of the electricity that would be generated, that is in

excess of \$135 million/year.³² Furthermore, in addition to costs, when considering performance, reliability, overall emissions, and the lack of financing, IGCC is not BACT for the proposed plant. Thus, the analysis conducted by Prairie State and the Illinois EPA was, as a whole, sufficient in scope and documentation. Given the complexities in such an analysis, “[p]ermit issuers must be free to exercise expert judgment and rely on the data they conclude are more accurate or comprehensive.” *In re Inter-Power of New York, Inc.*, 5 E.A.D. 130, 147 (EAB 1994); see also *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 201 (EAB 2000) (“[i]n general the EAB accord[s] deference to permitting agencies when technical issues are in play”).

In an effort to refute the material in the Administrative Record evidencing that IGCC is not BACT for Prairie State, Petitioners raise the issue of financing for IGCC by citing to one of Governor Blagojevich’s press releases pertaining to financial support for clean coal technology. [See, *Petitioners’ Exhibit 15*]. Petitioners claim that “the State of Illinois has pledged to provide a public subsidy for Peabody that includes ‘up to \$1.7 billion in state bonds’” and that the Illinois EPA “fails to mention this public subsidy for Peabody or whether a similar (or greater) subsidy would be available to Peabody if it were to consider an IGCC plant.” [*Id.*]. However, Governor Blagojevich’s press release specifically states, “The Illinois Finance Authority (IFA) *could* make available up to \$1.7 billion in state bonds to launch the Prairie State project, which *may* include up to \$300 million in coal bonding capacity.” (emphasis added) [*Id.*]. Petitioners fail to provide independent confirmation that, in fact, the State has committed to significant financing of the proposed plant. See, *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 53 (EAB 2001) (holding petitioners’ objections did not warrant review as they were speculative in nature). Moreover, the Petitioners grossly misunderstand or misrepresent the statements in this press release as it implies that the State of Illinois would finance the project by issuing \$1.7 billion in State bonds.

³² $(41.6 \text{ \$/MWhr} - 30.6 \text{ \$/MWhr}) \times 1500 \text{ MWhr/hr} \times 8760 \text{ hr/yr} \times 0.90 = \$138,000,000$.

However, the IFA effectively works as the State of Illinois' investment banker, and the bonds it arranges depend on private investment. The State of Illinois bears no direct or indirect liability for the debt that the IFA issues. As such, there is no reason to expect that the IFA could arrange financing for the proposed plant in a manner that would be any less expensive for Prairie State than working through a public sector investment banker.

With respect to the assertion that the Illinois EPA's failure to mention public subsidies for the proposed plant constitutes clear error, the Illinois EPA is the agency vested with permitting air pollution sources, not the agency vested with securing subsidies for such sources. However, the Illinois EPA is cognizant of the subsidies that the Office of Coal Development of the Illinois Department of Commerce and Economic Opportunity offers including the legislative initiatives of Public Act 92-12 of which Governor Blagojevich's press release discusses. Due to the scope of the programs in Illinois, they are more aptly characterized as incentives; they include a "waiver of State sales tax on plant components and an 'advance on the State sales tax that a source would pay on coal purchased for a plant.'" [See, *Petitioners' Exhibit 12, Response to Comment No. 124*]. As Prairie State is a mine-mouth plant, this latter option is not even available. [*Id.*]. Moreover, these incentives are minor in comparison to the plant's overall development especially compared to the income guarantees provided by other states and the grants provided for IGCC pilot projects by the United States Department of Energy ("USDOE"). [See, *Petitioners' Exhibit 12, Response to Comment No. 94*]. Furthermore, Petitioners fail to provide legal precedent in support of their assertion.

In addition, in response to comment suggesting the use of limited recourse financing for IGCC projects as in Europe, the Illinois EPA responded as follows:

The information accompanying this comment...does not demonstrate that coal-based IGCC plants in the United States can be privately financed. First, it addresses a different

type of IGCC plant, i.e., IGCC plants using heavy petroleum materials as feedstocks, with backup diesel fuel for the turbines. Second, it addresses project financing relative to the circumstances present in Europe. Finally, the information does confirm that project risk is a critical factor in successfully obtaining financing for a project using IGCC technology.

This comment highlights a critical issue for the commercial use of IGCC technology for power generation. This is the development of new forms for financing, supported by appropriate regulations, that allow the risks associated with IGCC technology to be shared and managed. In addition to the technical aspects of IGCC technology, USDOE and others are concerned about developing an understanding of these financial obstacles and overcoming them. Otherwise, the real or perceived risk from use of IGCC technology for a project like the proposed plant is too large for current investors, especially when it adds to the financial risk associated with constructing a new large coal-fired power plant, when one has not been financed in the United States in the last 15 years.

[*See, Petitioners' Exhibit 12, Response to Comment No. 39*].

Petitioners raise the issue of financing for IGCC; however, the fact is that IGCC is not commercially available. This is substantiated by the fact that there are currently only two coal-fueled IGCC power plants operating in the United States and both of these are demonstration projects that were significantly funded by the USDOE. There are few IGCC applications to date and too few permits issued for power plants using IGCC technology to make it commercially available. Prairie State fully considered IGCC as a possible alternative technology for generation of electricity from coal for the proposed plant, and the Illinois EPA properly evaluated the requirements of the BACT analysis. The Illinois EPA's decision was a proper exercise of its technical judgment and such decision is fully supported by the Administrative Record.

Ironically, Petitioners submitted the written comments of Dr. Bradley C. Paul, Associate Professor of Mining Engineering at Southern Illinois University at Carbondale, who supports the proposition that IGCC is not BACT for the proposed plant. [*See, Petitioners' Exhibit 50*]. Dr. Paul, who is also acting as pro bono technical advisor to the United Mine Workers of America, states, "[I]t is my suggestion to the agency that this plant is the wrong place for a bold new

definition of BACT and a forcing of IGCC. It is very likely that a permit conditional on IGCC technology would result in a project that Peabody could not put together financially." [Id.]. Dr. Paul further explains, "Few vendors would willingly stake their reputation on any device with that kind of scale up and Peabody would never get the vendor guarantees necessary to bring partners to the project," and "As I am sure IEPA is aware there is something to be said for government forcing companies to improve their technology. While recognizing the potential of IGCC and the important role that IEPA can play in driving industry forward to an even cleaner and energy efficient future, I must firmly say that IGCC technology would not be benefited by forcing the technology on this project." [Id.]. Dr. Paul further elaborates:

One would need to have 97.5% availability on each of the 4 key IGCC systems to get to 90% over-all availability, and even with a spare gasifier 97.5% availability on the gasifiers would be a scary challenge. Keeping in mind that equipment for IGCC trains larger than about 250 megawatts simply does not exist one is talking about a power plant with 6 trains, each with these complexity and availability issues. All of the U.S. IGCC power plants are single train only. No IGCC plant on earth has more than 2 power trains. A six train IGCC is too large a jump to expect anything better than a technological and operational embarrassment. Unfortunately this type of uncertainty is already reflected in the guarantees that IGCC can get from equipment vendors which provide far less security than that available for a PC plant.

[Id.].

The Illinois EPA is keenly aware of the potential beneficial aspects of IGCC technology such as the potential for lower carbon dioxide emissions. However, an evaluation of IGCC technology as compared to boiler-based coal technology for the proposed plant as supported by the report prepared by SFA Pacific, Inc., specifically for this project, taking into account, among other factors, economic impacts and other costs, the Illinois EPA concluded that IGCC is not BACT for the proposed plant. There is ample evidence in the record that supports the Illinois EPA's decision. "[W]here an alternative control option has been evaluated and rejected, those favoring the option must show that the evidence for the control option clearly outweighs the

evidence against its application.” *In re Inter-Power of New York, Inc.*, 5 E.A.D. 130, 144 (EAB 1994); *see also, In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997) (“[t]he Board traditionally assigns a heavy burden to persons seeking review of issues that are quintessentially technical”). Petitioners have not been successful in meeting this burden. Accordingly, the Board must decline consideration of this issue.

2. IGCC is an available technology.

Petitioners point out that the Illinois EPA did not dismiss IGCC technology as being technically infeasible, however, they claim that past Board decisions and the *NSR Workshop Manual* suggest that IGCC is an available technology. [See, *Petition at page 23*]. The Illinois EPA does not dispute the assertion by Petitioners that IGCC is an available technology and technically feasible.³³ [See, *Petitioners’ Exhibit 12, Response to Comment No. 36*]. However, the Illinois EPA recognized that limited financing is available for a facility the size of Prairie State, and thus, cautioned that “gasification, while technically feasible, is also still a developing technology for power generation.” [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 39-40a*].

As previously stated, as part of its top-down BACT analysis, Prairie State evaluated IGCC as a possible alternative boiler technology for the proposed plant. [See, *Petitioners’ Exhibit 27, pages C-12-C-14*]. Prairie State concluded that emissions from the proposed plant are comparable to existing IGCC emissions. In addition, the application sets forth specifically:

³³ Petitioners point out that the Illinois EPA, in its April 2005 *Responsiveness Summary*, deleted an earlier provision stating that the “use of IGCC technology at the proposed plant* * * would * * * generally be feasible at a mine-mouth power plant at the same location using the available reserve of coal,” without a reasoned analysis. [See, *Petition at 23*]. The Illinois EPA continues to acknowledge that IGCC is an available technology and technically feasible, however, such provision was previously included in the response to a comment about the effectiveness of low-sulfur coal and was removed for consistency. [See, *Petitioners’ Exhibit 12, Response to Comment No. 46*].

However, similar to the CFB units, there is a size limitation on the IGCC units that have been technically demonstrated to date. The high project costs have prevented IGCC from being commercially viable. All current applications of the technology are government subsidized. There also have been reliability problems with the IGCC processes. The limited information available on units in operation indicates that they have a very low percentage of availability, in some instances below 50% in one year.³⁴ PSGS is being designed as a base load generating facility, which means that any significant disruption in operation is not acceptable.

* * *

Unfortunately, additional research and government support will be required before coal-fired IGCC is deemed commercially available.

As a result, IGCC does not meet the design requirements of the Project because it is not commercially available, demonstrated or reliable technology for PSGS application.”

[*Id.*].

As previously discussed, the Illinois EPA evaluated IGCC technology as a possible alternative under the BACT analysis. The Illinois EPA requested additional, detailed material from Prairie State addressing the emission performance levels of IGCC and the economic, environmental and/or energy impacts that would accompany application of IGCC to the proposed plant. [*See, Respondent's Exhibit 7, Attachment C*]. In response to the Illinois EPA's request, Prairie State evaluated whether IGCC would constitute BACT for the proposed plant and submitted the SFA Pacific, Inc., report that concluded that IGCC is not BACT for the proposed plant when performance, cost, reliability, and overall emissions are considered. [*See, Respondent's Exhibit 7*]. The evaluation did identify certain technical challenges with use of IGCC at the proposed plant in that “previous IGCC demonstrations had been on low-ash coals and petroleum coke not similar high-ash coals. Even considering the few published studies on the impacts of fuel quality on IGCC performance and costs, Prairie State concluded that high-ash coal negatively impacts a plant's efficiency, feedstock requirements, oxygen requirements,

³⁴ Two IGCC plants are currently operating on coal in the United States * * * Polk operated on coal at a capacity factor of 50.1 percent in 2001 and 60.7 percent in 2000. Wabash River's IGCC unit operated at a capacity factor of 29.8 percent in 2001 and 36.4 percent in 2000. (Source RDI CoalDat Database). * * *

capital costs, and electricity production costs.” [*Id.* at 2]. However, these factors were not considered of such significance to deem IGCC unavailable and the report proceeds to evaluate IGCC as a control technology that is available from a purely technical perspective.

Furthermore, Prairie State supplemented the report with numerous documents supporting both the findings and conclusions of the SFA Pacific, Inc., report, namely, that IGCC is not BACT for the proposed plant. The findings of the National Research Council confirm Prairie State’s conclusion:

Under current conditions in the United States, heavy-oil- and coke-fueled integrated gasification combined-cycle (IGCC) plants, as well as gasification plants for the production of hydrogen and other chemical feedstocks, are economically viable today because the feedstocks for these plants have near-zero or negative value. However, commercial-scale coal-gasification-based power plants are not currently competitive with natural gas combined-cycle power plants at today’s relative natural gas and coal prices, nor are they projected to be so by 2015 without significant capital cost reductions. Even if the projected cost of these plants reaches the required levels, investors need confidence that these plants will run as designed, with availability levels in excess of 90 percent. The only way to achieve this is to build additional plants incorporating the necessary lower cost improvements and to allow extended periods for start-up so the improved technologies can mature sufficiently to meet their goals. The pace of development and demonstration appears to be too slow to meet the goal of having coal gasification technology qualified for the placement of commercial orders by 2015.

[*See, Respondent’s Exhibit 7, Attachment M*]. This conclusion can be further assessed against the Petitioners’ reference to the two coal-fueled IGCC electric generating units currently in operation in the United States.³⁵ Specifically, Petitioners cite to the Tampa Electric Integrated Gasification Combined-Cycle Project (“Tampa Electric”), Polk Power Station, in Florida and the

³⁵ In addition, Petitioners reference two coal-fueled IGCC electric generating units allegedly operating in Europe, NUON/Demkolec, a 253 MW facility in the Netherlands and ELCOGAS, 298 MW facility in Spain. [*See, Petition at pages 23-24*]. Beyond mentioning the existence of these facilities, Petitioners neglect to provide specific information surrounding the financing, economic impacts and other costs of these facilities, as it is relevant to the Illinois EPA’s consideration of these facilities. The EAB has held that the petitioner bears the burden of demonstrating that review of a particular permit condition is warranted and, in so doing, the petitioner must include information specific to support its allegations. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701, 705 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 688 (EAB 1999).

Cinergy Corporation's Wabash River Coal Gasification Repowering Project ("Wabash River") in Indiana. [See, *Petition at pages 23-24*]. Both of these projects are parts of the USDOE's Clean Coal Technology Demonstration Program created to address environmental and energy concerns related to the use of coal.

The proposed plant is distinguishable from these two sources on many grounds. First, as to plant capacity/production, as previously stated, the proposed plant is a 1,500 MW (net) power plant consisting of two nominal 750 MW (net) pulverized coal boilers, whereas Tampa Electric and Wabash River's capacity/production is much smaller at 250 MW (net) and 262 MW (net), respectively, consisting of IGCC using a pressurized, oxygen-blown, entrained-flow gasification system that is a single-train system (i.e., one gasification process, one gas clean up process, and one combustion turbine) with no spare gasifiers. [See, *Respondent's Exhibit 11 at pages 2-3 (Tampa Electric IGCC Project, Project Performance Summary)*; see also, *Respondent's Exhibit 12 at pages 2-3 (Wabash River Coal Gasification Repowering Project, Project Performance Summary)*]. It must be emphasized that these demonstration projects consist of single-train systems; however, a larger plant, such as the proposed plant, would require at least 6 such IGCC trains (not including spare gasifiers). [See, *Respondent's Exhibit 7, page 17*].

Second, as to the primary fuel, the fuel for the proposed plant is mine-mouth coal. [See, *Petitioners' Exhibit 27, page C-1*]. On the other hand, Tampa Electric's fuel supply has no indigenous fuel supply and includes bituminous coals (such as Pittsburgh No. 8) and petroleum coke. Likewise, while Wabash River is located in an area with coal reserves, the preferred fuel for the plant is petroleum coke. [See, *Respondent's Exhibit 11 at pages 2-3*; see also, *Respondent's Exhibit 13 at page 6 (Clean Coal Technology, Tampa Electric)*; see also, *Respondent's Exhibit 12 at page 2*; see also, *Respondent's Exhibit 14 at page 6 (Clean Coal*

Technology, Wabash River)]. As stated earlier, the IGCC demonstrations thus far have been on plants that have flexibility in their selection of fuel, a factor that is facilitated by smaller size, and have included petroleum coke. No gasification processes or IGCC system demonstrations or designs to date have been based upon a mine-mouth plant, which lacks flexibility in the coal supply.

Third, as to funding for these demonstration projects, the USDOE provided 49 percent of the funding for Tampa Electric and 50 percent of the funding for Wabash River projects which had total costs of \$303 and \$438 million, respectively, at the time of funding. [See, *Respondent's Exhibit 11 at page 3; see also, Respondent's Exhibit 12 at page 3*]. As previously discussed, the SFA Pacific, Inc., report contained the results of an economic comparison of IGCC and pulverized coal boiler power plants. [See, *Respondent's Exhibit 7, pages 32-35*]. Again, the projected total cost of electricity (\$/MWh) based on total plant cost for the proposed plant is \$30.6 MWh compared to \$40.7 MWh for the ChevronTexaco system and \$41.7 MWh of the Global E-Gas system for plants of similar size (1,559 net MW compared to 1425 and 1683 net MW capacity, respectively). [*Id. at 35*]. As is apparent, the costs of producing electricity with IGCC are approximately a third higher than those estimated for the proposed plant. The much higher capital and electricity production costs that accompany IGCC technology are commonly recognized as factors that act to prevent the spread of IGCC technology. Accordingly, such plants are non-financeable without firm performance guarantees and other economic incentives, such as significant government support, as evidenced by these demonstration projects. "The high project costs have prevented IGCC from being commercially viable. All current applications of the technology are government subsidized." [See, *Petitioners' Exhibit 27, page C-12*]. Moreover, "[o]ne day that [gasification] may be a viable alternative to consider.

Unfortunately, industry needs to further develop this technology so that IGCC may be commercially available in another decade or so." [See, *Petitioners' Exhibit 3, page 14*]. As stated above, the only two IGCC power generating units currently operating in the United States are each less than one-sixth the capacity of Prairie State and each has wrestled with inconsistent operating performance. Since IGCC technology lacks vendor guarantees and cannot be commercially financed on its own, the demonstration projects were developed with substantial, direct government subsidies. [*Id. at pages 14-15*].

While there may be limited State assistance for clean coal technology, government subsidies similar to that proffered by the USDOE do not exist in the present case and the Illinois EPA found no evidence of such similar subsidies. Further, the Administrative Record is devoid of such information. Again, Petitioners' suggestion that there are publicly available subsidies on the scale needed for such a project is offrontery. The petitioner has the burden of demonstrating that review of a particular permit condition is warranted, and in doing so, the petitioner must include information specific to support its allegations. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701, 705 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 688 (EAB 1999).

Finally, Petitioners point out that on April 14, 2005, the Illinois EPA had before it a construction permit application for an IGCC unit from Eastman Chemical Company in partnership with ERORA Group ("Taylorville project") and in 2004 the Illinois EPA had in-house a construction permit application from Steelhead Energy for an IGCC unit ("Steelhead project"). [*See, Petition at pages 23-25*]. While Petitioners dismiss the Illinois EPA's response to comments on this issue, nevertheless, it must be reiterated that the submittal of a mere application does not indicate that a proposed plant will, in fact, be built, especially when the necessary financing for the plant does not occur until after the issuance of the construction

permit. [See, *Petitioners' Exhibit 12, Response to Comment No. 40a.*] “Lastly, the construction of a plant may not demonstrate that technology will perform as designed, as shown by the failure of the USDOE financed Pinon Pines IGCC project.” [Id.]. As the Petitioners may not simply repeat objections previously made during public comment, but must establish that the permit issuer’s response to comments was inadequate, the Illinois EPA should prevail, alone, on these procedural grounds. See, *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 251-252 (EAB 1999); see also, *In re Exxon Co., U.S.A.*, 6 E.A.D. 32, 38-39, fn. 7 (EAB 1995).

Concerning the general situation surrounding the very recently submitted permit application for the Taylorville project, Petitioners pay no heed to circumstances particular to the proposed project but simply state that Eastman Chemical and ERORA Group have submitted an IGCC application to the Illinois EPA. The development effort surrounding this application is not so simple as Petitioners’ silence on the topic suggests. This project is now being pursued, in part, by a company with a financial incentive to develop coal gasification technology, Eastman Chemical, which has joined the ERORA Group on the corporate team for this project. As such, the Taylorville project is similar to a private demonstration project that would allow certain participants to realize an indirect return on their involvement through the potential display of their final product consisting of IGCC technology, plant operating services, associated turbines, cooling towers, etc. to potential customers.

Moreover, Petitioners fail to respond in an accurate manner to the Illinois EPA’s response concerning the Steelhead project. [See, *Petitioners' Exhibit 12, Response to Comment No. 40a.*] Petitioners allege that the IGCC power facility and substitute natural gas (SNG) facility are separate plants, summarily claiming that there would be no synergistic benefit from locating an IGCC power plant facility and SNG facility at a single plant. [See, *Petition at pages 24-25*]. In

actuality, such synergistic benefit would occur if the project is completed. The SNG facility is an exothermic process, contributing heat (energy) that is recovered in the power plant and converted into electricity, along with energy produced by the IGCC power facility. The presence of the SNG plant provides the ability to “make up” for any natural gas used to maintain operation and electrical output from the power facility during outages of the up-front IGCC process. A single air separation facility can be built to support both the IGCC and SNG facilities. The presence of both an IGCC and SNG facility affects the business plans for this project as two revenue streams are available for the recovery of costs and to support common infrastructure. [See, *Petitioners’ Exhibit 12, Response to Comment No. 40a*].

In addition, these proposed sources are distinguishable from Prairie State as they are *specifically being developed* to utilize IGCC technology. These power plants would be smaller, approximately 500MW compared to Prairie State’s 1500 MW power plant. Petitioners suggest that it is of no relevance that Steelhead is a much smaller plant because what is relevant is whether a combination of 610 MW units could be employed by Prairie State as an alternative to Prairie State’s proposed 1500 MW plant. [See, *Petition at pages 24-25*]. Again, as discussed in Section E, the PSD regulations do not compel a permit applicant to change the basic design of the proposed source so as to achieve emission reductions. See, *In re Hawaiian Commercial & Sugar Co.*, 4 E.A.D. 95, 99 (EAB 1992). In this instance, Prairie State should not be required to use “some combination of several 610 MW units” to obtain the capacity that is planned, bringing with it challenges for financing of its project that are not identical to those of smaller projects. Similarly, Prairie State should not be required to include “a substitute natural gas plant” in its project to facilitate the potential development of its plant using IGCC technology. [See, *Petitioners’ Exhibit 12, Response to Comment No. 40a*].

Petitioners may only prevail if the evidence in the record in support of their view clearly outweighs the evidence presented by the Illinois EPA in support of its decision. *In re Inter-Power of New York, Inc.*, 5 E.A.D. 130, 144 (EAB 1994). As stated above, as part of its BACT analysis, Prairie State evaluated IGCC technology as compared to pulverized coal boiler technology and concluded that when taking into account performance, cost, reliability, and overall emissions, IGCC is not BACT for Prairie State. The Illinois EPA properly evaluated BACT, and while IGCC may be an available technology, taking into account, among other factors, economic impacts and other costs, the Illinois EPA concluded that it cannot be imposed as BACT at the proposed plant. There is ample evidence in the record that supports the Illinois EPA's decision. Petitioners have failed to meet their burden, and therefore, the Board must decline consideration of this issue.

E. A Detailed Consideration of Low-Sulfur Coal as an Alternative Fuel is Beyond the Scope of the Proposed Project, a Mine-Mouth Power Plant that Utilizes Coal from the Illinois No. 6 Seam as Its Primary Fuel.

Petitioners charge that the BACT analysis did not consider the use of low-sulfur coal as an alternative fuel source for the power plant. According to Petitioners, lower-sulfur coal is a form of "clean fuels" use of which should have been mandated by the Illinois EPA because of its lesser pollutant-emitting characteristics when compared with high-sulfur Illinois coal. [See, *Petition at pages 31-32*]. Petitioners then go on to speculate that the failure to consider low-sulfur coal as an alternative fuel is the very reason why Prairie State's emission rate for SO₂ fails to "reflect the 'maximum degree' of sulfur reduction." [See, *Petition at page 39*].

- 1. Petitioners fail to show that the Illinois EPA's decision was clearly erroneous or otherwise merits review.**

The circumstances do not warrant a finding of clear error on this issue. The BACT demonstration, which is typically proposed by a permit applicant but ultimately decided upon by

the permitting authority, is obtained through the aid of USEPA's "top-down" methodology. This process is described in the *NSR Workshop Manual* and includes, among other things, an evaluation of "available control technologies" for the new source or modification. The *NSR Workshop Manual* takes a broad view of "available control technologies," suggesting that the term encompasses a wide range of control options, including "inherently lower-emitting processes/practices" that prevent emissions (i.e., use of materials, production processes, work practices), "add-on controls" that control emissions (i.e., scrubbers, after-burners) or a combination. [See, Respondent's Exhibit 4, page B.10].

The heart of Petitioners' argument is that BACT should require Prairie State to burn the less-polluting low sulfur coal as fuel for its mine-mouth plant. Petitioners cite to *In re Hibbing Taconite Company*³⁶ and *In re Inter-Power of New York*³⁷ for support of their position. The Illinois EPA does not dispute that lower-emitting production processes, including the use of clean fuel alternatives, may indeed represent a type of "available control option" that warrants an appropriate level of inquiry under the BACT analysis. Cf., *Hawaiian Commercial & Sugar*

³⁶ In *Hibbing*, the applicant requested a permit to burn petroleum coke rather than natural gas and fuel oil due to the economically depressed steel industry. *In re Hibbing Taconite Company*, 2 E.A.D. 838, ___ (Adm'r 1989). The EAB remanded the permit requiring a more thorough economic justification for the rejection of natural gas due to the permit applicant's past use and current operation with natural gas. The EAB stated "Hibbing's ability to continue to operate using natural gas creates a presumption that natural gas is a financially achievable alternative." [*Id.* at ___]. Despite Petitioners' implications, the parties did not raise a redefining the scope argument, however, the EAB indicated that it was not relevant because the petitioner had simply requested the continued burning of natural gas at the same source. [*Id.* at fn. 12].

³⁷ *Inter-Power's* BACT analysis concluded that coal possessing a sulfur content of 1.75 percent to 2.3 percent was an acceptable lower-priced and more flexible supply of coal than other coal with a lower sulfur content. The EAB found that *Inter-Power's* cost-effectiveness analysis was not clearly erroneous. *In re Inter-Power of New York, Inc.*, 5 E.A.D. 130, 147-150 (EAB 1994). However, the *Inter-Power* decision does not address those circumstances relevant to the proposed mine-mouth plant. New York does not possess local coal reserves and thus, the planned fuel supply was not an intrinsic aspect of the project as it is for Prairie State Generating Station. [See, *Petitioners' Exhibit 12, Response to Comment No. 47*]. In addition, *Inter-Power* was not subject to the stringent SO₂ requirements that Prairie State will be subject to. [*Id.*].

Company, 4 E.A.D. 95, 101 (EAB 1992) (use of fuel to be burned from a proposed project “is relevant in the context of a determination of BACT (where applicable); *In re Ecoelectrica L.P.*, 7 E.A.D 56, 69 (EAB 1997) (consideration given to permit restrictions on use of distillate oil as principal fuel for proposed project); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 835 (EAB 1993) (fuel cleaning is an “available technology” for BACT purposes).

The Illinois EPA broadly considered other alternative coal supplies for the proposed plant. A more detailed analysis of alternative coal supplies was rejected because it was beyond the scope of the project, a power plant fueled from coal delivered by a conveyor belt from an adjacent dedicated mine. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 46-48, 52, 108-109, 119-120*;³⁸ see also, *Respondents' Exhibit 15, page 4*]. [Calculation Sheet] A reserve of 240 million tons of coal will meet the plant's needs for more than 30 years and will serve as the principal source of coal for the two boilers. [*Id.*]. While the *Responsiveness Summary* might have been clearer on the scope of the Illinois EPA's analysis, this should not form the basis for review. Cf., *In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 13-14, fn. 13 (EAB, April 29, 2003) (absence of direct response not grounds for review where response to comments was sufficient to convey basis of decision).

Meanwhile when compared to new plants burning high-sulfur coal, the limit for SO₂ of 0.182 lb/mmBtu is an appropriate statement of BACT. What is apparent is that the use of high sulfur coal at the proposed plant must be accompanied by more effective controls than are associated with the use of low-sulfur coal at other plants. Accordingly, the Illinois EPA required 98 percent control of SO₂ emissions through the use of a very high efficiency scrubber (i.e., wet

³⁸ Petitioners misstate the context of the Illinois EPA's response to comment number 113 asserting that the Illinois EPA evaluated how a change in the sulfur content of the coal supply might result in a small lessening of the scrubber's control efficiency. [See, *Petition at page 33*]. This scenario was considered in the context of the Illinois EPA's *coal washing analysis*. [See, *Petitioners' Exhibit 12, Response to Comment No. 113*].

flue gas desulfurization). [See, *Petitioners' Exhibit 12, Response to Comment Nos. 99-100; see also, Respondents' Exhibit 15, pages 5, 8-10*]. The Illinois EPA concluded that this emission limit for SO₂ "represents the maximum degree of reduction in emissions that is achievable for the proposed plant." [See, *Petitioners' Exhibit 12, Response to Comment No. 109*]. The issue that the Petitioners are then posing is whether the Illinois EPA, as part of its BACT determination, must dictate that only the lower-sulfur content fuel supply must be used. The Illinois EPA responds that this is only necessary if the BACT determination is predicated on the use of such fuel. This is not the case for the proposed mine-mouth project.

The Illinois EPA did not consider it necessary to further formally evaluate low-sulfur coal as an available control option because its use as the principal fuel source for the proposed plant would fundamentally alter the plant's design. The PSD regulations do not compel a permit applicant to change its basic design of a proposed source so as to achieve emission reductions. The *NSR Workshop Manual* addresses this issue by stating:

[Historically, EPA has not considered the BACT requirement as a means to redefine the design of the source when considering available control alternatives. For example, applicants proposing to construct a coal-fired generator, have not been required as part of the BACT analysis to consider building a natural gas-fired electric turbine although the turbine may be inherently less polluting per unit product (in this case electricity). However, this is an aspect of the PSD permitting process in which states have the discretion to engage in a broader analysis if they so desire. Thus, a gas turbine normally would not be included in the list of control alternative for a coal-fired boiler.

[See, *Respondent's Exhibit 4, pages B.13-B.14*].

The policy against "redefining the source" is an unambiguous expression of USEPA policy, perhaps evolving from a reluctance to impose dictates for all types of decisions relating to the design and function of air pollution sources. Irrespective of its purpose, the approach has

been acknowledged by the EAB on several occasions.³⁹ Based on Respondent's review of the applicable precedent, the first discussion by the EAB of "redefining the source" appears to be in *Pennsauken Resource Recovery Facility*, 2 E.A.D. 667 (Adm'r 1988). In *Pennsauken*, the petitioner objected to the applicant's proposed municipal waste combustor and suggested in lieu thereof, that existing power plants be fired with a mixture of 20 percent refuse derived fuel and 80 percent coal. [*Id.* at ____]. The EAB found the petitioners' position to be beyond the scope of the proceeding and thus, not reviewable under 40 CFR §124.19, that restricts review to permit conditions. The EAB pointed out that:

Permit conditions are imposed for the purpose of ensuring that the proposed source of pollutant emissions—here, a municipal waste combustor—uses emission control systems that represent BACT, thereby reducing the emissions to the maximum degree possible. These control systems, as stated in the definition of BACT, may require application of "production processes and available methods, systems, and techniques, including fuel cleaning as treatment or innovative fuel combustion techniques" to control the emissions. 42 U.S.C.A. 7479(3). The permit conditions that define these systems are imposed on the source as the applicant has defined it. Although imposition of the condition may, among other things, have a profound effect on the viability of the proposed facility as conceived by the applicant, the conditions themselves are not intended to redefine the sources, as petitioner Filipczak would have them do. In other words, the source itself is not a condition of the permit. Therefore, petitioners' objections are not within the scope of this proceeding.

[*Id.* at page ____].

More notably, the EAB upheld a state-delegated permitting authority's rejection of an alternative boiler and cleaner-burning fuel requirements in evaluating BACT for coal-fired boilers. See, *In the Matter of Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95 (EAB 1992). The state agency argued that it lacked the authority to mandate such control options and

³⁹ By the same token, this policy against "redefining the source" extends to permits issued by delegated states pursuant to the federal PSD program. See, *In re SEI Birchwood, Inc.*, 5 E.A.D. 25, 29-30, fn. 8 (EAB 1994), citing *In re Pennsauken County*, 2 E.A.D. 667 (Adm'r 1988); *In re Old Dominion Electric Cooperative*, 3 E.A.D. 779 (Adm'r 1992); *In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95 (EAB 1992).

that it had "evaluated the anticipated impacts of the facility with the type of boiler proposed and found them to be acceptable under the PSD regulations." [*Id.* at page 99]. The EAB stated "EPA's PSD permit conditions regulations do not mandate that the permitting authority redefine the source in order to reduce emissions." [*Id.*]. The EAB agreed that the petitioners' "preference as to the type of boilers and the fuel to be used . . . would in effect redefine the source." [*Id.* at page 100]; see also, *In re Old Dominion Electric Cooperative*, 3 E.A.D. 779, ___ (Adm'r 1992) (failure to consider natural gas as an alternative fuel for a proposed coal-fired electric generating station did not constitute clear error).

It is unquestioned that Prairie State intends to construct a mine-mouth facility that utilizes coal from the Illinois No. 6 or Herrin seam as its primary fuel. The cover letter to the October 2002 permit application clearly describes Prairie State as a mine mouth facility. [See, *Respondents' Exhibit 16*] [*Cover Letter from Colin Kelly to Don Sutton, Prairie State's October 2002 Permit Application*]. The permit application further states that the facility is dedicated to the use of Herrin coal, the source of which is adjacent to the Prairie State Mine that contains reserves sufficient to meet Prairie State's needs for more than 30 years. [See, *Petitioners' Exhibit 27, page 2-1*]. The Top-Down Analysis also contains a narrative discussion, which states:

PSGS is designed as a mine-mouth facility. The PC Boilers are designed to fire Illinois-Herrin #6 coal from Prairie State Mine and to use natural gas fuel for startup. PSGS has 240 million tons of #6 coal dedicated for its use. PSGS is expected to burn approximately 6.5 to 6.9 million tons annual based on a 85 percent to 90 percent capacity factor per year.

[See, *Petitioners' Exhibit 27, page C-15*]. In the February 2004, project summary, the Illinois EPA reiterated that the proposed project is a mine-mouth facility. [See, *Respondent's Exhibit 17, pages 1 and 9*]. [Project Summary]. This commitment was likewise expressed by Prairie State

and recognized by a number of hearing participants at the public hearing. [*See, Petitioners' Exhibit 3, pages 17-23*].

The design of the plant will include features that are integral to the use of design fuel, which in this instance is coal from the Herrin (Illinois No. 6) seam. This conclusion can be drawn from common knowledge because the Btu content of the fuel affects the amount of fuel that must be handled and burned in the boilers. The composition of this fuel also dictates key aspects of design of the boilers and their control system in terms of capacity to control emissions.

The Illinois EPA did not abuse its discretion in foregoing a broader BACT analysis on the basis of the "redefining the source" doctrine, (and Petitioners do not offer any evidence to the contrary). As set forth above, the *NSR Workshop Manual* bestows wide discretion to the Administrator to determine not only what constitutes process redesign but whether to engage in a broader BACT analysis that includes a redefinition of the source. [*See, Respondent's Exhibit 4 at B.13*]; *see also, In re Hillman Power Company, L.L.C.*, 10 E.A.D.673, 692 (EAB 2002) (acknowledging discretion possessed by the Administrator); *see also, In re Old Dominion Electric Cooperative* 3 E.A.D. 779, ____ (EAB 1992) (recognizing the Administrator's discretion). The permitting authority possesses "wide latitude" in determining the breadth of the BACT analysis that it seeks to conduct. *See, In re Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95, 100 (EAB 1992).

A mandate requiring the primary use of a particular type of process or fuel should not be considered as part of the BACT analysis if it is incongruous with the basic function or design of the proposed source. In this instance, Prairie State should not be restricted to the use of low-sulfur coal as a primary fuel where the underlying basis for the project's design has been specifically tailored to the exploitation of a particular fuel reserve, which is not low-sulfur coal.

Such circumstances are virtually indistinguishable from the examples cited in the *NSR Workshop Manual* or considered by the EAB in *Hawaiian Commercial & Sugar Company* and other prior rulings. Given the absence of clear error, the Illinois EPA's decision to exclude Petitioners' clean fuels alternative from the BACT analysis should be entitled to the same "wide latitude" afforded other permit authorities in this area. *See, Hawaiian Commercial & Sugar Company*, 4 E.A.D. 95, 100 (EAB 1992). For the Petitioners to now insist upon the use of imported coal not only redefines the source but thwarts the very purpose of the defined project, a mine-mouth facility.

2. Petitioners' cost-effectiveness argument failed to meet applicable procedural requirements.

In the midst of their argument regarding the necessity of low-sulfur coal, Petitioners also mention the extraneous issue that the Illinois EPA failed to support assertions that low-sulfur coal is not cost effective for the proposed plant. [*See, Petition at pages 35-38*]. This issue has not been preserved for appeal as the Petitioners failed to articulate how the Illinois EPA's response was inadequate. Rather Petitioners isolate portions of the Illinois EPA's response in lieu of considering the response in totality, thereby, giving the appearance that the Illinois EPA's response was somehow inadequate. [*See, Petition at page 35, citing Petitioners' Exhibit 12, Response to Comment No. 48*] ("widespread use 'does not show that its use would be cost-effective at the proposed plant'"). In reality, the Illinois EPA first explained that BACT is a case-by-case determination with the initial consideration focusing on the scope of the project. [*See, Petitioners' Exhibit 12, Response to Comment Nos. 46, 48, 52*]. Petitioners make no efforts to refute this assertion but leap to the need for a cost-effectiveness consideration, an examination that is not even relevant until a much later point in the given BACT analysis. *See, In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995) (to establish that review of a

permit is appropriate, a petitioner must state the objections to the permit and explain why the previous response to those objections is clearly erroneous or otherwise warrants review); see also, *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997) (the petitioner bears the burden of establishing that the response to comments was inadequate).

Although, not required because the scope of the project has already been defined as a mine-mouth plant, the Illinois EPA broadly considered the use of alternative coal supplies stating:

The Illinois EPA concludes that the impacts of using a non-local coal are excessive if the emissions from the local coal supply can be appropriately controlled. The price and value of western coal has increased substantially in recent years, both as the demand has increased and as the cost of crude oil, which is the source of the diesel fuel used in the trains that transport coal, has risen. The wide-spread use of western low-sulfur coal in Illinois is a consequence of the lack of scrubbers on Illinois' existing coal-fired power plants.⁴⁰ It is not directly relevant to the need to evaluate use of alternative fuels for the proposed plant, which would and must be equipped with a high-efficiency scrubber for SO₂. It also does not show that it would be cost-effective to use such coal at the proposed plant.

[See, *Petitioners' Exhibit 12, Response to Comment No. 46*; see also, *Id.*, *Response to Comment Nos. 48, 52, 108, 109*]. Petitioners make little effort to articulate how the Illinois EPA's response was inadequate except to generally reference material not previously provided during the public comment period and to misinterpret an excerpt from the *Responsiveness Summary*. [See, *Petition at page 36*].

⁴⁰ The Illinois EPA further explained this statement, stating:

National and local initiatives to reduce the emissions from power plants continue to increase the demand for low-sulfur coal by existing power plants whose circumstances do not justify or allow the retrofit of scrubbers. The cost of low-sulfur coal is also linked to the cost of crude oil, which is the source of the diesel oil for the long-haul trains that would be needed to bring the coal to the proposed plant.

[See, *Petitioners' Exhibit 12, Response to Comment No. 108*]. A permitting authority may consider concerns about the use of a locally scarce fuel. See, *In re Kawaiehae Cogeneration Project*, 7 E.A.D. 104, 131 (EAB 1997).

First, Petitioners present information that low-sulfur coals are available locally from states such as Kentucky and that Prairie State is allegedly the largest seller of western coal. [See, *Petition at page 36*]. Petitioners did not previously articulate these arguments with any specificity in the proceedings below. Because no mention of this precise issue can be found in the transcript of the public hearing or in written comments, the EAB should decline consideration of this matter on procedural grounds. See, *In re Essex County (N.J.) Resource Recovery Facility*, 5 E.A.D. 218, 223-224 (EAB 1994); see also, *In re AES Puerto Rico, LP*, 8 E.A.D. 324, 342 at fn. 20 (EAB 1999).

Second, Petitioners refer to a table of information purporting to represent the distribution of emissions from the burning of coal versus the mining and transportation of coal in support of an argument that collateral impacts from the transportation of low-sulfur coal would be minimal and the burning of low-sulfur coal would reduce emissions by 8,909 tons of SO₂ per year.⁴¹ [See, *Petition at pages 37-38*]. Accordingly, Petitioners suggest that any reduced pollution from the mining and transportation of coal is minimal relative to the increased SO₂ emissions due to the burning of high-sulfur coal. [See, *Petition at page 38*]. Petitioners do not indicate that the particular table and calculations were raised in the public comments or, alternatively, were not reasonably available at the close of the public comment period. For this reason, the EAB's consideration of those representations should be denied because they were not properly preserved for appeal. See, *In re Kendall New Century Development*, PSD Appeal No. 03-02, slip op. at 19-20 (EAB, April 29, 2003); *In re AES Puerto Rico, LP*, 8 E.A.D. 324, 342, fn. 20 (EAB

⁴¹ Petitioners cite a calculation for the potential emission reduction from the use of low-sulfur coal that is not supported and, in fact, overstates the potential emission reduction. [See, *Petition at pages 37-38*]. The Petitioners simply claim that the use of low-sulfur coal would further reduce the plant's SO₂ emissions by 75 percent, which reflects a nominal SO₂ emission rate equivalent to 0.045 lb/mmBtu, without providing any factual basis for this claim.

1999); *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 14-16, 12 E.A.D. ____ (EAB 2005).

In fact, the submission of this data by the Petitioners dramatically demonstrates why such submittals should not be allowed in petitions before the EAB. Petitioners have selectively excerpted certain material from a voluminous report prepared by the National Renewable Energy Laboratory. In fact, the table that is the source of the information presented by the Petitioners addressed an "Average" power plant system, not a NSPS level or "Low Emitting Boiler (LEB)" power plant system. The material provided by the Petitioners also addressed a power plant for which coal was transported approximately 300 miles. Accordingly, the material is not relevant to the circumstances of the proposed plant, which would be best characterized as a LEB system for purposes of this report. In addition, low-sulfur coal of the quality recommended by the Petitioners would have to be transported for more than 300 miles. Because the emissions of the boilers at the proposed plant would be lower and transport distance greater, the percentages of emissions associated with mining and transport of low sulfur coal for the proposed plant would be higher than the values for average plants provided by the Petitioners from this report.

Moreover, the Illinois EPA did not consider the emissions from production and transport of low-sulfur coal to the proposed plant as misleadingly addressed by the information newly provided by the Petitioners. The Illinois EPA merely observed that the transport of coal by rail requires locomotives, which operate on diesel oil, which is currently produced from crude oil, an international commodity whose price is rising. [*See, Petitioners' Exhibit 12, Response to Comments No. 46*].

Third, Petitioners imply that the Illinois EPA based its decision, in part, due to concerns about Prairie State's business needs. [*See, Petition at page 36, citing Response to Comment No.*

47]. However, Petitioners misconstrue the relevant portions of the *Responsiveness Summary*. The Illinois EPA's statement that "the selection of the planned fuel supply for the proposed plant involved a business decision by the source" did not pertain to a defense of a business decision by Prairie State but simply sought to distinguish Prairie State from the decision making that took place in the *Hawaiian Electric* and *Inter-Power of New York* permit applications. [See, *Petitioners' Exhibit 12, Response to Comment No. 47*].⁴²

Petitioners continue to ignore that their arguments turn the proposed facility on its head, next claiming that the use of a scrubber does not excuse an evaluation of clean fuel by the Illinois EPA. [See, *Petition at page 36-37*]. As an initial matter, the Illinois EPA never maintained that the high efficiency scrubber absolves all considerations of alternative coal supplies, rather the definition of the project tailors the review. Here, the scope of the project, necessitated more effective controls (i.e., 98 percent control of SO₂ emissions through the use of a very high

⁴² Contrary to Petitioners' assertions, the Illinois EPA did not indicate that a consideration of low-sulfur coal is only required in states that do not possess local coal reserves. [See, *Petition at page 36, citing to Petitioners' Exhibit 12, Response to Comment No. 47*]. A closer review of the Illinois EPA's response reflects a distinction between the circumstances of *Hawaiian Electric* and *Inter-Power of New York* and those of Prairie State. [See, *Petitioners' Exhibit 12, Response to Comment No. 47*]. While those cases discussed the consideration of a lower-emitting production process in the BACT analysis, the planned fuel supply was not an intrinsic aspect of the proposed plant as it is for Prairie State. [*Id.*].

While Petitioners frame the issue as one in which local coal reserves should not form the basis to decline review of alternative coal supplies, the Illinois EPA summarily responds that the existence of a local coal reserve may or may not be relevant to the application's review. Rather, the issue is whether the project's design has been specifically tailored to the use of the local coal reserve. In fact, the use of a local coal supply is consistent with USEPA guidance suggesting that fuel alternatives to locally available coal should not be encouraged where it would cause local economic disruption or unemployment. [See, *Respondent's Exhibit 8 at page 10*]. More recently in the proposed National Emissions Standards for Hazardous Air Pollutants (NESHAAP) rulemaking, the USEPA suggested it does not seek to limit the use of certain types of coal. 69 Fed. Reg. 4651, 4669 (January 30, 2004) (while considering fuel switching to a lower mercury containing coal seam, the USEPA expressed concerns that even if such a seam could be identified this practice would determine the location where the coal could be mined; the USEPA felt this could create regional disparities and thus, be contrary to the intent behind the Clean Air Act); see also, 70 Fed. Reg. 9705, 9712 (February 28, 2005) (emission control strategy may take a 'fuel neutral approach' thereby allowing affected sources to "use the most effective combination of add-on control technologies, clean fuels and boiler designs to meet the emission limit").

efficiency scrubber) than typically associated with the use of low-sulfur coal at other plants. Apart from the mere existence of scrubbers and the alleged use of low sulfur fuels at other facilities, however, Petitioners fail to provide any details surrounding these particular facilities cited in the Petition.⁴³ Petitioners do not discuss plant size, different boiler sizes, type of combustion process, process equipment, control options, the types and/or percentage use of clean fuel alternatives or better yet, the control efficiency of the scrubbers allegedly employed at these cited facilities. Petitioners fail to clarify some of the more apparent differences, most notably, the control efficiencies of the various scrubbers compared to that of Prairie State.⁴⁴ For these reasons, the Petitioners have failed to substantiate their cost-effectiveness analysis claims.

3. Petitioners failed to meet applicable procedural requirements for related coal blending argument.

⁴³ Nor should it be ignored that Respondent's review of public comments indicates that, with the exception of the Baldwin facility, comments specific to the MidAmerican (Iowa), Wisconsin Public Service (Weston), Plum Point, and Sandy Creek facilities were not raised in the public comment period. Petitioners have not demonstrated that this information was part of public comments or, alternatively, was not reasonably available at the close of the public comment period. For this reason, the EAB's consideration of those representations should be denied because they were not properly preserved for appeal. *See, In re Kendall New Century Development*, PSD Appeal No. 03-02, slip op. at 19-20 (EAB 2003); *see also, In re AES Puerto Rico, LP*, 8 E.A.D. 324, 342, fn. 20 (EAB 1999); *see also, In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 14-16, 12 E.A.D. ___ (EAB 2005).

⁴⁴ The Illinois EPA required Prairie State to attain 98 percent control of SO₂ emissions through the use of a very high efficiency wet flue gas desulfurization. Meanwhile, MidAmerican Energy Company will employ slaked lime slurry injection that tends to possess a 95 percent removal efficiency on higher sulfur fuels; control efficiency is less with use of lower sulfur fuels. Plum Point's method of control is dry flue gas desulfurization that typically achieves a control efficiency of 90-93 percent. Wisconsin Public Service's (Weston) control technology requires a control efficiency of 92 percent. The recent Dynegy Midwest Generation federal consent decree for the Baldwin Generating Station fails to delineate a required control efficiency but simply requires the use of either wet or dry flue gas desulfurization. As the public comments neglected to articulate this comment, the Administrative Record did not contain detailed information concerning the Sandy Creek, Texas facility. However, the record indicates that a nearby facility in Texas, San Antonio's City Public Service required wet flue gas desulfurization with 95 percent removal efficiency. [*See, Respondent's Exhibits 18, 19, 20, and 21, (Misc. information pertaining to Mid-American Energy Co. (Certified Index No. 404), Plum Point (Certified Index No. 407), Wisconsin Public Service-Weston (Certified Index No.416), San Antonio Public Service (Certified Index No. 409); see also, Respondent's Exhibits 22(Dynegy Consent Decree)*].

Petitioners claim that the blending of low sulfur coal with high sulfur coal from the proposed mine-mouth plant including alternatively mining lower-sulfur coal from various seams of the mine would reduce SO₂ emissions. [See, *Petition at page 34*]. This issue was generally raised during the public comment period and the Illinois EPA responded to the issue in the *Responsiveness Summary*.⁴⁵ [See, *Petitioners' Exhibit 12, Response to Comments Nos. 47 and 107*]. The Illinois EPA responded that EAB precedent does not support the assertion that blending of fuels is required as part of any BACT determination. [See, *Petitioners' Exhibit 12, Response to Comment No. 47*]. Nor would a consideration of the fuel blending be a straightforward analysis; different outcomes could result depending on how the analysis was structured. [*Id.*]. The Illinois EPA went on to articulate the following supporting rationale:

Such blends could range from a trace of low-sulfur coal to a trace of mine-mouth coal. Moreover, depending upon how the evaluation were structured, various outcomes are obviously possible. For example, the evaluation could simply confirm the appropriateness of the selected coal supply, as the use of that coal is supported and use of any other coal supply results in higher costs. Another possibility is an evaluation in which the use of the more cost-effective fuel supply subsidizes the less cost-effective fuel supply, so that the evaluation calculates an appropriate blend of coal that is the result of the cost value that is established as an acceptable cost for control of emissions, rather than an evaluation of cost-effectiveness of particular combination of fuels.

⁴⁵ The exceptions to this statement are Petitioners' reference to Thoroughbred Generating Station's alleged proposal to alternatively mine low-sulfur coal from different parts of the associated mine and Petitioners' example detailing a possible blending scenario (i.e., blending 20 percent low-sulfur coal containing 0.5 percent sulfur could allegedly reduce SO₂ emissions by approximately 18 percent). [See, *Petition at page 34*]. Based on Respondent's review of the record, it does not appear as if either assertion was made during the public comment period. Where the issues raised by a petitioner during the permit process are only generic in nature, the petitioner cannot later raise more specific issues for the first time on appeal. See, *In re Encogen Cogeneration Facility*, 8 F.A.D. 244, 251, fn.12 (EAB, March 26, 1999). In addition, the information reported for the Thoroughbred Generating Station likely reflects that the mine would have several active faces. Thus, the coal produced by the mine, which would be a mixture of the coal from the different faces, would reflect an average sulfur content. This would not constitute mixing of a low-sulfur coal with the principal fuel, as suggested by the Petitioners. Nor would this be any different than the circumstances of the proposed Prairie State mine.

[See, *Petitioners' Exhibit 12, Response to Comments No. 47*]. The Illinois EPA also explained that given the practical considerations of operating a mine, it is doubtful that a plan such as alternatively mining lower-sulfur coal would, in fact, consistently guarantee lower sulfur coal. [See, *Petitioners' Exhibit 12, Response to Comments No. 107*].⁴⁶

Petitioners fail to offer any reason as to why the Illinois EPA's response to this issue was clearly erroneous or otherwise warrants review. Petitioners do not attempt to refute the Illinois EPA's justification that consideration of blending of different fuels would be a complicated matter, but rather provide one example for the proportion of coal that could be blended. This does not address the merits of the Illinois EPA's explanation regarding the issues posed by a fuel blending analysis but, rather, seems aimlessly directed toward support for the Illinois EPA's position. Accordingly, Petitioners have merely restated the issue that was raised in the proceedings below and therefore fail to satisfy the EAB's procedural requirements for obtaining review. *In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 14, 16-17, 19 (EAB, April 29, 2003). Petitioners likewise do not offer any support for their argument that the facility could alternatively mine lower sulfur coals from various seams at the proposed dedicated mine. The exception is, of course, allegations of strategies planned at the proposed Thoroughbred Generating Station in Kentucky, a matter also not previously raised during the public comment period.

Turning to the merits of the issue, Petitioners claim that fuel blending could reduce SO₂ emissions, but fail to offer any justification beyond mere conjecture based upon these two unsupported hypotheses. Petitioners provide no concrete information on how either of these hypotheses may be performed. In all likelihood this is because Petitioners have difficulty

⁴⁶ See, 69 Fed. Reg. 4651, 4669 (January 30, 2004) (USEPA questioned whether a lower mercury containing coal seam could be identified).

envisioning the range of possible blending options that could be introduced into the analysis without burying it in complexity. Equally important, Petitioners also neglect to cite to any legal authority supporting their argument. In fact, EAB precedent weighs strongly against Petitioners' argument. For instance, the *Genesee Power Station* petitioners argued that fuel blending should be required to manipulate the moisture content of the wood being burned so that a specific emission level could be achieved. *In re Genesee Power Station*, 4 E.A.D. 832, 858 (EAB 1993). The EAB denied review because similar to the instant Petitioners, the *Genesee* petitioners failed to describe how it characterized fuel blending or how the fuel blending could be performed. [*Id.* at 859]. The EAB further found that petitioners' argument lacked support in that it failed to cite empirical studies validating fuel blending and SNCR technology, together, would result in a quantifiable reduction in NO_x emissions beyond those achievable by SNCR technology. *See also, Id. citing Spokane Regional Waste-to-Energy Project*, 2 E.A.D. 809, ___. (Adm'r 1989) ("a technology is not available in any meaningful sense if knowledge about its effect on emissions, in the particular configuration in which it would be employed, is so incomplete as to be unusable"). Accordingly, the EAB should decline consideration of this issue because Petitioners fail to demonstrate clear error in the Illinois EPA's response to comments.

F. Emissions from the Facility Will Not Cause or Contribute to Air Pollution in Excess of the Ozone and Fine-Particulate National Ambient Air Quality Standards.

Petitioners allege, for both the recently-promulgated 8-hour ozone and the PM_{2.5} air quality standards, Prairie State failed to show that the proposed plant will not cause or contribute to air pollution in excess of the respective pollutants' National Ambient Air Quality Standards ("NAAQS"). [*See, Petition at page 39*]. To substantiate their view, Petitioners argue that Prairie State should not have been allowed to employ the 1-hour ozone and the PM₁₀ NAAQS as surrogates, respectively, for the 8-hour ozone and the PM_{2.5} NAAQS. [*Id. at pages*

39-43]. Rather than acknowledging the actions that must occur before implementing new air quality criteria in PSD permitting, Petitioners assert the impossible should occur, the immediate implementation of the 8-hour ozone and PM_{2.5} air quality standards. In so doing, Petitioners fail to recognize the USEPA's position on this matter. Equally important, Petitioners ignore the relevant modeling performed and the Illinois EPA's review of the potential impacts of the proposed plant.

1. **Petitioners' argument fails to show that the Illinois EPA's response to comments was clearly erroneous.**

The Illinois EPA addressed this issue in the *Responsiveness Summary* as the claim was raised in the public comments that a demonstration must be made that the proposed plant will not cause or contribute to a violation of either the 8-hour ozone or PM_{2.5} NAAQS. In responding to this issue, the Illinois EPA not only indicated that necessary guidance for the implementation of the NAAQS had not yet been released by the USEPA, but that modeling performed for the 1-hour ozone and PM₁₀ NAAQS showed that the proposed plant will not cause or contribute to a violation of either NAAQS. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 260, 294, 299, 326, 351-352*]. The Illinois EPA concluded, in short, that the proposed plant will not cause or contribute to a violation of the 8-hour ozone or PM_{2.5} NAAQS. [*Id.*]. In presenting this conclusion for the 8-hour ozone standard, the Illinois EPA relied on the more specific consideration of the modeling performed for the 1-hour ozone standard which suggested that there would be no violation of the 8-hour ozone standard. [See, *Petitioners' Exhibit 12, Response to Comment No. 294*]. Specific to PM_{2.5}, the Illinois EPA responded that modeling of the various pollutants that play a role in the formation of PM_{2.5} indicated the proposed plant would not cause or contribute to a violation of the NAAQS. [See, *Petitioners' Exhibit 12, Response to Comment No. 260*]. Further support for this conclusion came from

available information relative to PM_{2.5} emissions from the proposed plant and air quality modeling. [See, *Petitioners' Exhibit 12, Response to Comment No. 260, 351*].

Petitioners entirely ignore in their argument on appeal, the Illinois EPA's review of the modeling performed for the 1-hour ozone standard which indicated no violation of the 8-hour ozone NAAQS.⁴⁷ Further, nothing presented by the Petitioners refutes the Illinois EPA's scrutiny of information pertaining to PM_{2.5} emissions from the boilers, the key units for purposes of any consideration of PM_{2.5} air quality.⁴⁸ Petitioners have failed to demonstrate how the Illinois EPA's responses to comments were somehow inadequate or in clear error. *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997). As review "should be only sparingly exercised" and "most permit conditions should be finally determined at the [permitting authority] level," the EAB should appropriately decline consideration of this issue. *See, In re Knauf Fiber Glass*, 8 E.A.D. 121, 127 (EAB 1999), *citing*, 45 Fed. Reg. 33, 290, 33, 412 (May 19, 1980).

2. By necessity, supporting action by regulatory authorities is required to implement the 8-hour ozone and PM_{2.5} NAAQS during permitting in the manner sought by Petitioners.

In July 1997, the EPA issued final rules for the 8-hour ozone⁴⁹ and PM_{2.5}⁵⁰ NAAQS which became effective on September 16, 1997. *See, National Ambient Air Quality Standards for Particulate Matter*, 62 Fed. Reg. 38,651, 38,652 (1997); *see also, National Ambient Air Quality*

⁴⁷ Due to the length of the Illinois EPA's response pertaining to the 1-hour ozone standard, it was not cited verbatim here. However, it can be found in Respondent's discussion in Section F.3.

⁴⁸ Due to the length of the Illinois EPA's response to PM_{2.5} air quality concerns, this discussion was not repeated here. It is located in Respondent's Response at Section F.4.

⁴⁹ The national ambient air quality standard for ground-level ozone was set at 0.08 parts per million averaged over an 8-hour time frame. *See*, 40 CFR §50.10.

⁵⁰ The national ambient air quality standard for PM_{2.5} was set at 15.0 micrograms per cubic meter (µg/m³) annual arithmetic mean concentration and 65 µg/m³ averaged over a 24-hour time frame. *See*, 40 CFR §50.7.

Standards for Ozone, 62 Fed. Reg. 38,856, 38,857 (1997). The practicalities of designating attainment and nonattainment areas for the pollutants including the promulgation of various requirements (i.e., significant emission rates), and the development of air quality analysis methodology to effectuate these new NAAQS do not happen instantaneously but necessarily require certain requisite actions by regulatory authorities. See, 42 U.S.C. §§ 7407 & 7410; see also, 62 Fed. Reg. 38,651, 38,704 (July 18, 1997) (preamble to final rule promulgating NAAQS for PM_{2.5}, generally discussing the steps following promulgation of a new or revised NAAQS). At the time the final rules for the 8-hour ozone and PM_{2.5} NAAQS were originally issued, the White House explained their implementation in a memorandum entitled, *Memorandum from William J. Clinton to the Administrator of the Environmental Protection Agency, Implementation Plan for Revised Air Quality Standards*. [See, Respondent's Exhibit 23] Concerning ozone, the memorandum explained:

Following promulgation of a revised NAAQS, the Clean Air Act provides up to 3 years for State governors to recommend and the EPA to designate areas according to their most recent air quality. In addition, States will have up to 3 years from designation to develop and submit State Implementation Plans (SIPs) to provide for attainment of the new standard . . . The Act allows up to 10 years plus two 1-year extensions from the date of designation for areas to attain the revised NAAQS.

[*Id.* at pages 3-4]. Regarding PM_{2.5}, the document provided as follows:

Monitoring and planning will be required before control measures to address these standards would be required. Therefore, the first priority for implementing them is establishment of a comprehensive monitoring network to determine ambient fine particle concentrations across the country. The monitoring network will help the EPA and the States determine which areas do not meet the new air quality standards, which are the major concerns of PM_{2.5} in various regions, and what action is needed to clean up the air.

[*Id.* at pages 7-8]. While apparently cognizant of the informational and technical deficiencies for the regulation of the particular pollutants, this memorandum does not even begin to address the

more pragmatic difficulties necessarily associated with such deficiencies. [See, *Respondent's Exhibit 23*]. These difficulties become all too apparent during the efforts to implement the respective NAAQS.

After the conclusion of extensive litigation challenging the 8-hour ozone and PM_{2.5} standards, in April 2004, the 8-hour ozone designations were signed and became effective on June 15, 2004. See, 69 Fed. Reg. 23,857 (April 30, 2004). The PM_{2.5} attainment and nonattainment designations were promulgated on January 5, 2005, and effective on April 5, 2005. See, 70 Fed. Reg. 943 (January 5, 2005). The Clean Air Act provides states with three years to tender implementation plans to the USEPA; nonattainment areas may have up to ten years plus the possibility of two one-year extensions from the designation date to achieve attainment. See, 42 U.S.C. § 7502(2)(c). The attainment deadlines vary for the 8-hour ozone and PM_{2.5} NAAQS, beginning in 2007 and running through 2014 for 8-hour ozone and extending from 2010 to 2015 for PM_{2.5}. See, 69 Fed. Reg. 23,857, 23,863; see also, 42 U.S.C. §7502(2)(c). Finally, the Illinois EPA's review indicates that final modeling guidance for 8-hour ozone and PM_{2.5} has not yet been published by the USEPA.

Illinois is working to meet these requirements. For instance, the Illinois EPA provided its recommendations to and the USEPA has generally concurred in the designations of attainment and nonattainment areas for the 8-hour ozone and PM_{2.5} NAAQS. The Metro-East/St. Louis area including Jersey, Madison, Monroe and St. Clair counties in Illinois has been designated as moderate nonattainment for 8-hour ozone. [See, *Petitioners' Exhibit 12, Response to Comment No. 296*]. Portions of the Metro-East area that include counties near the proposed plant have been designated nonattainment for PM_{2.5}. These counties include Madison, Monroe, St. Clair and parts of Randolph County; it does not include the site of the proposed plant, Washington

County. [See, *Petitioners' Exhibit 12, Response to Comment No. 260*]. In its efforts to develop a plan to bring the area into attainment with the 8-hour ozone standard, Illinois is currently working with the state of Missouri to research and model the impacts of the various emission sources on the ozone levels in the Metro-East/St. Louis area. [See, *Petitioners' Exhibit 12, Response to Comment No. 296, 351*].

If anything, this information indicates that it would have been next to impossible to perform the modeling characteristically associated with a NAAQS compliance demonstration for the 8-hour ozone and PM_{2.5} standards. Nor do Petitioners explain how they believe the 8-hour ozone and PM_{2.5} modeling could and should have been performed without the required regulations and guidance dictating the means to implement the respective NAAQS.

Moreover, these NAAQS do not dictate control requirements directly upon a source, in the manner insinuated by the Petitioners. In promulgating these standards, the USEPA stated:

As EPA explained in the proposal, the NAAQS rules establish air quality standards that States are primarily responsible for meeting. Under Section 110 and Part D of Title I of the Act, every State develops a State Implementation Plan (SIP) containing the control measures that will achieve a newly promulgated NAAQS. States have broad discretion in the choice of control measures.

62 Fed. Reg. 38,651, 38,702 (July 18, 1997) (preamble to final rule promulgating NAAQS for PM_{2.5}); *see also*, 62 FR 38,855, 38,887 (July 18, 1997) (preamble to final rule promulgating NAAQS for 8-hour ozone); *see also*, 52 FR 24,634, 24,654 (July 1, 1987) (NAAQS "themselves do not contain emission limits or other pollution controls. . . such controls are contained in state implementation plans"). As evidenced by these statements, the USEPA has expressed an opinion that NAAQS generally do not establish control requirements for a source, rather, state rules giving effect to the NAAQS do.⁵¹ Considerable deference should be afforded to the

⁵¹ The Illinois EPA is entirely cognizant of its SIP obligations and its obligations under the PSD program and is not, in any manner, attempting to disregard those responsibilities. Rather, the Illinois EPA is

USEPA's construction of the Clean Air Act. *See, Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 866, 104 S.Ct. 2778, 2793 (1984).

Moreover, the United States Supreme Court has even recognized that NAAQS are "fixed on a nationwide basis at levels which the Agency [EPA] determines will protect the human health." *Train v. NRDC*, 421 U.S. 60, 78, 95 S.Ct. 1470, 1481 (1975). States establish "'emission limits' which are regulations of the composition of substances emitted in the ambient air from such sources as power plants, service stations and the like. They are the specific rules to which operators of pollution sources are subject and which if enforced, should result in ambient air which meets the national standard." [*Id.*]; *see also, Coalition Against Columbus Ctr. v. New York*, 967 F.2d 764, 769 (2d Cir. 1992) ("an air quality standard established under the Clean Air Act is not an 'emission standard or limitation'"); *see also, Wilder v. Thomas*, 854 F.2d 605, 614 (2nd Cir.1998) (acknowledging the distinction between the goal of NAAQS attainment and specific state implementation plan provisions).

3. 8 - hour ozone standard.

The Petitioners allege that Prairie State failed to demonstrate it will not cause or contribute to a violation of the 8-hour ozone NAAQS. [*See, Petition at pages 40-42*].⁵² In

simply providing further illustration to the fallacy in Petitioners' argument; NAAQS implementation necessarily requires certain actions by regulatory authorities (i.e., promulgation of required regulations and guidance documents dictating appropriate air quality methodology).

⁵² In addition, Petitioners advance the notion that Prairie State failed to prove that the proposed plant will not contribute to ozone pollution in and around St. Louis. [*See, Petition at page 40*]. As an initial matter, the FAB has repeatedly found that non-attainment issues are simply not reviewable in PSD appeals. *See, In re Robbins Resource Recovery Company*, PSD Appeal No. 90-8 (Adm'r, July 31, 1991); *see also, American Ref-Fuel Company of Essex County*, PSD Appeal No. 86-1 (Adm'r, October 8, 1986) ("despite the existence of a nexus between the PSD and non-PSD provisions of the Act, EPA can keep the two separate ***, while also accommodating the important Congressional goal of placing primary responsibility for clean air in the hands of the state.") Regardless, the Illinois EPA performed ozone modeling on a regional level, as is necessary to evaluate ozone air quality impacts, to address ozone impacts from Prairie State and other existing or proposed sources. Using a version of the Urban Airshed Model specifically developed for the Illinois-Missouri Interstate Region, the Illinois EPA determined that the proposed

support of this assertion, Petitioners argue that the Illinois EPA inappropriately allowed Prairie State to consider emissions in the context of the 1-hour ozone NAAQS rather than the recently-promulgated 8-hour ozone NAAQS. [*Id.*]. Notably, the Petitioners do not assert that the proposed source will cause or contribute to a violation of the 1-hour ozone NAAQS.

As suggested in the preceding section, the USEPA has published very limited guidance concerning the implementation of the 8-hour ozone NAAQS. In a 1997 document, the USEPA stated that its “view on implementing the ozone . . . NAAQS . . . during the interim period following the effective date of the new 8-hour ozone . . . will be set forth in a separate EPA memorandum.” [*See, Respondent’s Exhibit 25 (Memorandum from John S. Seitz, Director Office of Air Quality Planning & Standards (MD-10) to See Addresses concerning Interim Implementation of NSR Requirements for PM_{2.5} (October 24, 1997)*]. Based on Respondent’s review of the USEPA’s guidance documents, this memorandum has not been forthcoming.⁵³ Due to this lack of guidance, the Illinois EPA consulted with the USEPA, Region V over the appropriate course of action. [*See, Respondent’s Exhibit 26 (Affidavit of Matthew Will, Illinois EPA)*; *see also, Petitioners’ Exhibit 12, Response to Comment No. 294*]. Region V advised the Illinois EPA it could appropriately employ the 1-hour ozone assessment as a surrogate for the 8-hour ozone standard in its PSD permit application reviews. [*Id.*].

source will not have a significant impact on the ozone NAAQS in and around the St. Louis area. [*See, Respondent’s Exhibit 24 (Illinois EPA, Assessing the Impact on the St. Louis Ozone Attainment Demonstration From Proposed Electrical Generating Units in Illinois, dated September 25, 2003)*]; *see also, 40 C.F.R. Part 51, Appendix W, §6.2.1.*

⁵³ While Petitioners cite to USEPA NSR guidance, dated February 26, 2004, pertaining to the 8-hour ozone standard, the proposed plant will be located in Washington County, an attainment area. [*Petitioners’ Exhibit 26*; *see also, Petitioners’ Exhibit 12, Response to Comment No. 296*]. Moreover, on April 29, 2004, USEPA Region V notified the Illinois EPA that the one-hour ozone standard should be used as a surrogate for the eight-hour ozone standard until the required regulations become effective and guidance dictating the means to implement the 8-hour ozone NAAQS is published. [*See, Respondent’s Exhibit 26*].

The USEPA has frequently acknowledged the use of a selected pollutant as a surrogate for other related pollutants. For instance, in the MACT rulemaking for non-utility boilers, the USEPA categorized various hazardous air pollutants into different groupings. [See, *Petitioners' Exhibit 12, Response to Comment No. 217*]. The USEPA stated that “. . . pollutants within each group have similar characteristics and can be controlled with the same techniques. For example, non-mercury metallic HAP can be controlled with PM controls.” [*Id.*; see also, *Respondent's Exhibit 4 at H.6*] (allowing use of surrogate parameters where “continuous, quantitative measurements are infeasible.”). The USEPA has also recognized the use of selected compliance mechanisms as surrogates for other compliance tools. [See also, *Respondent's Exhibit 4 at H.10, table H.2*] (“Continual and continuous emissions performance monitoring and record keeping (direct and/or surrogate) should be specified where feasible.”).

While the Respondent could not locate any direct EAB precedent discussing the appropriate use of surrogates for 8-hour ozone, a recent ruling pointedly suggests that the Board, as well, recognizes the use of surrogate pollutants in the environmental arena. In *BP Cherry Point*, the EAB reviewed a petition challenging the application of PM as a surrogate for PM₁₀ and PM₁₀ for PM_{2.5}, finding the approach to be acceptable. *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 17-23 (EAB, June 21, 2005); see also, *In re Steel Dynamics*, 9 E.A.D. 165, 233-234 (EAB 2000) (upholding the use of parametric monitoring including the direct periodic measurement of opacity as a surrogate for more frequent direct monitoring); see also, *In re Broward County Florida*, 6 E.A.D. 535 (EAB 1996) (the selection of suitable non-indigenous species may serve as an appropriate surrogate for toxicity testing).

Despite the fact that Region V informed the Illinois EPA that it could make use of the 1-hour ozone standard as a surrogate for the 8-hour ozone standard, the Illinois EPA went further

and considered the 1-hour ozone modeling in the context of the 8-hour ozone standard. It warrants mention that the Illinois EPA's extra consideration of this issue is exactly what Petitioners sought in their first Petition for Review. Petitioners previously concluded their discussion of the 1-hour ozone standard by stating "[a]s a practical matter, that analysis should not be difficult; the data utilized to conduct the 1-hour analysis may be sufficient to determine whether emissions will violate the 8-hour ozone standard once the flaws in that analysis discussed below are corrected." See, *In re Prairie State Generating Station*, PSD Appeal No. 05-02, 12 E.A.D. ____, (EAB 2005); [see also, *Petition for Review at page 40*]. The Petitioners never delineated with any specificity the alleged flaws to the 1-hour ozone analysis.

While acknowledging that the quoted portion of the *Responsiveness Summary* is extensive, it is nonetheless critical to a full understanding of the review the Illinois EPA provided to this issue.

While this modeling focused on the 1-hour ozone standard, consistent with guidance from USEPA, it also provides relevant insight on the impact of new power plant projects on the 8-hour ozone standard. This is because the modeling also identified grid cells during each day of the selected ozone episodes in which the base concentration of ozone was above 80 ppb in any hour. For this purpose, this modeling is very conservative, overstating the identified changes in ozone levels, as they reflect 1-hour impacts, rather than 8-hour average impacts. For such grid cells, the modeling then identified the change in ozone levels associated with the power plant projects. This analysis shows that the proposed plant would not have a significant impact on ozone levels that were in excess of 80 ppb, one-hour average. Predicted impacts that can be specifically attributed to the proposed plant, based on their orientation and the orientation of the St. Louis air mass, are not routine and only occur when the wind direction is such that the Dynegy Baldwin plant and the proposed plant are in line. The geographic extent of the impacts is small, with the maximum predicted increase in ozone levels between 5 and 7 ppb, on a one hour average. Moreover, these particular impacts predicted by this modeling are also overstated as the NO_x emissions that were modeled for these two plants are now about 40 percent higher than the greatest emissions that might be expected. (BACT for NO_x for the boilers at the proposed plant is set at 0.07 lb/million Btu; rather than 0.08 lb/million Btu; the emissions of the proposed new Boilers 4 and 5 at Baldwin were based on 0.12 lb/mmBtu and the existing Baldwin power

plant was based on 0.15 lb/million Btu, rather than the requirement of the pending Consent Decree, which would limit emissions to 0.10 lb/million Btu).

[See, *Petitioners' Exhibit 12, Response to Comment No. 294*].

The Illinois EPA therefore concluded that Prairie State would not have a significant impact on ozone levels. The Illinois EPA does not dispute that this review was based upon available modeling information and was not grounded upon the most recent USEPA guidance pertaining to the 8-hour ozone standard. Had such guidance existed, however, the Illinois EPA would have considered and afforded it all the weight necessary to perform a reasoned analysis. It is commonly understood to be very difficult to base a review on guidance that has not yet been published. See, *In re Old Dominion Electric Cooperative Clover, Virginia*, 3 E.A.D. 779, ___ (Adm'r 1992) (The EAB declined to find reviewable error where the State failed to require "modeling of NO_x emissions for impact on ozone formation" because there was "no acceptable EPA-approved method for assessing ozone impacts attributable to individual point sources of NO_x emissions"). In a scenario such as this, it is entirely appropriate for the permitting agency to conduct a reasoned review. Consistent with such proposition:

... courts have recognized the need for agency discretion in applying the results of modeling. *Wisconsin Electric Power Co. v. Costle*, 715 F.2d 323 at 330-31 (7th Cir. 1983) (EPA is justified in preferring monitoring to modeling in determining whether emissions in a given area would violate NAAQS); *Citizens Against Refinery's Effects v. EPA*, 643 F.2d 178, 183 (4th Cir. 1981) ('The deference normally given administrative agencies in interpreting their own regulations as well as the highly technical nature of the modeling techniques make the EPA particularly well suited to make determinations as to whether to issue a PSD permit or not.'). See also *Baltimore Gas and Electric Co. v. Natural Resources Defense Council, Inc.*, ___ U.S. ___, ___, 103 S. Ct. 2246, 2256, 76 L.Ed. 2d 437 (1983) (reviewing court must be at its more deferential when reviewing predictions of an expert agency).

Hawaiian Electric Company, Inc. v. United States Environmental Protection Agency, 723 F.2d 1440, 1446 (9th Cir. 1984). It is difficult to envision how the Illinois EPA's review could have

been more thorough under the prevailing circumstances. The Illinois EPA's review is consistent with direction provided by Region V and even measures up to previous suggestions provided by the Petitioners. Petitioners, therefore, fail to show that the Illinois EPA's response to comment was in clear error.

4. **PM_{2.5} air quality standard.**

Similarly, Petitioners profess that Prairie State failed to submit evidence that the proposed facility will not cause or contribute to violations of the PM_{2.5} NAAQS. [*See, Petition at pages 42-43*].⁵⁴ In support of this statement, the Petitioners assert that "methodology and procedures for [the] performance of [PM_{2.5}] air quality analysis" need not exist nor does the requirement for post-construction monitoring rectify Prairie State's alleged failure to demonstrate compliance with the PM_{2.5} air quality standard. [*See, Petition at page 42, citing Petitioners' Exhibit 12, Response to Comment No. 260*]. In making this pronouncement, the Petitioners neglect to consider that "modeling was conducted for various pollutants that play a role in air quality for PM_{2.5}, i.e., particulate matter (PM₁₀), SO₂ and NO_x." [*See, Petitioners' Exhibit 12, Response to Comment No. 260*]. Particulate matter is "the generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes." 62 Fed. Reg. 38,651, 38,653 (July 18, 1997). PM₁₀ consists of particulate matter with an aerodynamic diameter of ten micrometers or less.

⁵⁴ The Petitioners declare that Prairie State failed to confirm that the proposed plant will not contribute to PM_{2.5} pollution in the St. Louis region. [*See, Petition at page 42*]. The EAB has repeatedly found that non-attainment issues are simply not reviewable in PSD appeals. *See, In re Robbins Resource Recovery Company*, PSD Appeal No. 90-8 (Adm'r, July 31, 1991); *see also, American Ref-Fuel Company of Essex County*, PSD Appeal No. 86-1 (Adm'r, October 8, 1986) ("despite the existence of a nexus between the PSD and non-PSD provisions of the Act, EPA can keep the two separate ***, while also accommodating the important Congressional goal of placing primary responsibility for clean air in the hands of the state"). As a general matter, the project-specific NAAQS modeling performed to evaluate the PM₁₀ impacts of the proposed plant serves to assure that the project will not have more than a de minimus impact on PM₁₀ air quality at more distant locations.

[*Id.* at 38, 653, fn.1]. By definition, it subsumes particulate matter with an aerodynamic particle diameter less than or equal to 2.5 μm . It follows that the modeling performed to verify compliance with the PM_{10} air quality standard necessarily considered $\text{PM}_{2.5}$ emissions as well. Moreover, the Illinois EPA's consideration of SO_2 and NO_x is tailored to the manner that particulate matter forms in the atmosphere i.e., the transformation of precursor compounds such as sulfur oxides, nitrogen oxides and volatile organic emissions. Despite the fact that modeling specific to $\text{PM}_{2.5}$ emissions was not performed by Prairie State, the use of a surrogate by the Illinois EPA is entirely compatible with USEPA guidance and recent EAB precedent concerning the new $\text{PM}_{2.5}$ NAAQS.⁵⁵ See, *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 17-23 (EAB, June 21, 2005) (affirming application of PM as a surrogate for PM_{10} and PM_{10} as a surrogate for $\text{PM}_{2.5}$).

As previously discussed, the USEPA acknowledged the technical challenges and the inescapable extent of time that could be needed to implement and comply with the new $\text{PM}_{2.5}$ NAAQS due not only to the practicalities of designating attainment and nonattainment areas, the development of each State's Implementation Plan but also due to informational deficiencies and technical difficulties such as model development and modeling methodology concerning the regulation of $\text{PM}_{2.5}$.⁵⁶ [See, *Respondent's Exhibit 23*]. For example, due to atmospheric photochemical reactions that create PM in the atmosphere, information concerning the amount of

⁵⁵ For a general discussion of the USEPA guidance and Board precedent recognizing the employment of surrogates, see Section F.3 of this Response to Petition.

⁵⁶ For instance, consistent with the above recognition, the USEPA not only had to approve, generally, the use of the Urban Airshed Model for ozone, but had to validate a particular version of the Urban Airshed Model specifically developed for the Illinois-Missouri Interstate Region. Concerning this last step, in 2000, Illinois and Missouri submitted revised attainment demonstrations and in June 2001, the USEPA approved the demonstrations and thereby validated Illinois' modeling approach. [See, *Respondent's Exhibit 24*].

nitrogen oxides, which are precursors to both particulate matter and ozone levels, is needed. In addition, the extent to which particulate matter is created by the transformation of nitrogen oxides, among other matters, directly depends on ozone levels in the atmosphere. As nitrogen compounds are taken up by ozone, during summer months when ozone levels are higher, nitrogen levels are low and, in conjunction, with the higher temperatures, the nitrogen oxides are less likely to transform into particulate. Meanwhile during the winter, the opposite occurs, the low ozone levels allow for higher nitrogen levels and, the cooler temperatures make the nitrogen oxides more likely to transform into particulate. This information suggests that the informational deficiencies are not only complex, but based upon multiple pollutants including emissions of particulate matter and precursor gases as well as levels of pollutants, including ozone in the atmosphere.

Recognizing these informational and technical difficulties and timing concerns, the USEPA issued guidance supporting the temporary use of PM_{10} as a surrogate for $PM_{2.5}$.⁵⁷ [See, *Respondent's Exhibit 25*]. While acknowledging the requirements of Section 165(a)(3) of the Clean Air Act, the USEPA recognized that this was the first time that it was regulating fine particles that are to varying extents the result of emissions of precursor compounds, rather than direct emissions; certain technical and information deficiencies had to be overcome including accounting for precursor emissions and secondary fine particulate formation via development of a new modeling system and modeling methodology. [*Id.*]. Thus, the USEPA concluded it was "administratively impractical" to require PSD permitting for $PM_{2.5}$ concluding that, "[u]ntil these deficiencies are corrected, EPA believes that sources should continue to meet PSD and NSR program requirements for controlling PM_{10} emissions and for analyzing impact on PM_{10} air

⁵⁷ At the time of the permit's issuance, the Illinois EPA did not know of any state that had considered or was in the process of considering whether a proposed source would contribute to $PM_{2.5}$ pollution.

quality.” [See, Respondent’s Exhibit 25]. While cognizant of these informational and technical difficulties, the USEPA concluded that “[m]eeting these measurements in the interim will serve as a surrogate approach for reducing PM_{2.5} emissions and protecting air quality.” In the meantime, the USEPA placed a high priority on setting up the necessary PM_{2.5} monitoring sites across the nation to facilitate the gathering and analysis of information necessary to prioritize the PM_{2.5} NAAQS implementation. [Id.]. Once these technical and informational difficulties including the development of a new modeling system are resolved, the USEPA committed to amending the PSD regulations to establish a PM_{2.5} significant emission level and other regulatory measures as necessary. [Id.].

Consistent with such guidance, the Illinois EPA confirmed that PM₁₀ emissions from Prairie State will not cause or contribute to air pollution in excess of the PM₁₀ air quality standard. [See, Petitioners’ Exhibit 12, Response to Comment Nos. 158-159, 326, 351-352; see also, Response to Petition, Section N]. Based on such guidance, the Illinois EPA’s review could have appropriately concluded here; it did not. The Illinois EPA went on to review available information pertaining to PM_{2.5} emissions from the proposed plant and air quality modeling. [See, Petitioners’ Exhibit 12, Response to Comment Nos. 260, 351]. For a full appreciation of the Illinois EPA’s review, the following excerpt, although quite lengthy, is necessary.

Washington County was recently designated an attainment area for PM_{2.5}, effective April 6, 2005. Based on experience with PM_{2.5} air quality elsewhere, air quality in the area near the plant will not be threatened by the plant. In particular, the monitoring station near the Baldwin power plant routinely records some of the best air quality in Illinois for PM_{2.5}.

This can be confirmed by a simple analysis using air quality modeling data for the proposed plant and existing ambient monitoring data that is available. In particular, while primary PM_{2.5} impacts of the proposed plant were not explicitly modeled, the impacts of the particulate matter emissions of the boilers, the key units for purposes of PM_{2.5} air quality, can be estimated from the SO₂ impacts that were determined. This yields maximum PM₁₀ impacts of 1.75

$\mu\text{g}/\text{m}^3$, 24-hour average, and $0.06 \mu\text{g}/\text{m}^3$, annual average, calculated from the maximum SO_2 impacts of the boilers ($21.00 \mu\text{g}/\text{m}^3$, 24-hour average, and $0.67 \mu\text{g}/\text{m}^3$, annual average) and the ratio of permitted PM_{10} and SO_2 emissions from the boilers (261 lb/hr and 3,126 lb/hr). These PM_{10} impacts are below the significant air quality impact level for particulate matter established by USEPA under the PSD rules, which would indicate that this analysis need not be pursued any further. Nevertheless, these " PM_{10} " impacts can then be added to the maximum $\text{PM}_{2.5}$ air quality levels recorded at the ambient monitoring station near Baldwin during recent years, conservatively assuming that all the particulate matter emitted from the boilers is $\text{PM}_{2.5}$. The results show attainment of both the daily and annual air quality standard for $\text{PM}_{2.5}$. On a daily basis, the maximum concentration is $38.1 \mu\text{g}/\text{m}^3$ ($1.75 + 36.3 = 38.1$) compared to the standard of $65 \mu\text{g}/\text{m}^3$. On an annual basis, the maximum concentration is 13.5 ($0.06 + 13.4 = 13.5$), compared to the standard of $15 \mu\text{g}/\text{m}^3$. While this analysis does not assess the impact of emissions of SO_2 and NO_x from the boilers, as SO_2 and NO_x are precursors to $\text{PM}_{2.5}$, this is not necessary to assess the maximum impacts of the plant on $\text{PM}_{2.5}$ air quality by itself. This is because SO_2 and NO_x react gradually in the atmosphere, over hours and days, to convert to $\text{PM}_{2.5}$. In addition, SO_2 and NO_x emissions from the plant will be accompanied by reductions in SO_2 and NO_x emissions from other existing power plants, first as a result of the existing Acid Rain Program and NO_x Trading Program, and then by CAIR. In this regard, the regulatory programs for power plants now generally focus on the aggregate or cumulative effect of the emissions of the power plants on $\text{PM}_{2.5}$ air quality, not the effect of individual power plants, like the proposed plant. . .

[See, *Petitioners' Exhibit 12, Response to Comment No. 351*]. Thus, the Illinois EPA appropriately concluded that the proposed facility would not significantly impact $\text{PM}_{2.5}$ levels. See, *Hawaiian Electric Company, Inc. v. United States Environmental Protection Agency*, 723 F.2d 1440, 1446 (9th Cir. 1984) (need for agency discretion in applying the modeling results). For these reasons, Petitioners have failed to show that the Illinois EPA's response was clearly erroneous or otherwise warrants review.

5. Petitioners' neglect to specifically articulate how the Illinois EPA should implement the 8-hour ozone and $\text{PM}_{2.5}$ NAAQS.

The Petitioners do not address how further air quality analyses should be conducted for the 8-hour ozone and $\text{PM}_{2.5}$ NAAQS in light of the specific circumstances that exist for the proposed plant. While Petitioners express concern for the impact of the proposed plant on air

quality in the St. Louis region, as it is designated nonattainment for these standards, Petitioners fail to recognize or address the implications of these circumstances for this metropolitan area and for the manner in which the requested air quality analyses should be conducted for the plant. Likewise, Petitioners fail to address how requirements of the federal Acid Rain program and the NO_x Trading Program should be taken into consideration in any such analyses, as Prairie State will be required to hold SO₂ and NO_x allowances for the emissions of the proposed plant.

In particular, as explained by the Illinois EPA in the *Responsiveness Summary*, these nonattainment designations trigger mandatory actions to reduce emissions to bring the St. Louis region into attainment. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 255, 258, 294, 343 and 351*]. These reductions will occur both in the metropolitan area itself and on a regional and national basis to reduce the role of transported emissions in contributing to nonattainment. Many of these reductions will occur from federal or federally-based control measures that are already in place or will shortly take effect, such as the NO_x Trading Program, the federal motor vehicle control program, and regulations requiring use of ultra low sulfur fuel in diesel powered motor vehicles. These actions will benefit air quality in both the metropolitan area and the downwind areas that are impacted by the St. Louis metropolitan area. A relevant issue for any air quality analysis performed for the proposed plant for 8-hour ozone and PM_{2.5}, as the plant is in the general vicinity of the St. Louis area, is how the reductions in emission levels in the metropolitan area and improvements in air quality during the period until attainment should be addressed. A further issue is how the provisions of the applicable trading programs should be incorporated into the analyses. The Petitioners are silent on both matters, which necessarily require due consideration and thoughtful response, as would be provided in guidance from USEPA on such matters. For these reasons, Petitioners should not prevail in their challenge to

the Illinois EPA's consideration and review of the proposed plant's impacts to the 8-hour ozone and PM_{2.5} NAAQS.

G. The Illinois EPA Complied with Its Environmental Justice Obligations.

Petitioners argue that the Illinois EPA⁵⁸ failed to comply with its environmental justice ("EJ")⁵⁹ obligations. EJ has two broad goals; the first seeks to ensure meaningful public participation; and, the second provides that communities are not to be disproportionately impacted by environmental degradation or to receive less than an equitable share of environmental protection and benefits.⁶⁰ The Administrative Record demonstrates that the Illinois EPA achieved both goals. The Illinois EPA ensured meaningful public participation during the PSD permitting process, as evidenced by, *inter alia*, more stringent emissions limitations, and concluded, through its adverse disparate impact analysis, that minority and/or low-income communities will not bear disproportionately high and adverse human or

⁵⁸ Petitioners allege that USEPA and Illinois EPA did not to comply with their respective environmental justice obligations. As the Illinois EPA is the applicable permitting authority and the permit appeal was filed against it, the Illinois EPA is responding to the environmental justice allegations as appropriate by the delegated permitting authority.

⁵⁹ "EJ", as that term is defined by Illinois EPA, is the protection of the health of the people of Illinois and its environment, equity in the administration of the State's environmental programs, and the provision of adequate opportunities for meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. [www.epa.state.il.us/environmental-justice/policy.html]. [See, Respondent's Exhibit 27 (Illinois EPA's Interim Environmental Justice Policy)].

⁶⁰ [*Id.*].

environmental impacts from the proposed plant's emissions.⁶¹ [*See, Petitioners' Exhibit 12, Response to Comment Nos. 340-342; Petitioners' Exhibit 51*].⁶²

The Petitioners allege three specific deficiencies in the Illinois EPA's response to EJ concerns voiced during the notice and comment period. First, the Illinois EPA failed to conduct an EJ assessment. Second, the Illinois EPA did not ensure the meaningful participation of all potentially affected minority and low-income individuals. Third, the Illinois EPA's use of the USEPA's EJ Geographic Assessment Tool ("EJ GAT")⁶³ was inappropriate given the limit of its maximum radius of analysis. [*See, Petition at page 43-45*].

As more fully discussed below, the Administrative Record supports neither the Petitioners' general argument nor its three enumerated arguments. The Illinois EPA conducted an adverse disparate impact analysis and concluded that the proposed facility does not present EJ concerns. [*See, Petitioners' Exhibit 51*]. The location chosen for the proposed plant is rural with low population density. As such, given the demographics of rural Illinois, the impacts of the proposed facility will be distributed across an area with a percentage of minorities below the overall state percentage and the percentage of people below the poverty level consistent with statewide averages. [*See, Petitioners' Exhibit 51; see also, Respondent's Exhibit 5, Modeling*

⁶¹ "Environmental justice community" is defined as "a minority or low-income community that bears disproportionately high and adverse human or environmental effects." Exec. Order No. 12,898, 59 Fed. Reg. 7,629 (February 16, 1994). [*See, Respondent's Exhibit 28*]

⁶² Petitioners' Exhibit 51 is a memorandum prepared by Illinois EPA counsel Chris Pressnall memorializing the Illinois EPA's activities and analysis conducted in response to public comments concerning potential EJ ramifications by the proposed plant. Petitioners' imply that the memorandum, because it was prepared during the remand period, summarily dismisses public comments regarding EJ without reasoned analysis. In fact, the memorandum explains analysis conducted during public comment period and is reflective of the Illinois EPA's statements in the *Responsiveness Summary*.

⁶³ The EJ GAT is an initial screening tool created by USEPA to determine if a source is located in an EJ community and thus, serves as the starting point of all USEPA EJ assessments. The EJ GAT allows a user to enter a specific location and generate information regarding, *inter alia*, demographic statistics at various radii from the proposed plant. www.epa.gov/compliance/environmentaljustice/assessment.html.

Addendum No. 2; see also Respondent's Exhibit 31 (Memorandum from Jeffrey Sprague to Shashi Shah, October 1, 2003). *memo concerning mercury*]. For example, at a radius of five miles, the population is 97.4 percent white with less than 10 percent living below the poverty level. [See, *Petitioners' Exhibit 51*]. Petitioners maintain that EJ communities located in the greater East St. Louis area and its current pollution burden dictate a re-evaluation of the proposed plant's impacts. The Illinois EPA's conclusions concerning potential EJ ramifications of the proposed plant are supported by the Administrative Record; Petitioners have failed to show that the Illinois EPA's adverse disparate impact analysis is clearly erroneous and merits review. The Petitioners' application of EJ principles to the proposed plant distorts the underlying premises and purposes of EJ.

Furthermore, the Illinois EPA's EJ obligations are derived from Illinois practice and policy. Actions by a state-delegated permitting authority pursuant to state law, policy, or practice are not properly reviewed in the context of a PSD permitting action. In addition, it is clear that the Executive Order does not create additional substantive requirements applicable to the PSD permitting process. For the reasons discussed herein, the Board should deny the Petitioners' request for review on EJ grounds.

1. Illinois EPA's EJ obligations emanate from state policy rather than federal or state law.

The Illinois EPA's actions and responses to public comments regarding EJ were governed by Illinois practice and policy not federal law, and therefore, should not form a basis for review of the Prairie State PSD permit. The federal government's EJ mandate resides in President Clinton's 1994 Executive Order on EJ⁶⁴ ("Executive Order"), which directed each

⁶⁴ *Executive Order* 12,898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. 59 Fed. Reg. 7,629 (February 11, 1994). The Executive Order was issued

federal agency to incorporate EJ as part of its mission. On its face, the Executive Order does not directly apply to state-delegated permitting authorities, such as the Illinois EPA, nor does it bind them to its edicts.⁶⁵

The Executive Order required the USEPA to develop strategies to aid in the identification and mitigation of disproportionately high and adverse human health or environmental impacts of its programs, policies, and activities on minority and low-income populations. On June 27, 2000, the USEPA published the *Draft Title VI⁶⁶ Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs ("Draft Recipient Guidance")* and *Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits ("Draft Revised Investigation Guidance")*.⁶⁷ The Draft Recipient Guidance, which is voluntary in nature, offers suggested approaches to address potential Title VI issues before a complaint is filed with the USEPA Office of Civil Rights ("OCR").⁶⁸ The Draft

to emphasize the requirements of Title VI of the Civil Rights Act of 1964 in the administration of federal environmental programs. [See, *Respondent's Exhibit 28*].

⁶⁵ The Board has recognized the need for federal clarification regarding how the Executive Order should be implemented in the context of delegated PSD programs. The Board has previously elucidated this conundrum by stating "[Shasta County California Air Quality Management District]AQMD, of course, is not a federal agency, and thus the Executive Order does not apply to AQMD directly. However, AQMD exercises delegated authority to administer and enforce the federal PSD program. As such AQMD 'stands in the shoes' of EPA for purposes of implementing the federal PSD program, and PSD permits issued by AQMD are considered federal permits." Without clear federal guidance, delegated authorities must be presumed to possess flexibility in the implementation of the goals of EJ. See, *In re Knauf Glass, GmbH*, 8 E.A.D. 121, 174 (EAB 1999).

⁶⁶ Title VI of the Civil Rights Act of 1964 [42 U.S.C. §§ 2000d to 2000d-7].

⁶⁷ 65 Fed. Reg. 39,649 (June 27, 2000).

⁶⁸ 65 Fed. Reg. 39,649, 39,351 (June 27, 2000).

Revised Investigation Guidance explains how the OCR processes a Title VI complaint alleging an adverse disparate impact(s) resulting from a permitting transaction.⁶⁹

On March 4, 2003, the Illinois EPA published an Interim EJ Policy.⁷⁰ The Interim EJ Policy memorialized past Illinois practice and recognized the evolutionary nature of EJ programs. The Illinois EPA addressed public comments concerning EJ in accordance with state practice and policy,⁷¹ consistent with federal EJ guidance.⁷² While the Illinois EPA is committed to promoting environmental equity in the administration of its programs to the extent it may do so legally and practicably, the Illinois EPA's Interim EJ Policy does not form a basis for the Board to review the issuance of the Prairie State PSD permit. The Board has held that actions undertaken by a state permitting authority pursuant to state law are not subject to review in the context of a PSD permit appeal. *In the Matter of Spokane Regional Waste-to-Energy Project*, PSD Appeal No. 89-4 at page ___ (Adm'r January 2, 1990) (state's failure to prepare a state supplemental environmental impact statement beyond the purview of a PSD appeal pursuant to 40 CFR §124.19, the purpose of which is to determine compliance with the CAA and applicable regulations).

In this matter, Illinois law is not at issue, as Illinois law did not mandate the creation of Illinois EPA's Interim EJ Policy. Rather, what is at issue is an interim policy document generated by the Illinois EPA. As such, the adequacy of the Illinois EPA's EJ activities are outside the scope of federal review because they were conducted pursuant to Illinois policy and do not relate to any delegation of federal authority.

⁶⁹ 65 Fed. Reg. 39,649 (June 27, 2000).

⁷⁰ www.epa.state.il.us/environmental-justice/policy.html. [*See, Respondent's Exhibit 27*].

⁷¹ [*Id.*].

⁷² *Draft Recipient Guidance and Draft Revised Investigative Guidance*. 65 Fed. Reg. 39,649.

2. The Board's authority to consider EJ within PSD permitting.

Before proceeding to the merits of the Petitioners' EJ arguments, it is appropriate to reflect upon the legal authority to consider the principles of EJ in the context of a PSD permitting action. The Executive Order explicitly states that it does not create a right to judicial review⁷³ and it must be implemented in a manner consistent with existing law.⁷⁴ Therefore, notwithstanding the EJ implications of the proposed facility, the Illinois EPA was required to issue the Prairie State PSD permit upon a showing that the proposed facility will comply with the applicable PSD requirements.⁷⁵

While the Executive Order does not create a right to judicial review, the Board has found that USEPA's actions undertaken pursuant to the Executive Order may be reviewed as a matter of discretion. In *Chemical Waste Management of Indiana*, the EAB found:

... while the Region is correct that section 6-609 precludes judicial review of the Agency's efforts to comply with the Executive Order, it does not affect implementation of the Order within an agency. More specifically, it does not preclude the Board, in an appropriate circumstance, from reviewing a Region's compliance with the Executive Order as a matter of policy or exercise of discretion to the extent relevant under section 124.19(a).

See, In re Chemical Waste Management of Indiana, Inc., 6 E.A.D. 66, 72 (EAB 1995). While the Board exercised its discretion to review USEPA's EJ activities, such discretionary review did not pertain to a state-delegated permitting authority such as the Illinois EPA.

⁷³ Section 6-609 of *Executive Order 12, 898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* 59 Fed. Reg. 7,629 (February 11, 1994). *See also, Sur Contra La Contaminacion v. Environmental Protection Agency*, 202 F.3d 443 (1st Cir. 2000).

⁷⁴ [*Id.*]. ("Federal agencies shall implement this order consistent with, and to the extent permitted by, existing law.").

⁷⁵ *See*, 40 CFR §52.21(a)(2)(iii).

Notwithstanding the limits of the Board's discretionary review, the Petitioners' EJ argument does not warrant an exercise of this discretion. The memorandum accompanying the Executive Order explains that the Order highlights existing laws useful in promoting the principles of EJ.⁷⁶ When exercising its discretion, the Board has looked to the public participation element of the permitting process and the RCRA omnibus provision as opportunities to further the mandates of the Executive Order. [*Id.* at page 73]. The PSD permitting process provides an opportunity for meaningful public participation through the statutory notice and comment period.⁷⁷ As discussed herein, meaningful public participation in the PSD permitting process is evidenced by an extended public comment period resulting in more stringent emissions limits.⁷⁸

While the Board has found that USEPA's actions undertaken pursuant to the Executive Order may be reviewed as a matter of discretion, the Executive Order is applicable to federal agencies. For the same reason it is inapposite here; thus a discretionary review of the Illinois EPA's actions in response to EJ concerns is inappropriate. The role of the federal government, as related to a state-delegated permitting authority, is to investigate and address alleged violations of Title VI of the Civil Rights Act of 1964. As such, the proper forum to address the Petitioners' EJ allegations is the OCR not the EAB.

3. Illinois EPA's EJ analysis is clearly supported by the facts in the Administrative Record.

⁷⁶ Memorandum regarding the Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, President Clinton, February 11, 1994. [*See, Respondent's Exhibit 29*].

⁷⁷ Any discussion of the RCRA omnibus provision is not relevant, as PSD does not have an analogous provision. Assuming PSD had an omnibus provision similar to that of RCRA, the data available to the Illinois EPA and the allegations presented in the Petition do not indicate that additional terms are necessary to protect public health and environment.

⁷⁸ [*See, Petitioners Exhibit 1, Unit-Specific Conditions 2.1.2(b)(iii)*].

The Petitioners allege that the Illinois EPA failed to conduct an EJ assessment.⁷⁹

Contrary to Petitioners' assertion, pursuant to public comments and in accordance with its Interim EJ Policy and federal guidance, the Illinois EPA appropriately considered the EJ implications of the proposed plant. Using demographic data from the EJ GAT in combination with information from significant impact area modeling,⁸⁰ the Illinois EPA concluded that the proposed plant does not give rise to EJ concerns. In fact, the Illinois EPA's adverse disparate impact analysis shows that the area surrounding the plant, in which the highest air quality impacts will occur, has a predominately white population with poverty levels consistent with statewide demographics.⁸¹ [See, *Petitioners' Exhibit 51*].

The Petitioners argue that the proper scope of an EJ assessment includes assessing the proposed plant's mercury emissions with other large mercury emitters to determine the impact on the East St. Louis area. [See, *Petition at pages 43-44*]. Petitioners then refer to an "EJ

⁷⁹ The Petitioners' fail to define the phrase "environmental justice assessment," and the meaning is not entirely clear from its usage within the Petition. In fact, Petitioners' interchangeably use the word to describe a cumulative risk assessment, a RCRA risk assessment, and a disparate impact analysis. [See, *Petition at pages 43-45*]. "Environmental justice assessment or analysis," as that term is used by the Illinois EPA, refers to an adverse disparate impact analysis.

⁸⁰ The *impact area* is the area in which the required air quality analysis for the NAAQS and PSD increments must take place. "This area includes all locations where the significant increase in the potential emissions of a pollutant from a new source, or significant net emissions increase from a modification, will cause a significant ambient impact (i.e., equal or exceed the applicable significant ambient impact level)." [See, *Respondent's Exhibit 4, at page C.26*]. The NAAQS set requirements for ambient levels of criteria pollutants that have been determined of protect public health. In general, the meeting of these health-based standards can be presumed to provide an appropriate level of protection of human health.

⁸¹ For example, at a radius of five miles, the population is 97.4 percent white (statewide average is 32.2 percent) and less than 10 percent of persons are below the poverty level (statewide average is 10.4 percent). [See, *Petitioners' Exhibit 51*].

assessment⁸² of the Onyx hazardous waste incinerator in Sauget, Illinois. As the Illinois EPA indicated in the *Responsiveness Summary*,⁸³ Onyx is not relevant to the issuance of the Prairie State PSD permit.⁸⁴ Simply referring to an analysis conducted of Onyx's mercury emissions does not establish that the scope of the Illinois EPA's EJ analysis is clearly erroneous. "In order to establish that review of a permit is warranted, section 124.19(a) requires a petitioner to both state the objections to the permit that are being raised for review, and to explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review." *See, In re Commonwealth Chesapeake Corp.* 6 E.A.D. 764, 769 (EAB 1997) citing, *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995). Petitioners' mercury argument is founded in conjecture and supposition rather than a scientifically supportable justification for an additional EJ assessment.

Combining the various elements of the Illinois EPA's analysis for the impacts of the proposed plant, the Illinois EPA conducted an adverse disparate impact analysis utilizing the Draft Recipient Guidance and Draft Revised Investigation Analysis.⁸⁵ The basic framework of a disparate impact analysis consists of five basic steps: 1) defining the scope; 2) assessing the

⁸² As discussed below, the Petitioners seem to be mistaking a RCRA risk assessment with an EJ assessment.

⁸³ [*See Petitioners' Exhibit 12, Response to Comment No. 34*].

⁸⁴ As indicated in the *Responsiveness Summary*, the Illinois EPA has referred the comment regarding Onyx to USEPA for further consideration in the proper forum. [*See, Petitioners' Exhibit 12, Response to Comment No. 34I*].

⁸⁵ 65 Fed. Reg. 39,649 (June 27, 2000). On March 4, 2005, the USEPA issued the *Draft Final Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs ("Draft Final Recipient Guidance")*. The Draft Final Recipient Guidance replaces the Draft Recipient Guidance issued in June 2000. The Draft Final Recipient Guidance does not specifically address the adverse disparate impact analysis, rather it focuses on public involvement. 70 Fed. Reg. 10,625.

impact; 3) assessing the adverse impact; 4) characterizing the populations and conducting comparisons; and 5) assessing the adverse disparate impact.⁸⁶ However, the disparate impact analysis is based upon the facts and totality of the circumstances each case presents.⁸⁷ Furthermore, the USEPA recognizes that parts of the adverse disparate impact analysis framework will be omitted, altered, or supplemented to address the particular characteristics of each situation.⁸⁸

To determine whether the potential impact is significantly adverse, the Illinois EPA looked to NAAQS modeling.⁸⁹ The risk or measure of impact was evaluated and compared to benchmarks provided under the PSD regulations,⁹⁰ which demonstrated that emissions from the proposed plant will not cause or contribute to any exceedence of any NAAQS. [*See, Respondent's Exhibit 5*]. Air quality that adheres to the NAAQS is presumptively protective of public health in the general population,⁹¹ thus is not significantly adverse pursuant to USEPA guidance.⁹²

The Illinois EPA also characterized the population affected by air emissions from the proposed plant at various distances. USEPA guidance states that the proximity analysis should

⁸⁶ 65 Fed. Reg. 39,649, 39,660 (June 27, 2000).

⁸⁷ 65 Fed. Reg. 39,649, 36,676 (June 27, 2000).

⁸⁸ [*Id.*].

⁸⁹ Modeling was conducted for PM, SO₂, CO, and ozone.

⁹⁰ 65 Fed. Reg. 39,649, 39,661 (June 27, 2000).

⁹¹ *See*, 42 U.S.C. §7409 (b) (NAAQS are set at levels designed to protect public health and welfare); *see also*, 40 CFR §50.2 (NAAQS are set at levels designed to protect public health).

⁹² 65 Fed. Reg. 39,649, 39,680 (June 27, 2000).

reflect the environmental medium and the impact of concern.⁹³ Based on comments⁹⁴ received during the public comment period and the proposed facility's status as an air emitter, rather than focusing on one radius, the Illinois EPA retrieved population data from a number of different radii. [See, *Petitioners' Exhibit 51*]. For air emissions, an inverse relationship with distance from a source within a circle can be used (i.e., the further away from a source, less the potential degree of impact to a population).⁹⁵

The Illinois EPA used the USEPA's EJ GAT to determine the demographics of the population around the proposed facility. The Illinois EPA generated demographic information for radii of one, two, five, and ten miles. The Illinois EPA then correlated each radii with statewide demographics. The Illinois EPA's demographic analysis demonstrates that communities at radii of one, two, five and ten miles are comprised of minority populations far below statewide averages and low-income populations consistent with that of statewide averages. [See, *Petitioners' Exhibit 51*]. Accordingly, the Illinois EPA concluded that any environmental impacts affecting the surrounding community will not be disproportionately borne by low-income or minority individuals.

As it is abundantly clear that the area surrounding the proposed plant does not give rise to EJ concerns, the Petitioners point to a particular EJ community over 30 miles from the proposed plant. Petitioners urge an EJ assessment focusing on the proposed plant's effect on mercury levels in the East St. Louis area. [See, *Petition at pages 43-44*]. It must be initially noted that

⁹³ 65 Fed. Reg. 39,649, 39,681 (June 27, 2000).

⁹⁴ Comments related to EJ received by the Illinois EPA during the notice and comment period can be generalized as follows: 1) the location of the proposed plant gives rise to EJ concerns and 2) emissions from the proposed plant will exacerbate the alleged mercury problem in East St. Louis. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 340-343*].

⁹⁵ 65 Fed. Reg. 39,650, 39,681 (June 27, 2000).

the Petitioners' confusing use of terminology and failure to articulate a coherent point render it difficult for the Illinois EPA to respond.

Petitioners' argue that the EJ assessment should include "a number of large existing sources of air pollution, as well as a number of new sources, including the recently-approved Holcim Cement plant...." [*See, Petition at page 43*]. The Petitioners suggest that the proposed plant, as an emitter of mercury, should be evaluated in conjunction with an undefined universe of sources. [*Id. at pages 43-44*]. Not only do the Petitioners fail to specify the sources they believe should be included in such an EJ assessment, they do not substantiate their recommendation with facts within the Administrative Record or elsewhere.

The EAB has held that the petitioner has the burden of demonstrating that review of a particular permit condition is warranted, and in doing so, the petitioner must include information specific to support its allegations. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701, 705 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 688 (EAB 1999). In fact, the Administrative Record includes modeling for mercury, which indicates mercury levels that are several magnitudes below the de minimis monitoring levels,⁹⁶ with the greatest concentrations of ambient mercury occurring in the area near the proposed plant.⁹⁷

Lastly, Petitioners contend that USEPA is conducting an EJ assessment in conjunction with its permitting decision for the Onyx hazardous waste incinerator in Sauget, Illinois. [*See, Petition at page 44*]. The scope of the assessment allegedly includes the effect of mercury

⁹⁶ [*See, Respondent's Exhibit 30 (Summary of mercury highest 24-hour results); see also, Respondent's Exhibit 31*]

⁹⁷ [*Id.*]. This area clearly is not an EJ community. At a radius of one mile, the population is 99.7 percent white with approximately 6 percent living below the poverty level.

exposure among subsistence anglers in East St. Louis.⁹⁸ An assessment of Onyx's impacts to the East St. Louis area is not relevant in the current proceeding. As discussed, the mercury impacts from the proposed plant on the East St. Louis area are predicted to be far below de minimis levels and the majority of the impacts of the proposed plant will be borne by those in the surrounding communities.⁹⁹

4. Meaningful public participation is clearly supported by the facts in the Administrative Record.

Petitioners argue that the Illinois EPA failed to ensure meaningful public participation of the EJ communities in and around East St. Louis and other EJ communities that “an environmental justice assessment might identify.” [See, *Petition at page 44*]. Petitioners’ specious argument is misguided and misplaced within the context of Prairie State’s PSD permit, as the Illinois EPA provided ample opportunity for public participation through an extended public comment period. Petitioners presuppose an adverse disparate impact of the East St. Louis

⁹⁸ The Petitioners imply that mercury emissions from the proposed plant will exacerbate the “existing mercury problem” in East St. Louis. [See, *Petition at page 43*]. The EAB has held that the petitioner has the burden of demonstrating that review of a particular permit condition is warranted, and in doing so, the petitioner must include information specific to support its allegations. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 688 (EAB 1999). The Petitioners fail to provide any empirical evidence supporting their claim. The Illinois EPA utilized its legal authority pursuant to Section 112(g)(2)(B) of the CAA to implement a case-by-case MACT standard for mercury emissions (“After the effective date of a permit program under title V in any State, no person may construct or reconstruct any major source of hazardous air pollutants, unless the Administrator (or the State) determines that the maximum achievable control technology emission limitation under this section for new sources will be met. Such determination shall be made on a case-by-case basis where no applicable emission limitations have been established by the Administrator”). The PSD permit MACT standard represents the maximum reduction of mercury emissions given cost and feasibility considerations.

⁹⁹ Petitioners may be referring to the risk assessment conducted by USEPA pursuant to its authority under RCRA, however, the Petitioners’ argument is not clear. The risk assessment evaluated, *inter alia*, the potential impact of mercury emissions from Onyx on human health. This is not the proper forum to discuss the Onyx risk assessment. Furthermore, the Illinois EPA is unaware of a cumulative risk assessment being conducted by USEPA. Notwithstanding, the Illinois EPA is committed to working with USEPA to evaluate and address, in the appropriate context and forum, any adverse impacts in and around the greater East St. Louis area attributable to Onyx or any other air emission source.

area that is not substantiated by the Administrative Record. [See, *Petition at page 44*].

Furthermore, public participation directly resulted in significant permit revisions, including reductions to the proposed plant's permitted limits.

Access to public information and opportunity for public participation are important components of EJ.¹⁰⁰ A key goal of the Illinois EPA's draft Interim EJ Policy is "to strengthen the public's involvement in environmental decision-making, including permitting and regulation, and where practicable, enforcement matters." [See, *Respondent's Exhibit 27 at page 1*].

Therefore, a significant portion of the Illinois EPA's draft Interim EJ Policy is devoted to public participation approaches and strategies. [See, *Respondent's Exhibit 27, pages 3-5*]. Many of the activities contemplated in the draft Interim EJ Policy, such as community outreach and small group meetings, are beyond the applicable statutory and regulatory public participation requirements, evidencing Illinois EPA's overall commitment to public involvement.

Regarding the issuance of Prairie State's PSD permit, the Illinois EPA focused public participation efforts on the local community, as local residents were expected to and did demonstrate the most interest and concern about impacts from the proposed plant's emissions.

However, the Illinois EPA also ensured that other concerned individuals/organizations were provided ample opportunity to express their concerns. Specifically, prior to issuing Prairie State's PSD permit, the Illinois EPA provided the legally required 75-day public notice and comment period¹⁰¹ and extended the deadline for submission of written comments five times.¹⁰²

¹⁰⁰ See, USEPA's *Draft Final Recipient Guidance*, (focusing solely on public involvement in the environmental permitting process). 70 Fed. Reg. 10,625 (March 4, 2005).

¹⁰¹ See, 35 Ill. Adm. Code 166; see also, 40 CFR §124.10(b)(2) (public notice regulations). While the public notice regulations are expressly applicable to NPDES, UIC, and RCRA permits, the regulations would also be construed as the minimum applicable requirements for a PSD permit. Therefore, the minimum federal public comment period would be 30 days. By state regulation, the minimum applicable public comment period for a PSD permit is 75 days.

The public notice and comment period began on February 4, 2004, and ultimately ended on August 27, 2004, affording the public over six months to submit comments regarding Prairie State's draft PSD permit.

The Petitioners' assertion that the Illinois EPA failed to ensure meaningful public participation during the pendency of the PSD permit is wholly without merit. Petitioners argue that Illinois EPA should have ensured the meaningful public participation of the EJ communities in the East St. Louis area. [See, *Petition at page 44*]. The principles of EJ do not mandate that the Illinois EPA seek involvement of every EJ community theoretically affected by a proposed source, no matter how distant from the project and how miniscule the potential impact or how remote the likelihood of the potential impact adversely affecting the community. *See also, In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001) (holding petitioners' objections did not warrant review as they were merely speculative in nature). Rather, according to the principles of EJ, minority and/or low-income communities that have the potential to bear a disproportionately high and adverse impact should be provided a meaningful chance to participate in the decision-making process.¹⁰³ As discussed herein, the Illinois EPA is not aware of any data demonstrating that the residents of East St. Louis will bear a disproportionately high and adverse impact from the proposed plant.

¹⁰² The notice and comment period began on February 4, 2004, and a public hearing was held on March 22, 2004. The notice and comment period initially was scheduled to end on April 21, 2004. Via five separate orders, based on public interest in the draft permit, the hearing officer extended the deadline to submit written comments to August 27, 2004. www.epa.state.il.us/public-notices/2004prairie-state-generating-company/index.html.

¹⁰³ Meaningful public participation within the context of EJ is designed to minimize or eliminate the filing of Title VI complaints. Without a legitimate Title VI complaint, as is the case with Prairie State's permit, there is no expectation for the inclusion of any specific EJ community (e.g., East St. Louis) in the public participation process. *See*, 65 Fed. Reg. 39,650, 39,657 (June 27, 2000); *see also*, 70 Fed. Reg. 10,625 (March 4, 2005).

Contrary to the Petitioners' argument, the public participation element of the PSD permitting process resulted in significant permit revisions, including substantial environmental benefits through stricter emission limitations. For instance, the Illinois EPA received public comments concerning the applicability of SO₂ and NO_x emissions limits during startup and shutdown;¹⁰⁴ the final permit specifically requires the continuous applicability of SO₂ and NO_x emissions limits during the boilers' operation, including startup, shutdown, and malfunction.¹⁰⁵ The Illinois EPA also received several comments concerning the SO₂ and NO_x BACT determinations¹⁰⁶ and the Prairie State final permit contained more stringent SO₂ and NO_x limits.¹⁰⁷ In addition, the Illinois EPA received comments that the number of diesel engines was not specified and that the type of fuel burned by the engines was not restricted to ultra-low sulfur diesel fuel (i.e., bio-diesel).¹⁰⁸ In response to such comments, the final permit specifically limits Prairie State to two diesel engines that must use ultra-low sulfur diesel fuel (i.e., bio-diesel).¹⁰⁹ The Board has recognized more restrictive emission limits in a PSD permit as evidencing effective public participation in the context of EJ. *See, In re AES Puerto Rico, L.P.*, 8 EAD 324, (EAB 1999). Furthermore, the Board has found the minimum applicable public participation requirements sufficient in light of more stringent emissions limits. *See, In re Knauf Glass, GmbH*, 9 EAD 1, 17 (March 14, 2000) ("...although petitioners may not be fully satisfied with

¹⁰⁴ [See, Petitioners' Exhibit 4 at page 22 and Petitioners' Exhibit 5 at page 38].

¹⁰⁵ [See, Petitioners' Exhibit 1, Unit-Specific Conditions 2.1.2(b)(ii) and 2.1.2(b)(iii)].

¹⁰⁶ [See, Petitioners' Exhibit 5 at pages 1 and 7; Petitioners' Exhibit 6 at pages 22 and 23; Petitioners' Exhibit 7 at page 16; see also, Petitioners' Exhibit 9 at page 1].

¹⁰⁷ [See, Petitioners' Exhibit 1, Unit-Specific Conditions 1.5(b)(iv), 2.1.2(b)(ii)(B) and 2.1.2(b)(iii), and 2.1.7(a)(ii)].

¹⁰⁸ [See, Petitioners' Exhibit 6 at page 26].

¹⁰⁹ [See, Petitioners' Exhibit 1, Unit-Specific Condition 1.5(b)(iv)].

the type of public participation that occurred here, it was, in fact, effective in securing an environmental benefit through lower emissions.”). The Administrative Record demonstrates compliance with the controlling public participation requirements. Further, Prairie State’s PSD permit evidences effective public participation as public comments directly resulted in a more restrictive PSD permit.

5. Illinois EPA’s use of the EJ GAT is not clearly erroneous .

Finally, the Petitioners argue that the EJ GAT’s ten-mile maximum radius renders its use inappropriate as the impact of the proposed plant’s emissions extends beyond ten miles. [*See, Petition at page 45*]. The Petitioners rely on nothing but conjecture regarding the impacts of the proposed plant on East St. Louis to refute the Illinois EPA’s utilization of the EJ GAT. *See, In re Three Mountain Power, L.L.C.*, 10 E.A.D. 39, 53 (EAB 2001) (holding petitioners’ objections did not warrant review as they were speculative in nature).

The use of the EJ GAT was justified given the location of the proposed plant (i.e., rural southern Illinois) and the significant impact data. Accordingly, the Board should defer to the Illinois EPA’s technical judgment. *See, In re Chemical Waste Management of Indiana, Inc.*, 6 EAD 66, 80 (EAB 1995) (“[t]he proper scope of a demographic study to consider such impacts is an issue calling for a highly technical judgment as to the probable dispersion of pollutants through various media into the surrounding community. This is precisely the kind of issue that the Region, with its technical expertise and experience, is best suited to decide”). In the absence of specific facts demonstrating that the choice of radius was clearly erroneous, the Board should give broad discretion to Illinois EPA’s technical judgment. [*Id.*] (“...the procedural rules governing appeals of permitting decisions place a heavy burden on petitioners who seek Board review of such technical decisions. To carry that burden in this case, Petitioners would need to

show either that the Region erred in concluding that the permit would be protective of populations within one mile of the facility, or that, even if it were protective of such close-in populations, it for some reason would not protect the health or environment of citizens who live at a greater distance from the facility”).

Petitioners argue that the EJ GAT is illogical because of the minority and low-income individuals residing in East St. Louis at the outer boundaries of the significant impact area, seemingly ignoring basic adverse disparate impact analysis methodology. [*See, Petition at page 45*]. Simply because the air quality impacts of the proposed plant are predicted to extend beyond a ten-mile radius, it does not follow that such impacts will have a disproportionately high and adverse impact on minority and/or low-income communities.¹¹⁰ The ambient air quality analysis performed by Prairie State defined the significant impact area. [*See, Respondent's Exhibit 5, Modeling Addendum No. 2, page 1*]. At the boundaries of the significant impact area, the effects of emissions on human health and the environment are predicted to be trivial. They are also shared equally by a number of different communities, including both EJ and non-EJ communities. While East St. Louis certainly experiences a significant pollution burden from the many point and non-point pollution sources located in and around the area, emissions from the proposed facility cannot be said to have a disproportionately high and adverse impact on that community. The significant impact modeling demonstrates that the potential pollution contribution of the proposed plant to the East St. Louis area is negligible, as it is located outside of the significant impact area. [*Id.*].

¹¹⁰ The Petitioners' attempt to equate visibility issues in the Mingo Wilderness Area with the disparate adverse impact analysis. [*See, Petition at page 44*]. Impacts on visibility do not relate to high adverse impacts on human health and the environment. The Illinois EPA has not suggested that East St. Louis will not be impacted by the proposed facility's emissions, but rather, the emissions that do impact the area will be so slight as to be de minimis.

In summary, the Illinois EPA used proximity to the proposed facility, in accordance with USEPA guidance,¹¹¹ to assess the potentially affected populations. As distance from the proposed facility increases, the predicted impacts decrease. At the outer boundary of the significant impact area, where East St. Louis is located, the effects are so small as to be trivial. Therefore, the Illinois EPA concluded, through the EJ GAT demographic information and significant impact area modeling data, that minority and/or low-income communities will not bear disproportionately high and adverse impacts from the proposed plant's emissions. In view of the Illinois EPA's considered judgment and review of potential adverse impacts to EJ communities, the EAB should decline consideration of this issue.

H. The Illinois EPA's Consideration of Safety Factors in Establishing BACT Was Appropriate.

Amidst the several arguments raised in the Petition with respect to the selection of BACT, Petitioners quibble with the Illinois EPA's consideration of safety factors for some of the BACT limits established for the Prairie State project. As framed by the caption of its argument in the Petition, Petitioners claim that the Administrative Record for the Prairie State project does not contain sufficient documentation of the safety factors considered by the Illinois EPA in establishing the SO₂ control efficiency requirement and the NO_x and PM/PM₁₀ emission limits. At other points in their argument, Petitioners level a broader attack by alleging that even if the Illinois EPA had documented its reasons for employing a safety factor, such use was erroneous and contrary to the legal standard articulated by the EAB in this context. Both prongs of argument must fail on procedural and substantive grounds.

1. Petitioners' issue was not raised during the public review process.

¹¹¹ *Draft Recipient Guidance and Draft Revised Investigative Guidance*. 65 Fed. Reg. 39,649 (June 27, 2000).

The gist of the Petitioners' issue is presented for the first time on appeal. Petitioners challenge the Illinois EPA's consideration of safety factors without any mention of, or citation to, the relevant portions of the Administrative Record demonstrating that the issue was raised during public comment or at the public hearing. Instead of identifying specific comments, Petitioners point to a multitude of references in the *Responsiveness Summary* wherein the Illinois EPA cited to the use of safety factors in the determination of a BACT-related requirement. [See, *Petition at pages 45-46*]. As it happened, these references were made in responding to comments that were raised by public comments about whether various BACT limits were sufficiently stringent in light of other BACT determinations.

As a general rule, the EAB requires a petitioner to demonstrate that objections raised on appeal were specifically raised during the public comment period or at the public hearing. See, *In re Sumas Energy 2 Generation Facility*, PSD Appeal No. 05-03, slip opinion at 8 (EAB, May 27, 2005); see also, *In re Maui Electric Company*, 8 E.A.D. 1, 8-9 (EAB 1998). This showing is a logical outgrowth of the EAB's requirement that persons "must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their positions" by the end of the public review process. See, 40 C.F.R. §124.13; see also, *In re Rockgen Energy Center*, 8 E.A.D. 536, 540 (EAB 1999).

The genesis of Petitioners' argument arises from the justifications offered by the Illinois EPA in the text to its response to comments, not from comments specifically raised during the public comment period. None of the comments that accompany those responses dealt with concerns relating to the safety margins inherent in the limits themselves. To the extent that the inclusion of safety factors in BACT limits is hardly uncommon, Petitioners should have been expected to raise such issues relating to the draft permit during the public comment period. If

issues relating to certain BACT limits were not reasonably ascertainable at the time of public comment, then Petitioners failed to make that showing in their Petition. For these reasons, the EAB should deny review of these safety factor issues on the basis that they were not preserved for appeal.

2. Petitioners' argument misstates applicable law regarding the consideration of safety factors in a BACT analysis.

One of the common themes in Petitioners' argument is that the Illinois EPA failed to articulate a basis for its consideration of safety factors in a manner that comports with the EAB's proscribed requirements for a BACT analysis. In this regard, Petitioners fault the Illinois EPA for failing to ascribe a definition to the term "safety factor" or to explain a methodology for its use in the relevant BACT analyses. [See generally, *Petition at pages 46-47*]. Petitioners contend that such a showing is necessary in order to justify any BACT limit that falls short of the maximum degree of reduction that is achievable. [See, *Petition at page 46*]. In addition, Petitioners assert that any departure from the strict application of BACT has been narrowly circumscribed by the EAB, citing *In re Masonite Corporation*, 5 E.A.D. 551 (EAB 1994). Although the *Masonite* decision is admittedly pertinent here, Petitioners' interpretation of its meaning is markedly inaccurate.

The concept embraced by the *Masonite* opinion is that a BACT determination must not, by necessity, represent the "highest possible control efficiency" achievable by the given technology. [*Id. at 560*]. As the *Masonite* decision makes clear, permit authorities retain discretion in establishing a BACT level of control that takes into account the inherent limitations in the technology or its applicability to the source. Contrary to Petitioners' assertions, such discretion is not restricted by *Masonite* to a narrow set of circumstances. While some of the

more common reasons may have been noted by the EAB in its decision, *Masonite* does not confine the scope of agency discretion to those factors alone.

Perhaps the most noteworthy reason for this proposition is to enable a permitted source to achieve compliance on a consistent basis. In *Masonite*, the EAB aptly described the situation as one where the selected technology cannot achieve its “optimal control efficiency” due to fluctuations in its control efficiency and, as such, the highest possible control efficiency “would make violations of the permit unavoidable.” [*Id.*]. The identical sentiments have been observed in other decisions by the EAB. The EAB’s opinion from *Knauf Fiber Glass, GmbH*, aptly illustrated that “[t]here is nothing inherently wrong” with the use of a reasonable safety factor and, further, that it is a “legitimate method of deriving a specific emission limitation that may not be exceeded.” *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1, 15 (EAB 2000). Similarly, the *Three Mountain Power, LLC*, ruling unequivocally rejected the argument that a BACT limit must be made “without regard to specifying an emission limitation that the proposed facility can demonstrate compliance with under all operational circumstances and have sufficient margin over actual operational data to avoid continual compliance difficulties.” *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 53 (EAB 2001).

Moreover, the EAB has not held permit authorities to a rigorous level of justification, or required a particular formula or select methodology, for employing a safety factor in the development of a BACT limit. Such rigor would be inconsistent with the EAB’s recognized vesting of broad discretion in permit authorities, especially in technical matters that, as here, demand some degree of subjectivity. That is not to say that permit authorities possess boundless latitude in taking into account a margin of compliance safety for a given BACT limit. Language from the EAB’s rulings, including the often-cited discussion of a BACT limit that is “somewhat

lower” than the highest possible control efficiency, indicates that permit authorities should carefully tailor their consideration of safety factors to facts supported by the Administrative Record of the permit. As explained below, the Illinois EPA’s use of safety factors is sufficiently supported by facts in the record of this proceeding.

3. Petitioner has failed to substantiate its argument or demonstrate that the Illinois EPA’s use of safety factors was clearly erroneous or otherwise merits review.

The main thrust of Petitioners’ argument is that the Illinois EPA failed to justify the use of compliance safety factors in setting the BACT requirements for NO_x, PM/PM₁₀ and the SO₂ control efficiency. As part of this broader challenge, Petitioners attempt to show that the margins for safety for the Prairie State project are excessive in comparison to other projects and that the selection of longer averaging periods for at least two of the BACT limits negate against any consideration of safety factors. A more sensationalistic charge is made by Petitioners when they claim that the Illinois EPA “indiscriminately” applied safety factors in its technical analyses in order to “avoid setting lower emission rates” and to “water down” BACT. [*See, Petition at pages 47, 48*]. Petitioners’ arguments ring hollow in all respects.

a. Safety factor for the SO₂ control efficiency requirement.

The Illinois EPA’s reasons for establishing an over-arching 98 percent control efficiency for SO₂ emissions is well-documented in the Administrative Record of this proceeding. [*See generally, Petitioners’ Exhibit 12, Response to Comment Nos. 99-124; Respondent’s Exhibit 15 at pages 8-10*]. In the selection of the SO₂ control efficiency requirement for Prairie State, the Illinois EPA considered some practical implications that supported the use of safety factors.

In its response to comments, the Illinois EPA generally observed that a BACT level of performance “need not reflect the lowest possible emission rate or the highest possible control

efficiency.” [*Petitioners’ Exhibit 12, Response to Comment No. 100*]. The Illinois EPA also confirmed that it is a common practice for permitting authorities to establish a limit that enables a source to “achieve compliance on a consistent basis.” [*Id.*]. The Illinois EPA has traditionally approached safety factors as a comparative analysis, treating them as an approximated margin for error with respect to a potential BACT limit and a particular point of reference, such as vendors’ guarantees, engineering estimates or commonly known experiences by other sources.¹¹² As to the SO₂ control efficiency requirement for Prairie State, several aspects relating to safety factors were considered by the Illinois EPA.

In addressing Carneuse Lime’s comment regarding a scrubber that achieved a purported 98.4 percent control efficiency, the Illinois EPA offered one illustration of its consideration of safety factors. The Illinois EPA explained that the difference between the comment’s cited example of an actual emission rate and the overall SO₂ control efficiency requirement set for Prairie State could be deemed an appropriate “safety factor” because it is representative of a more normal operating practice for the proposed boilers. After examining the margin of errors in the uncontrolled emissions from each example, the Illinois EPA went on to conclude that:

Such a safety factor would be particularly appropriate with the data cited by this comment because it is unclear that the control system being pointed to consistently achieved 98 percent control, even on an annual basis. In this sense, while 98.4 percent control was achieved at times, the comment does not show that 98.4 percent control is achievable on a continuing basis.

[*Id.*].

¹¹² The Petitioners correctly paraphrase the Illinois EPA’s discussion of safety factors in the Final Calculation Sheet and the *Responsiveness Summary*. [*See, Petition at page 47*]. However, the rationale by which Petitioners are calculating their own safety margin estimates is not plainly intelligible and is clearly at odds with how the Illinois EPA considered the relevance of safety factors. For example, Petitioners cite to several safety factors in this and other sections of their argument that are accompanied by footnoted calculations of a lb/mmBtu BACT limit divided by emission rates from other projects. Petitioners do not explain what such calculations depict or how they compare to the Illinois EPA’s own consideration of safety factors.

Other responses to comments in the *Responsiveness Summary* mirror the same sentiments. For example, while some SO₂ controls might be capable of achieving higher levels of performance (i.e., 99 percent removal) on a short-term basis, the Illinois EPA explained that it cannot be shown or assumed that such performance can be reliably achieved on a continuous basis. [*Id.*, *Response to Comment Nos. 110 and 111*]. One commenter observed that the AES plant in Petersburg, Indiana, achieved scrubber efficiencies of greater than 98 percent on an annual basis in 2003 as a result of upgrades to certain scrubber equipment. [*Id.*, *Response to Comment No. 114*]. In noting that the calculated efficiencies for the two boilers were 97.95 and 98.27 percent, respectively, the Illinois EPA reasoned that the information did not “demonstrate achievement of an actual level of control efficiency that would allow a limit higher than 98 percent control to be set with an adequate factor of safety.” [*Id.*]. Rather, the data revealed that the identified scrubbers achieved “approximately” the same control efficiency as set for the Prairie State project on the same calendar year basis.

Apart from offering two comparisons that were previously addressed by the Illinois EPA in its *Responsiveness Summary*, Petitioners do not support their argument with any relevant or technical facts. Petitioners summarily charge that the Illinois EPA wrongly applied safety factors to avoid setting stringent standards and that the consideration of safety factors was not limited to the most “extraordinary circumstances,” yet the Petition is void of any proof or legal support for either proposition. And by ignoring the Illinois EPA’s explanations from its *Responsiveness Summary* and other portions of the record, Petitioners utterly fail to substantiate their arguments or otherwise show that the consideration of safety factors was clearly erroneous or warranted EAB review.

Petitioners also decry any consideration of a safety factor for the SO₂ control efficiency requirement for the annual limit based on a 12-month rolling average. [*See, Petition at page 47*]. This criticism is based on the notion that such a generous averaging period represents, in and of itself, a type of safety factor because it “allows upsets to be minimized by long periods of emissions slightly below the permit limits.” [*Id.*]. Petitioners tap into a well-known relationship between emissions and a given compliance time period but their conclusion is misplaced and unsupported by technical justification.

The Illinois EPA does not dispute that longer averaging periods generally enable a “more exacting” control of emissions, whereas shorter averaging periods will generally result in a greater spread between typical emissions and the peak emissions, which must be accommodated when setting BACT limits. Similar principles were echoed by one of Prairie State’s consultants reviewing the applicability of long-term averaging data to projected emission rates. [*See, Respondent’s Exhibit 32 (Application of Long-Term Averaging Data to Project SO₂ and NO_x Emissions Targets from the Proposed Prairie State Generating Station, J. Edward Cichanoqicz)*]. However, longer averaging times do not eliminate the need for safety factors. While the peaks and valleys normally experienced with the performance of control systems may be less pronounced over on an annual basis, the laws of probability indicate that a limit set without a safety margin or consideration for variability will not be met on a continual basis, year in and year out. Some variability in the normal operation of and performance of control systems will occur even with annual averaging times. This phenomenon was shown to exist with the USFS performance data, as discussed by the Illinois EPA in its Final Calculation Sheet. [*See, Respondent’s Exhibit 15*].

Rather than negate the existence of safety factors, the Illinois EPA has explained that longer averaging times should act to reduce the “magnitude” of the safety factor otherwise needed for limits based on shorter averaging periods. [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 99 and 141*]. In this regard, the *Responsiveness Summary* reveals a concerted effort by the Illinois EPA to minimize the magnitude of the safety factor for the SO₂ control efficiency requirement. For example, the Illinois EPA stated the following in its response to a comment:

There was also a desire to have an actual level of performance for the SO₂ scrubbers that approaches the limit, *without an even larger margin of safety, as needed with even a limit that is applicable on a monthly basis to account for normal variability in operation and performance of control systems when considered on a shorter time period (emphasis added).*

[*Id.*, *Response to Comment No. 99*]. Similarly, in discussing the three best-achieving scrubbers from USFWS data (i.e., Harrison, West Virginia plant), the Illinois EPA stated:

This [USFWS] data indicates that a SO₂ limit based on 98 percent control on an annual basis *only provides a safety margin of about 10 percent* to accommodate variability of performance from year to year (emphasis added).

[*Id.*]. In both instances, Illinois EPA expressed concern for an unnecessarily large safety factor.

b. Safety factor for NO_x emission limit.

Petitioners’ arguments regarding the consideration of safety factors for the NO_x emission limit is lacking in substance and technical justification. Indeed, it is difficult to follow Petitioners’ contentions without resorting to speculation about their meaning. In most respects, Petitioners raise some of the same unsubstantiated claims as were mentioned in the SO₂ argument above. For instance, they accuse the Illinois EPA of being “indiscriminate” and too “generous” with its use of safety factors and contend that the requisite legal formalities (i.e., identifying methodology and applying factors from *Masonite* decision) were not properly

followed. [See, *Petition at page 48*]. The Illinois EPA addressed these issues in the subsection above.

In the sparsely-written span of two paragraphs, Petitioners appear to mount only one new line of argument, when compared to its companion argument for the SO₂ control efficiency requirement discussed above. Specifically, Petitioners maintain that the Illinois EPA should not have employed a safety factor in its analysis when other sources are shown to achieve lower NO_x emission rates without them, especially where a comparison to one of those sources purportedly results in a margin of safety for Prairie State on the order of 400 percent. The substance of much of this argument is relegated to a passing footnote, which is perhaps indicative of its relative merits.¹¹³ Absent information about how the alleged emission rates compare with respect to their respective permitted limits, which Petitioners' conspicuously do not provide, no tangible analysis can be ventured.

More significantly, the thrust of the argument is baseless, as the Illinois EPA rejected the referenced NO_x emission rates primarily because they were not representative of a NO_x limit that could be established as BACT for Prairie State.¹¹⁴ Indeed, the notion that sources can achieve lower emission rates without a safety factor lacks any scientific basis. Emission rates that are achieved during performance tests, by themselves, are independent of safety factors. Emission

¹¹³ [See, *Petition at page 48, fn. 29*]. Petitioners' reference to the existence of a 400 percent safety factor in their footnote is contrived. The estimate is derived from a comparison to a .015 lb/mmBtu limit based on a 3-hour averaging period, which seemingly forms the basis for the argument that Prairie State's limit based on a 30-day averaging period is a "very long NO_x averaging time." [See, *Petition at page 48 and fn. 29; see also, Petitioners' Exhibit 12, Response to Comment No. 132*]. However, Petitioners do not establish that the base emission rate is in any way transferable to Prairie State. They also do not cite any empirical evidence suggesting that the shorter averaging time is warranted here.

¹¹⁴ In one of the responses referenced by Petitioners, the Illinois EPA admittedly mentioned the need for a "modest" safety factor for the selected control technology due to "normal variability and degradation over its operating cycle." [See, *Petitioners' Exhibit 12, Response to Comment No. 132*]. In another referenced response to comments, the Illinois EPA noted the desirability for a compliance safety factor where a limit is based upon a small amount of available data. [*Id., Response to Comment No. 137*].

limits, on the other hand, will ordinarily rely upon safety factors because a source is obligated to achieve consistent compliance within the framework of the permitted limit. To paraphrase one of the arguments presented to the EAB, a permittee must be afforded a “sufficient margin over actual operational data to avoid continual compliance difficulties.” *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 53 (EAB 2001).

Safety margins can also be seen interacting with the development of regulatory control standards. In their argument challenging the selection of BACT for NO_x, Petitioners call attention to USEPA’s proposed revisions for certain electric utility steam generating units that were proposed on February 28, 2005.¹¹⁵ [See, *Petition at page 102*]. In discussing the selection of revised NO_x limits, USEPA evaluated recent operating data for SCR controls, including data from the WA Parish coal facility that was considered by the Illinois EPA and included in the Administrative Record for this proceeding.¹¹⁶ Despite evidence that the WA Parish coal plant was achieving a 0.04 lb/mmBtu heat input, USEPA proposed to set a revised standard based on 0.11 lb/mmBtu heat input. In doing so, the USEPA can be seen as incorporating a margin for safety into the emissions standard, if only for the reason of allowing alternative controls.

c. Safety factor for PM/PM₁₀ emission limit

¹¹⁵ Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978; Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units; 70 Fed. Reg. 9,706 (February 28, 2005). The promulgation of the proposed regulations occurred during the pendency of the earlier appeal filed by Petitioners and prior to the remand ordered by the EAB on March 25, 2005. *In re Prairie State Generating Station*, PSD Appeal No. 05-02, slip op., 12 E.A.D. ___ (EAB 2005).

Although the Illinois EPA did not rely upon the proposed regulations in its consideration of the final permit, it is presumed that this type of regulatory proposal can be said to reflect USEPA’s current state of thinking on the subject. For this reason, the Illinois EPA trusts that the EAB, if so desired, may take official notice of the rulemaking irrespective of whether it was formally considered by the Illinois EPA in issuing the final permit.

¹¹⁶ See, *Response to Petition for Review*, Section S.

This argument shares the same common themes that ran through the previous subsections, thus many of Petitioners' arguments have already been addressed. A notable difference relates to one of the Illinois EPA's response to comments in the PM/PM₁₀ section of the *Responsiveness Summary*. Specifically, Petitioners question the basis for statements concerning the need for safety factors for the separate limits for filterable PM and total PM₁₀.

In its *Responsiveness Summary*, the Illinois EPA responded to a general comment professing that the filterable PM limit did not constitute BACT. The follow-up response explained that limit did, in fact, represent BACT with an "appropriate safety factor to accommodate normal variation" in the control system's expected performance. [*See, Petitioners' Exhibit 12, Response to Comment No. 158*]. The Illinois EPA further added:

The safety factors associated with limits for PM emissions must be significantly larger, in relative terms, than those associated with the limits set for emissions of SO₂ and NO_x. This is a consequence of the nature of particulate control systems, the very high levels of control that must be achieved, the resulting low levels of emissions and the use of short-term testing to confirm compliance.

[*Id.*]. The Illinois EPA went on to distinguish its treatment of PM emissions with SO₂ and NO_x on the basis that "compliance is determined by continuous emissions monitoring on a 30-day rolling average." [*Id.*].

Petitioners contend that electrostatic precipitators are proven reliable at achieving "high levels" of control and therefore do not warrant a safety factor. [*See, Petition at page 50*]. Petitioners also take issue with the need to account for a safety factor when the control system can consistently achieve a high level of emissions control. [*Id.*]. The Illinois EPA's response to comment, first of all, did not single out any one reason to justify a need for a relatively "larger" safety factor for PM emissions but, instead, mentioned several reasons. The broad nature of the response, which likely reflected a common theme among several comments, befitted the

broadness of the comment. Thus, the consideration given to safety factors are larger “in relative terms” for PM because of the combination of factors affecting the decision to set a BACT limit, not any single factor alone.

As to the substance of the claims, the Illinois EPA’s remarks about the nature of the PM control systems did not dispute their reliability or high control efficiencies but, rather, merely acknowledged the degree of variability in performance that normally attend the operation and maintenance of such systems. [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 158 and 167*]. The fact that a control device achieves a high level of control efficiency is unrelated to the issue posed by variability in the operation of the device and the need for safety factors. Petitioners also miss the point of the other reference, which simply conveyed the obvious understanding that a safety factor is all the more important whenever the margin for error is diminished.

As with their earlier arguments in this section, Petitioners lay claim to a host of lower emission rates reportedly being achieved for PM emissions. [See, *Petition at page 49*]. As the Illinois EPA explained at numerous points in its *Responsiveness Summary*, lower emission rates that are achieved during particular performance tests do not form a reliable basis for selecting a BACT limit. [See, *Petitioners’ Exhibit 12, Response to Comment Nos 163, 164, 165, 167 and 171*]. Emission limits must be set based on consideration of a wider body of data. Absent unique circumstances, emission limits established in recent BACT decisions, or permit applications, will more likely reflect safety factors based on, among other things, variability in performance or consistency in achieving compliance.

On the whole, the performance requirements for a single emissions source do not inherently constitute a basis to set a limit for a proposed plant when compared to the larger body

of data for any number of similar plants. For an exception to exist for this general rule, some factor relating to the control technology for a given source, which could be transferred to a proposed source, would be necessary. Additionally, some demonstration as to the reasonable expectation that comparable results would be achieved at the proposed source would also be needed. In this instance, Petitioners present no such evidence.

I. The Illinois EPA's Rejection of Coal Washing Was Based on the Required BACT Analysis.

Petitioners next challenge the Illinois EPA's rejection of coal washing. Petitioners assert a litany of legal and policy-based objections to the Illinois EPA's exclusion of coal washing requirements from the PSD permit. A common thread runs through most of the arguments; namely, that the Illinois EPA failed to appropriately consider the impact analysis, specifically, environmental or economic. For the reasons stated below, the EAB should recognize that the Illinois EPA's decision to reject coal washing represents a lawful exercise of permitting authority under the PSD program and should ultimately defer to the Illinois EPA's technical judgment in this matter.

1. Petitioners' argument is not substantiated with supporting facts.

In their initial argument concerning coal washing, Petitioners contend that Unit-Specific Condition 1.3 of the final Construction Permit/PSD Approval allows unnecessarily broad interruptions in the use of mine-mouth coal for similar off-site, washed Illinois No. 5 or 6 coal without the required BACT analysis. [*See, Petition at pages 50-51*]. Petitioners then abruptly conclude that the permit should be remanded with instructions to the Illinois EPA to not only limit the length of any interruption but to include a separate BACT limit for those periods of time when off-site, washed Illinois No. 5 or 6 coal is used. [*See, Petition at page 51*]. The Administrative Record is clear that the permit, while allowing the use of washed, Illinois coal

from offsite “during extended interruptions in the mine-mouth coal supply,” limits such instances to those interruptions “caused by events or circumstances that could not have been reasonably prevented by the Permittee, its contractors, or any entity controlled by the Permittee.” [See, *Petitioners’ Exhibit 1, Unit-Specific Conditions 1.3(a)(i) and (ii)(A)*]. Petitioners fail to acknowledge the remaining permit conditions further narrow Prairie State’s ability to qualify for this exception. To continue to claim an extended interruption in the mine-mouth coal supply, Prairie State “must be undertaking a program to restore the coal supply that has experienced the interruption, in a reasonable period of time that is consistent with the nature of the efforts needed to restore such coal supply.” [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 1.3(a)(ii)(B)*]. In addition, Unit-Specific Condition 1.3(a)(ii)(C) requires Prairie State to notify the Illinois EPA, in writing, prior to using off-site, washed coal. Such notification is required to include “a detailed description of the nature of the anticipated interruption in the mine-mouth coal supply and document why it qualifies as an extended interruption.” [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 1.3(a)(ii)(C)*]. Such notification could trigger further investigation of the circumstances of the interruption and a request by the Illinois EPA for PM emissions testing of the boilers, as addressed by the authority of Unit-Specific Condition 2.1.8(a)(iv).¹¹⁷ Accordingly, these provisions of the Construction Permit/PSD Approval are adequately tailored to the source, especially with respect to the limited use of alternative Illinois No. 5 or 6 coal. Finally, Unit-Specific Condition 1.3 requires that the coal used during any such interruption be washed coal. This is exactly what Petitioners argue should generally be required for use at the proposed plant.

As a more general matter, the substance of the record documents that Prairie State will operate as a mine-mouth facility. The permit application states that the plant’s fuel source is the

¹¹⁷ Unit-Specific Condition 2.1.8(a)(iv) of the Construction Permit/PSD Approval provides, in addition to the permit’s other emissions testing requirements, that Prairie State shall conduct emissions testing at the request of the Illinois EPA. [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.8(a)(iv)*].

reserve of 240 million tons of coal from the Illinois No. 6 or the Herrin seam, which is sufficient to meet its needs for more than 30 years. [See, *Petitioners' Exhibit 27, pages 2-1, C-15*]. Neither the application nor the permit address the equipment that would be present if the plant were being developed to operate as something other than a mine-mouth facility. Given the nature of mine-mouth power plants, the Illinois EPA believes that there will be no financial incentive for Prairie State to use off-site, washed Illinois No. 5 or 6 coal rather than the mine-mouth reserve of coal. Not only are such suggestions counter-intuitive, Petitioners provided no support for them from the Administrative Record.

Finally, Petitioners make a fleeting argument that this provision excusing Prairie State from using its reserve of coal during extended interruptions in the coal supply does not meet BACT requirements. The requirement for the use of washed Illinois No. 5 and No. 6 coal during any extended outage of the mine assures that the sulfur content of the coal supply during such periods will be no greater than the sulfur content of the mine-mouth coal supply. The requirement for 98 percent control assures that the SO₂ emissions of the coal will be appropriately controlled whatever the actual sulfur content of the temporary coal supply during such periods. Furthermore, the potential mode of operation of the proposed boilers addressed by the condition at issue is within the scope of the BACT determination for the boilers. That is, the permit establishes BACT for all modes of operation, through not only the emission limits and control requirements but also through work practices and operational standards. In the event an extended outage of the Prairie State mine would occur, the Permittee would not be excused from any of these BACT requirements. [See, *Petitioners' Exhibit 1*].

Petitioners' statements are premised on an erroneous assumption about the impact of coal washing. For instance, Petitioners' argument rests on a calculation of emissions that, in fact,

overstates the potential emission reduction from coal washing. Petitioners' suggestion that washed coal could allow for lower SO₂, NO_x, and PM₁₀ emissions is based on coal washing being the only control mechanism. [See, *Petition at page 51*]. For instance, this might be a reasonable estimate of the amount of equivalent uncontrolled SO₂ emissions removed from the coal supply if there were no high efficiency scrubbers controlling the first 98 percent of emissions from the proposed plant.¹¹⁸ [See, *Petitioners' Exhibit 12, Response to Comment No. 83*]. Due to the existence of the high efficiency scrubbers, instead of coal washing directly controlling one ton of SO₂ emissions per ton of equivalent SO₂ removed from the raw coal supply, the effect of coal washing in conjunction with high efficiency scrubbers is to remove a much smaller proportion of SO₂. In recognition of the foregoing, the Illinois EPA conservatively determined that because the specific source of coal obtained during any extended interruptions of the mine-mouth coal supply had not been identified, coal for the boilers, other than mine-mouth coal, had to be washed. [See, *Petitioners' Exhibit 1, Finding 1b*]. Accordingly, the Petitioners have failed to show that Unit-Specific Condition 1.3 of the permit allowed inappropriately broad interruptions in the use of mine-mouth coal for similar off-site, washed Illinois No. 5 or 6 coal without the required BACT analysis. The Illinois EPA did not abuse its discretion in determining that coal washing would do little to reduce emissions and thereby justify lower BACT limits. Indeed, based on the Petitioners' claims with respect to coal washing, an argument could be made that no restrictions on the duration of the use of alternative coal are required, since such coal must be washed.

2. Petitioners failed to challenge the Illinois EPA's finding that the benefits of coal washing would be outweighed by the adverse energy impacts of coal washing.

¹¹⁸ In the same token, it may also be a reasonable estimate of equivalent uncontrolled NO_x or PM₁₀ emissions removed from the coal supply if there were, respectively, no selective catalytic reduction or WESP already controlling emissions from the proposed plant.

The Illinois EPA's rejection of coal washing reflects considered judgment and is supported by the Administrative Record. Prairie State initially evaluated wet coal cleaning in its top-down BACT analysis concluding that wet coal washing either alone or in combination with scrubbing is not BACT for the proposed facility. [See, *Petitioners' Exhibit 27, Analysis of Issues Related to Pre-Combustion Coal Cleaning for Sulfur Reduction: Prairie State Project, Rick Honaker, dated August 5, 2002*]. The Illinois EPA concurred with this conclusion, in part, because the coal-fired boilers will be equipped with high-efficiency scrubbers such that most of the SO₂ emissions will be controlled regardless of the sulfur content of the coal supply. [See, *Petitioners' Exhibit 53*]. Petitioners did not appeal the Illinois EPA's conclusion that wet coal washing, alone, did not constitute BACT.¹¹⁹ Instead, Petitioners seek review of the Illinois EPA's determination that coal washing in combination with wet flue gas desulfurization ("WFGD") and WESP is not BACT.

In making a BACT determination, the *New Source Review Workshop Manual* identifies five steps in the "Top-Down" BACT process. Of particular interest in the coal washing analysis is the fourth step requiring consideration of the energy, environmental and economic impacts for the control technology under review. [See, *Respondent's Exhibit 4 at B. 26*]. The guidance generally provides that:

[i]n the event that the top candidate is shown to be inappropriate, due to energy, environmental or economic impacts, the rationale for this finding needs to be fully documented for the public record. Then, the next most effective alternative in the listing becomes the new control candidate and is similarly evaluated. This process continues until the control technology under consideration cannot be eliminated by any source-specific environmental, energy, or economic impacts which demonstrate that the alternative is inappropriate as BACT.

¹¹⁹ Prairie State reported that the "optimum sulfur reduction" through wet coal washing is 20 percent for the facility due to the high level of organic sulfur in Illinois coal that is impossible to remove through wet coal washing. [See, *Petitioners' Exhibit 27, page J-5*].

[*Id.* at B.26 and B.29] (emphasis added). As this discussion makes evident, if the benefits of the control technology are outweighed by only one of the three collateral impacts, the control technology is eliminated from review. The collateral impacts clause seeks to “temper the stringency of the technology requirements whenever one or more of the specified ‘collateral’ impacts -- energy, environmental, economic -- renders use of the most effective technology inappropriate.” *In re Columbia Gulf Transmission Co.*, 2 E.A.D. 824, ___ (Adm’r 1989). In fact, the “collateral impact clause operates primarily as a safety valve whenever unusual circumstances specific to the facility make it appropriate to use less than the most effective technology. [*Id.* at ____]. The weight assigned to such factors (energy, environmental and economic impacts) is to be determined by the State. [See, *Respondent’s Exhibit 33 at page 31 (Clean Air Act Amendments, Report of the Committee on Environment and Public Works, United States Senate, Together with Additional Views to Accompany S. 252, May 8, 1977)*].

In accordance with such guidance, the BACT analysis reviewed coal washing’s energy, environmental, and economic consequences; the Illinois EPA ultimately concluded that “for the minc-mouth coal, any benefits of coal washing would be outweighed by the adverse environmental, *energy* and economic impacts associated with the coal washing and storage of associated coal waste.” [See, *Petitioners’ Exhibit 1, Finding 1b*]. (emphasis added). The Administrative Record and the *Responsiveness Summary* both document the Illinois EPA’s consideration of the energy impacts associated with coal washing.

Coal washing results in the loss of considerable amounts of raw coal energy in the lost coal waste. [See, *Petitioners’ Exhibit 27, pages J-3 and J-5- J-6*] (“up to 50 percent of the weight of coal processed can be lost and disposed of as solid waste”). Prairie State estimated that such coal loss requires the mining and washing of an additional 1.3 million tons of coal per

year due to washing's loss of approximately 22 to 25 percent of the raw coal energy. [See, *Petitioners' Exhibit 27, page J-6*]. ("this energy loss equates to an increase in the amount of coal to be mined from approximately 6.5 to 6.9 million tons per year to approximately 7.8 to 8.2 million tons per year"); [see also, *Id., Analysis of Issues Related to Pre-Combustion Coal Cleaning for Sulfur Reduction: Prairie State Project, Rick Honaker, dated August 5, 2002*] (recognizing, as well, that the coal mined to accommodate for this loss must also be washed resulting in an additional loss of combustibles, such that the increase in coal mining is slightly more than 27 percent). In its own analysis, the Illinois EPA observed that "this is because coal washing is not a perfect process and removes combustible organic material from the coal stream, as well as rock and pyritic minerals. Additional coal (energy) must be mined to make up for the combustibles that are lost with the waste." [See, *Petitioners' Exhibit 53, page I*].

In the *Responsiveness Summary*, the Illinois EPA further articulated its decision was not based upon the energy consumed in washing the coal but the energy directly lost when a significant amount of fuel is converted into waste. [See, *Petitioners' Exhibit 12, Response to Comment No. 118*]. The Illinois EPA also accounted for the energy consumed by coal washing as follows:

It is unquestioned that coal washing is not a perfect process and removes coal from the fuel stream, as well as rock and pyritic materials. Coal washing is accompanied by a substantial loss of coal material with the coal waste. (Otherwise, how would coal waste have the energy value to be used as fuel in power plants that are specifically developed to burn coal waste). Additional coal (energy) must be mined to make up for the coal that is lost with the waste. The amount of coal lost in washing, which must be made up by mining more coal, is also related to the type and level of washing that is conducted. The estimate provided by Prairie State for the amount of coal that would be lost to the waste with washing to different levels of sulfur removal is adequately supported. The overall analysis has also been properly conducted as it is based on the amount of energy (Btu) that is required for the boilers, not the amount of coal, which does vary depending upon whether raw or washed coal is fired.

[See, *Petitioners' Exhibit 12, Response to Comment No. 66*].

Despite the Illinois EPA's finding that the benefits of coal washing would be outweighed by adverse energy impacts, Petitioners failed to challenge the Illinois EPA's conclusion. Had Petitioners questioned the Illinois EPA's determination, Petitioners would have been in a position to seek review of the Illinois EPA's coal washing decision. Petitioners' failure to challenge such finding leads to one inevitable conclusion, the Illinois EPA's coal washing determination stands. [See, *Respondent's Exhibit 4 at pages B. 26 and B.29*] (if the benefits of the control technology are outweighed by only one of the three collateral impacts, the control technology is eliminated from review); see also, *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 116-117 (EAB 1997). In light of the foregoing, it is difficult to envision how Petitioners could possibly have met their burden. See, *In re Inter-Power of New York, Inc.*, 5 E.A.D. 130, 144 (EAB 1994) ("where an alternative control option has been evaluated and rejected, those favoring the option must show that the evidence for the control option clearly outweighs the evidence against its application").

3. The Illinois EPA's evaluation of the economic impacts of coal washing was clearly supported by the facts in the Administrative Record.

In the event that the Board determines that review is still appropriate despite Petitioners' failure to challenge the Illinois EPA's conclusion with regard to energy impacts, the Board must evaluate whether the remainder of the Illinois EPA's BACT analysis reflects considered judgment and is "rational in light of all the information in the record, including the conflicting opinions." See, *In re Steel Dynamics Inc*, 9 E.A.D. 165, 180, fn. 16 (EAB 2000), quoting, *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998). BACT determinations are, by nature, source-specific and are made by the Region or other permit authorities on a case-by-case basis. *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 47 (EAB 2001).

In this case, the Illinois EPA's determination for the economic effectiveness of coal washing was predicated upon the relevant materials in the Administrative Record, including information contained within Prairie State's permit application, permits for similar sources, and a survey of technical information by the Illinois EPA's permit staff including the Illinois EPA's own coal washing analysis. [See, *Petitioners' Exhibits 27 and 53*]. After a thorough and considered analysis, the Illinois EPA found that the benefits of coal washing were clearly outweighed by its economic impacts.

The October 2002 application contains, among other things, a formal Fuel Cleaning Analysis, including the requisite consideration of energy, economic and environmental impacts. [See, *Petitioners' Exhibit 27, pages J-1 - J-11 and attachment J-1, Analysis of Issues Related to Pre-Combustion Coal Cleaning for Sulfur Reduction: Prairie State Project, Rick Honaker, dated August 5, 2002*]. The economic impact discussion is referenced at Section J.6 on pages J-7 through J-9 and Attachment J-1 wherein Prairie State concludes that the emission reductions achieved by coal washing are not justified by the ensuing costs. As Prairie State explains, the "coal washing process does far less to prevent SO₂ emissions than the pollution control equipment proposed for PSGS," in fact, the "incremental costs¹²⁰ of using wet coal washing at PSGS is over 1,100 times more than the cost of using the proposed add-on or post-combustion measures." [See, *Petitioners' Exhibit 27, pages J-8 - J-9*]. The Illinois EPA's review concluded that Prairie State conducted a reasonable evaluation of the cost impacts that would accompany coal washing and scrubbing. [See, *Petitioners' Exhibit 12, Response to Comment No. 85*].

¹²⁰ "The incremental cost-effectiveness calculation compares the costs and emissions performance level of a control option to those of the next most stringent option." [See, *Respondent's Exhibit 4, at page B.41*].

Due to the inherent complexity of the analysis, the Illinois EPA found it appropriate to more fully consider the cost effectiveness of coal washing. [See, *Petitioners' Exhibit 53*]. The Illinois EPA performed its own detailed evaluation of coal washing based, in part, on Prairie State's evaluation and the report of Professor Rick Honaker. [See, *Petitioners' Exhibit 27, Appendix J*]. The Illinois EPA reviewed Prairie State's coal washing analysis and, after doing so, opted to also consider two other coal washing scenarios (i.e., coal washing that would achieve greater and lesser amounts of sulfur removal). [See, *Petitioners' Exhibit 53*]. The aforementioned analysis included many different variables such as the effect of coal washing on coal usage, the reduced SO₂ emissions, the capital and operating costs of washing the coal supply, the amount and nature of different ensuing waste streams, and the lower capital and operating costs for the boilers. [*Id.*].

While the Illinois EPA generally found that a lower level of coal washing was more cost efficient than a higher level of coal washing, it results in a lower potential emissions benefit. [See, *Petitioners' Exhibit 53 at page 12*]. The Illinois EPA concluded it would not be cost-effective to use coal washing in conjunction with the high efficiency scrubbers due to the "costs to mine additional coal to make up for the loss of fuel material in the washing process, the operating costs for washing the entire coal supply, and the costs associated with the creation of additional volume of material that is more difficult to properly manage than coal combustion waste." [See, *Petitioners' Exhibit 53 at pages 11-12*].

Evidence from the Administrative Record further reflects the Illinois EPA's considered judgment not only of the nuances of the BACT analysis but of public comments. For instance, the explanation concerning the weight to afford to the average cost-effectiveness of coal washing as a supplement to the high-efficiency scrubbers was not only fully explained in the

Responsiveness Summary but in the Illinois EPA's *Coal Washing Memorandum*. Citing to two illustrative examples in the *Coal Washing Memorandum*, the Illinois EPA concluded a consideration of the average cost effectiveness, alone, produced anomalous results when viewed in the context of the proposed plant. [See, *Petitioners' Exhibit 53, at pages 12-13*]. The first example included a calculation of the average cost-effectiveness for coal washing assuming coal washing would not generate any further SO₂ emission reductions and the second example started from a cost-effectiveness value considered reasonable and "then calculating the theoretical cost for coal washing that would be found to be acceptable." [*Id. at page 12*]. The Illinois EPA reasoned that a consideration of average-cost effectiveness was not suitable because:

In the first case, the evaluation of average cost-effectiveness shows a level of cost-effectiveness for coal washing that is reasonable even if coal washing would achieve no additional reductions in SO₂ emissions. The average cost-effectiveness even with zero additional reduction in SO₂ emissions would still be about only \$100/ton ((\$20,000,000 for scrubbing + \$37,000,000 for coal washing)/530,000 tons SO₂ controlled = \$108/ton). In the second case, the evaluation shows a theoretical cost possible for coal washing that is far greater than the total capital cost for the proposed plant. For example, if one uses \$5,000/ton of SO₂ as the starting value of cost-effectiveness that is considered reasonable, the annual cost for a coal washing facility could be over \$2,000,000,000 and still appear to be reasonable (\$5,000/ton x 530,000 tons SO₂ controlled/ year x - \$20,000,000/year for scrubbing = \$2,630,000,000/year).

[*Id.*]. Thus, despite the apparently acceptable average cost-effectiveness number, further scrutiny revealed that coal washing would not even have to remove one additional ton of pollutant to yield a presumably valid cost-effectiveness number or that the coal washing facility could cost in excess of 2.6 billion dollars and still fabricate an apparently-justifiable average cost-effectiveness number. These circumstances are generally due to the overlapping effect of coal washing and scrubbing in that coal washing controls the same SO₂ emissions already controlled by the high efficiency scrubber. [*Id. at pages 12-13*].

In view of the nominal projected emissions reduction from coal washing, such

incremental costs are not cost effective. Indeed, the incremental costs are so exorbitant that it would not be economically feasible for the permit applicant to absorb these increased costs. See, *In re Genesee Power Station*, 4 E.A.D. 832, 845-848 (EAB 1993) (incremental cost of reducing particulate matter emissions were \$48,888/ton; found not to be cost effective to require the permit applicant to expend an additional five million dollars to reduce emissions by 23 tons per year); see also, *In re World Color Press, Inc.*, 3 E.A.D. 474, ___, fn. 18 (Adm'r 1990) ("if a particular technology has a cost that is exceptionally high relative to another technology, but has only a negligibly higher emissions reduction efficiency, its greater cost (economic impact) might justify rejecting it as BACT"). Even the USEPA has relied exclusively on incremental cost effectiveness in evaluating selective catalytic reduction ("SCR"). [See, *Respondent's Exhibit 34 (Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, USEPA, to Air Division Directors, Regions I-X, BACT and LAER for Emissions of Nitrogen Oxides and Volatile Organic Compounds at Tier 2/ Gasoline Sulfur Refinery Projects, January 19, 2001)*].

In Petitioners abbreviated challenge to the Illinois EPA's rejection of coal washing on economic grounds, the Petitioners did not challenge the particulars of the Illinois EPA's detailed economic analysis. Quite the contrary, Petitioners chose to ignore this analysis, instead, making one objection to the Illinois EPA's consideration, alleging that the Illinois EPA failed to consider the possible reduction of emissions beyond SO₂. (i.e., reductions in PM₁₀, mercury, and NO_x emissions¹²¹). [See, *Petition at pages 55-56*]. The Illinois EPA responded to this issue in the *Responsiveness Summary*, explaining that these comments inappropriately focused on possible

¹²¹ To the Illinois EPA's knowledge, claims that the Illinois EPA failed to consider the possible reductions of NO_x emissions through coal washing are being raised for the first time on appeal. Because no precise issue can be found in the public comments, the EAB should decline consideration of this matter on procedural grounds alone. See, *In re Keystone Cogeneration Sys., Inc.*, 3 E.A.D. 766, 766 (Adm'r 1992).

emission reductions in the contaminant levels of the raw coal rather than the actual reductions in the emissions of pollutants. [See, *Petitioners' Exhibit 12, Response to Comment No. 65*]. The Illinois EPA explained that this is due to the level of control already required for the respective pollutants independent of coal washing. In other words, the primary effect of coal washing on these pollutants would be to control emissions that are generally controlled by their respective add-on control devices. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 54, 57-58, 60, 63-65, 71, 73-75, 80, 82-84, 91, 95-96*].

While Petitioners suggest that Illinois EPA's response to comments is clearly erroneous, Petitioners pay little credence to the Illinois EPA's response. Instead, Petitioners disregard that any limited emission reductions achieved through coal washing for PM, mercury and NO_x suffer from the same shortcomings as any emission reductions brought about by coal washing for SO₂. For each pollutant, Petitioners' argument continues to rest on an emissions calculation that overstates the potential emission reduction from coal washing. Petitioners calculate emissions reduction based on coal washing being the sole control mechanism. [See, *Petition at pages 55-56*]. This might be a reasonable estimate of the amount of equivalent uncontrolled emissions removed from the coal supply if there were no add-on control devices limiting, at a greater removal efficiency, these same emissions from the proposed plant.

For instance, coal washing would not provide an effective substitute for the required add-on control measures applied to the boilers for mercury emissions. The former would provide, at most, a 50 percent reduction in mercury emissions while the later control device is expected to provide at least a 90 percent control of mercury emissions. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 58, 84, 95, 96*]. Nor would coal washing eliminate the need for

WESPs (control of PM emissions)¹²² or a combination of low-NO_x combustion techniques in the boiler and add-on selective catalytic reduction (control of NO_x emissions) on the proposed boilers.¹²³ [See, *Petitioners' Exhibit 12, Response to Comment Nos. 91, 95, 96, 129*]. "In order to establish that review of a permit is warranted, §124.19(a) requires a petitioner to both state the objections to the permit that are being raised for review, and to explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review." *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997) citing, *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 866 (EAB 1993). Petitioners have failed to supply any reason for the Board to deem the Illinois EPA's response inadequate. By failing to provide such an explanation, the Petitioner has failed to demonstrate the merits of obtaining administrative review. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701 (EAB 2001).

4. The Illinois EPA's evaluation of the environmental impacts of coal washing was clearly supported by the facts in the Administrative Record.

Although the Illinois EPA need only show that the benefits of coal washing are outweighed by one of the three collateral impacts to prevail, the Administrative Record also documents that the environmental impacts of coal washing clearly outweigh any benefits allegedly derived by such control technology. The environmental impacts generally include the

¹²² Petitioners "emission reduction" calculation for particulate matter emissions is explicitly based on the ash content of the as-received coal. [See, *Petition at pages 55-56*]. Again, such a calculation inappropriately overstates the actual emission reduction achieved by coal washing.

¹²³ To the Illinois EPA's knowledge, the Administrative Record fails to contain facts or references purporting to support Petitioners' claims that reductions in NO_x emissions could possibly be achieved through coal washing. Petitioners have not demonstrated that the information was part of public comments or, alternatively, was not reasonably ascertainable at the close of the public comment period. For this reason, the EAB's consideration of those representations should be denied because they were not properly preserved for appeal. *In re AES Puerto Rico L.P.*, 8 E.A.D. 324, 342, fn. 20 (EAB 1999); *In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 19-20 (EAB, April 29, 2003); *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 14-16, 12 E.A.D. ____ (EAB 2005).

documented need to mine additional amounts of coal and the generation of additional forms of waste streams that must be both disposed and subsequently controlled. [See, *Petitioners' Exhibit 27, at page J-6*]. Prairie State initially described the effects of coal washing as:

[a]n initial separation is typically done in jigs using water as the media. Some of the refuse created in this process can be mechanically dewatered and is either discarded as a waste product ("gob") or processed further. The initial coal washing process is unable to recover a high amount of fine material (less than 28 mesh). This fine material is sometimes discarded as a slurry waste product ("slurry") or can be further processed via cyclones, spiral concentrators, a chemical process (froth flotation), drying (thermal dryers) or a combination thereof. These processes do not eliminate the slurry or gob waste streams from the wet coal washing method, but do recover more carbon-based fuel. However, both the froth flotation and thermal drying process incrementally add to the overall environmental impact by adding chemicals to the slurry and by combustion of sulfur-containing coal fines in the thermal drying process.

[See, *Petitioners' Exhibit 27, pages J-3 and J-5*]. Prairie State estimated that coal washing would give rise to approximately 2.6 million tons per year of solid waste (gob) and approximately 27 million gallons per year of a water slurry mixture contaminated with coal impurities. [*Id.*]. Prairie State further quantified the impacts as follows:

The gob must be disposed of and the slurry must be treated. These two waste streams typically are stored in onsite landfills or impoundments, and due to the cost of handling the material, must be located within a short distance of the coal washing facility. If such landfills or impoundments were built, they would increase the potential for accidental spills or releases that could result in groundwater and surface contamination, and would create a disposal site requiring long term care. Wet coal washing may utilize a thermal dryer, which would result in the additional emission of NO_x, SO₂ and PM. PM emissions also would increase due to PSGC having to mine and clean an additional 1.3 million tons of coal. Finally, also because of the additional coal required to replace the fuel lost in the wet process, an additional 50,000 tons of sulfur would be added to the environment.

[*Id. at pages J-6 and J-7*]. It is difficult to envision how the benefits of coal washing could outweigh the environmental impacts of coal washing due to the overlapping effect of emissions controlled by coal washing and scrubbing. In that token, the Illinois EPA concluded that, because of the additional amount of coal that must be mined to replace coal lost in the gob

(consisting of coal, pyritic sulfur, free water and inert rock) and coal slurry from the coal washing facility and the additional type of waste created by coal washing, the environmental impacts of coal washing outweighed the benefits of the control device. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 66-67*]. As such, the Administrative Record clearly fails to support Petitioners' claim that the Illinois EPA's environmental impacts analysis is clearly erroneous. See, *In re Old Dominion Electric Cooperative*, 3 E.A.D. 779, ____ (EAB 1992) (“[w]hile collateral environmental impacts are relevant to the BACT determination, their relevance is generally couched in terms of discussing which available technology, among several, produces less adverse collateral effects, and if it does, whether that justifies its utilization even if the technology is otherwise less stringent.”).

In an effort to refute the Illinois EPA's considered environmental impacts analysis, Petitioners claim closed-circuit systems would effectively contain the 27 million gallons of water produced per year by the coal washing facility. [See, *Petition at page 54*]. While state regulations, such as those referred to by Petitioners, require compliance with applicable water quality standards, these standards allow for discharges so long as they qualify for mixing or the establishment of a mixing zone. [See, *Petition at page 54; see also, Petitioners' Exhibit 12, Response to Comment No. 97*]. The *Responsiveness Summary* explained it was difficult for coal washing facilities to meet these requirements, thereby necessitating the installation of “closed circuit (non-discharging) systems for coal slurry,” underground injection for waste water or the elimination of coal washing altogether. [*Id.*], (emphasis added). In light of these statements pertaining to the installation of closed circuit systems for coal slurry, Petitioners have failed to substantiate their argument that closed-circuit systems would effectively contain 27 million

gallons of water produced per year by a coal washing facility. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 66-67*].

To dispute statements in the *Responsiveness Summary* asserting that coal washing produces waste, gob and slurry, Petitioners rely upon United Mineworkers comments alleging that wash plants have no slurry discharge and that the remaining waste requires less space than suggested for land disposal.¹²⁴ [See, *Petition at page 54*]. It is simply disingenuous for a party to this appeal, the Clean Air Task Force, to support such statements on appeal in light of its published documents stating quite the contrary. In the past, the Clean Air Task Force has articulated the following concerns relative to coal washing waste:

There are a number of environmental impacts from this waste generation. First, the land where these wastes are dumped is no longer suitable for other purposes. Second, the piles are flammable and susceptible to spontaneous combustion. Third, they are prone to erosion which is a major concern because the runoff and seepage from these piles is highly acidic. As noted above, this acidic runoff contains heavy metals which can end up in local surface waters and seep into groundwater. These wastes also increase sediment build-up in local waters.

[See, *Respondent's Exhibit 35 at pages 2-3 (Cradle to Grave: The Environmental Impacts from Coal, Clean Air Task Force, June 2001)(Certified Index No. 424)*].

In the *Responsiveness Summary*, the Illinois EPA responded to Petitioners' and others' comments at length, stating that coal washing creates more waste due to the greater amounts of

¹²⁴ Petitioners also mention an extraneous argument that coal washing plants would not create a 'perpetual care disposal site.' Citing to an additional comment provided by the United Mineworkers, Petitioners claim that the Surface Mining Reclamation and Control Act precludes disposal sites but sets forth procedures for restoring and reclaiming gob piles. [See, *Petition at pages 54-55*]. References to state law that seek to control the environmental impacts of coal washing waste, such as the Surface Mining Reclamation and Control Act, do not negate the environmental hazards posed by such refuse disposal sites while in existence. Illustrative of such an environmental hazard is the estimated 250 million gallon spill from the Massey Coal gob pile, Martin County, Kentucky in October 2000. [See, *Petitioners' Exhibit 27, page J-6*]. The spill polluted 75 miles of the Big Sandy River and tributaries killing all aquatic life. In addition, the spill impacted approximately 4,500 people with cleanup estimated in the millions of dollars. [See, *Respondent's Exhibit 35 at page 3; see also, Respondent's Exhibit 36 (Martin County Coal Corporation, Inez, Kentucky, Task Force Report, October 2001, USEPA, Region IV)(Certified Index No. 424)*].

coal that must be mined to account for the coal that is lost in the gob and coal slurry. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 66-67*]. In making such a recognition, the Illinois EPA also observed that environmental concerns change with time as society, likely through technological advances, becomes more cognizant of environmental risks. [*Id.*]. In essence, the Illinois EPA found that such environmental concerns are an explicit directive for the use of alternative technology to control SO₂ emissions, in this instance, a high efficiency scrubber and WESP. As such, the Petitioners have not supplied any reason for the Board to deem the Illinois EPA's response inadequate. By failing to offer such an explanation, the Petitioners have failed to demonstrate the merits of obtaining administrative review. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701 (EAB 2001).

5. Petitioners' arguments concerning unusual circumstances are unsubstantiated by the record.

The thrust of Petitioners' arguments regarding the merits of coal washing is that the Illinois EPA failed to identify any unusual circumstances that the Petitioners deemed meritorious to reject coal washing and that the Illinois EPA neglected to evaluate impacts at other plants. [See, *Petition at pages 51-54*]. Turning first to any unusual circumstances that exist at Prairie State Generating Station, Petitioners claim that the *NSR Workshop Manual* is clear, the Illinois EPA must demonstrate that circumstances at the proposed plant differ from the situation at other facilities in the context of the impact analysis. [See, *Petition at pages 51-54*]. Step 4 in the BACT selection process generally seeks to take into account whether any unusual "circumstances exist at the source which distinguish it from other sources where the control alternative may have been required previously." [See, *Respondent's Exhibit 4, page B.29*]. "In the absence of unusual circumstance, the presumption is that sources within the same category are similar in nature, and that cost and other impacts that have been borne by one source of a

given source category may be borne by another source of the same source category.” [*Id. at page B.29*].

Petitioners argument errs in that it takes for granted that the proposed plant is in the same source category as other coal-fired power plants. The facts provide little support for such an assumption. Prairie State Generating Station is a mine-mouth facility utilizing high sulfur coal in pulverized coal boilers coupled with a high efficiency scrubber for SO₂ emission control. Just as Petitioners neglected to delineate with any specificity in public comments, the circumstances surrounding the plants allegedly utilizing washed coal (i.e., age of unit, age of mining facility, degree coal is washed, degree coal is blended, relative sulfur content of raw versus washed coal, type of particulate matter control, whether boiler was designed for unwashed coal), Petitioners fail to cite to any material in the record demonstrating that the proposed plant is similar to other coal-fired power plants. *See, In re Inter-Power of New York, Inc.*, 5 E.A.D. 130, 146 (FAB 1994) (pulverized coal facility employing low sulfur coal and an add-on dry scrubber to meet SO₂ limit was not in the same source category as a coal-fired, circulating fluidized bed boiler utilizing low sulfur coal and limestone injection system to comply with the SO₂ limit).

Despite such deficiencies in Petitioners’ assertions, the Illinois EPA reviewed the controls required for various facilities across the country. These comparisons are reflected by the detailed compilation sheets attached to the Illinois EPA’s calculation sheet. [*See, Respondents’ Exhibit 15*]. In such context, the Illinois EPA gave consideration to the circumstances distinct to Prairie State Generating Station, in particular, the proposed plant’s use of a very high efficiency scrubber and a WESP to effectively control emissions. In addition, the Illinois EPA articulated valid concerns about new requirements pertaining to wastewater and heightened awareness of environmental hazards posed by wastewater and solid waste from coal

washing facilities. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 62-63*]. Simply because such impacts were found to be acceptable once does not mean that such impacts continue to be tolerable today. Moreover, Petitioners collected arguments in response to such concerns are circumspect due to their underlying premise. Somehow it is acceptable to create 2.6 million tons of gob consisting of coal, pyritic sulfur, free water and inert rock and 27 million gallons of a water slurry mixture contaminated with coal to achieve the overlapping effect of emissions controlled by coal washing and scrubbing. [See, *Petitioners' Exhibit 27, pages J-6 - J-7*]. It is difficult to envision a more logically incongruous suggestion by Petitioners especially in light of Clean Air Task Force's published opposition to coal washing waste. [See, *Respondent's Exhibit 35 at page 3*].

As discussed above, the analysis conducted in this case by Prairie State and the Illinois EPA was, as a whole, sufficient in scope and documentation. Given the complexities that are inherent in any such analysis, it is not unreasonable for permitting authorities to be given some latitude in the decision making process. "Permit issuers must be free to exercise expert judgment and rely on the data they conclude are more accurate or comprehensive." *In re Inter-Power of New York, Inc.* 5 E.A.D. 130, 147 (EAB 1994); see also, *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 201 (EAB 2000) ("[i]n general, the [EAB] accord[s] deference to permitting agencies when technical issues are in play"); see also, *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 403 (EAB 1997) ("[t]he Board traditionally assigns a heavy burden to persons seeking review of issues that are quintessentially technical"). As the Illinois EPA determined for mine-mouth coal, the benefits of coal washing were outweighed by the adverse energy, economic and environmental, impacts, the Petitioners must prove that the Illinois EPA's analysis was clearly erroneous and

likely based upon inaccurate or incomplete data. [*Id.*]. Petitioners' arguments clearly fail to satisfy this requirement.

J. The Permitted SO₂ Control Efficiency Limit Established by the Illinois EPA Constitutes BACT.

The Construction Permit/PSD Approval establishes two BACT limits for SO₂ emissions from the Prairie State project. One is a process-related limit of 0.182 lb/mmBtu applied as a 30-day rolling average. [*See, Petitioners' Exhibit 1, Unit-Specific Condition 2.1.2(b)(ii)(A)*]. The other limit is set as an overall control efficiency of 98 percent control as applied on a 12-month rolling average. [*Id., Unit-Specific Condition 2.1.2(b)(ii)(B)*].

Petitioners raise a multitude of issues with respect to the Illinois EPA's BACT analyses for SO₂. Several of these arguments must fail on legal or procedural grounds. All of the Petitioners' arguments fail to show that the Illinois EPA's evaluation of BACT for SO₂ is clearly in error or otherwise merits EAB review.

1. The Illinois EPA properly considered all available control technologies in its BACT evaluation for SO₂.

Petitioners challenge the Illinois EPA's refusal to evaluate three types of scrubber technologies that could supposedly achieve lower SO₂ emissions for the Prairie State project. Petitioners identify these technologies as consisting of magnesium-enhanced lime scrubbers, the Chiyoda CT-121 bubbling jet reactor and certain "scrubber design enhancements." [*See, Petition at page 57*]. This argument was properly preserved for appeal, as it was raised by Sierra Club's expert, Dr. J. Phyllis Fox, during the public comment period. [*See, Petitioners' Exhibit 5*].

The Illinois EPA responded to the comment raising this issue in its *Responsiveness Summary* by observing that the referenced technologies did not appear warranted because they reflected "different designs of wet scrubbers or enhancements to a particular scrubber design."

[*See, Petitioners Exhibit 12, Response to Comment No. 103*]. The response went on to explain that:

...commercially available scrubbing technologies for coal-fired boilers all rely on calcium (either, as present in limestone, CaCO_3 , or in lime (CaO) produced from limestone) as the chemical sink to react with SO_2 (and NO_x), ultimately forming gypsum (CaSO_4). The fundamental issue for wet scrubbers is setting the SO_2 emission rate or level of control efficiency that a scrubber must be designed to achieve.

[*Id.*]. The response concluded that an “exhaustive review of all the different variants of scrubber technology” should not be necessary. [*Id.*].

Petitioners suggest that the Illinois EPA did not present a “reasoned” justification for declining to review the separate technologies. As evidenced by its response to Sierra Club’s expert, however, the Illinois EPA chose not to distinguish between various differences or enhancements in the design of wet scrubbers. Far from being arbitrary, this decision reflected the understanding that all scrubbing technologies for coal-fired boilers share the same fundamental control process and that the principle concern for wet scrubbing evolves around the establishment of the associated SO_2 emission limit(s).

In related responses, the Illinois EPA also discounted the proposed control efficiency of 99 percent for the magnesium-enhanced lime (“MEL”) wet scrubbers, as recommended by a vendor of the technology and relied upon in comments submitted by Sierra Club’s expert. [*See, Petitioners’ Exhibit 5; see also, Petitioners’ Exhibit 28*]. In particular, the Illinois EPA acknowledged that the technology’s use of high magnesium-content lime can reasonably achieve greater than 98 percent control but “there is not an adequate body of data for performance at 98.4 percent to set this level of performance as BACT.” [*See, Petitioners’ Exhibit 12, Response to Comment No. 100*]. For this reason, the Illinois EPA refused to accept the vendor’s “preliminary engineering evaluation” as a reliable basis for setting BACT. [*Id.*, stating “there is not an

adequate body of data for performance at 98.4 percent to set this level of performance as BACT”]. The Illinois EPA argued instead that any differences between the permitted limit and the cited emission rates achieved by the MEL wet scrubber technology should be recognized as a margin of safety. [*Id.*, *Response to Comment No. 103*].

Petitioners also contend that the identified control technologies fall within the definition of BACT and must therefore be evaluated as control options under the PSD program. [*See, Petition at page 57*]. The language of the definition cited by Petitioners focuses on the terms “available methods, systems, and techniques.” *See*, 40 C.F.R. §52.21(b)(12). Based on that part of the definition, Petitioners conclude that each of the three referenced technologies is a separate method, system or technique that is subject to review in the BACT analysis.

Petitioners’ construction of the BACT language cleverly purports to fall within the ambit of the BACT definition, but it really only stretches the traditional notion of a BACT evaluation beyond its common recognition. The Illinois EPA does not dispute that the PSD program demands an evaluation of all available control options. [*See, Respondent’s Exhibit 4 at page B.5*]. However, this proposition cannot mean that a single control option must be examined separately every time a vendor introduces new ‘bells’ and ‘whistles’ to the control option’s design. Neither the PSD regulations nor any guidance from USEPA support this expansive interpretation of the initial step to BACT’s top-down methodology. If such a review was imposed, a permit authority’s evaluation could potentially generate an enormous number of control options, even though the various iterations reflected but one type of control system.¹²⁵

¹²⁵ An analogous situation is shown by the *New Source Review Workshop Manual’s* treatment of control techniques with wide-ranging performance levels, where it is expressly recognized that it is not USEPA’s intent “to require analysis of each possible level of efficiency for a control technique, as such an analysis would result in a large number of options.” [*See, Respondent’s Exhibit 4 at page B.23*].

Equally problematic is the potential confusion that would follow this argument to its logical end. Petitioners point to comments received by the Illinois EPA from a magnesium-enhanced lime vendor, Carneuse Lime, who would have identified the magnesium-enhanced lime (“MEL”) Wet Flue Gas Desulfurization (“WFGD” or wet scrubber) unit as a separate and more effective control option for SO₂. [See, *Petition at page 57*; see also, *Petitioners’ Exhibit 28*]. However, the vendor only identified one additional control option (i.e., MEL wet scrubber) when compared to the Prairie State’s selection of available control options for SO₂ and, even then, the reasons for asserting that it constitutes a distinct technology are obscured. Sierra Club’s expert raised at least two additional control options, although it is not entirely clear whether one of those options would be individually separated out or grouped together as “design enhancements.” How many additional variations other experts could add to the class of scrubbers is speculative at best. But it is instructive that the level of complexity, not to mention uncertainty, in Step 1 of the Top-Down Methodology would become neither finite nor reasonably manageable under Petitioners’ interpretation of BACT.¹²⁶

Petitioners claim that the Illinois EPA did not address the vendor’s contention that the MEL wet scrubber required an evaluation as a separate control option. In fact, the Illinois EPA addressed MEL scrubbers as part of its response to Sierra Club’s expert, who had included the different design technique in her comments. [See, *Petitioners’ Exhibit 12, Response to Comment No. 103*]. Other than a flawed interpretation of PSD requirements, the Petition does not present

¹²⁶ Petitioners also intuitively proclaim that a vendor of a MEL control system would “know whether it sells a distinguishable technology.” [See, *Petition at page 58*]. Perhaps the fact that the vendor sells the very type of control technology that he ultimately recommended as BACT went unnoticed to Petitioners. Irrespective of any potential bias that might accompany these types of circumstances, it is not self-evident that a vendor of a given technology is better adept at the slippery-slope distinctions called for by Petitioners’ reasoning.

any basis for the EAB to review this argument. No relevant facts or technical details are provided to support the Petitioners contention and they fail to offer any reason or empirical evidence as to why the different technologies proffered in comments should have been considered separate from wet scrubber technology in general. These particulars should be articulated with greater specificity for seeking EAB review than that alleged in the Petition. *See, In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 30, 12 E.A.D. ____ (EAB 2005) (petitioners must include “specific information to support their allegations”); *see also, In re Inter-Power of New York*, 5 E.A.D. 130, 153 (EAB 1994). Because the Petitioners fail to explain why the Illinois EPA’s response to comments was clearly erroneous, the EAB should decline review of this argument.

2. The Illinois EPA properly evaluated BACT for SO₂ even though higher SO₂ control efficiencies have been met at other plants.

Petitioners generally challenge the Illinois EPA’s decision in establishing the 98 percent control efficiency as a BACT emission limit. Petitioners argue that a “substantial” body of evidence reveals that higher control efficiencies are being achieved by other sources. [*See, Petition at page 58*]. The Petition outlines three pieces of information that Petitioners believe were not properly considered by the Illinois EPA. [*See, Petition at pages 60-62*]. Each point raised by Petitioners was fully addressed by the Illinois EPA in its *Responsiveness Summary*.

a. Petitioners fail to demonstrate that the Illinois EPA’s responses to comments regarding other SO₂ control efficiencies were clearly erroneous.

In comments submitted by Sierra Club’s expert, Petitioners heralded the results of four, non-consecutive months in 1983 and 1984 of hourly SO₂ emissions data that was documented from a 292 MW coal fired power station located near Pittsburgh, Pennsylvania. The facility, known as the Mitchell power station Unit 33, apparently retrofitted its wet scrubber in 1982 with

a MEL-designed wet scrubber that was sold to the facility by Carneuse Lime. [See, *Petition at page 60; see also, Petitioners' Exhibit 9*]. Based on reported data for the period, Sierra Club's expert stated that the "maximum monthly average emission rate over this period was 0.029 lb/mmBtu, corresponding to a 99.72 percent of SO₂ reduction." [See, *Petition at page 60*].

The Illinois EPA addressed the comments regarding the Mitchell plant in its *Responsiveness Summary*. Specifically, the Illinois EPA stated that the 88 operating days did not provide "an adequate basis" to establish a BACT limit above the permitted 98 percent control efficiency. [See, *Petitioners' Exhibit 12, Response to Comment No. 115*]. The Illinois EPA went on to explain:

Further review of the circumstances under which this data was collected, as also provided by the commenter, shows that this data was collected as part of an 18-month demonstration project for the unit under a consent decree. Pursuant to the decree, the source was only required to install a scrubber with 95 percent efficiency and comply with an SO₂ emission rate of 0.45 lb/mmBtu.

[*Id.*]. The Illinois EPA then looked beyond the scope of the comment by pointing to more currently available information about the Mitchell plant. As related in its response to the comment, the Illinois EPA discovered that:

[T]he data for the unit for 2004 collected under the Acid Rain Program shows that the unit is currently emitting approximately 0.166 lb SO₂/mmBtu, which is lower than 0.45 lb/mmBtu but much higher than the emission data provided for the demonstration project. Based on the sulfur content of the coal during the demonstration period, the actual control efficiency of the scrubber is currently in the range of 97 to 98 percent.

[*Id.*]. The 2004 data was obtained by Christopher Romaine, Division of Air Pollution Control/Permits Section/ Utilities Unit, during the course of permit review from a USEPA

website and was part of the Administrative Record of this proceeding.¹²⁷ [*See, Respondent's Exhibit 38 (USEPA's Acid Rain Website)*]

Petitioners confess that they do not comprehend why the Illinois EPA dismissed consideration of the 4-month results cited by Sierra Club's expert or the longer 18-month results obtained during the entire demonstration period. [*See, Petition at page 60*]. The aforementioned response to comment, in fact, clearly dispels Petitioners' suggestion that the short-term emission rates achieved by the Mitchell plant provide the benchmark for a BACT limit. A broader meaning belies this response, which is evident from a reading of other responses regarding the same subject matter.

The Illinois EPA's *Responsiveness Summary* indicates that neither the 4-month nor the 18-month results were deemed sufficiently reliable to establish a BACT limit that can be consistently achieved on a continuing basis and to account for the foreseeable variability in the operation of the selected control system over its extended lifetime. [*See, Petitioners' Exhibit 12, Response to Comment Nos. 99, 100 and 114*].¹²⁸ These reasons arguably explain why the Mitchell plant is presently operating its retrofitted MEL wet scrubber in the range of 97 to 98 percent SO₂ control efficiency. If the assumptions underlying Petitioners' argument were true, other power plants constructed since 1983 and 1984 would have had the same achieved SO₂ control efficiencies established as a BACT limit by other permit authorities.

Petitioners' assertions to the contrary, the Illinois EPA evaluated various sources of performance data, including information drawn from the public comments, in assessing the

¹²⁷ The exhibit was downloaded from the following website address:
<http://www.epa.gov/airmarkets/emissions/prelimarp/index.html>

¹²⁸ The Illinois EPA also acknowledged the common knowledge that newer emission controls outperform older models and that the latest SO₂ control systems can often achieve "very high levels of SO₂ control on a short-term basis." [*See, Petitioners' Exhibit 12, Response to Comment No. 111*]

appropriate level of performance for SO₂ controls. As discussed below, no sources consistently achieving a greater than 98 percent control efficiency were reliably documented, owing perhaps to the desirability by permit authorities to account for a necessary variability. Another possibility is a lackluster interest by vendors to guarantee performance above the recognized norm. Prairie State noted this latter concern in comments that responded to Sierra Club's expert, as it related to both the Chiyoda CT-121 equipment vendor and to equipment vendors in general. [*See, Respondent's Exhibit 37 at pages 29 and 31 (Prairie State's response to Dr. J. Phyllis Fox, July 12, 2004)*].

Moreover, an exclusive focus on short-term emission rates, as proposed by Petitioners, is not supported by USEPA guidance. While the *NSR Workshop Manual* identifies "performance data" alongside recent regulatory decisions, manufacturer's data and the experience of other sources, it clearly does not promote the use of demonstrated emission rates that ignore control equipment variability or the achievement of continuous compliance. Similarly, the guidance document expressly contemplates the existence of a "wide range" of performance levels that can accompany a BACT evaluation, a recognition that is incongruous with the notion that the highest emission rate on record must be selected as BACT. [*See, Respondent's Exhibit 4 at B.23*].

Finally, Petitioners assert that a demonstration project such as Mitchell's cannot be eliminated as a top-ranking control option without some valid reason. [*See, Petition at page 61*]. As previously explained, the Illinois EPA chose not to distinguish the different scrubber technologies cited by Sierra Club's expert, including the MEL wet scrubber employed at the Mitchell plant, from the general class of wet scrubbers. Notwithstanding the existence of those different designs, the physical and chemical processes intrinsic to wet scrubbers are

fundamentally the same. Because it cannot be said that the Illinois EPA failed to evaluate the general class of wet scrubbers, Petitioners' argument misses its mark.

Petitioners also fail to demonstrate why the Illinois EPA's response to comments about the Chiyoda CT-121 bubbling jet reactor was clearly erroneous. In their argument, Petitioners emphasize the benefits of the bubbling jet reactor that was cited by Sierra Club's expert in her public comments. [See, *Petitioners' Exhibit 5*]. They chiefly contend that the Illinois EPA did not respond to the expert's claim regarding the efficiency rate achieved by the bubbling jet reactor.¹²⁹ While it is true that the Illinois EPA did not conduct a searching analysis of either the bubbling jet reactor or the other two control options identified by Sierra Club's expert, a reasoned explanation for this action was articulated in the *Responsiveness Summary*. As previously mentioned, the Illinois EPA chose not to consider every design variation or enhancement feature available in the field of wet scrubber technology, opting instead to focus upon setting an SO₂ limit and a separate level of control efficiency that the general class of wet scrubbers are able to achieve. [See, *Petitioners' Exhibit 12, Response to Comment No. 103*].

The Illinois EPA's approach in addressing the Mitchell plant's MEL wet scrubber and other wet scrubber designs identified in Petitioners' argument was documented in the

¹²⁹ Several citations to facts and technical authorities are peppered throughout the Petitioners' brief argument for this issue. [See, *Petition at page 62*]. Some of these references were specifically mentioned in the comments submitted by Sierra Club's expert. To the Illinois EPA's knowledge, however, the Petitioners' factual representations concerning the Chiyoda unit's commercial operation and its bid for use on coal-fire power plants in the United States were not included in public comments. Petitioners were obligated to submit "all reasonably available arguments" supporting their position on a given issue by the close of the public comment period. See, 40 C.F.R. §124.13. The aforementioned representations and attendant footnotes are being offered for the first time on appeal as supporting arguments to this issue. However, Petitioners have not demonstrated that the information was part of public comments or, alternatively, was not reasonably available at the close of the public comment period. For this reason, the EAB's consideration of those representations and accompanying footnotes should be denied because they were not properly preserved for appeal. See, *In re Kendall New Century Development*, supra at 19-20; *In re AES Puerto Rico, LP*, 8 E.A.D. 324, 342 fn. 20 (EAB 1999).

Responsiveness Summary. Petitioners have offered nothing to refute those explanations or demonstrate that they otherwise warrant EAB review.

b. The Illinois EPA's BACT evaluation relating to the SO₂ control efficiency limit reflects considered judgment based on facts supported by the Administrative Record.

The SO₂ control efficiency limit established by the Construction Permit/PSD Approval reflects considered judgment by the Illinois EPA and is "rational in light of all the information in the record, including the conflicting opinions." *See, In re Steel Dynamics Inc*, 9 E.A.D. 165, 180, fn. 16 (EAB 2000), *quoting, In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998). In this instance, the basis for the selection of the performance rate is supported by facts that are facially evident from the Administrative Record.

A BACT analysis is a case-by-case evaluation that ultimately arrives at a best control technology and a corresponding performance level for a particular source. *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 47 (EAB 2002). [*See also, Respondent's Exhibit 4 at page B.23*]. In evaluating a chosen level of performance, the frequently used 'top-down' methodology of the BACT analysis usually will reflect factors that are considered appropriate for the particular source. *In re Three Mountain Power, LLC*, 10 E.A.D. at 47, citing *In re CertainTeed Corporation*, 1 E.A.D. 743, 747 (Adm'r 1982)(BACT determinations are "tailor-made for each pollutant emitting facility"). Typically, these considerations take the form of "manufacturers' data, engineering estimates and the experience of other sources." [*See, Respondent's Exhibit 4 at page B.24*]. While permit authorities commonly look to recent permits for comparable sources and are "guided by nationwide trends in air pollution control efficiency, the BACT analysis is, at its core, a source-specific exercise." *BP Cherry Point, supra at 32*. And although it may be

presumed that a source can achieve the same emissions rate as another source, differences between them may justify an alternative result. [See, Respondent's Exhibit 4 at page B.24].

The BACT analysis involves a weighing of factors and not a mechanical selection of the most-stringent performance level on record. As elaborated upon earlier in this Response, the selection of BACT permit limits are not "necessarily a direct translation of the lowest emissions rate that has been achieved by a particular technology at another facility." *In re Cardinal FG Company*, PSD Appeal Nos. 04-04 and 03-03, slip op. at 15, 12 E.A.D. ___ (EAB 2005), citing *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 188 (EAB 2000)(chosen BACT level of performance does "not necessarily reflect the highest possible control efficiencies").

Petitioners do not generally oppose the imposition of the SO₂ control efficiency limit as BACT but, rather, contend that higher control efficiencies are achievable. However, a review of available sources of technical information contained in the Administrative Record support the Illinois EPA's selection of the 98 percent control efficiency limit. These resources included separate compilations of emission data received from Prairie State that were obtained from the RACT/BACT/LAER Clearinghouse, [See, Respondent's Exhibit 15, Attachments 2.1 and 2.3], and a compilation of data relating to significant coal-fired power plants assembled by the Illinois EPA [See, Respondent's Exhibit 15, Attachments 2.2]. Performance data submitted during public comment, as well as materials relating to other BACT determinations, were also considered. [See generally, Respondent's Exhibit 15 and Attachments 2.4 and 2.5].

Prairie State's permit application contained a formal BACT analysis entitled "Top-Down BACT Evaluation of Control Options and Identification of Selected Controls" and identified as Appendix C to the October 11, 2002 submission to the Illinois EPA. [See, Petitioners' Exhibit 27]. In addition to the narrative discussion of the BACT analysis, this section included a

ranking of the most stringent emission limits for individual pollutants based on information from the RACT/BACT/LAER Clearinghouse and Control Technology Center (hereinafter referred to as "RBLC"). [*Id. at page C-22, Table C.5-1*]. A summary of findings from recently proposed or permitted facilities not included in the RBLC was also identified. [*Id. at page C-23, Table C.5-2*]. Based on its evaluation of SO₂ emissions from the proposed coal-fired boilers, Prairie State ultimately proposed the use of wet scrubber technology coupled with a wet electrostatic precipitator. [*Id. at page C-38 and C-47*]. The proposed BACT emissions limit was 0.182 lb/mmBtu. [*Id.*] The submission was silent with respect to a possible BACT limit for a minimum percent SO₂ control efficiency.

The draft permit presented for public review and comment proposed a single BACT limit for SO₂ expressed in terms of the SO₂ emission rate (i.e., 0.182 lb/mmBtu). [*See, Petitioners' Exhibit 2*]. During the public comment period on the draft permit, the Illinois EPA reviewed several comments expressing belief that lower BACT limits were achievable for SO₂ emissions and that some form of overall control efficiency requirement for the SO₂ control system should be imposed. On the basis of those comments, the Illinois EPA determined that the heat input limit (i.e., lb/mmBtu) SO₂ emissions from the draft permit should be enhanced with the addition of a control efficiency limit. The final Construction Permit/PSD Approval thus reflected a BACT determination for SO₂ consisting of both a 0.182 lb/mmBtu limit, determined on a 30-day rolling average, and a separate 98 percent control based on the sulfur content of the coal supply to the boilers, determined on a running total of 12 months. [*See, Petitioners' Exhibit 1, Unit-Specific Condition 2.1.2(b)(ii)(A) and (B)*].

In the course of its evaluation of BACT for SO₂ emissions, the Illinois EPA recognized the inherent unfairness of 'sizing up' the proposed project with other coal-fired plants. [*See,*

Petitioners' Exhibit 12, Response to Comment No. 12]. In both its *Responsiveness Summary* and Final Calculation Sheet, the Illinois EPA acknowledged the numerically higher BACT limit, in lb/mmBtu, proposed for Prairie State's project compared to the limits of other coal-fired plants recently proposed or permitted. [*See, Petitioners' Exhibit 12, Response to Comment Nos. 12 and 119; see also, Respondent's Exhibit 15 at page 10*]. The compilation of data assembled by both Prairie State and the Illinois EPA generally bear out this conclusion. [*See generally, Respondent's Exhibit 15, Attachments 2.1, 2.2 and 2.3*].

The Illinois EPA ultimately attributed the incongruity between Prairie State's proposed SO₂ limit and those new coal-fired plants boasting lower BACT limits to the sulfur content of the fuel supply. [*See, Petitioners' Exhibit 12, Response to Comment Nos. 12, 101, 110 and 119*].¹³⁰ It is common knowledge that the characteristics of the coal supply for a given coal-fired combustion source play a critical role in determining the nature and level of efficiency of SO₂ controls and resulting SO₂ emissions from the source. This prevailing set of dynamics has allowed coal-fired plants burning lower sulfur coal to achieve lower emission rates without the concomitant need to operate at the same SO₂ control efficiencies as plants burning higher sulfur coal. A review of the BACT-related information in the Administrative Record supports this conclusion.¹³¹

¹³⁰ The Illinois EPA's position in this regard is perhaps best encapsulated by the following response: "SO₂ limits achieved at plants using low-sulfur western coal are not a relevant basis to set BACT for the proposed plant, as the proposed plant would be a mine-mouth plant designed to use a particular coal reserve comprised of Illinois No. 6 coal." [*See, Petitioners' Exhibit 12, Response to Comment No. 119*].

¹³¹ Many coal-fired plants burning lower sulfur-content coal, such as Powder River Basin ("PRB"), are shown to possess consistently lower SO₂ emission rates and, by correlation, lower SO₂ control efficiencies. [*Compare, Respondent's Exhibit 15, Attachments 2.1 and 2.2*]. For example, Council Bluffs, Iowa, and Wisconsin Public Service, Weston 4, employ pulverized coal boiler operations that burn PRB; both BACT limits are set at 0.1 lb/mmBtu on a 30-day average. Pulverized coal-fired plants using coal classified at or near 2.5 percent sulfur tend to reflect BACT limits of a higher range (i.e., Longview Power at 0.167 lb/mmBtu, 3-hour rolling average, and Wisconsin Electric's Elm Road at 0.0.16 lb/mmBtu, 24-hour average). One of the few permitted coal-fired plants using similar higher-percent sulfur coal is

The Illinois EPA's imposition of a SO₂ control efficiency limit accomplished several things. First, it addressed the obvious discrepancy between the BACT lb/mmBtu limit from other new power plants and Prairie State, thus 'leveling the playing field' where few new coal-fired sources have historically been eager to rely on a higher-sulfur fuel supply. The Illinois EPA admitted that the control efficiency limit was warranted in order to compensate for the higher lb/mmBtu limit, derived as it is from Prairie State's business-driven judgment to employ the high sulfur coal at a particular reserve of fuel and to develop a mine-mouth facility. [See, *Respondent's Exhibit 15, page 10*]. The limit was also deemed reliable in protecting against any "variability in the sulfur content of the coal supply" that might be expected to occur from the mine-mouth coal supply stream or the alternative coal supply used during an extended interruption. [*Id.*].

By embracing a concept first advanced by public comments, the Illinois EPA's inclusion of a control efficiency limit has brought about a more robust BACT determination for SO₂. Indeed, the introduction of this control efficiency limit will assure a level of performance for SO₂ controls that is equivalent to, if not more stringent than, that of other new coal-fired power plants. [See, *Petitioners' Exhibit 12, Response to Comment No. 2*]. On the basis of the evidence in the record, most of the prior BACT determinations for coal-fired boilers appear to establish a BACT limit in terms of mm/Btu only. [See, *Respondent's Exhibit 15, Attachments 2.1, 2.2 and 2.3*]. Of those projects in which known control efficiencies were identified, none were identified with a higher level of SO₂ control efficiency than that explicitly being required of the proposed plant. [*Id.*]. Notwithstanding the possibility that other sources have been similarly permitted, it

Peabody Coal's Thoroughbred facility, which employs a slightly higher 4.24 percent sulfur coal and is permitted at a comparable SO₂ emission rate of 0.167 mm/Btu.

is not presumptuous to believe that the BACT limit set by the Illinois EPA for SO₂ control efficiency will achieve a significant level of stringency in emissions control.

Separately, Petitioners allege that the Illinois EPA incorrectly calculated the SO₂ control efficiency set for the Longview, West Virginia power plant. [See, *Petition at page 61*]. The Illinois EPA relied upon the calculation in the *Responsiveness Summary* in responding to a comment about more stringent SO₂ lb/mmBtu emission limits at other existing power plants. The comment had noted that the Longview plant's 0.095 lbs/mmBtu limit, expressed as an annual average, should have been considered in setting the same limit for Prairie State.

The Illinois EPA generally responded to the comment by observing that it reflected BACT limits expressed in terms of lb/mmBtu and, accordingly, "do not reflect more efficient control of SO₂ emissions, but rather depict use of a coal supply containing less sulfur." [See, *Petitioners' Exhibit 12, Response to Comment No. 122*]. In addressing the comment's mention of the Longview plant, the Illinois EPA noted:

The limit for the Longview plant was originally set at 0.12 lb SO₂/mmBtu, based upon 97 percent control of emissions. Even after being lowered to 0.095 lb/mmBtu pursuant to a consent order, the limit for Longview only reflects 97.625 percent control of SO₂ emissions.

[*Id.*]. The response did not reveal the exact nature of the sulfur content used in the calculation.

Petitioners maintain that the Illinois EPA used the design (also known as a maximum) sulfur content in calculating Prairie State's 98 percent control efficiency. The Illinois EPA does not dispute this assertion. [See, *Petitioners' Exhibit 5, page 24*]. Petitioners also claim that in making the comparison to the Longview plant, the Illinois EPA incorrectly applied the average fuel sulfur content to the equation, thereby causing Longview's SO₂ control efficiency to be over-estimated by approximately 1.07 percent (i.e., 97.625 compared to 98.7). Petitioners apparently come to their conclusion by relying on Sierra Club's expert, who "was advised by the

applicant that the sulfur content that IEPA used for Longview is an average, not a design value.” [See, *Petition at page 62*].

The Illinois EPA’s calculation of the control efficiency was based on an extrapolation from available information obtained from Longview’s permit application. [See generally, *Respondent’s Exhibit 39 (Miscellaneous information pertaining to Longview)*] (Certified Index No. 403). Both the established SO₂ emission rate of 0.12 lb/mmBtu and the resulting 97 percent control efficiency of the boilers were documented in the permit application, as well as the sole document relating to Longview cited by Petitioners [Id. at page 5-14 and Table 5-7; see also, *Respondent’s Exhibit 40 at pages 31-35 (Miscellaneous information pertaining to Longview: Preliminary Determination/Fact Sheet, August 26, 2003)*] (Certified Index No. 403). Those figures yielded an uncontrolled SO₂ emission rate of 4.0 lb/mmBtu, thus giving rise to the calculated efficiency of 97.625 percent referenced in the *Responsiveness Summary*.¹³² The calculation was based on combustion of bituminous coal containing 2.5 percent by weight sulfur.¹³³

The information that the Illinois EPA drew upon in conducting its comparison was plainly documented in materials related to the Longview project and no reason existed, then or now, for such information to be treated as suspect.¹³⁴ Petitioners, on the other hand, neglect to

¹³² $1 - [0.095 \div 4.0] = .97625$.

¹³³ The document cited by Petitioners in footnote No. 37 of their Petition contains a reference to the proposed project’s combustion of “2.5% sulfur (nominal) bituminous coal.” Although this reference may represent the source of Petitioners’ claim that the sulfur content used by the Illinois EPA was less than a design or maximum value, such a claim is ambiguous at best. The technical discussion that accompanies that same document reveals that the West Virginia permitting authority contemplated that the project’s fuel source would be “coal with a maximum sulfur content of 2.5% by weight.” [See, *Respondent’s Exhibit 40 at page 31*].

¹³⁴ Admittedly, the Illinois EPA did not call specific attention to the calculation or its specific variables in calculating the control efficiency for the Longview plant. A permit authority should not be required to

identify the specific design value that their expert employs in her calculation and fail to identify any means of confirming its accuracy. The only assertion made with respect to the value or its alleged source of origin is, in a formal evidentiary sense, an unreliable form of double-hearsay. And as mentioned above, the substance of the argument was not raised in public comments.

Even if Petitioners' assertion can be said to cast some doubt on the validity of the Illinois EPA's quantitative comparison, it is of relatively minor consequence. The main point of the response to comment was meant to address comparisons in BACT determinations expressed in the form of lb/mmBtu limits for SO₂. This comparison readily revealed that certain sources, including Longview, possessed lb/mmBtu SO₂ limits that were lower than that of Prairie State's. The difference, as explained in the response, is attributable to the use of a lower sulfur-containing fuel supply. The Illinois EPA's last statement concerning Longview's correlated control efficiency was, at most, of anecdotal value.

Equally important is the recognition that the Longview plant is not obligated to comply with any given SO₂ control efficiency requirement as a separate BACT limit. Prairie State, on the other hand, must comply with both the lb/mmBtu SO₂ limit and a separate 98 percent SO₂ control efficiency limit on the boilers that is independent of the sulfur content of the coal being fired in the boilers.¹³⁵ This critical difference between Prairie State and Longview diminishes

produce supporting calculations for numerically-based comparisons relied upon in a response to comment, especially where, as here, the comparison was mentioned as a literary aside.

¹³⁵ It is also questionable whether the most recent 0.095 lb/mmBtu limit imposed on Longview can appropriately be compared with other formal BACT determinations. The SO₂ control efficiency does not reflect a formal BACT determination but, rather, was the product of a negotiated settlement of a permit appeal that was filed by environmental groups, including Sierra Club. As evidenced by the settlement document, a more stringent SO₂ limit for the source than that originally determined during the BACT review process was ultimately incorporated into the permit. [See, Respondent's Exhibit 41, Section III(2)(c)(Miscellaneous information pertaining to Longview: Consent Order, Sierra Club et. al. v. John Benedict, intervenor Longview Power)] (Certified Index No. 403). However, the agreement does not create enforceable rights beyond the terms of the settlement and it was created solely for purposes of compromise, as none of the underlying allegations in the proceeding may permissibly constitute an

the comparison sought by Petitioners in regards to the BACT determination for the SO₂ control efficiency limit.

3. The Illinois EPA properly evaluated SO₂ and sulfuric acid mist as part of its BACT determination.

Petitioners challenge the BACT determination relative to both SO₂ and sulfuric acid mist emissions on the grounds that they were considered in combination, rather than each as a separate pollutant. [See, *Petition at page 63*]. Petitioners' argument is entirely legal in nature and is contingent upon their view that BACT requires a separate determination "for each pollutant." [*Id.*, citing 40 C.F.R. §52.21(b)(12)].

a. Petitioners fail to demonstrate why the Illinois EPA's response regarding its consideration of SO₂ and sulfuric acid mist in the BACT evaluation was clearly erroneous.

This issue was raised during the public comment period and the Illinois EPA responded at length to the comment in its *Responsiveness Summary*. In doing so, the Illinois EPA generally defended its BACT determination for SO₂ and sulfuric acid mist on the grounds that the evaluation properly considered available technologies and corresponding limits for both pollutants. [See generally, *Petitioners' Exhibit 12, Response to Comment No. 102*].

The paramount consideration given to this issue by the Illinois EPA focused upon the relationship between SO₂ and sulfuric acid mist. According to the Illinois EPA, the similarities in chemical composition and control features for the separate pollutants warranted their joint

admission. [*Id.* at Section III (8) and (11)]. As a practical matter, the more stringent SO₂ limit borne from the litigation should be considered quite distinct from the original BACT evaluation. After all, the formal BACT analysis is strictly confined in its focus on BACT's definition, while settlement discussions may embrace any type of control technologies and/or performance levels, even options that are tantamount to the Lowest Achievable Emission Rate ("LAER"), irrespective of the BACT's top-down methodology. Given the 'free reign' under which the parties may arrive at a technology or level of performance in the context of settlement, direct comparisons with other permits that have already undergone the rigors of a BACT analysis should be carefully circumscribed.

consideration within the framework of a comprehensive BACT analysis. In these regards, the Illinois EPA reasoned that:

SO₂ and sulfuric acid mist have the same origin, i.e., sulfur contained in the coal supply to the boilers, which is oxidized during combustion. Control measures that are effective in controlling SO₂ emissions also control sulfuric acid mist emissions. SO₂ and sulfuric acid mist differ as sulfuric acid mist reflects the further oxidization of a smaller amount of the SO₂ that is formed during the combustion, from SO₂ and SO₃, a process that continues as long as SO₂ is present in the flue gas (and then continues in the atmosphere). Sulfuric acid mist is formed in the boiler when the SO₃ combines with moisture.

[*Id.*]. The Illinois EPA concluded that the “basic” control considerations for the two pollutants could be viewed in a “coordinated fashion, in terms of SO₂, followed by consideration of whether further controls beyond those for SO₂ are appropriate specifically for emissions of sulfuric acid mist.” [*Id.*].

The BACT evaluation for Prairie State identified wet scrubbing as the most effective control option for SO₂ emissions. This determination, as noted by the Illinois EPA in its above-referenced response to comment, was summarized in exhausting detail in the *Responsiveness Summary* and Final Calculation Sheet. [See, *Petitioners' Exhibit 12, Response to Comment No. 102; see also, Respondent's Exhibit 15 at pages 10-11*].

Similarly, electrostatic precipitators were selected as the most effective control system for sulfuric acid mist emissions. In its *Responsiveness Summary*, the Illinois EPA described the control techniques available for sulfuric acid mist as consisting of the addition of inhibitors into the furnace or combustion chambers of the boilers, the injection of sorbents into the flue gas of the boilers and reliance on the scrubbing for SO₂ control, or installation of wet electrostatic precipitators to specifically control sulfuric acid mist. [*Id.*]. The latter control option was chosen as BACT for the Prairie State project because they are commonly used for sulfuric acid mist

control and are generally thought to be more effective at controlling fine particulate matter than fabric filtration or dry electrostatic precipitators. [*Id.*].

Petitioners do not challenge the selection of wet electrostatic precipitators as the top control technology option for sulfuric acid mist. Indeed, nary a word is mentioned in the Petition addressing the merits of the control technology selection. Likewise, Petitioners do not question the legitimacy of the BACT limits established for both pollutants. Instead of attempting to substantiate their argument with empirical evidence, Petitioners simply assert that the coordinated review for both pollutants is unlawful. This assertion is erroneous and elevates form over substance.

The PSD regulations are unambiguous in requiring a BACT assessment for each pollutant subject to review. *See*, 40 C.F.R. §52.21(b)(12). USEPA guidance from the *NSR Workshop Manual* is in accord. [*See, Respondent's Exhibit 4 at page B.4*]. In this instance, the evaluation for SO₂ and sulfuric acid mist was coordinated because of the common attributes of the pollutants. Obviously, the framework of a combined analysis also removed some level of redundancy that would otherwise occur in separate reviews of the related pollutants. Nothing is inherently amiss with this approach. The pollutants were "each" subject to a thorough and objective review, even though they were integrated together in the evaluation. Both pollutants were also reflected in separate BACT limits in the final Construction Permit/PSD Approval.

Petitioners' legal interpretation is not supported by the PSD regulations or USEPA guidance. As a result, Petitioners fail to present a valid rationale as to why the Illinois EPA's response to comment regarding the integrated review of SO₂ and sulfuric acid mist was clearly erroneous. In the absence of a rationale, Petitioners have merely restated the issue that was

raised in the proceedings below and do not present any technical or empirical evidence to support their argument.

Perhaps more importantly, the trifling objection posed by Petitioners in this argument is not the type of consideration that warrants the EAB's review. The EAB has previously refused to review a control technology determination by a permit authority under similar circumstances. *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 851 (EAB 1993). In *Genesee Power Station L.P.*, the state permit authority conducted an initial BACT review for lead. In doing so, the permitting agency found that "because lead control efficiency is approximately equivalent to total particulate control efficiency, the BACT determination for control of particulates applies to lead as well." [*Id.*]. In the absence of a valid basis for challenging the state's decision, the EAB declined review, noting that the decision was "the kind of technical determination that is best left to the State to decide." [*Id.*].

The same deference should be applied in this instance. In view of the *Genesee Power Station* ruling, Petitioners fail to provide the EAB with any reason to accept review of the issue on the grounds that the Illinois EPA's exercise of discretion or important policy considerations warrant review.

b. The BACT evaluation for SO₂ and sulfuric acid mist is fully supported by the Administrative Record.

Even if the EAB concludes that Petitioners' argument was not adequately addressed in the response to comment, a review of the Administrative Record conveys a clear and unmistakable reflection of the Illinois EPA's considered judgment on this issue. The discussion of the SO₂ component of the BACT evaluation has been already been addressed in the preceding subsection. As such, no further explanation should be necessary here. The evaluation of sulfuric

acid mist, on the other hand, will be provided a brief overview in order to establish that this component of the evaluation was rational in light of relevant information in the record.

Prairie State's evaluation of sulfuric acid mist in the initial permit application was discussed hand-in-hand with the BACT analysis for SO₂. Consequently, identical control options for emissions from the boiler operations were presented in Appendix C of the October 11, 2002, application. [See, *Petitioners' Exhibit 27, page C-37*]. Prairie State identified the use of wet scrubber controls with limestone, together with wet ESPs, as the most efficient and reliable combination of control for SO₂ and sulfuric acid mist. [Id. at page C-38]. A limit for sulfuric acid mist of 0.005 lb/mmBtu was proposed for a performance level. [Id. at page C-38 and C-47]. Prairie State claimed that the proposed lb/mmBtu limits for both SO₂ and sulfuric acid mist were lower than "most other operating PC Boilers firing high sulfur content coal." [Id. at C-38]. However, the RBLC compilation and other comparative source data assembled by Prairie State for the application provided few relevant entries for sources subject to sulfuric acid mist limits. [Id. at Appendix I].

Although aspects of Prairie State's application with respect to sulfuric acid mist may have been somewhat abbreviated in the initial submission, the ultimate decision for a BACT determination rests with the permit authority. See, *In re Rockgen Energy Center*, 8 E.A.D. 536, 541 (EAB 1999). In this regards, the Illinois EPA's Final Calculation Sheet contains a detailed BACT analysis for both SO₂ and sulfuric acid mist. [See generally, *Respondent's Exhibit 15 at pages 10-11*]. As with Prairie State's analysis, the Illinois EPA observed that the use of effective controls for SO₂ would assure some degree of control of sulfuric acid mist and thus could properly serve as a starting point in the evaluation. Perhaps more importantly, the document underscores the significant role that the combined use of wet ESPs assume in the control of

sulfuric acid mist. As referenced therein, wet ESPs are particularly effective for the control of sulfuric acid droplets, acid gases other than sulfuric acid mist and fine, filterable particulate.¹³⁶

The Illinois EPA ultimately accepted Prairie State's proposed limit of 0.005 lb/mmBtu as the appropriate performance level for the control of sulfuric acid mist. As with Prairie State, the Illinois EPA's review confirmed that this limit was below established or proposed limits for other coal-fired power plants that employ high-sulfur coal as combustion fuel. The compilation of RBLC attached to the Final Calculation Sheet support this conclusion. [See, Respondent's Exhibit 15, Attachment 2.1]. Although 31 listed facilities from the comparison chart will employ pulverized coal technologies, only eight sources, excluding Prairie State, have obtained permits.¹³⁷ Five of those sources have obtained permits that possess higher limits for sulfuric acid mist, including the Longview Power project and the Elm Road Generating Project.¹³⁸ Both of the latter projects employ coal whose composition is not directly comparable to Prairie State's Illinois No. 6, as they both possess lower percent-sulfur values. [See, Respondent's Exhibit EE].

¹³⁹ The other three permittees obtained lower BACT limits but they all received limits that were

¹³⁶ As explained in the Final Calculation Sheet, the sulfuric acid mist limit will function as a surrogate for the control of condensable PM emissions. [See, Respondent's Exhibit 15, page 11].

¹³⁷ The remaining facilities from the list either do not identify a limit for sulfuric acid mist or are awaiting permit issuance.

¹³⁸ Those pulverized-coal or super-critical pulverized coal facilities are identified in Attachment 2.1 of the Final Calculation Sheet as Plum Point Power Station (i.e., .0061), Elm Road Generating (WI Elec.)(i.e.,.01), KCP&L (Hawthorn)(i.e.,1), Roundup (Bull Mountain)(i.e., .0064) and Longview Power (GenPower)(i.e., .0075).

¹³⁹ Based on Prairie State's estimates, the Elm Road project employs Pittsburgh No. 8 seam coal that contains 2.95 percent sulfur and is permitted with a maximum limit of 4.5 lb/mmBtu. The Longview project reflects a maximum, worst-case value of 3.75 lb/mmBtu, which translates into a 1.83 percent sulfur composition. [See, Respondent's Exhibit 42 (Electronic mail from Chris Romaine, Utility Manager, Permit Section, Illinois EPA to Donald Sutton, Manager, Permit Section, Illinois EPA, May 19, 2004)] (Certified Index No. 355). Thus, the lower sulfur-containing coal supply used by these other coal-fired plants would be expected to generate lesser amounts of sulfuric acid mist than Prairie State. [Id.].

only marginally lower than Prairie State and, in the case of the lowest limit, the source used lower-sulfur coal from the Powder River Basin.¹⁴⁰

Petitioners fail to demonstrate any error in the Illinois EPA's manner of considering BACT limits for SO₂ and sulfuric acid mist. Petitioners also do not substantiate their arguments with empirical evidence and present no proof that a separate-tiered analysis would otherwise have resulted in a different outcome. For these reasons, Petitioners should not prevail in their challenge to the BACT determination for SO₂ and sulfuric acid mist.

4. The Illinois EPA set an appropriate averaging time in its BACT evaluation for the lb/mmBtu limit for SO₂.

Petitioners raise several issues with respect to the 30-day rolling averaging period set by the Illinois EPA for the 0.182 lb/mmBtu BACT limit for SO₂. Although these issues are developed separately in the Petition, they tend to run together to make a single point; the 30-day averaging time established for the SO₂ limit is insufficient. Specifically, Petitioners protest that the averaging time fails to protect the NAAQS or PSD increments, [*See, Petition at Section X(D) and (E), page 63*], is over-reliant upon the "practice of other states," [*See, Petition at Section X(G), page 65*] and is at odds with the proper reference methods used for purposes of emissions testing. [*See, Petition at Section X(H), page 66*]. Petitioners' arguments are procedurally deficient and substantively misplaced.

a. Petitioners' issues and supporting arguments with respect to the SO₂ lb/mmBtu limit were not sufficiently raised in public comments.

Petitioners' amalgam of issues does not appear to be premised upon any specific public comments from the Administrative Record. The only citation to public comments cited in the aforementioned sections relate to a May 14, 2004, letter submitted by the USFWS. The letter set

¹⁴⁰ Lower BACT limits were issued to Thoroughbred, Council Bluffs (Mid America) and Southwest Unit No. 2 – City Utilities, the latter source reflecting the use of Powder River Basin coal as a primary fuel.

forth a number of concerns from the designated Federal Land Manager, including some dealing with averaging times for modeling inputs and permit limits. [See, *Petitioners' Exhibit 10 at page 7-8*]. In particular, the letter urged the Illinois EPA to use shorter averaging times for certain modeling analyses and to restrict the variability in short-term emission rates compared to the short-term modeling impacts. [*Id.*].

However, the text quoted by the Petitioners does not link up with the issues and supporting arguments raised in the Petition. While the selected excerpt correctly points out that the BACT limits should be set “with averaging times in accordance with the standards, increments, and appropriate visibility thresholds,” [See, *Petition at page 64*], the statement itself is much too broad a generalization to support Petitioners’ challenges to the SO₂ mm/Btu limit. The USFWS did not allege that the SO₂ BACT limit failed to set an appropriate averaging time, was erroneously based on prior BACT determinations or was contrary to applicable reference test methods. For this reason, the issues and supporting arguments raised by Petitioners in Section J(D), (E), (G) and (H) were not properly preserved for appeal.

b. Petitioners fail to demonstrate that the selection of the 30-day averaging period for the SO₂ BACT determination is clearly erroneous.

Petitioners contend that the 30-day averaging time established for the lb/mmBtu BACT limit does not protect against the violation of the NAAQS or PSD increments and that a shorter averaging time should have been set for a BACT standard. At a minimum, Petitioners argue that the Construction Permit/PSD Approval should have mandated a 3-hour averaging period consistent with the 3-hour NAAQS for SO₂. The shorter averaging time, in Petitioners’ view, is necessary because Prairie State’s SO₂ emissions on a 24-hour basis are “high enough to contribute to a violation” of the 3-hour NAAQS. [See, *Petition at page 64, citing to Petitioners’*

Exhibit 43]. While Petitioners' argument may reflect some of their underlying concerns about the SO₂ air quality analyses, they ultimately fail to show that a BACT averaging period cannot reflect a 30-day period, notwithstanding that the NAAQS are defined by 3-hour, 24-hour and annual averaging times.

The substance of Petitioners' argument is spurious and unsubstantiated. Petitioners' sole attempt at supporting their argument is citing to the results of the full impact assessment modeling, as reported in the Illinois EPA's Final Calculation Sheet. [*See, Petition at page 64*]. If anything, Petitioners misrepresent the consequences related to the project by claiming that 24-hour average SO₂ emissions will potentially violate the 3-hour NAAQS. Although the Illinois EPA's Final Calculation Sheet indicates that the full impact assessment modeling revealed 3-hour and 24-hour violations for SO₂ NAAQS, further analysis demonstrated that the project's contribution would be below the significant impact levels. [*See, Respondent's Exhibit 15 at page 17; see also, Petitioners' Exhibit 12, Response to Comments Nos. 9, 241 and 264*]. Similarly, no evidence of exceedances of the PSD increments can be shown from the modeling results. [*See, Respondent's Exhibit 15 at pages 19-20*].

Aside from not presenting any empirical evidence to support their argument, Petitioners fail to show that a PSD permit authority must impose short-term BACT limits in the absence of predicted violations of the NAAQS or PSD increment. The *NSR Workshop Manual* speaks only of the need for remedial action in State Implementation Plans where the modeled SO₂ exceedances were attributed to other existing sources. [*See, Respondent's Exhibit 4 at page C.52*]. Moreover, it is not abundantly clear that permit conditions relating to all facets of air quality analyses are to be drawn into the analytical framework for a control technology determination, thus reflecting BACT's imprint. Permit authorities commonly define BACT in

terms of a process-related limit (i.e., material processed or fuel consumed) to account for variables in process emission units and ensure that the control technology is functioning effectively at lower production capacity. Thus, while the Illinois EPA imposed short-term limits in the final permit to alleviate concerns about air quality, it chose not to shoehorn the consideration of those short-term limits into the more delineated parameters of the BACT evaluation. Permit authorities should retain this type of discretion lest the peripheral concerns of other PSD and non-PSD requirements leads to a distortion of BACT-related control evaluations across the spectrum of PSD permit determinations.

In another section of the Petition, an argument is raised suggesting that prior BACT determinations are not an appropriate resource in setting a BACT limit. [*See, Petition at page 65*]. This assertion is inexplicable given that Petitioners, in the very next paragraph to the argument, contend that the Illinois EPA should have considered other BACT determinations that set limits based on shorter averaging times. [*Id.*]. Apart from being argumentative, this line of discussion does not demonstrate clear error. Some sources, as suggested by Petitioners, may have obtained limits based on shorter-term averaging periods for SO₂ but that does not demonstrate that those limits are more stringent, that said limits were actually BACT limits or that other source-specific factors for those sources were equivalent to Prairie State's. Petitioners' reference to Longview's SO₂ limit based on a 3-hour average is not particularly illuminating. As previously mentioned, the source of Longview's coal supply is moderately lower in sulfur content than this project, a fact that seemed to be afforded special mention in West Virginia's BACT permit deliberations.¹⁴¹

¹⁴¹ In the Preliminary Permit Determination/Fact Sheet cited earlier by Petitioners, the West Virginia permit authority noted that the proposed 98 percent SO₂ efficiency for Prairie State could be achieved "by consuming coal with a very high sulfur content" (emphasis added). [*See, Respondent's Exhibit 40 at page 35*].

In the span of only four conclusory paragraphs, Petitioners also maintain that the 30-day averaging period is not consistent with reference test methods applicable for SO₂. Specifically, Petitioners reason that because the applicable reference test requires a testing duration of 3 hours and continuous emissions monitoring will capture SO₂ emissions data every 15 minutes, then the 30-day averaging period is “inconsistent” with the applicable reference methods and therefore contrary to the *NSR Workshop Manual*. [See, *Petition at page 66*]. This argument is silly.

The *NSR Workshop Manual* does provide that a PSD permit must identify a reasonable averaging period that is “consistent with established reference methods.” [See, *Respondent’s Exhibit 4 at page B.56*]. Contrary to Petitioners’ assertion, however, this does not mean that an averaging period must be based on the exact, short-term time intervals employed in reference methods. The duration of stack tests is irrelevant as compliance with the SO₂ limits will be determined by continuous emissions monitoring, not periodic stack tests. Likewise, the frequency of individual measurement employed in monitoring devices is not instructive as to the overall extent of data that is associated with particular emission limits. Thus, the guidance relied upon by Petitioners should be read in broader terms and with more technical knowledge than what is ascribed to it by Petitioners.

Moreover, Petitioners’ argument ignores that NSPS regulations for SO₂, as well as NO_x, require compliance through the use of CEMS based on the same 30-day averaging period that accompanies Prairie State’s limit. The federal NSPS for coal-fired boilers, which the Petitioners point to in other instances as a indicator of the limit that should be set for NO_x, utilize a 30-day averaging period as the compliance period for both NO_x and SO₂ emissions.

Neither the Petition nor the Administrative Record contains evidence that the 30-day averaging period that accompanies the SO₂ BACT limit, as expressed in lb/mmBtu, fails to

satisfy the requirements of the PSD program. Petitioners' abbreviated arguments therefore do not show clear error or a reason grounded in important policy interests for warranting EAB review.

5. The Illinois EPA set an appropriate averaging time for the short-term SO₂ limit.

As part of its protracted challenge to the SO₂ BACT evaluation, Petitioners depart briefly from the PSD Approval's specified BACT limits for SO₂ in order to attack the permit's 24-hour SO₂ limit. Specifically, Petitioners claim that the non-BACT limit for SO₂ establishes an averaging time that allows for "excessive variability." [See, *Petition at page 64-65*]. According to Petitioners, the equivalent lb/mmBtu calculation for the 24-hour lbs/hour limit is evidently too high because it is 1.8 times higher than the SO₂ lb/mmBtu limit based on a 30-day average.

a. Petitioners' issues and supporting arguments with respect to the short term SO₂ lbs/hour limit was not raised in public comments.

Based on a review of public comments, the Illinois EPA cannot ascertain the whereabouts of any mention of this issue. Petitioners themselves do not expressly identify the origin of the issue during the public participation phase of permit review. The Board has stated repeatedly that it will not "scour the record" but, rather, will deny review of the issue on the grounds that it has not been preserved for appeal. See, *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, fn. 10 (EAB 1999); 40 C.F.R. §124.13.

Although a comment bearing some resemblance to the question was raised in comments by the USFWS, the issue dealt expressly with the averaging period of the emission rates employed in the air quality modeling analyses. That issue is arguably distinct from the issue now raised with respect to the short-term SO₂ lb/hour limit, which deals with the appropriateness of the limit as applied to the boiler operations. [See, *Respondent's Exhibit 15 at page 19*]. An

issue raised about the air quality analyses is not synonymous with an issue about BACT, even if it relates to the same pollutant. *Compare, In re Rockgen Energy Center*, 8 E.A.D. 536, 545 (EAB 1999). A denial of review of this issue is therefore appropriate.

b. The averaging period for the SO₂ lb/mmBtu limit established by the BACT determination is supported by the Administrative Record.

The Illinois EPA's consideration of a short-term, lb/hour emission rate for SO₂ is documented in the Administrative Record. Early in the permitting process, Prairie State had proposed a daily emission rate for SO₂ that was consistent with its air quality modeling analyses and accounted for variability in the control system. The initial limit proposed reflected a 0.51 lb/mmBtu emission rate based on earlier modeling, correlating to a 3,795 lb/hour limit as a 24-hour limit. [See, *Respondent's Exhibit 15, page 19*]. Prairie State subsequently lowered the short-term limit to 3,126 lb/hour, an emission rate equivalent to 0.42 lb/mmBtu, with a 24-hour limit, to ensure that the modeling analyses would reflect conservative assumptions. [*Id.*; see also, *Respondent's Exhibit 43 (Letter from Dianna Tickner, Prairie State to Chris Romaine and Rob Kaleel, Illinois EPA, December 9, 2003, and attachments)*]. Air quality modeling using this limit confirmed that the project would not cause or contribute to a violation of a short-term NAAQS or PSD increment. [See, *Respondent's Exhibit 43*; see also, *Respondent's Exhibit 44 (Letter from Dianna Tickner, Prairie State, to David Kolaz, Illinois EPA, June 21, 2004, and attachments)*]. The Illinois EPA subsequently included this limit in the draft permit. [See, *Petitioners' Exhibit 2*].¹⁴²

¹⁴² In a letter to USFWS on June 21, 2004, Prairie State acknowledged the significance of the short-term emission rate in relation to the longer-term 30-day SO₂ limit. [See, *Respondent's Exhibit 43, page 6*]. The company explained that the short-term limit serves to restrict "the variability of the fluctuation around the long-term average" and therefore is truly restrictive on a daily basis. According to Prairie State, both limits work hand-in-hand, as the power plant could not emit SO₂ at the daily rate every day without also violating the 30-day limit.

A paramount factor in setting the current short-term limit for SO₂ arose from concerns, as expressed by USFWS, regarding the Prairie State project's potential impact on both the NAAQS and the Mingo Wilderness Area. Prairie State responded to those concerns by, among other things, accepting a further reduction in the daily emission limit for SO₂ to 2,450 lb/hour and correlating to 0.33 lb/mmBtu. [See, Respondent's Exhibit 15, page 2]. This reduced limit represented a voluntary commitment by Prairie State to provide, in essence, a comfortable margin between daily SO₂ emissions and the modeled impacts. The Illinois EPA opted to retain the higher SO₂ limit that had been employed in the air quality modeling for the initial start-up period for the proposed plant. [See, Petitioners' Exhibit 1, Attachment 1, Table 1]. The more onerous limit reflected by the lower limit was phased into the permit, thereby providing Prairie State some latitude during the initial "de-bugging" consistent with SO₂ emission rate that had successfully demonstrated compliance in the modeling. [See, Petitioners' Exhibit 1, Unit-Specific Condition 2.1.7(a)(i) and (ii)]. The Illinois EPA also expressly noted in the permit that the short-term SO₂ limit, together with a separate annual SO₂ emission limit, represented requested limits by Prairie State to allay USFWS concerns with respect to Mingo.

In its Final Calculation Sheet, the Illinois EPA generally observed that both the NAAQS and the "air quality related values" relating to the Class I area would normally be evaluated on a short-term basis and were therefore amenable to being reflected in "daily emission rates." [See, Respondent's Exhibit 15 at page 2]. The Illinois EPA went on to explain that even though the daily SO₂ limit may be "distinctly higher" than the 30-day limit established as BACT, the limit demonstrated Prairie State's best engineering judgment with respect to anticipated variability for the SO₂ controls. Similar to Prairie State's comments to USFWS, the Illinois EPA observed that

the higher daily SO₂ rate is a natural consequence of the “stringent levels of control generally being required, which makes such variability in performance more significant.” [Id.]

As already discussed, the BACT limit for SO₂ in lb/mmBtu reflects achievement of a level of control efficiency that is equal to or greater than that effectively be required of other new plants. As a result, the permit requires a level of performance that is more difficult to meet on a consistent basis than those sources that do not need to achieve such a high control efficiency. Therefore, it is not unreasonable that the shorter-term limit for SO₂ allowed for greater variability than the longer-term 30-day BACT limit.¹⁴³

It should be noted that the daily SO₂ limit is subject to further downward adjustment pending the outcome of Prairie State’s Further optimization study for daily SO₂ control. [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.16*]. The Construction Permit/PSD Approval requires the permittee to evaluate a lower limit for SO₂ to the extent that it could be “reliably achieved... without unacceptable consequences.” [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.16(a)(i)*].¹⁴⁴ The evaluation itself must be completed within three years of start-up and only after the permittee has demonstrated compliance, through testing and monitoring, with all applicable short-term limits. [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.16(b)*]

¹⁴³ This phenomenon is perhaps best illustrated by an example. Petitioners claim that the daily emission SO₂ limit, in lb/hour, provides excessive accommodation for variability in daily emissions allowing SO₂ emissions that can be as much as 1.8 times higher than the 30-day average emission rate. When expressed in terms of the efficiency of the SO₂ scrubber, however, this is a difference between achieving a design level of 98 percent control (i.e., $1 - (.182 \div 9.1) = 0.98$) of SO₂ emissions on a multi-day, long-term average, and achievement of at least 98.4 percent on a daily basis (i.e., $1 - (1.8 \times 0.182) \div 9.1 = 0.964$). This latter level of control is still a very stringent level of efficiency for control of SO₂ emissions. Of necessity, it reflects a larger difference between daily and multi-day emission limits than a plant that need only achieve 95 or 96 percent control of SO₂ emissions on a multi-day, long-term average basis.

¹⁴⁴ Prairie State must submit a plan for the systematic evaluation of SO₂ emissions, including a wide-range of operating parameters, to the Illinois EPA within 180 days following start-up of the boilers. [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.16(b)*].

and (c)(i)].¹⁴⁵ The Illinois EPA's general approach in requiring the optimization clause comports with similar methods generally approved by the Board in other PSD determinations. *In re Hadson Power 14*, 4 E.A.D. 258, 290-291 (EAB 1992)(higher permitted emission limit for NO_x could be lowered after commencement of operations to reflect practical realities).

6. The Illinois EPA's imposition of a SO₂ control efficiency requirement is not invalid because of a lack of enforceability, a delayed effective date or an averaging time different from the BACT limit for SO₂ lb/mmBtu.

Petitioners continue a refrain of objections with respect to the SO₂ control efficiency by raising three different arguments. Petitioners contend that the limit is not practically enforceable, that the limit should have taken effect immediately rather than the 18 months following initial start-up, and that the averaging period does not correspond to the 30-day lb/mmBtu BACT limit.

a. Petitioners fail to demonstrate that the issues were properly preserved for appeal.

As with many of their arguments, Petitioners do not indicate whether the issues raised in this part of their Petition were addressed during the public comment period. In the same vein, Petitioners do not indicate whether those issues, to the extent that they were not raised during public comment, were not reasonably ascertainable at the time of public comments. In either event, Petitioners bear a threshold burden of demonstrating that each of the issues was preserved for appeal. In the absence of meeting that burden, the EAB should decline review.

b. Petitioners fail to show that the Illinois EPA's imposition of permit requirements relating to the SO₂ control efficiency requirement was clearly erroneous, arbitrary or otherwise warrants review.

¹⁴⁵ If Prairie State fails to conduct the evaluation, permitted daily SO₂ average limit will automatically adjust to a daily limit of 1,350 lb/hour. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.16(a)(ii)(A)*]. The optimization condition further provides that the Construction Permit/PSD Approval will be revised to set SO₂ daily limit, in no case lower than the default limit, if the Illinois EPA finds, upon consideration of the evaluation, that the boilers are able to consistently meet a lower limit without serious consequences. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.16(a)(ii)(B)*].

Petitioners first contend that the SO₂ control efficiency requirement is not federally enforceable in accordance with USEPA guidance because its use of a 12-month rolling average period is not sufficiently short enough (i.e., 30-day average or less) to ensure continuous compliance with the limit. [See, *Petition at pages 66-67*]. In particular, Petitioners seize upon language in a few guidance memoranda, as well as Appendix C of the *NSR Workshop Manual*, that stress the desirability for short-term limits that enable an inspector “verify instantly whether the source is or was complying with the permit conditions.” [See, *Petition at page 67, citing NSR Workshop Manual at page C.4*].

The USEPA guidance memoranda and the excerpts from the *NSR Workshop Manual* relate to the regulatory doctrine of potential to emit. To the extent that those guidance sources deal exclusively with defining a source as major according to its potential to emit, it is not clear that they are presumptively applicable to BACT determinations. However, the Illinois EPA does not dispute that USEPA expects some of its general regulatory doctrine to carry over into PSD permitting, including for purposes of BACT. The *NSR Workshop Manual* plainly discusses the need for enforceable BACT limits and, in particular, it provides that BACT emission limits must be practically enforceable and met on a continuous basis. [See, *Respondent's Exhibit 4 at page B.56*]. The document gives meaning to federal enforceability as a permit that “contains appropriate averaging times, compliance verification procedures and recordkeeping requirements.” [*Id.*].

USEPA guidance does not support Petitioners' notion that every BACT limit must essentially be cast in terms of 30-day, or shorter-term, averaging period. Accepting Petitioners' reasoning would effectively negate the use of a 12-month averaging period altogether, a proposition that is clearly dispelled by reading from a portion of the *NSR Workshop Manual*

cited by Petitioners. [*See, Respondent's Exhibit 4 at page C.6*]. While compliance is most readily verifiable through short-term limits, an annual limit expressed in terms of a rolling monthly average is permissible. [*Id.*]. This form of a limit may indeed constitute the farthest reaches of an enforceable limit but it certainly cannot be deemed "too long" to be practically enforceable and, contrary to Petitioners' assertion, their preferred rolling averaging period is capable of verifying compliance in roughly the same manner as a monthly limit. Indeed, the comments supporting inclusion of this control efficiency limit made reference to annual levels of performance so as to support the establishment of the most stringent limit that was possible. [*See, Petitioners' Exhibit 12, Response to Comments Nos. 110 and 112*]. Moreover, Petitioners' argument ignores that the SO₂ control efficiency limit is intended to act in combination with the other BACT limit for SO₂. Although the 98 percent control efficiency of the boilers is a distinctly separate BACT requirement, the role that it assumes in the BACT determination is to assure that effective control of SO₂ emissions is attained irrespective of the actual sulfur content of Illinois No. 6 coal.

Petitioners also raise enforceability issues relating to sampling, testing frequency, and the measurement of the control efficiency limit, but each of these arguments are unfounded. Petitioners claim that the Construction Permit/PSD Approval does not impose sampling or testing frequency for determining compliance with the limit. The portion of the permit cited by Petition, however, relates to operational monitoring and measurement. The key provisions for addressing the Petitioners' concern are found in the limits themselves, as they clearly state that compliance shall be determined by methods in the NSPS and the Acid Rain Program. [*See, Petitioners' Exhibit 1, Unit-Specific Conditions 2.1.8 and 2.1.9-1*].

In this regard, Unit-Specific Condition 2.1.8 generally provides that the permittee must have performed an initial performance demonstration for SO₂ within 60 days of achieving the maximum production rate, but not later than 180 days after initial start-up. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.8(a)(i)(A)*]. The demonstration for SO₂ must be performed in accordance with Method 19, as set forth in 40 C.F.R. 60.48(c), providing the basis of certification of the CEMS. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.8(b) and fn. 3*]. After the initial performance demonstration, the permit condition provides that SO₂ emission data from the certified monitors “may be provided in lieu of conducting emissions tests.” [*Id.*]. This permit condition plainly speaks to the frequency of the required compliance demonstrations.¹⁴⁶

The CEMS requirements are contained in applicable regulations that apply to the plant. The Construction Permit/PSD Approval briefly reiterates these regulatory requirements and generally requires the permittee to install, operate, calibrate, and maintain a continuous monitor for SO₂, as well as maintain record-keeping, in accordance with 40 C.F.R. Part 60.47(a). [See, *Petitioners Exhibit 1, Unit-Specific Condition 9.1.9-1*]. Sampling locations for the certified monitors, as well as the specific types of monitoring equipment, shall be identified in the site-specific monitoring plan submitted by Prairie State to the Illinois EPA and subject to the Illinois EPA's approval prior to installation. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.9-1(a)(ii)*].

Petitioners complain that the permit is silent with respect to how the SO₂ control efficiency must be measured and calculated. The relevant provision of the Construction Permit/PSD Approval provides that compliance will be determined “based on the actual SO₂

¹⁴⁶ Emissions testing may also be required within 45 days of a written request by the Illinois EPA. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.8(a)(iv)*].

emissions of the boiler... that would result from combustion of coal without emissions control systems... and the heat input to the boilers.” [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.2(b)(ii)(B)*]. The calculations inherent in this compliance methodology may not be immediately apparent but they are nonetheless discernable from the face of Unit-Specific Condition 2.1.2(b)(ii)(B), particularly as they rely on provisions of the NSPS regulations that address the same subject. The initial component of the assessment relating to actual SO₂ emissions is to be determined on the basis of procedures from the Acid Rain program. [*Id.*]. The estimation of the uncontrolled actual SO₂ emissions from coal combustion is to be calculated as “the product of the average SO₂ input rate from “as fired” fuel analyses, determined in accordance with 40 CFR 60, Appendix A, Method 19, and 60.48a(c)[sic].” [*Id.*]. The heat input to the boilers is likewise determined by the procedures addressed by the Acid Rain program.

Petitioners also briefly argue that the SO₂ control efficiency limit takes too long to become effective, suggesting that the effective date of 18 months following startup should be required immediately upon start-up. Unit-Specific Condition 2.1.2(b)(ii)(B) of the Construction Permit/PSD Approval provides that the control efficiency limit takes effect 18 months after startup of the boilers but it is silent with respect to why this delay is needed. Admittedly, the Illinois EPA did not offer an accompanying justification for every implementing provision of the permit. In this instance, the Illinois EPA provided an 18-month effective date to account for the usual events and/or consequences associated with de-bugging a new plant and coal supply, and the accumulation of the necessary body of data to implement this limit, which applies on a running total of 12 months of data. Moreover, the relatively short delay in the effective date ensures that the initial estimation of SO₂ control efficiency will draw from an actual baseline of

monthly emissions data. In short, the 12-month rolling average necessitates the accumulation of twelve months worth of data following the initial shakedown of a boiler.

In light of these circumstances, the selection of the effective date for the SO₂ control requirement can be viewed as rational and should not be reviewed unless a petitioner meets a heavy burden in demonstrating clear error. Here, the Petitioners offer a one-sentence argument and nothing more. This type of minutia in permitting detail reflects the sort of review that the Board should be averse to accept in view of the deference typically afforded to permit authorities in technical matters. *See, BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 34, 12 E.A.D. ___ (EAB 2005).

The last argument presented in this section of the Petition addresses the contention that the separate averaging times for the two BACT limits (i.e., 30-day rolling average for the mm/Btu limit and the 12-month rolling average for the control efficiency limit) are “mismatched” and do not assure that both limits will be continuously achieved. Petitioners purport to support this assertion by claiming that the 98 percent control limit was based on the worst-case coal and that the limit therefore allows “some 30 day periods to achieve a lower than 98 percent control, so long as the annual average is 98 percent.”

The gist of Petitioners’ argument is ambiguous, if not incomprehensible. For one thing, it is not clear that its central theme of “mismatched” averaging periods relates to the fact that the averaging times are different or, alternatively, the use of a design or maximum factor for the coal supply. Petitioners certainly do not explain what the worst-case coal factor used in determining the control efficiency limit means in relation to the 0.0182 mm/Btu limit. As mentioned elsewhere, the latter was based on the same design criteria of 4.0 percent sulfur by weight and 8,780 Btu/pound higher heating unit. Apart from being confusing, Petitioners also do not

substantiate their argument in a manner that establishes clear error on the part of the Illinois EPA.

As previously discussed, the Administrative Record provides ample support for the Illinois EPA's decision in establishing the various components of the SO₂ control efficiency limit. In addressing a public comment relating to coal blending, the Illinois EPA acknowledged concerns about the range of coal qualities from the mine-mouth plant and, in particular, the use of design coal in setting the BACT limit for mm/Btu. The Illinois EPA responded:

the observations in this comment helped confirm the appropriateness of a BACT limit in terms of control efficiency, a 98 percent control would not otherwise be attained during periods when the actual sulfur content of the coal from the mine was below the design value.

[See, *Petitioners' Exhibit 12, Response to Comment No. 107*].

In this final argument, Petitioners also indirectly appear to be challenging the selection of the 12-month averaging period for the 98 percent control removal requirement. The Illinois EPA addressed this issue extensively in both its *Responsiveness Summary* and Final Calculation Sheet, with perhaps the most relevant discussion relating to the Illinois EPA's review of performance data submitted by USFWS. [See, *Petitioners' Exhibit 12, Response to Comments Nos. 99 and 109; see also, Respondent's Exhibit 15 at page 10.*] To reiterate, the performance data supported the application of an annual averaging period because of the evident variability in SO₂ emission rates shown to exist across the averaging spectrum and, furthermore, because the longer averaging period yielded a better performance in the control system, thus resulting in fewer SO₂ emissions. [*Id.*].

K. The Administrative Record Clearly Supports the Illinois EPA's Conclusion that the Proposed Plant Will Not Adversely Impact Air Quality in Mingo.

Petitioners raise a multitude of arguments concerning the potential impacts of emissions from the proposed power plant on the Wilderness Area located at the Mingo Wildlife Refuge ("Mingo") and the consultation that took place between the Illinois EPA and the Federal Land Manager ("FLM") for Mingo as a part of the permit review process. According to Petitioners, the USEPA was required to consult with the Federal Land Manager despite the delegation of the USEPA's permitting authority to the Illinois EPA. [See, *Petition at page 70, citing 40 C.F.R. §52.21(u)*]. The Petitioners further contend that the Illinois EPA's rejection of the Federal Land Manager's adverse impact finding was arbitrary, thereby necessitating remand of the permit. Petitioners not only misconstrue the relevant provisions of the Clean Air Act and implementing regulations, but fail to refute the Illinois EPA's position set forth in the *Responsiveness Summary*.

1. The role of government agencies.

A construction permit shall not be issued where emissions will cause or contribute to an exceedance of increments in Class I areas. 42 U.S.C. § 7475. Class I areas include all international parks, national wilderness areas that exceed 5,000 acres, national monument parks that exceed 5,000 acres, and national parks that exceed 6,000 acres and were in existence on August 7, 1977. 42 U.S.C. § 7472(a). The Class I area of interest in this proceeding is the Wilderness Area located at United States Fish and Wildlife Service's Mingo Wildlife Refuge located in southeastern Missouri.

Class I areas are also entitled to enhanced protections under the Clean Air Act. See, *In re Old Dominion Electric Cooperative*, 3 E.A.D. 779, 780 (Adm'r 1992); see also, 40 CFR § 52.21(p) (providing additional requirements for sources impacting federal Class I areas). The Clean Air Act provides the FLM and the Federal Official committed to managing a Class I

area with the responsibility to protect the air quality related values¹⁴⁷ within that area and “to consider, *in consultation with the Administrator*, whether a proposed major emitting facility will have an adverse impact on such values.” 42 U.S.C. § 7475(d)(2)(B) (emphasis added). The Federal Land Manager responsible for Mingo is the Secretary of the Interior and the Federal Agency possessing jurisdiction over Mingo is the United States Fish and Wildlife Service.¹⁴⁸ See, 40 CFR § 52.21(b)(24).

Section 165 (d)(2)(A) of the Clean Air Act, 42 U.S.C. § 7475(d)(2)(A), and 40 CFR §52.21(p), set forth the rules regarding notice to the FLM; these provisions require the Illinois EPA provide written notice to the FLM of a proposed PSD permit that may impact a Class I Area. The Illinois EPA provided notice in April 2002. [See, *Petitioners’ Exhibit 12, Response to Comment No. 311*]. The Illinois EPA is also required to consider any visibility analysis submitted by the FLM within 30 days of the notice of application, if the analysis shows that the proposed source may have an adverse impact on visibility. 40 CFR § 52.21(p)(3). The term “adverse impact on visibility” means:

impairment which interferes with the management, protection, preservation, or enjoyment of a visitor’s visual experience of the Federal Class I area. This determination must be made on a case-by-case basis taking into account the geographic extent, intensity, duration, frequency, and time of visibility impairments, and how these factors correlate with (1) times of visitor use of the Federal Class I area, and (2) the frequency and timing of natural conditions that reduce visibility.

40 CFR § 52.21(b)(29); see also, 40 CFR § 51.301.

In those cases where a maximum allowable increase in concentration of a pollutant (i.e., “an increment”) will not be exceeded, a permit shall not be issued “where the Federal Land

¹⁴⁷ Beyond stating that air quality related values include visibility in 42 U.S.C. § 7475(d)(2)(B), neither the Clean Air Act or the regulations define the term “air quality related value.”

¹⁴⁸ For purposes of this Response to the Petition for Review, Respondent shall interchangeably employ the terms Federal Land Manager and Department of Interior (“DOI”) for the Federal Land Manager and the Federal Agency Responsible for the Mingo Wildlife Refuge.

Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality related values (including visibility) of such lands." 42 U.S.C. §7475(d)(2)(c)(ii) (emphasis added); see also, *In re Old Dominion Electric Cooperative*, 3 E.A.D. 779, _____. (Adm'r 1992). However, contrary to Petitioners' insinuations, this section does not alter who possesses the authority to issue or deny a permit and to determine the specific conditions of any issued permit. See, 40 CFR §52.21(p)(3) and (p)(4);¹⁴⁹ see also, *In re Old Dominion Electric Cooperative* 3 E.A.D. 779, _____. (Adm'r 1992) ("While the permit issuer must give reasonable consideration to a Federal Land Manager's assertion of an adverse impact, the final decision rests with the permitting authority."); see also, *American Corn Growers v. EPA*, 291 F.3d 1, (D.C. Cir. 2002) (the protection of air quality related values in a designated Class I area is dependent on the permitting requirements of the PSD program). Section 165 of the Clean Air Act generally gives states the authority to determine if a permit should be issued when an air quality related value is impacted by a proposed source. Exception to the states' authority only exists when a PSD increment or ambient air quality standard is not met. See, 42 U.S.C. §7475(d)(2)(c). Such legal precedent is particularly relevant to a delegated state such as Illinois where the Illinois EPA acts as the permitting authority. See, 46 Fed. Reg. 9580, 9582 (Jan. 29, 1981) (USEPA delegation of full authority to the State of Illinois to implement the federal PSD program).

2. The Clean Air Act requires the issuing authority to consult with the federal land manager prior to issuance of a PSD permit.

¹⁴⁹ The Federal Land Manager bears the burden of demonstrating to the Administrator that the proposed plant will have an adverse impact to visibility where the applicant has shown that the proposed plant will not cause or contribute to a violation of the Class I increment. See, 40 CFR § 52.21(p)(3) & (4); see also, *In re Old Dominion Electric Cooperative* 3 E.A.D. 779, _____. (Adm'r 1992) ("Section 165(d)(2)(C)(ii) clearly states that a demonstration by a Federal Land Manager that a facility will have an adverse impact on the air quality related values of a Class I area must be made to the 'satisfaction of the State.'"); see also, *In re Hadson Power 14 - Buena Vista*, 4 E.A.D. 258, 276 (EAB 1992).

In Petitioners' initial review of the consultation that took place with regard to Mingo, Petitioners mention an extraneous argument that has not been preserved for appeal. In a strained reading of the Clean Air Act and associated regulations, Petitioners assert that the USEPA rather than the delegated authority is required to coordinate with DOI before a PSD permit can issue over an adverse impact finding by DOI. [See, *Petition at pages 69-70*]. This contention appears to have been raised for the first time on appeal. Although the potential effects upon the Mingo Wildlife Refuge were a well-documented concern expressed by Petitioners, Petitioners did not previously articulate their claim that the USEPA must independently determine the merits of an adverse impact finding by DOI. Because no mention of this precise issue can be found in the transcript of the public hearing or in written comments, the EAB should decline consideration of this matter on procedural grounds alone. See, *In re Keystone Cogeneration Sys., Inc.*, 766, 766 (Adm'r 1992); see also, *In re Encogen Cogeneration Facility*, 8 E.A.D. 244 (EAB 1999) (enables the permitting authority to have the first opportunity to respond to criticisms to the permit).

Turning to the merits of the issue and upon closer reflection, the flaws in Petitioners' argument are all too apparent. Based upon each cited reference to the term "Administrator,"¹⁵⁰ Petitioners abruptly conclude that the USEPA must consult with DOI prior to the permit's issuance.¹⁵¹ Implicit in such argument is that the term "Administrator" means only the USEPA.

¹⁵⁰ [See, *Petition at pages 69-70*, citing 42 U.S.C. §§ 7410(c)(3), 7475(d)(2)(B), 7607(b) 40 C.F.R. § 52.21(u)]. The only other statutory provision cited by the Petitioners was 42 U.S.C. § 7475(d)(2)(C)(ii). [See, *Petition at page 70*]. However, this section does not employ the term "Administrator" but specifically makes use of the word "State." See, 42 U.S.C. § 7475(d)(2)(C)(i).

¹⁵¹ While Petitioners cite *Citizens for Clean Air v. U.S.E.P.A.*, 959 F.2d 839, 841-842 (9th Cir. 1992) in support of their premise, the quoted reference does not appear on those pages. In actuality, Petitioners reference a direct quote from *Northern Plains Resource Council v. United States, EPA*, 645 F.2d 1349, 1358 (9th Cir. 1981) set forth on page 844 of the *Citizens for Clean Air* opinion. [See, *Petition at page 70*, citing *Citizens for Clean Air v. U.S.E.P.A.*, 959 F.2d 839, 841-842 (9th Cir. 1992)]. In fact, the *Northern*

However, Petitioners fail to reference a statutory or regulatory definition supporting this argument. In fact, the Code of Federal Regulations and the definitions specific to the procedures for issuance of PSD permits states:

“Administrator,” “EPA,” and “Regional Administrator” shall have the meanings set forth in § 124.2, except when EPA has delegated authority to administer those regulations to another agency under the applicable subsection of 40 CFR § 52.21, the term “EPA” shall mean the delegate agency and the term “Regional Administrator” shall mean the chief administrative officer of the delegated agency.

40 C.F.R. § 124.41. *See also, In the Matter of SEI Birchwood, Inc.* 5 E.A.D. 25, 26 (EAB 1994) (A permit issued by a delegated authority is considered an EPA-issued permit). In April 1980, the USEPA delegated authority to implement the federal PSD program to the Illinois EPA. *See, 46 Fed. Reg. 9,580, 9,582 (Jan. 29, 1981).* The Illinois EPA, alone, acquired the “administrative, technical and enforcement elements of the source review provisions of 40 C.F.R. § 52.21.” [*Id. at page 9,582*]. By so doing, the USEPA did not retain responsibility and does not possess authority with the Illinois EPA for coordination with the DOI. Consistent therewith, the EAB has found that the Illinois EPA “stands in the shoes of the Regional Administrator [and must] follow the procedural requirements of Part 124.” *In re West Suburban Recycling and Energy Center, L.P.*, 6 E.A.D. 692, 707 (EAB 1996). In accordance with such precedent, the Illinois EPA acted in the stead of the USEPA and appropriately consulted with DOI as part of the permit review process.

While the Clean Air Act and the Illinois Environmental Protection Act do not envision the dual role for the USEPA and the Illinois EPA as suggested by the Petitioners, simply assuming for a moment that the USEPA withheld some permitting authority, it does not change

Plains opinion did not pertain to a review by the USEPA of a PSD permit issued by a delegated authority but concerned the USEPA’s decision to grant a PSD permit for two coal-fired electric power plants.

that any adverse impact finding demonstration must be made to the State. Section 165(d)(2)(c)(ii) of the Clean Air Act states, in its entirety:

In any case where the Federal Land Manager demonstrates *to the satisfaction of the State* that the emissions from such facility will have an adverse impact on the air quality related values (including visibility) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

See, 42 U.S.C. § 7475(d)(2)(c)(ii). (emphasis added).¹⁵² It is difficult to envision how the USEPA had any permitting authority to withhold. The Clean Air Act specifies that the DOI must demonstrate to the satisfaction of the State rather than the USEPA that the facility will have an adverse impact on a designated Class I area. In light of the foregoing, the applicable law does not require both the issuing authority, here the Illinois EPA, and the USEPA to each consult with the DOI prior to the issuance of a PSD permit. It is sufficient that the Illinois EPA participated in the required consultation with DOI. *See*, 46 Fed. Reg. 9,580 (Jan. 29, 1981) (Illinois EPA must appropriately apply the provisions of 40 C.F.R. § 52.21).

3. Petitioners fail to show that the Illinois EPA's decision to reject DOI's adverse impact finding was clearly erroneous or otherwise merits review.

In the second prong of Petitioners' arguments, Petitioners profess that the Illinois EPA's decision to reject DOI's adverse impact finding was unreasonable and arbitrary. [*See, Petition at pages 70-73*]. In presenting this argument, Petitioners contend that the emission reductions that have taken place since 1990 are not relevant to the Illinois EPA's decision. [*See, Petition at page 71*]. In addition, Petitioners assert that the Illinois EPA failed to detail how the changes to the final permit adequately addressed DOI's concerns. [*See, Petition at page 72-73*]. Finally, Petitioners stress that the Illinois EPA failed to address DOI's concern that modeling

¹⁵² The emphasized language was not included in the quotation set forth in the Petition. [*See, Petition at page 70*].

employed a 30-day rolling average rather than a 24-hour average for SO₂. [See, *Petition at page 72*].

a. The Illinois EPA properly considered and responded to DOI's adverse impact finding.

Prairie State performed an evaluation of the visibility impacts from the proposed plant to the Mingo Wilderness Area. The evaluation, performed by Earth Tech, Inc., reviewed by Dr. Ivar Tombach, and submitted to the Illinois EPA as part of the permit application was modeled after the applicable regulations and guidance. Several documents or informational references relating to Mingo were made a part of the Administrative Record compiled by the Illinois EPA in this proceeding. These documents that were considered by the Illinois EPA during the permit review are located in footnote 153.¹⁵³ The Administrative Record not only

¹⁵³ [See, *Respondent's Exhibit 45 (Prairie State Generating Company, Inc. Class I Air Quality Modeling Protocol, March 2003)*; see also, *Respondent's Exhibit 46 (Letter from Dianna Tickner to Chris Romaine regarding Prairie State Generating Station's Visibility Analysis, dated April 25, 2003, and attachments)*; see also, *Respondent's Exhibit 47 (Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wildlife Refuge, dated April 2003)*; see also, *Respondent's Exhibit 48 (Letter from Dianna Tickner to Rob Kaleel regarding Final Results of Class I Modeling, dated August 8, 2003, and attachments)*].

[See, *Respondent's Exhibit 49 (Letter from Michael Teague, Highland Marine Enterprises, Inc., regarding Update on Prairie State, dated October 7, 2003)*; see also, *Respondent's Exhibit 43*; see also, *Respondent's Exhibit 50 (Letter from Dianna Tickner to Chris Romaine providing Supplemental Information regarding Prairie State Permit Application, dated December 19, 2003 [sic] and attached Prairie State Generating Station Maximum Compliant Emission Rate for the Class I Increment)*; see also, *Respondent's Exhibit 51 (Addendum: Updated Class I Increment Analysis for the Prairie State Generating Station and Calculation of the Maximum Compliant Emission Rate, dated January 14, 2004)*; see also, *Respondent's Exhibit 52 (Letter from Dianna Tickner to Chris Romaine providing Additional Information in Support of Prairie State Generating Company's PSD/Title IV Permit Application for Prairie State Generating Station, dated April 19, 2004, and attachments)*; see also, *Respondent's Exhibit 53 (Letter from Paul Hoffman, Acting Assistant Secretary, Fish & Wildlife & Parks, DOI, to David Kolaz, dated May 14, 2004, and attachments)*; see also, *Respondent's Exhibit 44*; see also, *Respondent's Exhibit 54 (Letter from Dianna Tickner, Vice President, Prairie State Generating Company, to Charles Matoesian, Hearing Officer, Illinois EPA, responding to Comments Submitted June 17, 2004, by Robert Ukeiley on Behalf of the Sierra Club, the Clean Air Task Force, and the Lake County Conservation Alliance, dated July 12, 2004)*; see also, *Respondent's Exhibit 5*; see also, *Respondent's Exhibit 55 (Letter from Dianna Tickner to David Kolaz, dated October 28, 2004, and attachments)*; see also, *Respondent's Exhibit 56 (Letter from Dianna Tickner to Laurel Kroack regarding Potential Visibility Impacts at Mingo, dated*

verifies that the Illinois EPA performed an extensive review of the issues surrounding Mingo but that the Illinois EPA possessed familiarity with the same.

While, the thrust of Petitioners' argument stresses DOI's May 2004 finding that emissions from the proposed plant may adversely impact the Mingo Wilderness Area, DOI bears the burden of demonstrating to the State that the proposed plant will adversely impact air quality related values at a Class I area. *See*, 42 USC §7475(d)(2)(c)(ii). The Illinois EPA performed an extensive review of modeling indicating that the change in air quality at Mingo due to emissions from the proposed plant would not cause or contribute to concentrations in excess of the increment.¹⁵⁴ *See*, 42 U.S.C. §7475(d)(2)(c). Moreover, the Illinois EPA performed a detailed review of the proposed plant's potential impact on the visual air quality at Mingo, finding that it would not have an adverse impact on such air quality related value. In conjunction with the Illinois EPA's review, Prairie State ran CALPUFF consistent with modeling guidelines, employed permitted 30-day rolling average emission rates, examined the hours that the Mingo Wilderness Area is open to visitor use, and utilized Visibility Method 7 to account for the impact of the proposed plant in conjunction with natural weather events on visitor use.¹⁵⁵

(i). CALPUFF

December 22, 2004]; *see also*, *Respondent's Exhibit 57 (Letter from Laurel Kroack to Deputy Assistant Secretary Hoffman, dated January 13, 2005)*].

¹⁵⁴ [See, *Respondent's Exhibit 48, Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station on Mingo Wilderness Area; Addendum: Cumulative Impact Analysis - Prairie State Generating Station; see also, Respondent's Exhibit 50, Prairie State Generating Station Maximum Compliant Emission Rate for the Class I Increment; see also, Respondent's Exhibit 51; see also, Respondent's Exhibit 58 (Addendum: Update Cumulative SO₂ Class I Increment Analysis for the Prairie State Generating Station, May 2004); see also, Respondent's Exhibit 5, Addendum: Updated Cumulative SO₂ Class I Increment Analysis for the Prairie State Generating Station*].

¹⁵⁵ [See, *Respondent's Exhibit 45; see also, Respondent's Exhibit 48*].

Prairie State made use of CALPUFF and its meteorological model CALMET to project visibility impacts from the proposed plant.¹⁵⁶ USEPA's Guideline on Air Quality Models ("Guidelines") provides the regulatory application of air quality models used to assess criteria pollutants. *See*, 40 CFR 51, Appendix W. In April 2003, the USEPA made several changes to the Guidelines including the adoption of CALPUFF as the "preferred technique for assessing long range transport of pollutants and their impacts on Federal Class I areas." 68 Fed. Reg. 18,440, 18,441 (April 15, 2003); *See also*, 40 CFR 51, Appendix W, Section 8.2.6(c). The Interagency Workgroup on Air Quality Modeling recommends CALPUFF to evaluate the air quality impacts of the emission sources. [*See, Respondent's Exhibit 59 (Interagency Workgroup on Air Quality Modeling Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts, USEPA, EPA-454/R-98-019, December 1998)*].

The models consider light scattering as well as light absorbing compounds and, in this application, the contribution of sulfate and nitrate to visibility reduction were of greatest importance. Sulfate and nitrate react with ammonia in the atmosphere to form sulfate and nitrate compounds that condense to create particles. In high humidity conditions, these particles attract water molecules to grow to a size that is equivalent to the wavelength of visible light; such particles are particularly effective at scattering light. CALPUFF takes into account the growth rate of these hygroscopic particles and the ensuing visibility impacts is measured, in terms of a percentage, as light extinction, (i.e., the amount by which visibility can expect to decrease).¹⁵⁷ In addition, meteorological and dispersion modeling simulations were conducted for a three year

¹⁵⁶ [*See, Respondent's Exhibit 45; see also, Respondent's Exhibit 48, The Prairie State Generating Station: Predicted Class I Area Impacts Satisfy Clean Air Act Requirements, Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area; see also, Respondent's Exhibit 43*].

¹⁵⁷ [*Id.*].

period (1990, 1992, and 1996) based upon the availability of the Penn State/NCAR Mesoscale Model datasets.¹⁵⁸

(ii). 30-day rolling average emission rates

While Prairie State made use of a 30-day rolling average emission rate for SO₂ rather than a 24-hour average in the modeling, the Illinois EPA gave reasonable consideration to the use of a 24-hour average. However, the Illinois EPA ultimately determined that in a comparison of the 30-day limit to the 24-hour limit, the 30-day limit is the more representative limit to use in the visibility modeling.¹⁵⁹ As evidenced by the permit, the Illinois EPA included both a short and long-term limit for the criteria pollutant, SO₂.¹⁶⁰ The permit requires Prairie State to continuously meet the 0.182 lb/mm Btu limit, however, due to the possibility of infrequent upsets, the short-term limit has initially been set at 3,126 lb/hr (0.42 lbs/mmBtu), ultimately dropping to 2,450 lb/hr (0.32 lbs/mmBtu). The inclusion of both emission limits makes the permit quite restrictive due to the short-term limit controlling the inherent variability of the long-term average.¹⁶¹

Employing the 30-day rolling average SO₂ limit, 0.182 lbs/mmBtu, modeling indicates four days in three years with a visibility extinction over five percent (one day over ten

¹⁵⁸ *Id.*

¹⁵⁹ *[See, Respondent's Exhibit 43].*

¹⁶⁰ The draft permit included a 24-hour SO₂ limit of 0.42 lbs/mmBtu and a 30-day BACT SO₂ limit of 0.182 lbs/mm Btu. In response to concerns raised by the Federal Land Manager, the 24-hour SO₂ limit will drop from 3,126 lb/hr which is equivalent to 0.42 lbs/mm Btu at the maximum design heat input capacity of a boiler to 2,450 lb/hr, daily average, equivalent to 0.33 lbs/mm Btu. *[See, Petitioners' Exhibit 1, Unit Specific Condition 2.1.7(a)(ii)].*

¹⁶¹ The short-term limits were used in both the NAAQS and the increment modeling; neither modeling showed violations of these criteria. *[See, Section N and O of the Response to Petition for Review; see also, Respondent's Exhibit 43; see also, Respondent's Exhibit 5].*

percent).¹⁶² The likelihood of the worst meteorological conditions (i.e., associated with a five percent visibility impact) combining simultaneously with an upset condition is 0.015 percent or one day in 18 years.¹⁶³ Given the low probability of such an event, modeling visibility impacts with the short-term limit would inappropriately overstate impacts because emissions from the plant must also comply with the long-term limits (i.e., 30-day and annual).¹⁶⁴ *See also, In re Old Dominion Electric Cooperative* 3 E.A.D. 779, ____, fn. 12 (Adm'r 1992) (finding it was not clear error for the State to determine that the FLM's use of the 24-hour average to estimate visibility impacts tended to overstate impacts).

(iii). Consideration of the impacts from the proposed plant in conjunction with the hours of visitor's use and natural weather events.

As previously discussed, the regulations specifically focus an adverse impact finding on the individual source's impact to the visitors' use of the designated Class I area. *See*, 40 CFR § 52.21(b)(29) (adverse impact on visibility to consider "times of visitor use of the Federal Class I area"). While Prairie State made use of the background concentration for Mingo, consistent with the PSD regulations, Prairie State considered how the proposed plant would, in fact, affect a visitor's use of Mingo. Accordingly, Prairie State reported the effect of the proposed plant on Mingo during times when visitors might have their visual experience impacted by emissions from the source.¹⁶⁵

¹⁶² [See, Respondent's Exhibit 48, Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area, Table 5-4 to 5-6].

¹⁶³ [See, Respondent's Exhibit 43].

¹⁶⁴ [*Id.*].

¹⁶⁵ [See, Respondent's Exhibit 48, The Prairie State Generating Station: Predicted Class I Area Impacts Satisfy Clean Air Act Requirements].

The language is also clear that visibility impacts are to be compared against natural conditions. *See*, 40 CFR § 52.21(b)(29) (adverse impact on visibility to consider “the frequency and timing of natural conditions that reduce visibility”). In fact, past DOI statements have interpreted the term “natural conditions” to include significant meteorological conditions such as fog, precipitation and naturally occurring haze. For instance, in December 2002, DOI notified the Montana Department of Environmental Quality that the proposed operations at the Roundup Power Plant (RPP) would have an adverse impact on designated Class I areas, specifically, the Yellowstone National Park and the UL Bend Wilderness Area. [*See, Respondent’s Exhibit 60 (Letter from Craig Manson, Assistant Secretary for Fish and Wildlife and Parks, United States, Department of Interior, to Jan Sensibaugh, Director, Montana Department of Environmental Quality, dated January 10, 2003)*]. On January 10, 2003, DOI acknowledged receipt of supplemental information including additional data and further discussions of “modeling assumptions and analysis.” [*Id.*]. In its further review, the DOI concluded by stating:

It is our interpretation that ‘natural conditions’ include significant meteorological events such as fog, precipitation, or naturally occurring haze. Based on the information received and subsequent analysis of that data and the policy guidance, I have concluded that on those days when RPP was shown in the original analysis to have resulted in a visibility extinction of 5 percent or more a weather event was the most significant source of the visibility extinction and not the RPP emissions. Therefore, I hereby withdraw my determination of an adverse impact on related air quality values, including visibility, for YNP and UL caused by operations of the proposed RPP.

[*Id.*]. In accord with such precedence, Prairie State gathered information “representative of Mingo during these weather events and used these local data (principally relative humidity) to

estimate PSGS's impact on Mingo's visual air quality and local visual range data during fog and precipitation to estimate natural visibility impairments."¹⁶⁶

(iv). Human perception of changes to light extinction

Employing CALPOST Method 2, which implements the methodology of the Interagency Workgroup on Air Quality Modeling, Prairie State calculated the change in light extinction due to emissions from the proposed source.¹⁶⁷ The impacts to light extinction were presented as a percent change in extinction from background concentration values identified for Mingo.¹⁶⁸ The analysis indicated that Mingo may experience four days in three years where the perceptible change in light extinction may be greater than five percent.¹⁶⁹

Consistent with the Code of Federal Regulations' focus on visibility impairments that are humanly perceptible,¹⁷⁰ Prairie State submitted a report by Dr. Ivar Tombach titled *Human*

¹⁶⁶ [See, Respondent's Exhibit 48, *Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area*, at 5-2; *The Prairie State Generating Station: Predicted Class I Area Impacts Satisfy Clean Air Act Requirements*].

¹⁶⁷ [See, Respondent's Exhibit 45, page 4-18; see also, Respondent's Exhibit 48, *Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area*].

¹⁶⁸ [*Id.*].

¹⁶⁹ Prairie State's consultant, Earth Tech, predicted 4 days with impacts greater than 5 percent of natural conditions: 6.1 percent on June 28, 1992, 12.1 percent on August 4, 1992, 6.4 percent on September 16, 1996 and 7.5 percent on November 27, 1996. [See, Respondent's Exhibit 48, *Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wilderness Area*, Table 5-4 to 5-6]. In a related memorandum, *Natural Visibility Conditions at the Mingo Wilderness Area*, Dr. Tombach considered the contribution of organic matter to the natural background extinction. If considered, the natural background extinction would further reduce the predicted impact values. Dr. Tombach calculated the adjusted values in such a scenario to be 5.7 percent, 6.1 percent, 6.8 percent and 11.0 percent. [See, Respondent's Exhibit 48, *Natural Visibility Conditions at the Mingo Wilderness Area*, Dr. Tombach]. Although not deemed necessary by the Illinois EPA, the Illinois EPA indicated to the Federal Land Manager that offsets from the Ameren Grand Tower facility were available. [See, Respondent's Exhibit 57]. The FLM never explained why the offsets contained within the Ameren federally enforceable permit were not acceptable. [*Id.*; see also, Respondent's Exhibit 53].

¹⁷⁰ Section 169(A)(g)(6) of the Clean Air Act states that the terms "visibility impairment and "impairment of visibility" are to include "reduction in visual range and atmospheric discoloration." See,

Perception of Visibility Impairment at the Mingo National Wildlife Refuge and Wilderness Area to the Illinois EPA that sought to assess its findings in this context. Dr. Tombach used recently published and peer-reviewed research to conclude that, at least as applied to the Mingo Wilderness Area, FLM's five percent threshold criteria to assess visibility impacts employed dated assumptions of the extent of change humanly perceptible in visual air quality in outdoor scenes.¹⁷¹ The research indicated to Dr. Tombach that for the vistas at Mingo the human eye could only detect a change in visual air quality greater than 20 percent.¹⁷² His conclusion was generally derived from two key parameters identified by the research, the colorfulness of the vistas at Mingo and, the relationship of the vistas' colorfulness to the relatively short natural visual range of the length of the vistas' viewing paths (i.e., observer-to-target distance).¹⁷³ In fact, Dr. William C. Malm, DOI's principal visibility scientist, agreed with Dr. Tombach that five percent is below the threshold of human perception of visibility impairment at many fish and wildlife areas (such as Mingo), stating:

[M]ost landscape features have this characteristic - you see scenic elements within a few feet of yourself and a continuum of features out to a distant of the visual range or where features disappear. Under high extinction the distances involved are a few kilometers which in areas such as the Grand Canyon the distances involved are hundreds of kilometers. *However, if a view does not include the landscape features at or near the visual range or the most sensitive distance than the change in extinction will be higher than the 5% suggested in the FLAG guidance. I suspect that this is the case in many fish and wildlife areas.*

42 U.S.C. § 7479(A)(g)(6). Visibility Impairment is further defined as "...any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions". See, 40 CFR §51.301. (emphasis added).

¹⁷¹ [See, Respondent's Exhibit 44].

¹⁷² [See, Respondent's Exhibit 48, *Human Perception of Visibility Impairment at the Mingo National Wildlife Refuge and Wilderness Area, Ivar Tombach, Ph.D.*].

¹⁷³ [*Id.* at pages 7-8].

[See, Respondent's Exhibit 55, electronic mail from William Malm, National Park Service, Colorado State University, to John Vimont and Mark Scruggs, National Park Service, dated March 3, 2004, 9:58 am].

As the four highest predicted visibility impacts to Mingo were each much less than 20 percent, the Administrative Record supports the Illinois EPA's finding that visibility impacts would not be perceptible to visitors. In sum, the changes are not humanly perceptible, they don't interfere with the enjoyment of a visitor's visual experience at Mingo and therefore, do not meet with the definition of an adverse impact on visibility. See, 40 CFR § 52.21(b)(29); see also, 40 CFR § 51.301.

(v). Illinois EPA's consideration and response to DOI's adverse impact finding.

Despite DOI's principal visibility scientist, Dr. Malm, agreeing with Dr. Tombach that five percent is below the threshold of human perception of visibility impairment at many fish and wildlife areas, the Petitioners argue that the Illinois EPA failed to explain how the changes in the final permit address DOI's adverse impact finding and that the Illinois EPA failed to adequately respond to DOI's concerns relative to coal-washing and blending of low sulfur coal.¹⁷⁴ [See, Petition at pages 72-73]. As articulated by the *Responsiveness Summary*, certain limits were not considered by DOI in its initial adverse impact finding. These included lowering the BACT limit NO_x from 0.08 to 0.07 lbs/mmBtu; curtailing the daily SO₂ limit by 20 percent

¹⁷⁴ The Illinois EPA adequately responded to DOI's concerns regarding coal washing and the use of low sulfur coal. As previously discussed in Section I, Prairie State evaluated coal washing determining it is not a viable alternative for the proposed plant due to the associated economic, energy and environmental impacts. The Illinois EPA concurred in its own coal washing analysis. [See, Section I; see also, Section E] (discussing the Illinois EPA's consideration of low sulfur coal). In addition, the Petitioners misstate the terms of the permit, the Illinois EPA only allows Prairie State Generating Station to use washed coal from other mines in limited, defined circumstances. [See, Petition at page 72; see also, Petitioners' Exhibit 1, Unit-Specific Condition 1.3].

within 24 months of boiler start-up;¹⁷⁵ setting an additional BACT limit for SO₂ in terms of SO₂ percent control efficiency; and directing Prairie State to comply with a lower annual SO₂ limit until 2011. The permit also requires Prairie State to purchase 25 percent more SO₂ allowances (in proportion to actual SO₂ emissions) than required to meet the existing Acid Rain requirements until Clean Air Interstate Rule ("CAIR") takes effect. DOI also failed to consider other events that impact emissions including the development of a Consent Decree to specifically address emissions from Dynegy's Baldwin plant and the USEPA's actual adoption of CAIR. [See, *Petitioners' Exhibit 12, Response to Comment No. 306*].

In light of the aforementioned portions of the Administrative Record, Petitioners have failed to show clear error in the Illinois EPA's response to this issue. Petitioners barely attempt to refute the changes delineated in the *Responsiveness Summary* suggesting that the Illinois EPA should have provided more explicit details as to how these changes address DOI's adverse impact finding and that the over-purchase of additional SO₂ allowances is temporary. [See, *Petition at pages 71-75*]. The Illinois EPA summarily responds that the Administrative Record clearly and convincingly supports the Illinois EPA's determination that emissions from the proposed plant will not adversely impact visibility at Mingo. In addition, the provisions for SO₂ allowances are more accurately characterized as a transitional device. They address the period of time until the Clean Air Act Interstate Rule or other similar regional emission control program takes effect to further lower emissions from coal-fired power plants on an overall basis. When

¹⁷⁵ While the permit requires a SO₂ optimization study within 180 days of initial startup of the boiler to determine whether a lower hourly SO₂ limit may be reliably achieved, the permit does not allow Prairie State to continue to maintain the initial SO₂ daily limit as Petitioners would like the EAB to believe. [See, *Petition at pages 73-74*]. The permit lowers the daily emission limit within 12 months of completion of the initial performance tests or 24 months after startup of the boilers, whichever occurs first. At that time, SO₂ emissions shall not exceed 2,450 lb/hour, daily average from the boiler. This period allows for the further shakedown of the scrubber as may be needed to achieve this lower daily limit. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.7(a)(ii)*].

this program comes into place, the accompanying devaluation of SO₂ allowances will assure that the proposed plant is accompanied by even greater reductions in emissions at existing plants than occur during the transition period.

Despite clear support for the Illinois EPA's finding that emissions from the proposed plant will not adversely impact visibility at Mingo, the Illinois EPA gave more than reasonable consideration to the FLM's claim of an adverse impact electing to require additional modifications to the permit that further reduce emissions of the precursors to light extinction, NO_x and SO₂. *See, In re Old Dominion Electric Cooperative* 3 E.A.D. 779, ___ (Adm'r 1992). While the Illinois EPA's written response might have contained further details as to how these changes to the permit addressed DOI's earlier finding, these circumstances should not form the basis for review. *Cf., In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 13-14, fn. 13 (EAB, April 29, 2003). The response to the comment was sufficient to articulate the basis of the Illinois EPA's decision. [*Id.*].

Petitioners also contend that Illinois EPA's assertion that emissions have declined since 1990¹⁷⁶ has no bearing on the instant permit decision and thus, does not suitably respond to DOI's concerns. [*See, Petition at pages 71-72*]. Again, Petitioners' statements are contrary to prior DOI statements on the issue. DOI has previously considered emissions reductions achieved by the permitting authority in its visibility analysis. [*See, Respondent's Exhibit 60* ("We

¹⁷⁶ For instance, USEPA's Acid Rain Progress Report indicates that since 1990 annual SO₂ emissions have declined 32 percent and annual NO_x emissions have declined 37 percent. [*See, Respondent's Exhibit 57*]. Under a nationwide cap and trade program, the Acid Rain Program requires reduction in SO₂ by 50 percent from 1980 levels. [*Id.*]. NO_x emissions have also decreased as a result of the federal NO_x SIP Call that establishes a region-wide cap on NO_x emissions from power plants during the ozone season. [*Id.*]. Illinois has also adopted regulations that require reduced NO_x emissions from power plants during the ozone season. *See*, 35 Ill. Adm. Code 217, Subpart V. NO_x emissions have declined in Illinois from 284,729 tons per year in 1996 to 171,336 tons per year in 2002. [*Id.*]. Illinois has also seen a significant reduction in SO₂ emissions from coal-fired power plants in 1996 at 731,379 tons per year to 336,586 tons per year in 2002. [*Id.*].

appreciate the opportunity to work closely with DEQ to carefully analyze the impacts of new power plants on air quality values, including visibility, in Class I areas and to take into account the considerable reductions in emissions that the DEQ has already secured in the region thus significantly improving air quality values and visibility”). Accordingly, the EAB should decline consideration of this issue because the Petitioners fail to demonstrate clear error in the Illinois EPA’s response to comments.

b. Petitioners fail to show that the Illinois EPA committed clear error in its notice to the public.

Petitioners’ last argument alleges that the Illinois EPA neglected to explain its basis for rejecting DOI’s adverse impact finding in the Public Notice and thus, failed to meet the minimum notice requirements of 40 C.F.R. §52.21(p)(3). [See, *Petition at pages 75-76*]. According to the Petitioners, the information contained in the Public Notice, the ensuing reference to the Project Summary, and the discussion provided in the later document, in sum, did not provide the public with adequate notice. [Id.]. In particular, Petitioners take exception to the Public Notice directing the public to access repositories to obtain the information submitted by the Federal Land Manager and its reference to the Project Summary for an explanation concerning the Illinois EPA’s decision. [Id.]. Petitioners concluded by asserting that the Project Summary misstates the Federal Land Manager’s findings. [Id. at page 76].

(i). Petitioners’ argument fails to satisfy the EAB’s procedural requirements for obtaining review.

Comments submitted during the public comment period faulted the Illinois EPA for failing to provide adequate notice of why the agency was rejecting DOI’s adverse impact finding. [See, *Petitioners’ Exhibit 12, Response to Comment No. 314*]. The Illinois EPA responded to this issue in the *Responsiveness Summary*, explaining that 40 C.F.R. §52.21(p)(3)

requires the public notice to either include an explanation of the Illinois EPA's decision or notice concerning where such explanation may be found. [*Id.*]. The Illinois EPA noted "[t]he public notice for the draft permit indicated where the Illinois EPA had addressed USFWS' concerns and explained its finding of no adverse visibility impact, which satisfied applicable requirements." [*Id.*]. Interestingly, Petitioners do not suggest the Illinois EPA's response to comments is clearly erroneous or otherwise warrants review. In fact, Petitioners do not address the Illinois EPA's response to public comments at all. "In order to establish that review of a permit is warranted, §124.19(a) requires a petitioner to both state the objections to the permit that are being raised for review, and to explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review." *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997) citing, *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 866 (EAB 1993). A petitioner may not simply repeat objections previously made during the public comment period. See, *In re Knauf Fiber Glass, GMBH*, 9 E.A.D. 1, 5 (EAB 2000), citing *Sutter*, 8 E.A.D. 680, 687 (EAB 1999); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 251-252 (EAB 1999). The burden is on the petitioner to establish that the permit issuer's response to comments was inadequate. *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997); see also, *In re Exxon Co., U.S.A.*, 6 E.A.D. 32, 38-39, n. 7 (EAB 1995); see also, *In re South Shore Power, L.L.C.*, PSD Appeal No. 03-02, slip op. at 12-15 (EAB, June 4, 2003) (review denied where Petitioners neglected to address how the Administrator's response to comments failed to respond to Petitioners terrain and meteorology concerns).

- (ii). **Petitioners fail to show that the Illinois EPA's public notice was clearly erroneous or otherwise merits review.**

Turning to the merits of the issue, Section 52.21(p) governs the Illinois EPA's responsibilities in the event that the FLM makes an adverse impact finding. Section 52.21(p)(3) requires the Administrator to consider any analysis performed by the FLM within 30 days of the Section 52.21(p)(1) notification by the Administrator.¹⁷⁷ In the event that the Illinois EPA finds that the FLM's analysis does not demonstrate to its satisfaction that an adverse impact will occur, the Illinois EPA "must in the notice of public hearing on the permit application, either explain his decision or give notice as to where the explanation can be obtained." *See*, 40 CFR §52.21(p)(3). The language is clear, it is sufficient for the Illinois EPA to either explain its position in the public notice *or* provide notice of the location where the explanation may be obtained.

In the Public Notice, the Illinois EPA not only informed the public that DOI submitted information concerning the proposed plant's potential impacts to the Mingo Wilderness Area, but that all such information including the FLM's analysis of Prairie State's visibility modeling was available at the listed repositories. [*See, Respondent's Exhibit 6* (*Notice of Public Hearing and Comment Period*)]. In addition, the Public Notice referenced the Project Summary for an explanation of the Illinois EPA's opinion. [*Id.*]. Thus, the Public Notice clearly notified the public where it could access an explanation of the Illinois EPA's opinion in accordance with 40 C.F.R. §52.21(p)(3). [*Id.*].

¹⁷⁷ Arguably, since the FLM failed to provide its determination within 30 days of the Illinois EPA providing notice to the FLM of the proposed plant that may impact a designated Class I area, the Illinois EPA was not required to explain its decision in the public notice or elsewhere. *See*, 40 C.F.R. §52.21(p). In the same token, Illinois EPA was not obligated to consider FLM's determination in accordance with 42 U.S.C. § 7475(d)(2)(C)(ii) and 52.21(p) but rather only in the fashion of other public comments.

Similarly, the Project Summary notified the public of the basis for the Illinois EPA's decision. [*See, Respondent's Exhibit 17*]. This was accomplished through a discussion of the results of Prairie State's visibility modeling, specifically:

Prairie State's visibility modeling for the emissions of the proposed plant over a period of three years identified one day with reduced visibility corresponding to greater than 10 percent light extinction (12.1 percent) compared to natural conditions. The modeling also identified three days with light extinction between 5 and 10 percent.

[*See, Respondent's Exhibit 17, page 24*]. Contrary to Petitioners' assertions, this statement was not a misstatement of the Federal Land Managers' findings, but part of the required explanation of the Illinois EPA's decision concerning the Mingo Wildlife Refuge. [*See, Petition at page 76*]. In fact, the Illinois EPA went on to state that these impacts exceeded the five percent light extinction threshold relied upon by Federal Land Managers. [*See, Respondent's Exhibit 17, page 24*]. While the Illinois EPA may not have specifically discussed DOI's findings in the Project Summary as Petitioners might have liked, this information was adequately conveyed in the Project Summary and was disclosed to the public during the public comment period through access to the repository. The text of the statutory provision relied upon by Petitioners was therefore fulfilled. Rather than narrowing the construction of 40 CFR § 52.21(p)(3) to permitting only an explanation of the Administrator's decision in the public notice, the EAB should give effect to the full meaning of Section 52.21(p)(3). This includes the ability to give notice to the public of where it can obtain an explanation to the Administrator's decision. Accordingly, the EAB should reject Petitioners' argument and deny review on this issue.

L. The Permitted Limits for PM/PM₁₀ Emissions, Including the Separate Limits for Filterable PM and total PM₁₀, Constitute BACT.

Petitioners raise additional questions regarding the sufficiency of the Illinois EPA's BACT evaluation, which in this section of their Petition addresses the permit limits established for PM emissions. The Construction Permit/PSD Approval established two numerical BACT

limits relating to PM¹⁷⁸ and PM₁₀¹⁷⁹ emissions. One of the BACT limits governs filterable PM emissions, which is set at 0.015 lb/mmBtu on a 3-hour block average. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.2(b)(i)(A)*]. The other BACT requirement is a total PM₁₀ limit, including both filterable and condensable forms, of 0.035 lb/mmBtu on a 3-hour block average, subject to downward adjustment based on further evaluation by Prairie State, with the Illinois EPA's concurrence, to determine whether a lower limit cannot be reliably achieved without the risks of unacceptable or unreasonable consequences. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.2(b)(i)(B) and Condition 2.1.17(a)(i) respectively*]. Based on this latter permit condition, the PM₁₀ limit shall be evaluated and lowered based on the results of emissions testing. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.17(a)(i)*]. If such testing is not performed, the limit shall be lowered to 0.018 lb/mmBtu. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.17(a)(i)(A)*]. If the subsequent evaluation is not completed, then the limit shall be lowered to either 0.018 lb/mmBtu or a specific value based on the average of results from the periodic emissions tests, whichever is greater. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.17(a)(i)(B)*].¹⁸⁰

¹⁷⁸ PM is generically understood to mean "a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes." *In re Three Mountain Power*, 10 E.A.D. 39, 56 at note 20 (EAB 2001), citing *In re Steel Dynamics I*, 9 E.A.D. 165, 181 (EAB 2000).

¹⁷⁹ PM₁₀ is generally understood to mean particulate matter whose "aerodynamic diameter" is less than 10 microns in size. *In re Three Mountain Power*, 10 E.A.D. 39, 56 at note 20 (EAB 2001), citing *In re Steel Dynamics I*, 9 E.A.D. 165, 181 (EAB 2000).

¹⁸⁰ Compliance with the separate limits is to be determined by initial emissions testing requirements and a continuous monitoring system must be installed and operated on each boiler for purposes of compliance assurance. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.8(a) and (b) and Condition 2.1.9(d) respectively*].

Petitioners question certain aspects of the Illinois EPA's BACT evaluation for PM and PM₁₀.¹⁸¹ In particular, they raise several arguments challenging the legitimacy of the total PM₁₀ limit and contend that the filterable PM limit is too high based on performance data from other coal-fired sources. Petitioners also generally argue that neither limit is practically enforceable.

1. The Illinois EPA, as part of its BACT evaluation, properly considered other performance data for the total PM₁₀ limit.

Petitioners assail the Illinois EPA's decision to set a total PM₁₀ limit of 0.035 on the grounds that lower limits have been permitted in other instances. [*See, Petition at pages 77-79*]. Specifically, Petitioners cite to three coal-fired power plant projects (i.e., Thoroughbred Generating Station, Longview, and Elm Road), each purportedly similar to Prairie State as examples of lower BACT limits that should have been established as BACT in this case.¹⁸² [*See, Petition at pages 77-78*]. Petitioners claim that the Illinois EPA failed to articulate any justification as to why the total PM/ PM₁₀ BACT limit from those sources should not be selected as BACT for Prairie State. [*See, Petition at page 78*]. In actuality, the Illinois EPA fully explained its rationale for selecting a total PM₁₀ limit of 0.035 lb/mmBtu as BACT in its *Responsiveness Summary* and, independent of that discussion, the decision is supported by evidence in the Administrative Record.

a. Petitioners fail to demonstrate why the Illinois EPA's responses other BACT limits for total PM₁₀ were clearly erroneous.

In its *Responsiveness Summary*, the Illinois EPA addressed the very public comment that mirrors much of Petitioners' argument here. [*See, Petitioners' Exhibit 12, Response to Comment*

¹⁸¹ Petitioners frame most of their arguments in terms of PM/PM₁₀.

¹⁸² Petitioners claim to offer examples of "four" coal-fired power plants that burn a coal supply similar to Prairie State but they actually only identify three plants by name in their Petition. [*See, Petition at pages 77-78*].

No. 182]. The premise of the comment was that a total PM limit of lower than 0.05 lb/mmBtu should be demonstrated as BACT, citing several recently permitted projects involving coal-fired power plants burning high sulfur coal (i.e., Thoroughbred, Longview, Elm Road and Trimble). All of the permits for those sources reportedly established limits for total PM/PM₁₀ of 0.018 lb/mmBtu.¹⁸³

The Illinois EPA responded to the comment by first acknowledging that the 0.05 lb/mmBtu limit for total PM₁₀, as originally proposed in the draft Construction Permit/PSD Approval, could no longer be deemed BACT. [See, *Petitioners' Exhibit 12, Response to Comment No. 182*]. While agreeing that BACT should be a lower emissions rate, the Illinois EPA refused to accept the proposed limits attributed to the other BACT permits. The full text of this rationale provided:

...the collection of information assembled in this comment does not demonstrate that a limit of 0.018 lb/mmBtu for total PM₁₀ is achievable in the sense that the Illinois EPA believes is needed to set a BACT limit.

[*Id.*]. While admittedly short to the point, the Illinois EPA's belief as to what is needed for setting a BACT limit must be read in the context of other passages to the *Responsiveness Summary*. Two responses earlier in the document, the Illinois EPA articulated a more in-depth picture of its analysis.

In responding to criticism about failing to develop a separate limit for condensable PM₁₀, the Illinois EPA contrasted the inherently conservative nature of the air quality modeling analyses with the "challenges" inherent in evaluating BACT for PM₁₀. [See, *Petitioners' Exhibit 12, Response to Comment No. 180*]. For BACT, the Illinois EPA stressed that "an adequate

¹⁸³ The comment also vaguely referenced a draft permit for the Weston Unit 4 facility that contained a condensable limit for PM, a Springerville project in Arizona whose total PM₁₀ limit was allegedly permitted at 0.015 lb/mmBtu and performance data from Deseret's Utah plant that measured 0.016 lb/mmBtu for total PM₁₀.

understanding of actual condensable PM₁₀ emission rates is needed, as BACT must be set to both provide for the effective control of emissions and to be achievable.” [Id.]. Toward this end, the Illinois EPA looked to the EAB’s guidance provided in the *AES Puerto Rico*, 8 EAD at 348, decision. Significantly, the Illinois EPA explained that the decision contained an express acknowledgement of the “limited amount of information available upon which to base a BACT limit that includes condensable PM and the difficulty faced by a permitting authority in setting an appropriate BACT limit for total PM₁₀ for a coal-fired boiler.” [Id.]. The *AES Puerto Rico* ruling highlighted the fact that, as recent as 1999, most permitted emission limits for CFB boilers were not “designed to control the condensable fraction of PM₁₀.” [Id.]. As discussed later in this section, the same constraints posed by the limited availability of information and the inherent technical complexities in the analysis for condensable PM continue to exist for permit authorities today.

At another point in the *Responsiveness Summary*, the Illinois EPA further underscored the problematical nature of the PM₁₀ evaluation when it discussed its general approach to setting the BACT limit for total PM₁₀. In this regard, the Illinois EPA explained that the 0.035 lb/mmBtu limit was integrally linked to the requirements of Condition 2.1.17, which required a lowering of the BACT limit based on future emissions testing and allowed for a downward ratcheting of the limit to as low as 0.018 lb/mmBtu. [See, *Petitioners’ Exhibit 12, Response to Comment No. 168*]. The permit condition was characterized as an “essential component” of the total PM₁₀ evaluation, which was “necessitated by the current state of scientific knowledge about condensable particulate emissions, total PM₁₀ emissions, and their control.” [Id.]. As discussed in the next part of this section, it is not coincidental that the target limit in Condition 2.1.17 of the

Construction Permit/PSD Approval is identical to the total PM₁₀ limit that has most commonly been set for other newer coal-fired power plants.

The Illinois EPA also recognized some inherent limitations in the PM monitoring systems for the proposed project. The Construction Permit/PSD Approval issued to Prairie State included a requirement for continuous monitoring of PM.¹⁸⁴ The permit condition imposes continuous monitoring only for the purpose of compliance assurance. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.10(d)(i)*]. This decision reflected concerns about the integration of continuous emissions monitoring systems ("CEMS") with the unique aspects of the proposed plant.¹⁸⁵ In its *Responsiveness Summary*, the Illinois EPA reasoned that the "limited experience with such monitoring systems, especially for boilers with high efficiency SO₂ scrubbers and high-moisture levels in the stacks" justified the CEMS' use for compliance assurance only. [See, *Petitioners' Exhibit 12, Response to Comment No. 174*]. The Illinois EPA went on to observe that those same factors could preclude certain optical-based CEMS used for PM monitoring and, more importantly, could introduce "significant uncertainty" in the correlation curves for whichever CEMS are selected. [*Id.*].

The Illinois EPA's direct response to the comment that gave rise to Petitioners' issue in this matter perhaps could have been more articulate about the reasons why Prairie State's total PM limit is not immediately identical to other coal-fired sources named in the comment. However, it cannot be disputed that the Illinois EPA's reluctance at setting a limit of the type

¹⁸⁴ Condition 2.1.10(d)(i) requires the permittee to install and operate a CEMS on each boiler. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.10(d)(i)*].

¹⁸⁵ It is relevant to note that the monitoring requirements imposed by the Construction Permit/PSD Approval will hold Prairie State to more rigorous standards for compliance than sources for which such monitoring is not required. Even though the project's CEMS will only serve as parametric monitoring devices, they will nonetheless elicit substantially more compliance-related data for PM than traditional periodic testing.

advanced by Petitioners is threaded throughout its other PM/ PM₁₀ responses in the *Responsiveness Summary*. A permit authority should not be precluded from answering comments in an abbreviated or even awkward manner, especially where the sum of the permit authority's rationale can be inferred from surrounding circumstances or, more precisely here, responses to similar comments. *Compare, In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 191 (EAB 2000)(while permit authority's decision-making process regarding the total PM₁₀ limit should have been more clearly explained, the basis for the decision-making could have been deduced from the record); *In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 13-14, note 13 (EAB, April 29, 2003)(absence of a direct response is not fatal where "general explanation in its response to comments was sufficient to articulate the basis of its decision distinguishing other facilities as not comparable").

Moreover, Petitioners cannot be heard to complain that the Illinois EPA failed to identify the type or nature of the information that should be used in setting a total PM₁₀ limit for Prairie State. The Illinois EPA indicated in its *Responsiveness Summary* that the permit's emissions testing, together with the requisite technical evaluation by Prairie State, would provide first-hand knowledge of the PM₁₀ control system's performance. [*See, Petitioners' Exhibit 12, Response to Comment No. 168*]. It is therefore envisioned that actual performance data from the source itself, together with a demonstration that compliance can be consistently achieved, will provide more salient and definitive data in aiding the selection of the final limit. It should be noted that the Petitioners themselves offer little more than a restatement of earlier comments to this argument, focusing on little else but the mere existence of lower BACT limits. For this reason, they do not present a compelling reason for the EAB to accept review.

- b. The Illinois EPA's BACT evaluation for total PM₁₀ is supported by the Administrative Record.**

Apart from the generalized statements elicited from the *Responsiveness Summary*, the Illinois EPA's reasoning with respect to the issue raised by Petitioners is prominently displayed elsewhere in the Administrative Record. In this regard, the Illinois EPA revealed its thought-processes on the subject of comparative BACT limits for total PM₁₀ in portions of the final calculation sheet.

The Illinois EPA first alluded to its dilemma in a discussion about sulfuric acid mist, where it was noted that the BACT limit for that pollutant would serve as an effective surrogate for the control of the condensable fraction of PM. [*See, Respondent's Exhibit 15 at page 11*]. The Illinois EPA contemplated that the surrogate approach, which was reflected in the original draft permit and carried over into the final Construction Permit/PSD Approval, was appropriate because of the "limited data that is available on the rates of condensable particulate emissions from pulverized coal boilers." [*Id.*]. The Illinois EPA found the data especially lacking in details for new plants burning Illinois coal from equipment with high-efficiency SCRs. [*Id.*]. The Illinois EPA went on to observe:

While some permitting authorities in other states have established 'final' BACT limits that address total particulate matter (filterable and condensable), the Illinois EPA does not believe that there is an adequate basis upon which to establish such a final limit for the proposed boilers...

[*Id.*]. The discussion also confirmed that the applicable testing method for condensable PM (i.e., Method 202) allows for different test procedures to reflect the varying approaches by states in defining the parameters of condensable PM. [*Id.*]. Basically, there may be an "off-the-page" leniency for condensable PM emissions as states either pursue their own approaches to testing or allow future "adaption" of test methods.

Later in the document, the Illinois EPA returned to the topic of condensable and filterable PM. After noting that the permit's initial limit for total PM₁₀ is subject to a downward adjustment based on demonstrated performance, the Illinois EPA spoke to its general impressions of other states' experience. The Illinois EPA stated:

The limits for combined particulate matter set or proposed in these other states, which range from 0.018 to 0.055 lb/mmBtu, do not provide a reliable basis to immediately set a final limit for total PM.

[*Id.*]. The Illinois EPA then explained its basis for calculating the limit, concluding with the observation that the "target value" or potential reduction in the limit following the evaluation period was being set at 0.018 lb/mmBtu, thus being consistent with the numerical value set by other states in similar projects. [*Id.*].

Based on the information attached to the final calculation sheet, the gamut of PM/ PM₁₀ limits for coal-fired plants that consist only of pulverized coal designs ranges from 0.015 lb/mmBtu to 0.055 lb/mmBtu. [*See, Respondent's Exhibit 15, Attachment 2.1*]. Thirteen of thirty pulverized coal projects that were permitted or proposed, as depicted in Prairie State's spreadsheet for BACT limits, reflected a PM₁₀ limit of 0.018 lb/mmBtu.¹⁸⁶ [*Id.*]. However, it is not abundantly clear that each of those limits include both the condensable and filterable fractions of PM₁₀. While the notes accompanying the spreadsheet's table indicate that some of

¹⁸⁶ The data for CFB boilers show a similar consistency but at a somewhat lower level than found among pulverized coal operations. [*Id.*].

the sources permitted at the 0.018 lb/mmBtu limit include both forms of the pollutant,¹⁸⁷ information on the remaining sources in the tables is inconclusive.¹⁸⁸

Attachment 2.2, a document created by Shashi Shah, the assigned permit analyst, similarly reveals findings from several prominent coal-fired projects that are silent with respect to the treatment of condensable PM. The internal spreadsheet confirmed Prairie State's findings that some projects, including Longview Power and Elm Road cited by Petitioners, addressed both filterables and condensables with a total PM limit of 0.018 lb/mmBtu.

On the whole, the weight of USEPA's policy for identifying condensable PM, together with the recent EAB ruling in *AES Puerto Rico*, is undoubtedly influencing the deliberative process. One illustration can be seen in the Longview Power project, where the permit writer noted the "increasing pressures to require sources to demonstrate compliance by measuring the filterable and condensable PM₁₀." [See, *Respondent's Exhibit 39 at page 40*].¹⁸⁹ This type of development is the essence of technology-forcing, a policy objective of the Clean Air Act which Petitioners mention frequently. The permit for the proposed plant resoundingly addresses this goal. It requires use of wet ESPs for control of condensable emissions and sets a stringent numerical limit for these devices in terms of sulfuric acid mist, the principle constituent of condensable PM. By the same token, the uncertainties that exist in this area may cast doubt as to whether recent BACT limits for total PM₁₀ set at 0.018 lb/mmBtu are, in fact, achievable. If they

¹⁸⁷ As shown by Appendix 2.1, these coal-fired sources include Longview Power, Whelen Energy Center and Trimble County. A limited number of other projects, such as MidAmerica's Council Bluffs, possess a PM₁₀ limit encompassing both filterables and condensables that are higher than 0.018 lb/mmBtu.

¹⁸⁸ Some CFB boiler projects differ in that Southern Illinois Coop and Gascoyne Generating Station possess limits for filterable PM only.

¹⁸⁹ Notwithstanding the permit analyst's belief that a lower limit for filterable PM was achievable, the Longview Plant's limit was set at 0.018 lb/mmBtu for total PM₁₀.

are not, the permitting authorities will be faced with the task of revising such limits so that they are achievable. And the subject sources will be at risk for enforcement until such revisions are accomplished. These undesirable consequences are avoided for Prairie State's proposed plant by the approach that has been taken, which does not seek to overreach the available data on condensable PM emissions.

No one disputes that the field of environmental science has much to learn about condensable PM. Petitioners impatiently declare that it has been six years since the EAB's *AES Puerto Rico* decision yet, truth be told, the universe of knowledge about the subject has not changed demonstrably since that time. Admittedly, a few more BACT demonstrations may have surfaced with similar limits for total PM₁₀, however, the lion's share of these and previous sources are probably still in a process of being debugged and subject to the usual barrage of emissions testing, if they have even been built at all. Those few added BACT determinations may represent a step in the right direction, but in the context of an evolving technical area, they do not significantly contribute to the selection of a limit that must be achievable and can consistently be met.

The comparison documents also suggest that PSD permits issued for coal-fired projects in recent years are more likely to have addressed condensable PM and that, of those, most are projects involving pulverized coal boilers. These boiler operations commonly use selective catalytic reduction as controls, relying on back-end control for SO₂ emissions and emitting higher emissions of sulfuric acid mist, a major component of condensable PM. Emissions from these projects are dependent upon site-specific conditions, including, as evident from the selection of PM controls for Prairie State, the nature of the coal supply. [*See, Petitioners' Exhibit*

12, *Response to Comment No. 157*]. Variations in the level of performance for PM controls are therefore to be expected.

In the Illinois EPA's best technical judgment, the prior BACT determinations and available performance data do not yet yield a reliable body of evidence from which to establish an initial BACT limit for total PM₁₀ in the permit at the level sought by Petitioners. Another compounding factor is developments with regard to standardized measurements of condensable PM, which are currently underway. Given these circumstances, as well as the source-specific factors presented by Prairie State's project, the Illinois EPA opted to develop an overall permit that establishes a conservative level of performance, supported by the air quality analyses, but subject to tightening based on the results of emissions testing.

Petitioners loudly protest that other BACT determinations were ignored but, to put it succinctly, the Illinois EPA simply chose a different path that may end up at the same place.¹⁹⁰ While the Illinois EPA's approach may differ from the simpler path taken in other recent permits, it should not be regarded as unsound merely because recent BACT determinations have coalesced around a given limit for total PM₁₀. BACT determinations are a case-by-case evaluation and the technical matters raised by Petitioners' argument are properly left to discretion of the permit authority.

2. The Illinois EPA, as part of its BACT determination, properly allowed for the potential revision of the total PM₁₀ limit in the future.

In its heading and text of the Petitioners' next argument, they challenge that the Illinois EPA's decision to impose a permit condition allowing for the possible revision of the total PM₁₀

¹⁹⁰ If Petitioners are correct in their predictions of condensable PM emissions, the path will undoubtedly end up in the same place. However, if the path leads elsewhere, the end point will be dictated by the actual data.

limit in the future. [See, *Petition at page 79*]. Although Petitioners raise some technical concerns, this argument primarily rests on a legal interpretation.

As previously mentioned, the Construction Permit/PSD Approval contains a permit condition that contemplates a revision in the total PM₁₀ limit of 0.035 lb/mmBtu based on emissions testing. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.17(a)*]. The permit condition provides that the initial BACT limit shall be revised downward based on the results of the performance tests unless Prairie State demonstrates, subject to the Illinois EPA's concurrence, that its evaluation shows that the lower limit cannot be achieved without giving rise to certain consequences. [*Id.*]. The permit condition defines those circumstances as either "unacceptable" (i.e., "inability to comply with other emission limits... or significant risk to equipment or personnel") or "unreasonable" (i.e., "a significant increase in maintenance and repair needed for the boilers"). [*Id.*]. The permit condition provides that the final limit may be set no higher than 0.035 lb/mmBtu or no lower than 0.018 lb/mmBtu. [*Id. Unit-Specific Condition 2.1.17(a)(ii)(A) and (B)*].

As previously mentioned, the Illinois EPA's *Responsiveness Summary* called attention to the foreseeable revision of the BACT limit. In the Illinois EPA's words, the permit condition is an "essential component" of the total PM₁₀ evaluation. [See, *Petitioners' Exhibit 12, Response to Comment No. 168*]. The Illinois EPA also explained that the circumstances addressed by the EAB's *AES Puerto Rico* ruling justified a similar dynamic approach to permitting a total PM₁₀ limit in Prairie State. [See, *Petitioners' Exhibit 12, Response to Comment No. 180*].

Petitioners contend that the permit limit cannot be changed after the PSD Approval is issued, especially here, where the limit will be changed after construction of the source. [See, *Petition at page 80*]. Aside from being fleeting, Petitioners' argument completely ignores prior

decisions by the EAB in construing the latitude afforded to permit authorities in establishing BACT. The *AES Puerto Rico* ruling firmly demonstrates that a permit authority may permissibly set a BACT limit that can later be adjusted based on post-construction results from emissions testing. In a decision closely analogous to the facts of this case, the EAB affirmed a Region II determination that initially set a total PM₁₀ limit for both filterables and condensables that was subject to an upward, capped adjustment to the limit based on actual testing results. The EAB found the approach acceptable, in part, because the permit authority had possessed “little guidance regarding achievability” for measuring condensable PM. *AES Puerto Rico*, 8 E.A.D. at 349. In addition, constraints on the scope of the permitting conditions and a “worst-case” air quality analysis also supported the Region’s decision. Interestingly enough, the potential limit for total PM₁₀ for the proposed two circulating fluidized bed boilers at that facility was set at 0.050 lb/mmBtu.

A similar permitting approach is also illustrated by the EAB’s decision in *Hadson Power 14*, 4 E.A.D. 258 (October 5, 1992 decision). In that case, the permit authority chose to set a higher initial BACT limit for NO_x emissions with a potential reduction in the limit demonstrated to be “consistently achievable” after commencement of operations. [*Id.*]. As with Petitioners here, the environmental group appealing the decision decried the higher limit as not representing BACT. The EAB affirmed Region III’s decision without much substantive discussion.

In addition to its chief legal argument, Petitioners challenge the Illinois EPA’s findings regarding the limited availability of data supporting the evaluation of condensable PM₁₀. [*See, Petition at page 79*]. This argument was fully answered in the preceding section. Petitioners also claim that the Illinois EPA erroneously rejected certain performance data for the

Northampton facility cited in public comments.¹⁹¹ [*Id.*]. Petitioners' exhibit reveals the error of their ways. The only test method identified in the testing and monitoring document is EPA Method 5, which is confined to filterables and does not include back-half condensables. [*See, Petitioners' Exhibit 46*]. In the absence of a test method reference to Method 202, Petitioners cannot prevail in its contention.

The Illinois EPA's development of Condition 2.1.17 generally comports with the permitting approaches upheld by the EAB in both *AES Puerto Rico* and *Hudson Power 14*. The specific language of the permit has been crafted to provide clarity and definition to the process by which the PM limit could be adjusted. Petitioners, on the other hand, offer little in the way of legal argument and do not offer any substantive analysis refuting the applicability of the aforementioned EAB rulings. Petitioners therefore fail to demonstrate that the Illinois EPA's decision allowing for a reduction in the emissions limit was clearly erroneous, as the permitting approach for selecting BACT perfectly comports with prior EAB case authority. Because the circumstances are not particularly unique, Petitioners also cannot show that the issue warrants EAB review on the basis of an important public policy matter. For this reason, review should be denied.

3. The Illinois EPA, as part of its BACT determination, properly articulated its rationale for setting the total PM₁₀ limit.

In their heading to this subsection, Petitioners allege that the Illinois EPA did not explain its basis for establishing the total PM₁₀ limit. [*See, Petition at page 80*]. Two paragraphs into their argument, Petitioners discuss how the Illinois EPA explained its basis for setting 0.035

¹⁹¹ In particular, Petitioners argue that performance tests for the source achieved a level of 0.0045 lb/mmBtu for total PM/PM₁₀ and dispute the Illinois EPA's response to the comment. The Illinois EPA had stated in its *Responsiveness Summary* that the emissions test had tested only for condensable PM and that the state-delegated permit authority had eventually set a limit for total PM/PM₁₀ at 0.018 lb/mmBtu. [*See, Petitioners' Exhibit 12, Response to Comment No. 171*].

lb/mmBtu limit as BACT. [*Id.*]. The rest of the argument is just as vague and confusing. As near as can be determined, the only flaw that the Petitioners can seemingly elucidate is that the starting point of the methodology is “too high,” however, Petitioners do not elaborate on this point.

The Illinois EPA 's rationale for arriving at the total PM/PM₁₀ limit is well documented in the *Responsiveness Summary*. Specifically, the Illinois EPA explained that the original emissions rate of 0.05 lb/mmBtu used in the air quality modeling was stepped down to reflect some degree of reduction in condensable PM₁₀ brought about by control of sulfuric acid mist with the wet ESPs. [*See, Petitioners' Exhibit 12, Response to Comment No. 176*]. The reduction assumed that one-half of condensable PM₁₀ was controlled by the wet scrubber, thus leaving the remaining one-half to be accounted for in the total PM₁₀ limit. [*Id.*]. As to the other component of PM, filterable PM was provided a limit of 0.015 lb/mmBtu. [*See, Petitioners' Exhibit 12, Response to Comment No. 168*]. The resulting calculation reduced the upper limit of the air quality modeling to a level of 0.035 lb/mmBtu.¹⁹² The Illinois EPA went on to reiterate that the permit required Prairie State to reduce this limit consistent with emission test results with a target limit of 0.018 lb/mmBtu.

The first step in the analysis would naturally contemplate an initial emissions rate for PM₁₀ that is clearly supported both as a legal and technical matter. In this regard, the Illinois EPA began with the 0.05 lb/mmBtu emissions value that was used by Prairie State to demonstrate compliance with the NAAQS and PSD increments. Prairie State had selected the value because of the “uncertainties” inherent in the measurement of condensable PM. [*See, Respondent's Exhibit 44, page 7*]. As such, it reflects a conservative value, the upper limits of which have clearly been demonstrated to protect air quality and which, based on representations

¹⁹² The calculation is shown as: $0.05 - (0.05 - 0.015[\text{sic}] \times \frac{1}{2} \times 0.98) = 0.03285 \approx 0.035$.

from at least one vendor, is not reasonably expected to be achievable by the proposed combination of emission controls. [See, Respondent's Exhibit 62, page 3 (*Alstom Power letter, dated September 26, 2002, concerning Prairie State's request for information describing the removal of SO₂, NO_x, PM/PM₁₀, H₂SO₄, HCl, and Mercury in the air quality control system proposed by Alstom*)]. Similarly, the same emissions value served as the upper limit for a total PM₁₀ limit in the *AES Puerto Rico* case. Despite contentions that the limit was too high, the EAB approved the upper tier limit in that case, in part, because it had been shown protective of air quality.

The Illinois EPA's analysis did not inappropriately over-estimate PM₁₀ emissions, as arguably might have occurred without the adjustment for control of sulfuric acid mist provided by use of a wet ESP. By figuring into its analysis a portion of condensable PM₁₀ attributable to sulfuric acid mist, the Illinois EPA arguably reduced the conservatism underlying the air quality-based emissions value. In doing so, the Illinois EPA acted to more accurately account for condensable PM as is currently possible with available data and thereby achieve the goals of USEPA's recognized policy in this area.¹⁹³

Moreover, the numerical BACT limit is linked to provisions in the permit for emissions testing and lowering of the limit. As previously explained, the numerical limit of 0.035 lb/mmBtu is only one component of the approach to BACT for PM. This approach was necessitated by the lack of information on guidance regarding the measurement of condensable PM₁₀ emissions. Starting from an emissions rate from the air quality analysis ensures that the limit protects the NAAQS and PSD increments. The approach provides for the lowering of the

¹⁹³ Separate and apart from general USEPA guidance, it should be noted that USEPA/Region V, in their comments to the draft permit for Prairie State, recommended the inclusion of a limit for total PM₁₀ which would include both filterables and condensables. [*Respondent's Exhibit 63 (Letter from Pamela Blakley, Chief, Air Permit Section, Region V to Don Sutton, dated July 26, 2004)*].

numerical limit consistent with actual performance of the pulverized boilers and required control equipment. As such, the permit set forth a comprehensive strategy for establishing a total PM₁₀ limit that is in accord with prior EAB precedent. It is perhaps worth noting, as recognized by the EAB in *AES Puerto Rico*, that the underlying purpose of these efforts is “to control a type of pollution (i.e., condensable particulate matter) that might otherwise go uncontrolled.” *AES Puerto Rico*, 8 E.A.D. at 349.

The Illinois EPA’s response plainly expresses a rationale and a supporting calculation for the 0.035 lb/mmBtu limit. Petitioners try to counter this methodology by suggesting that the starting point for the analysis should have been set at 0.025 lb/mmBtu. [See, *Petition at page 81*]. They derive this value by multiplying the limit for sulfuric acid mist by two, thus purportedly taking account of that component of condensable PM₁₀ comprised of sulfuric acid mist. [Id.]. Petitioners then add this to the existing limit for filterable PM, which they characterize as an appropriate starting point for reducing the limit further. [Id.]. Petitioners do not explain what the limit would ultimately consist of or how it would be calculated. They simply say that it would have to reflect other information, including the lower permitted limits identified earlier.

Petitioners fall short of demonstrating clear error on the part of the Illinois EPA in its response to comment. Their explanation of an alternative starting point for the analysis, in contrast to the Illinois EPA’s approach, is not entirely untenable. However, Petitioners’ subsequent analysis is flawed and incomplete. In particular, they provide no support for the assumption that the amount of condensable PM₁₀ that is not sulfuric acid after control by the wet ESP will be identical to the amount of sulfuric acid mist after the wet ESP. They also do not explain a basis for a final limit for total PM₁₀ that is different than their starting limit, although they suggest that the limit should accurately be set at 0.018 lb/mmBtu. In these respects, their

argument is wholly lacking in technical justification. In addition, Petitioners fail to show why the Illinois EPA's approach, especially as it relates to the use of the 0.05 lb/mmBtu emission rate as the first step in the analysis, is flawed or without merit.

Even if the Petitioners' analysis were to constitute an equally viable methodology, a heavy burden is placed on persons seeking review of issues that are "quintessentially technical." See, *In re Ash Grove Cement Company*, 7 E.A.D. 387, 403 (EAB 1997). To the extent that Petitioners' argument reflect a conflicting opinion, the EAB should be satisfied that Illinois EPA's decision is rational in light of all surrounding circumstances. See, *AES Puerto Rico*, 10 E.A.D. at 50, citing *In re Hub Partners, L.P.*, 7 E.A.D. 561, 568 (EAB 1998).

4. The Illinois EPA, as part of its BACT evaluation, properly established requirements for an evaluation of total PM₁₀ emissions to address the possible revisions to the total PM₁₀ limit.

As previously explained, Condition 2.1.17 of the Construction Permit/PSD Approval established provisions anticipating the lowering of the total PM₁₀ limit based on emissions testing of the constructed plant. Petitioners attack one arm of the permit condition relating to the future development of a plan of the evaluation for assessing whether the PM₁₀ limit should be lowered. [See, *Petition at page 82, citing Petitioners' Exhibit 1, Unit-Specific Condition 2.1.17(b)(i)*]. Petitioners contend that the purpose of the plan is "to revise the total PM₁₀ BACT limit" and that, in the absence of a provision requiring public notice and comment on the plan itself, the Illinois EPA's permit condition runs afoul of the EAB's stern admonishment in the *In re Tallmadge Generating Station*, PSD Appeal No. 02-12, slip op. at 12 (EAB, May 22, 2003). Petitioners also assert that the permit condition does not identify the nature or scope of the plan or establish criteria for the Illinois EPA's review or approval of the plan. In doing so, Petitioners claim that the permit condition contravenes the EAB's decision in *In re Rockgen Energy Center*,

8 E.A.D. 536 (EAB 1999). Petitioners' arguments, molded as they are on questions of law, misapply prior EAB precedent in this area and must therefore fail.

Condition 2.1.17(a)(i) of the Construction Permit/PSD Approval essentially provides that the PM₁₀ limit shall automatically be lowered to reflect the results of concentrated PM₁₀ emissions testing unless the Permittee can demonstrate, to the Illinois EPA's satisfaction, that the lower limit cannot reliably be met. [See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.17(a)(i)*]. The permit condition expressly delineates the circumstances under which a lower limit cannot be reliably achieved by Prairie State. First, Prairie State may encounter "unacceptable consequences," which are defined to mean an "inability to comply with other emission limits or requirements or significant risk to equipment or personnel." Another scenario involves Prairie State suffering "unreasonable consequences," defined as "a significant increase in maintenance and repair needed for the boilers." [*Id. Unit-Specific Condition 2.1.17(a)(i)*].

In order for Prairie State to avail itself to this demonstration, it must first submit a plan that outlines the evaluation, including the assessment of PM₁₀ emissions at both moderate and full loads of operation. [*Id. Unit-Specific Condition 2.1.17(b)(i)*]. In the event that Prairie State fails to complete the evaluation within 3 years after initial boiler startup, or within any extension granted by the Illinois EPA of no more than a year thereafter, the PM₁₀ limit shall automatically be adjusted to the greater of either the identified 0.018 lb/mmBtu limit or a value derived from the sum of the average of successful, representative testing results. [*Id. Unit-Specific Conditions 2.1.17(a)(ii)(B) and (b)(ii)(A) and (B)*].

Petitioners cite to both *Tallmudge* and *Rockgen* to support their position but, noticeably enough, fail to cite to the more recent EAB decision in *In re Indeck-Niles Energy Center*, PSD Appeal No. 04-01, slip op. (EAB, September 30, 2004). In *Indeck-Niles*, the EAB considered the

validity of a startup, shutdown and malfunction plan that required approval from the permit authority prior to operation of the boilers, but nonetheless after permit issuance for the project. The petitioners appealed the plan, which required efforts to minimize emissions during startup, shutdown and malfunction events, on the basis that the plan was not first privy to public notice and comment.

In upholding the validity of the permit's planning component, the EAB distinguished the facts in *Indeck-Niles* from its earlier holdings in *Tallmadge* and *Rockgen* in several important respects. As relevant to this proceeding, the EAB acknowledged that the "scope of BACT coverage during startup and shutdown" was not as paramount in *Indeck-Niles*, where the primary issue involved a petitioners' ability to comment on the post-construction development of an emissions minimization plan. The EAB concluded that "we have no concern, as we did in *Tallmadge* and *RockGen*, that a vital permitting decision – i.e., determining BACT for startup and shutdown emissions – has been improperly consigned to an emissions minimization plan with no provision for public review." *Indeck-Niles* at 16, *fn.* 13.

The EAB also observed that waste minimization plans, as well as other "optimization" plans, are distinct from pre-construction review requirements that ordinarily accompany a PSD Approval because they involve consideration of post-construction activities that attempt to "account for the natural variability of actual operating conditions and thereby refine the performance of the equipment based on real-world experience." *Id.* at 17, citing *In re Pennsauken County, N.J. Resource Recovery Facility*, 2 E.A.D. 768, 770-771 (Adm'r 1989). The EAB stressed that the details for such plans will frequently not be known at the time of permitting but that, in seeking optimal efficiency or adjustments based on actual operating

conditions, they can be implemented after the source is constructed where, with the approval of the permit authority, the necessary adjustments to the source or its operations are put into place.

The PM₁₀ evaluation plan contained in the Construction Permit/PSD Approval should be likened to the waste minimization or optimization plans embraced by the EAB in *Indeck-Niles*. The plan is necessary to frame the scope of the performance evaluation, which, due to the quality of available data for condensable PM emissions, can only be practically examined after the plant is built. This conclusion is warranted because of the extent of PM₁₀ emissions testing that will be occurring after startup. Moreover, it should be remembered that the underlying purpose of the emissions testing and the resulting evaluation is to arrive a numerical level of performance for condensable PM emissions that reflect the applicable BACT technology.

In this regard, the limit on total PM₁₀ emissions is not a principle BACT limit for the proposed plant. The PM emissions from the boilers are limited by the application of specific emission control technology (i.e., ESPs and wet ESPs). Limits are set for the performance of these control systems in terms of emissions of filterable PM₁₀ and sulfuric acid mist. The foremost purpose in this evaluation is to determine the rate of total PM₁₀ emissions, including condensables, that accompanies the explicit BACT provisions that are included in the permit.

Petitioners contend that the plan operates to revise the PM₁₀ permit limit. [See, *Petition at page 82*]. However, the total PM₁₀ limit is subject to downward revision based on the terms of the permit, not the plan. In fact, the BACT limit for PM₁₀ will be automatically lowered to 0.018 lb/mmBtu without any evaluation, as an evaluation is only relevant if Prairie State chooses to perform one. The practical consequence of the provision is to protect Prairie State from being compelled to achieve a limit that would not constitute a BACT level of control because it would

go beyond the measures initially set as BACT for the plant. The purpose of the plan is to assure that the data that is assembled is sufficient to make this showing, both in its extent and quality.

The *Indeck-Niles* ruling also made important clarifications to the consideration of the “contours” of a waste minimization or optimization plans. For example, the EAB found that the basic outlines of the startup, shutdown and malfunction plan were identified in the permit, including a requirement that the plan detail how emissions are minimized during startup, shutdown and malfunction events and restrictions on the operation of the turbines in the absence of the permit authority’s express approval of the plan. *Indeck-Niles, supra at 18*. In this instance, similar “contours” are facially evident from the permit, as it clearly establishes other provisions restricting emissions of total PM₁₀ and a standard of “unacceptable” or “unreasonable” consequences by which potential downward revision of the total PM₁₀ limit can be judged.

In addition, the overall thrust of the permit condition is aimed towards adjusting a limit based on the results of a body of emissions testing. As mentioned, the permit limit will be reduced automatically if Prairie State fails to perform the requisite emissions testing or does not timely complete its evaluation. This addresses what might be the most desirable outcome from both an environmental and administrative perspective. In other words, the information on total PM₁₀ emissions comes available during the period when the proposed plant is being constructed, so as to demonstrate that a limit of 0.018 lb/mmBtu is achievable and thus avoid the need for any further evaluation.

Perhaps most importantly, irrespective of Prairie State’s findings to its evaluation, the Illinois EPA has reserved for itself the right to make the final decision as to whether the permittee “can and should be able to consistently comply with such limit(s) without

unreasonable consequences.” [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.17(a)(iii)*]. Implicit in this statement is the recognition that the implementation of the provisions at issue, if it entails any judgment or discretion by the Illinois EPA, will have to be made in the context of a revision to the issued PSD permit.

For the reasons discussed herein, Petitioners do not clearly demonstrate that the challenged permit provisions constitute error on the part of the Illinois EPA. Because the *Indeck-Niles* decision should be dispositive to the arguments raised in this issue, the Petitioners also have not shown that an important public policy reason justifies the EAB’s review.

5. The Illinois EPA, as part of its BACT evaluation, properly set a filterable PM₁₀ limit.

Petitioners charge that the filterable PM limit does not constitute BACT. The basis of Petitioners’ discontent lies with the Illinois EPA’s refusal to set a BACT limit reflecting various other BACT limits and/or emission rates identified in public comments. [See, *Petition at pages 82-83*]. The first part of the argument focuses on statements by the Illinois EPA in its *Responsiveness Summary* on the subject of safety factors. Issues relating to safety factors have already been addressed in this Response. Otherwise, Petitioners call attention to two reasons that were discussed by the Illinois EPA in explaining its decision for selecting the filterable PM₁₀ limit.

a. Petitioners fail to show why the Illinois EPA’s response regarding the selection for filterable PM₁₀ were clearly erroneous.

One comment submitted to the Illinois EPA concerning the filterable component of PM addressed four power plants, including the Indeck-Elwood facility previously permitted by the Illinois EPA, whose permit limits were lower than the 0.015 lb/mmBtu limit established for Prairie State. The Illinois EPA’s response to this concern did not evince an overabundance of

detail, stating simply that the other limits should be distinguished because of “the use of continuous particulate matter monitoring” imposed on Prairie State’s project. [See, *Petitioners’ Exhibit 12, Response to Comment No. 171*]. Petitioners contend that the Illinois EPA’s response is in error because Prairie State is not required to utilize CEMS in monitoring PM emissions.

Petitioners’ argument is frivolous. The Illinois EPA generally characterized Prairie State’s PM monitoring obligation under the Construction Permit/PSD Approval as a type of PM continuous monitoring system or CEMS, notwithstanding that the purpose of the monitoring was only for compliance assurance. This treatment is shown to be consistent throughout the *Responsiveness Summary*, [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 160 and 174*], as well as the Final Calculation Sheet and final permit. [See, *Respondent’s Exhibit 15 and Petitioners’ Exhibit 1, Permit Condition No. 2.1.10(d) respectively*]. Indeed, Petitioners themselves refer to CEMS in the identical manner several paragraphs later. [See, *Petition at page 85*].

Moreover, in order for the Illinois EPA’s generalized response to be fully appreciated, it must be read in conjunction with other responses to comments in the *Responsiveness Summary*. For example, the different approach towards monitoring with respect to Prairie State was plainly evident in the Illinois EPA’s response to a concern about the frequency of emissions testing. The Illinois EPA stated at length:

Periodic emissions testing is accompanied by compliance assurance monitoring for filterable particulate matter, which requires Prairie State to develop and maintain documents that formally define the relationship between monitored data and particulate matter emissions, as provided by 40 CFR Part 64. It is possible that this work will demonstrate that the *required continuous monitoring* provides data that is reliable and precise enough to be used to directly assess compliance with the established limit given the specific circumstances presented by the proposed boilers, i.e., a high moisture exhaust following a scrubber and wet ESP and a limit set at 0.015 lb/million Btu heat input (*emphasis added*).

[*Id. Response to Comment No. 160*]. Elsewhere, the Illinois EPA reiterated similar sentiments in observing that CEMS, together with the results from initial testing, periodic testing and opacity monitoring data, would aid in assessing the frequency of monitoring needed for future operating permits. [*Id. Response to Comment No. 176*]. The Illinois EPA expressed the hope that the CEMS might prove effective in assuring compliance, thus minimizing the need for more periodic PM stack tests that might ordinarily accompany another source.¹⁹⁴ [*Id.*]. Culled from these responses is the distinction between the conventional methods for monitoring PM emissions based on periodic testing and the more demanding CEMS-based monitoring requirements required from Prairie State.

Petitioners also take issue with the Illinois EPA's response regarding the variability of performance data for PM/ PM₁₀ emissions among power plants. [*See, Petition at page 84*]. In two examples referenced by Petitioners, the Illinois EPA addressed comments alleging the achievement of lower emission rates by other coal-fired power plants. [*See, Petitioners' Exhibit 12, Response to Comment Nos. 163 and 164*]. In both instances, the Illinois EPA commented that the reported emissions data represented a "selective presentation" of information that did not accurately account for the "significant variability" found in PM emissions testing for power plants in general. [*Id.*]. In one respect, the Illinois EPA reviewed the reported data in greater detail to discover that PM testing results, as maintained by the State of Florida in an electronic database, can reflect a broad range of results and are frequently below the permitted PM/ PM₁₀

¹⁹⁴ Of course, the Illinois EPA noted some of the limitations inherent with the use of CEMS for PM emissions, explaining why CEMS could only be used for purposes of compliance assurances for Prairie State because of "limited experience with such monitoring systems, especially for boilers with high-efficiency SO₂ scrubbers and high-moisture levels in the stacks. [*See, Petitioners' Exhibit 12, Response to Comment No. 174*]. The Illinois EPA also explained that even though CEMS would not provide a direct means of demonstrating compliance for Prairie State, "they will potentially increase the rigor of the PM emission limit set for the boilers." [*Id. Response to Comment No. 162*].

emissions limits. [*Id.* at 163]. As discussed below, the Illinois EPA also confirmed that other emissions tests for power plant sources cited in comments similarly reported test results at levels below the permitted threshold. [*See, Petitioners' Exhibit 12, Response to Comment No. 164*].

The Illinois EPA's position advanced in the *Responsiveness Summary* was fairly self-explanatory. Petitioners even admit that such variability could be expected from those sources cited in their comments. [*See, Petition at page 84*]. However, they then try to distinguish those other sources as obtaining their coal from a variety of coal types that reflect differing ash contents. [*Id.*]. Prairie State, they contend, will possess their own "dedicated coal supply" that will not experience the same variability in ash content. [*Id.*]. Petitioners' argument is misplaced. While Petitioners may be correct that the PM stack tests from earlier comments do not consist of power plants with a dedicated coal supply, it is a distinction without meaning. The degree of variability affecting PM/ PM₁₀ emissions stems from factors relating to the performance of controls and testing conditions, not from the ash content of a given coal supply. Notably, Petitioners provide no empirical evidence or other support from the Administrative Record for their argument.¹⁹⁵

b. The Illinois EPA's BACT evaluation for filterable PM is supported by the Administrative Record.

The Illinois EPA set a BACT limit for filterable PM of 0.015 lb/mmBtu on a 3-hour block average. [*See, Petitioners' Exhibit 1, Unit-Specific Condition 2.1.2(b)(i)(A)*]. Judging from the Petition, Petitioners begrudge the Illinois EPA's decision because it was tantamount to a rejection of 200 various stack tests and lower limits supposedly linked to public comments.

¹⁹⁵ Petitioners footnote to the Energy Information Agency web-site to support their contention that the performance tests referenced in the earlier comments "buy coal from a variety of sources with variable ash contents." [*See, Petition at page 84, fn. 52*]. Aside from failing to demonstrate how the web-site information supports their argument, Petitioners fail to show that this source of information was part of the Illinois EPA's record of review or was otherwise not reasonably available at the time of the close of public comments.

Aside from the sound explanations offered by the Illinois EPA in its *Responsiveness Summary*, the Administrative Record of this proceeding also supports the BACT evaluation for filterable PM emissions.

In reviewing public comments concerning the PM/ PM₁₀ performance data, the assigned permit analyst, Mr. Shashi Shah, considered the data submitted by Sierra Club's expert, [See, *Petitioners' Exhibits 5 and 7*], and performed some additional research. Electronic mail correspondence with a representative from the State of Florida, dated November 4, 2004, confirmed the origin of the stack test data. [See, *Respondent's Exhibit 64 (Electronic mail of Allison James and Shashi Shah)*]. Based on the ensuing review, the permit analyst informed his supervisor that the comments only relied upon "selective" data and neglected to address other data that was not supportive of the comment. [*Id.*].

The final calculation sheet reiterates this same concern. The Illinois EPA acknowledged that available performance data revealed measurements of lower than 0.015 lb/mmBtu but cautioned that a lower limit would be precluded "when dealing with a relatively low level of emissions" because of safety factor considerations. [See, *Respondent's Exhibit 15, page 12*]. The Illinois EPA summarized the body of available performance data in this respect:

...one of the comments received from J. Phyllis Fox, on behalf of the Sierra Club, refers to an extensive database of emission test results for filterable PM maintained electronically by the State of Florida. Review of this database confirms the wide range of measured PM/ PM₁₀ emissions from coal-fired boilers, varying from as low as 0.0004 to as high as 0.021 lb/million Btu, while the allowable emission rates ranged from 0.02 to 0.03 lb/million Btu.

[*Id.*]. The variability of the performance data, in the Illinois EPA's view, dictated that a BACT limit be set higher than "typical test results." [*Id.*].

The Illinois EPA's selection of a level of performance for filterable PM represents a reasoned analysis. The Final Calculation Sheet noted that the permitted limit is consistent with

many coal-fired projects that have employed conventional baghouses. [*Id.*]. Attachments 2.1 and 2.2 to the final calculation sheet reveal similar findings. For instance, some coal-fired projects equipped with fabric filtration are shown to have been permitted at less stringent limits of 0.018 lb/mmBtu. The BACT comparison documents do not appear to depict a downward trend over time. Quite the opposite, the data shows a strong consistency in the range of performance levels for prior PSD permit determinations for coal and solid fuel-fired boilers.¹⁹⁶ Based on the totality of this information, the Illinois EPA established a limit that is equal to or lower than that set for most new coal-fired boilers.

6. The Illinois EPA, as part of its BACT evaluation, properly established PM and PM₁₀ limits that are federally enforceable.

Petitioners' last argument in this section seizes upon the notion that the BACT limits for PM and PM₁₀ are not "clearly enforceable." [*See, Petition at page 85-87*]. Petitioners first suggest that the compliance testing requirements for the Construction Permit/PSD Approval are too infrequent because an emissions test every 30 months is inadequate to ensure continuous compliance. [*See, Petition at page 85*]. Petitioners then attempt to challenge the permit's PM monitoring and testing requirements on the grounds that those requirements are too ambiguous. Petitioners' arguments should be denied review for both procedural and substantive reasons.

a. Petitioners fail to show that all of their issues are preserved for appeal.

Petitioners appear to raise several related issues for the first time on appeal. Petitioners argue that the provisions for the use of CEMS for PM monitoring are ambiguous because the

¹⁹⁶ Notwithstanding the uncertainty of whether condensable PM is being included in recent permitting decisions, a combined reading of Attachments 2.1 and 2.2 to the Final Calculation Sheet indicates that most filterable PM limits are being set at 0.015 lb/mmBtu or higher. Of those entries that reflect final permit limits, only one displays a lower limit set at 0.011 lb/mmBtu (i.e., JEA Northside). Apart from their entreaties for the adoption of a lower limit based on performance data, Petitioners do not bother to explain why the latter limit is either transferable or otherwise deemed appropriate for comparison to Prairie State's project.

permit does not articulate their applicability. [See, *Petition at page 86*]. Petitioners perceive additional ambiguity in the nature of the CEMS requirements as well, claiming that the Construction Permit/PSD Approval does not impose a “formal surrogate monitoring document” that has been put to public notice or review. [*Id.*]. Lastly, Petitioners maintain that the emissions testing requirements do not require “optimized” operating conditions. [*Id. at pages 86-87*].

Petitioners’ arguments are not entirely reflective of earlier public comments. The Illinois EPA responded to comments about the need for continuous monitoring for PM₁₀ emissions and the benefits of manual stack tests, where, among other things, normal or acceptable ranges of operating parameters for the control system are identified. [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 161 and 174*]. The Illinois EPA also generally discussed the nature of the compliance assurance monitoring provisions of the permit. [*Id., Response to Comment No. 160*]. Petitioners now seek to parlay the Illinois EPA’s generic responses to those earlier comments into new issues on appeal. In doing so, they arguably try to challenge a different aspect of the BACT evaluation than that addressed by those comments. See, *In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 21 (EAB, April 29, 2003), citing *In re RockGen Energy Center*, 8 E.A.D. 536, 544-545 (EAB 1999). It seems particularly egregious to allow the Illinois EPA’s passing reference to the ideal objectives of manual stack tests as a basis to warrant review in this appeal.

Moreover, even if some or all of those responses to comments relate to new permit conditions, Petitioners fail to demonstrate that their issues on appeal were not “reasonably ascertainable,” and that any supporting arguments were not “reasonably available,” at the close of the public comment period. See, 40 C.F.R. §124.13. If anything, the statements challenged by Petitioners reflected comments that the Illinois EPA generally agreed with, and, in fact, relied

upon those comments in making the final permit more stringent. For these procedural reasons alone, the EAB should decline review.

b. Petitioners fail to demonstrate why the Illinois EPA's responses regarding PM monitoring and testing requirements were clearly erroneous.

As previously mentioned, the Illinois EPA generally discussed the appropriate emissions testing requirements for the Prairie State project in its *Responsiveness Summary*. Among other things, the Illinois EPA explained that initial testing for PM would be followed with added testing for PM₁₀. This additional testing would be required to facilitate the evaluation of total PM₁₀ and setting a lower total PM₁₀ limit, with five or more tests conducted during the initial three years of operation. [See, *Petitioners' Exhibit 12, Response to Comment No. 160*].

Following that round of PM₁₀ testing, the Illinois EPA explained that the maximum amount of time between subsequent PM emissions testing is 30 months, however, if two consecutive testing results are less than two-thirds of the 0.015 lb/mmBtu limit, then the maximum interval between testing thereafter must occur within 48 months. [*Id.*].

In responding to a comment urging a minimal annual testing frequency for PM emissions, the Illinois EPA explained that the frequency of PM emissions testing was better suited to the review of a Title V operating permit than the initial construction permit. [See, *Petitioners' Exhibit 12, Response to Comment No. 175*]. The Illinois EPA reasoned that the initial construction phase of permitting would elicit information from the source that could be more easily understood during the period of Title V review. The information that would contribute to an "informed decision" regarding the frequency of PM testing included "actual results of testing that has been conducted, opacity monitoring data and the demonstrated functionality of the continuous emissions monitoring system for particulate matter." [*Id.*]. The "basic" compliance

procedures for the construction permit were put into place with the expectation that they might be “supplemented based on actual experience during the periodic processing of the operating permit for the plant.” [*Id.*, *Response to Comment No. 160*].¹⁹⁷

The Illinois EPA ultimately concluded that annual PM emissions testing would not be appropriate in the context of a construction permit. In their argument, Petitioners do not offer any substantive analysis to refute this position, except to say that testing every 30 months does not assure compliance on a continuing basis. [*See, Petition at page 85*]. Even this last sentiment is conclusory, as Petitioners present no proof that the permit’s testing frequency, when combined with CEMS data, opacity monitoring data, operational data and a reasonable testing schedule for PM₁₀, is flawed. Further, nothing in the Petition hints of the frequency of PM testing that would be deemed satisfactory to Petitioners and no mention is made of whether other coal-fired sources test for PM emissions with less or greater frequency.¹⁹⁸

Petitioners quarrel with the selection of PM monitoring requirements of the Construction Permit/PSD Approval but, rather than elaborate on details, they mostly pose questions about how those requirements are to be effectuated. For example, Petitioners rhetorically ask whether the CEMS monitoring provisions may be used for demonstrating compliance or noncompliance. They also claim that the relationship between the CEMS data and PM emissions is not

¹⁹⁷ It was also noted that the final Construction Permit/PSD Approval would require emissions testing at a greater frequency than that required by the earlier draft permit. This change resulted in the final permit’s enhanced focus on evaluating total PM₁₀ emissions. [*Id.*, *Response to Comment No. 160*].

¹⁹⁸ Interestingly, the Longview Power facility requires initial compliance testing for PM emissions, then the use of CEMS thereafter. [*Respondent’s Exhibit 65, Condition 8(a) and (b) (Permit to Construct an Electrical Power Generation Facility, Longview Power, LLC, effective date March 2, 2004 (Certified Index No. 403))*]. On-going compliance requires periodic testing every three years. [*Id.* at *Condition 8(c)*]. Another facility permitted by the Illinois EPA, Indeck-Elwood, requires monitoring and emission testing requirements that closely parallel with Prairie State’s project. [*See generally, Respondent’s Exhibit 66, 1.10(d) and 1.8 respectively (Construction Permit-PSD Approval, Indeck-Elwood, dated October 10, 2003 (Certified Index No. 400))*]. Both of these documents were contained within the Administrative Record of this proceeding.

adequately established, as the permit lacks a “formal surrogate monitoring document.” [See, *Petition at 86*].

The CEMS provisions of the Construction Permit/PSD approval relating to PM emissions are not remotely ambiguous. It is clear from the face of the permit that the CEMS for PM emissions are not to be routinely used as the principle means to determine compliance with an established limit. In this regard, PM CEMS accompany periodic emissions tests, rather than take their place. [See, *Petitioners' Exhibit 12, Response to Comment, No. 160*]. The Construction Permit/PSD Approval provides separate requirements for emissions testing, from which compliance can be directly determined, proper equipment operation and monitoring of PM emissions on each boiler, the stated purpose of which is compliance monitoring. [See, *Petitioners' Exhibit 1, Unit-Specific Conditions 2.1.2(b)(i) and 2.1.10(d)*]. This same point was illuminated in the *Responsiveness Summary*, where the Illinois EPA stated that the CEMS would be “only used for compliance assurance monitoring,” while nonetheless holding the promise of someday being “reliable and precise enough to be used to directly assess compliance with the established limit.” [See, *Petitioners' Exhibit 12, Response to Comment No. 160*].

Petitioners appear not to understand the applicability of the permit's CEMS provisions to broader compliance issues. [See, *Petition at page 86*]. A general understanding of the workings of compliance assurance monitoring is rooted in USEPA's final rules for Compliance Assurance Monitoring (“CAM”),¹⁹⁹ not in the Construction Permit/PSD Approval. Among other things, those regulations distinguish between monitoring that provides a direct correlation with compliance with an established limit and monitoring that allows sources to identify operational parameters and assess whether the resulting monitoring data places the source within an

¹⁹⁹ The final regulations for the Compliance Assurance Monitoring rule were promulgated at 62 Fed. Reg. 54,900 (October 22, 1997) and are codified in provisions of 40 CFR Parts 64, 70 and 71.

appropriate range of operation.²⁰⁰ It is therefore expected that the PM CEMS will provide information that will be relevant for evaluating compliance and proper operation on PM control devices. However, it does not presume that a precise relationship between the results of PM monitoring and compliance status will exist. If Petitioners are more interested in ascertaining whether the data generated by the CEMS will sustain a future enforcement action,²⁰¹ they would be well advised to consult with USEPA's companion regulations concerning the use of credible evidence.²⁰²

The Illinois EPA also examined the need for Prairie State to link the CEMS monitored data and PM emissions. [See, *Petitioners Exhibit 12, Response to Comment No. 160*]. In its *Responsiveness Summary*, the Illinois EPA explained that Prairie State's obligation to develop and maintain documentation of the relationship consistent with USEPA's CAM requirements, as promulgated at 40 CFR Part 64. Petitioners complain that they cannot find the whereabouts of this stated objective. [See, *Petition at page 86*]. The compliance procedures for this aspect of the CEMS monitoring are inconspicuously set forth in Condition 2.1.10 and are hardly distinguishable from the general procedures outlined for other pollutants subject to CEMS requirements in Condition 2.1.9.

²⁰⁰ The latter form of monitoring reflects continuous operation of control systems "within ranges of specified indicators of performance (such as emissions, control device parameters and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements." 62 Fed. Reg. 54,900, 54,902 (October 22, 1997).

²⁰¹ In some respects, Petitioners' argument is reminiscent to a contention raised in the appellate litigation concerning the CAM rule, where an environmental group complained that because CAM monitoring data did not "establish source compliance or noncompliance," the data is not useful as probative evidence in enforcement proceedings. See, *NRDC v. EPA*, 194 F.3d 130, 137 (D.C. Cir. 1999). The court rejected the argument, noting that USEPA's conclusion that the rule would provide a "reasonable assurance of compliance with enforcement limitations" was reasonable. [*Id.*].

²⁰² 62 Fed. Reg. 8,314 (1997).

Specifically, the permittee is generally obligated to “operate, calibrate and maintain” the PM CEMS for each boiler according to applicable performance specifications and other NSPS requirements for monitoring systems. [See, *Petitioners’ Exhibit 1, Unit-Specific Condition 2.1.10(d)(ii)*]. In addition, the permit provides that the operation and maintenance of the CEMS shall be “generally consistent with published USEPA guidance for use of such [CEMS] systems for compliance assurance monitoring.” [Id.]. The permittee must also develop a “site-specific monitoring plan” for the operation and maintenance of the CEMS for the Illinois EPA’s review and comment prior to boiler startup. [Id. *Unit-Specific Condition 2.1.10(d)(iii)*]. Additionally, Prairie State must identify the type of monitoring equipment and sampling locations for the CEMS, which shall be approved by the Illinois EPA prior to installation. [Id.].

As evidenced by both the permit and relevant text from the *Responsiveness Summary*, it is envisioned that the permittee will identify monitoring and other types of information, as provided by the CAM rule, all of which will be memorialized in the site-specific monitoring plan during the early stages of operation of the plant. The Illinois EPA believes that such planning and operational aspects of this matter, which mostly affect how the source will comply with emissions limits based on an established range of operating conditions, are best undertaken at a time when more is known about the chosen CEMS²⁰³ than, as now, when a project is in its initial design stages.

Petitioners do not offer any suggestions about the how the plan should be implemented or its necessary components. Rather, they simply suggest that the permit should be remanded to allow for public notice of the plan itself. No factual or legal support for this proposition is advanced. The EAB has upheld similar types of post-construction plans (i.e., minimization or

²⁰³ Given the duration of construction, it is likely that the models of PM monitoring devices that could be used for the plant are not yet being built and available in the marketplace.

performance optimization plans) without compelling public notice of the plans at the time of pre-construction review. Compare, *In re Indeck-Niles Energy Center*, PSD Appeal No. 04-01, slip op. at 17 (EAB, September 30, 2004), citing, *In re Pennsauken County, N.J. Resource Recovery Facility*, 2 E.A.D. 768, 770-771 (Adm'r 1989). The review and approval of CAM plans is a routine matter during the processing of Title V permits.

In regards to the final argument in this section, the Illinois EPA responded to a comment about purported inadequacies with stack tests. In its *Responsiveness Summary*, the Illinois EPA pointed out some ways that those perceived deficiencies can be minimized, including a segment that focused on identifying operating parameters for which a source must be held. The Illinois EPA generally explained "if a source 'optimizes' performance of its control system during testing, the source should be expected to continue operating with an optimized control system." Petitioners claim that Prairie State is not subject to testing requirements that require "optimized" operating conditions. [See, *Petition at page 86-97*]. However, the Illinois EPA's response did not indicate that the broader objectives of stack testing must necessarily be explained and incorporated into a permit. The issue addressed by Petitioners here is inherent in the nature of emissions testing and need not be addressed by permitting fiat. Notably, Petitioners do not offer anything to support their contention.

To the issue, Petitioners fail to substantiate their arguments relating to the alleged deficiencies with the PM emissions monitoring and testing requirements of the Construction Permit/PSD Approval. In each instance, the Petition fails to identify, either factually or legally, any clear basis to support a finding of error with respect to the Illinois EPA's BACT evaluation for PM or PM₁₀. Given the vague and inconclusive reasoning advanced in the arguments, the

Petition also fails to identify an important public policy interest that warrants the EAB's review. Accordingly, review should be denied.

M. The Illinois EPA Properly Considered Cooling Tower Technology Consistent with the Requirements of the PSD Program.

Petitioners allege that the Illinois EPA failed to appropriately consider dry cooling technology as BACT during the PSD approval process. [See, *Petition at page 87*]. According to Petitioners, dry cooling provides benefits over wet cooling. [See, *Petition at pages 87-89*]. Petitioners' argument is not substantiated with supporting fact, while the Illinois EPA performed a reasoned BACT determination pertaining to dry cooling. In such a scenario, the EAB may appropriately deny review of this issue.

1. Petitioners' argument is not substantiated with supporting fact.

Petitioners simply restate comments offered during public comment without refuting the narrative explanation offered by the Illinois EPA within the *Responsiveness Summary*. Citing to Comment No. 246, Petitioners suggest that a BACT analysis should consider dry cooling technology as an alternative to wet cooling towers due to concerns over PM₁₀ emissions. [See, *Petitioners' Exhibit 12, Response to Comment No. 246*]. In particular, the commenter maintained that dry cooling is an available technology that will eliminate significant emissions of PM₁₀ and eliminate controversy concerning access to water from the Kaskaskia River given that dry cooling towers would reduce water consumption by the proposed source and lower the costs for water intake structures and raw water treatment systems. [Id.]. The commenter sought to illustrate the technical feasibility of dry cooling technology by pointing to Westin Unit 4, a proposed new source located in Wisconsin, at which the commenter asserted dry cooling will reduce water consumption by approximately 98 percent. [Id.]. In further support of the alleged

merits of dry cooling technology, the commenter referenced its use at large coal-fired power plants located in Wyoming, South Africa, and New Mexico. [*Id.*].

Generally speaking, dry cooling is a demonstrated and technically feasible technology that the Illinois EPA evaluated and addressed in the *Responsiveness Summary* [*See, Petitioners' Exhibit 12, Response to Comment Nos. 246-248*]. As an initial matter, comments claiming potential reductions in water usage attributable to dry cooling and the application of dry cooling technology from plants located in New Mexico, Wyoming, and South Africa to Prairie State were unsubstantiated and lacking in specificity. Issues reviewed on appeal must have been raised with specificity and clarity during the public comment period. *In re Maui Electric Company*, 8 E.A.D. 1, 9 (EAB 1998). The fact that dry cooling is used at plants located in Wyoming and South Africa where water resources are limited and the relative humidity is low (e.g., weather conditions in which wet cooling would consume comparatively more water) is not, of itself, an adequate basis to require its use at Prairie State. [*See, Petitioners' Exhibit 12, Response to Comment at No. 246*]. *See, In re Maui Electric Company*, 8 E.A.D. 1, 9 (EAB 1998); *see also, In re Spokane Regional Waste-to-Energy*, 2 E.A.D. 809, 816 (Adm'r 1989)(comments provided during public comment must be clear or permitting authority's ability to respond is meaningless); [*Id.*] *citing Wisconsin Electric v. Costle*, 715 F.2d 323, 326 (7th Cir. 1983)("the rules of administrative law apply across the board, to agencies and interested parties alike"); *see also, In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 251, fn. 12 (EAB 1999)(where "an issue is raised only generically during the public comment period, the permit issuer is not required to provide more than a generic justification for its decision").

Moreover, the Illinois EPA explained how the comment overlooked the impact dry cooling would have on the energy efficiency of the proposed plant; if dry cooling lowered the

plant's efficiency by more than a few percent, the net effect would be the increased emission of PM, CO, and other pollutants. [See, *Petitioners' Exhibit 12, Response to Comment No. 246*]. While the Illinois EPA noted that any water impacts are appropriately addressed by the applicable regulatory scheme, wet cooling tower technology would not alter the character of the Kaskaskia River given it is managed for barge traffic and supplied by Shelbyville Lake and Carlyle Lake. [Id.]. Finally, the Illinois EPA explained the application of dry cooling technology in the Midwest is not well established, the additional structure required for dry cooling creates its own esthetic issues, and wet cooling towers have not been identified as a general threat to public health. [See, *Petitioners' Exhibit 12, Response to Comment at Nos. 247 and 248*].²⁰⁴

The substance of the Illinois EPA's response is further restated within the Illinois EPA's calculation sheet summarizing its analysis of the permit application and BACT determination that formed the basis for its permit decision. [See, *Respondent's Exhibit 15*]. As set forth within the document, the Illinois EPA determined, in part, that Prairie State addressed BACT/MACT for "other emission units" that include cooling towers, and proposed appropriate control measures. [Id. at page 6]. The Illinois EPA summarized its BACT determination for the proposed cooling tower technology stating:

Dry cooling was considered and rejected by the Illinois EPA, as it would act to increase emissions through its reduction of the plant's energy efficiency. Accordingly, dry cooling is used in locations where there is not an adequate water supply for a more energy efficient wet cooling system. Wet cooling is used at other similar new power plants where there is an adequate supply of water.

[Id.]. The Illinois EPA's response reflects a reasoned analysis of its BACT determination pertaining to dry cooling technology. Petitioners provide no response in their petition to the

²⁰⁴ See also, 66 Fed. Reg. 65,255, 62,282 (December 18, 2001)(USEPA rejection of dry cooling as best technology available due to ensuing costs associated with the technology in the context of NPDES permits).

Illinois EPA's explanation of the myriad factors that supported its decision to approve wet cooling technology, other than to briefly state that dry cooling offers "multiple benefits over wet cooling," citing only to reduced PM emissions and water usage, and to criticize the Illinois EPA's BACT determination. [See, *Petition at pages 87-88*]. The EAB has held that the petitioner bears burden of demonstrating that review of a particular permit condition is warranted and, in so doing, the petitioner must include information specific to support its allegations. *In re Zion Energy, L.L.C.*, 9 E.A.D. 701, 705 (EAB 2001); *In re Sutter Power Plant*, 8 E.A.D. 680, 688 (EAB 1999). Petitioners have clearly failed to meet this burden.

2. Petitioners fail to sustain their burden of demonstrating clear error in the Illinois EPA's response to Petitioners' claims.

The Petitioners argument illustrates the distinction between BACT decisions where a permitting authority failed to consider an available technology and where the technology was considered but rejected. Where a permitting authority has evaluated and rejected an available alternative control technology, those favoring the option must show that the evidence for the alternative technology clearly outweighs the evidence against its application. See, *In re Three Mountain Power*, 10 E.A.D. 39 (EAB 2001). Petitioners fail to show the Illinois EPA's technical judgment rejecting dry cooling was clearly erroneous and that evidence in favor of dry cooling technology clearly outweighs the evidence against its application.

Contrary to Petitioners' assertion that the Illinois EPA must document and incorporate within its BACT analysis each reason contained within its response to Petitioners' comments, a permitting authority is not required to document every potential source of information about a suggested technology. *In re NE Nub Partners, L.P.*, 7 E.A.D. 561, 581, 583 (EAB 1990)(*responsiveness summary* does not require detailed findings and conclusions, rather must merely demonstrate that all significant comments were considered). The Board previously

considered this issue concluding that “simply because the permit issuer may not have identified, documented, or consulted every single potential source of information about the technologies in question does not mean, as Petitioner implies, that the resulting permit determination is defective, or that the rejection of the [text omitted] technologies in question was not adequately justified. It is enough if the record as a whole reflects a reasoned analysis of current information about potentially available technologies.” *In re Mecklenburg Cogeneration Limited Partnership Clarksville, VA*, 3 E.A.D. 492 (Adm’r 1990). Based upon a fair reading of the Administrative Record, the Petitioners fail to show the Illinois EPA’s decision was clearly erroneous or otherwise warrants review. Accordingly, the Board should deny review of this issue as the Illinois EPA conducted a reasoned analysis of dry cooling technology and properly considered public comments.

3. The Illinois EPA’s decision is clearly supported by facts in the Administrative Record.

The Administrative Record clearly demonstrates that the Illinois EPA properly reviewed the BACT analysis prepared by Prairie State and considered dry cooling technology in addition to Petitioners’ aforementioned concerns consistent with PSD program requirements. Petitioners’ arguments contradict the weight of previous Board decisions concluding that issues that are technical in nature are largely left to the discretion of the permitting authority. *See, In re Peabody Western Coal Company*, PSD Appeal No. 04-01 (EAB, February 18, 2005), *citing In re Carlota Copper Co.*, NPDES Appeal Nos. 00-23 & 02-06, slip op. at 22 (EAB, Sept. 30, 2004), 11 E.A.D. ____; *see also, In re NE Hub Partners, L.P.*, 7 E.A.D. 561 (EAB 1998).

The core of Petitioners’ claim relates solely to a technical determination wherein Petitioners simply present a conflicting opinion with that of the Illinois EPA. Where the issues raised by Petitioners in a permit appeal present conflicting expert opinions or data, the Board has

concluded that it will "... look to see if the record demonstrates that the permitting agency duly considered the issues raised by the comments and if the approach ultimately selected is rational in light of all the information in the record, including the conflicting opinions and data." *In re Three Mountain Power, LLC*, 10 E.A.D. 39 (EAB 2001), citing *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 180, fn.16 (EAB 2000). Where the permitting authority gave consideration to Petitioners comments and adopted an approach that is rational and supportable, deference is typically afforded to the permitting authority's decision. See, *In re Tallmadge Generating Station*, PSD Appeal No. 02-12 (EAB, May 22, 2003). Clear error is not established simply because Petitioners present a different opinion regarding a technical matter. [*Id.*]. An examination of the Administrative Record confirms the Illinois EPA duly considered issues raised during public comment and that its decision is rational and supportable. As the Illinois EPA's decision was a proper exercise of its technical judgment, the Petitioners' arguments have failed to carry their burden.

N. Peabody's Modeling Demonstrated That the Proposed Plant Would Not Cause or Contribute to NAAQS Violations.

Petitioners argue that the Illinois EPA erred by issuing a PSD permit based upon modeling that allegedly showed a violation of the SO₂ and PM₁₀ NAAQS. Relying upon a distorted reading of the Clean Air Act and its implementing regulations, the Petitioners advance the position that the significant impact level is the wrong standard of measure to ascertain whether a proposed source will cause or contribute to a NAAQS violation. [*See, Petition at pages 89-96*]. The Petitioners predicate this notion on a flawed interpretation of the Clean Air Act and relevant facts, ending with an unsupported conclusion that neither Prairie State nor the Illinois EPA properly evaluated the modeling for SO₂ and PM₁₀.

1. Petitioners' argument fails to satisfy EAB's procedural requirements for obtaining review.

The Illinois EPA addressed this issue in the *Responsiveness Summary* as the argument was raised in the public comments that the significant impact level was not the appropriate standard for determining a NAAQS violation and regardless, Prairie State's modeling allegedly showed exceedances of the significant impact level. In responding to this issue, the Illinois EPA not only explained that the appropriate standard is, in fact, the significant impact level, but that modeling performed for the 3-hour and 24-hour SO₂ NAAQS and the 24-hour PM₁₀ NAAQS showed that the proposed plant will not cause or contribute to a violation of either NAAQS. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 264, 267-269, 271 and 286*]. The Illinois EPA explained that significant impact levels are an inherent aspect of the PSD program that have been established by the USEPA for various pollutants and averaging times. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 264, 267*]. The Illinois EPA further explained that where existing sources are contributing emissions above a significant impact level, the PSD program does not require a denial of a permit where the applicant is not contributing emissions above the significant impact level. [See, *Petitioners' Exhibit 12, Response to Comment No. 269*]. The Illinois EPA also explained that the significant impact level being used for this purpose has been set by the USEPA to define a de minimis impact. Thus, it is a level that reflects a very small impact, not a large or substantial impact, as one might expect with the common meaning of the term significant.

In presenting the conclusion that the plant will not cause or contribute to a violation of either NAAQS, the Illinois EPA relied on the modeling analysis dated July 12, 2004, rather than that dated December 9, 2003, that Petitioners continue to reference. The July 12, 2004, modeling submittal provided the updated culpability results based on the NAAQS inventory updates and

the corrected anemometer height for the meteorological data sets. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 271 and 286*]. Of course, Petitioners entirely ignore in their argument on appeal the fact that the Illinois EPA's review of the July 12, 2004, modeling indicated no violation of the 3-hour or 24-hour SO₂ NAAQS or the 24-hour PM₁₀ NAAQS. Further, nothing presented by the Petitioners refutes the Illinois EPA's scrutiny of the July 12, 2004, modeling information. Petitioners have failed to demonstrate how the Illinois EPA's responses to comments were somehow inadequate or in clear error. *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997). As review "should be only sparingly exercised" and "most permit conditions should be finally determined at the [permitting authority] level," the EAB should appropriately decline consideration of this issue. See, *In re Knauf Fiber Glass*, 8 E.A.D. 121, 127 (EAB 1999), *citing*, 45 Fed. Reg. 33, 290, 33, 412 (May 19, 1980).

2. Petitioners fail to show that the Illinois EPA's decision regarding this issue was clearly erroneous or otherwise merits review.

Notwithstanding, the Petitioners contorted reading of the Clean Air Act that will be addressed in greater depth below, Prairie State appropriately relied upon the Clean Air Act and the USEPA's historical interpretation of the same, finding that emissions from the proposed facility will not cause or contribute to a violation of the NAAQS or the SO₂ or PM increment. As documented by the Administrative Record, the Illinois EPA possessed familiarity with Prairie State's analysis through its review of the modeling information submitted by Prairie State.²⁰⁵

²⁰⁵ [See, *Respondent's Exhibit 67*(Letter from Kyle Lucas, Air Permitting Manager, Black & Veatch Corporation, to Don Sutton regarding Air Modeling Workplan and Request for Cumulative Source Inventory dated July 9, and attachments) Ambient Air Quality Impact Analysis Workplan; see also, *Respondent's Exhibit 54, Letter from Matt Will, Modeling Unit, Illinois EPA, to Kyle Lucas, Black & Veatch Corporation, dated July 20, 2001*; see also, *Respondent's Exhibit 68*(Prairie State Generating Station Prevention of Significant Deterioration Air Construction Permit Application, dated October 19, 2001); see also, *Petitioners' Exhibit 27*; see also, *Respondent's Exhibit 43*; see also, *Respondent's Exhibit 69* (Letter from Dianna Tickner to Hearing Officer responding to comments of Dynegy, dated June 14, 2004); see also, *Respondent's Exhibit 5, Modeling Addendum No. 2, Appendix D to Appendix D*,

The Illinois EPA's review began in July 2001 with Prairie State's submittal of its modeling protocol, which in a letter dated July 20, 2001, the Illinois EPA approved.

The preliminary analysis yielded maximum concentrations for SO₂ and PM₁₀ attributable to the proposed plant that were in excess of the applicable significant or de minimis impact levels thereby triggering a full impact analysis for the proposed plant and existing sources in the area. [See, Respondent's Exhibit 5, Modeling Addendum No. 2, page 16; see also, Respondent's Exhibit 4, pages C.24-C.26]. Turning to the full impact analysis, consistent with the NSR Workshop Manual, Prairie State first determined the significant impact area²⁰⁶ for the pollutants to be modeled. [See, Respondent's Exhibit 5, Modeling Addendum No. 2 at pages 2-4; see also, Respondent's Exhibit 4, pages C.26-C.31].²⁰⁷

The NAAQS modeling was based upon an emissions inventory developed through consultation between Prairie State, the Illinois EPA and other states. [See, Respondent's Exhibit 5, Modeling Addendum No. 2, at page 5; see also, Respondent's Exhibit 4, pages C.31-C36]. For SO₂, Prairie State opted to utilize the same inventory for short-term and long-term modeling. The inventory conservatively extended 50 km beyond the designated short-term significant impact area and thus, included sources within 100 km of Prairie State. [See, Petitioners' Exhibit 12, Response to Comment No. 279]. For PM₁₀, the inventory was made up of sources within 65 km of the proposed plant. [See, Respondent's Exhibit 5, Modeling Addendum No. 2]. Prairie

Spreadsheet 3 from 1989 24-hour SO₂ culpability analysis from Prairie State Generating Station; see also, Respondent's Exhibit 54; see also, Respondent's Exhibit 15].

²⁰⁶ The *impact area* is the area in which the required air quality analysis for the NAAQS and PSD increment must take place. "This area includes all locations where the significant increase in the potential emissions of a pollutant from a new source, or significant net emissions increase from a modification, will cause a significant ambient impact (i.e., equal or exceed the applicable significant ambient impact level)" [See, Respondent's Exhibit 4, at page C.26].

²⁰⁷ Petitioners have not challenge the designated significant impact areas.

State also gave the requisite consideration to the background levels of air quality through data collected at ambient monitoring stations operated by the Illinois EPA. [*Id.*].

Petitioners' claims that the full impact analysis initially showed that Prairie State eclipsed the 3-hour and 24-hour SO₂ NAAQS were based upon Prairie State's December 9, 2003, modeling submittal and the maximum SO₂ levels.²⁰⁸ However, the July 12, 2004, Modeling Addendum more accurately summarizes the modeling results because it reflects inventory corrections and implementation of a corrected anemometer height.²⁰⁹ In addition, the appropriate value for the comparison of averaging times of 24 hours or less for SO₂ is data contributing to the second highest NAAQS violation (high second-high) rather than data indicating the greatest contribution to a NAAQS violation (high first-high).²¹⁰ Such consideration is consistent with the Clean Air Act's prohibition of emissions from a proposed source causing or contributing to air pollution in excess of the short-term maximum allowable concentration (more than one time per year). *See*, 42 U.S.C. §7475(a); *see also*, 42 U.S.C. §7473(a) ("... for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year"); *see also*, 40 CFR Part 51, Appendix

²⁰⁸ The December 2003 modeling was based upon an emission scenario of 0.51 lbs/mmBtu for the 24-hour SO₂ limit, rather than the final permit limits ultimately settled upon. The emission limit is initially set at 3,126 lb/hour which is equivalent to 0.42 lbs/mmBtu at the maximum design heat input capacity of a boiler and, no later than 24 months after initial boiler startup, the 24-hour SO₂ emission rate shall not exceed 2,450 lb/hour, daily average, equivalent to 0.33 lbs SO₂/mmBtu of the boiler. [*See, Petitioners' Exhibit 1, Unit-Specific Condition 2.1.7(a)*].

²⁰⁹ Based upon a recent review of the Calculation Sheet, Respondent's Exhibit 15, Tables A through C mistakenly reference the December 2003 modeling rather than the July 2004 modeling that the Illinois EPA based its modeling decision on. [*See, Petitioners' Exhibit 70 (Affidavit of Shashi Shah)*; *see also, Petitioners' Exhibit 12, Response to Comment Nos. 271, 276-277, 282*; *see also, Respondent's Exhibit 15, pages 16-18*].

²¹⁰ In terms of the modeling submittals to the Illinois EPA, the various receptor and time combinations may be ranked according to which event constitutes the highest contribution to any NAAQS violation. The highest contribution to the predicted impact is termed the high first-high. The next highest contribution is the high second-high predicted impact and so on.

W, Section 11.2.3.2 (the determination of whether a source contributes to a NAAQS violation may be based upon the “highest second-highest estimated concentration for averaging times of 24 hours or less”).

The *NSR Workshop Manual* also provides guidance on the appropriate review of modeled receptor and time combinations stating the following shall be used for SO₂: “the highest, second-highest short term estimate and the highest annual estimated.” For PM₁₀, for which modeling is conducted using five years of meteorology, it further provides: “the highest, sixth-highest estimate and highest 5-year average estimate” is to be used for modeled combinations.²¹¹ [*See, Respondent’s Exhibit 4, page C.52*]. More simplistically, the applicable authority provides that for a 24-hour SO₂ violation, the relevant consideration is the high second-high rather than the high first-high because one exceedance of the 24-hour standard is allowed on an annual basis.

Taking all this into account, the July 2004 modeling shows that the total 3-hour SO₂ concentration is 1689.51 µg/m³, rather than the 1998.9 µg/m³ claimed by Petitioners. *See*, 40 CFR §50.4(b) and §50.5(a) (both stating that the respective levels are “not to be exceeded more than once per calendar year”). The high second-high for the total 24-hour SO₂ concentration is not 501.73 µg/m³ but 682.57 µg/m³. [*See, Respondent’s Exhibit 5, Modeling Addendum No. 2 at page 7; see also, Petition at page 90*].

As the July 2004 full impact analysis showed concentrations greater than the 3-hour and 24-hour SO₂ NAAQS, Prairie State considered whether the proposed plant would be a significant contributor to the predicted NAAQS violations. To be a significant contributor to the predicted 3-hour or 24-hour SO₂ NAAQS violation, any contribution by the proposed plant to the predicted violation must, respectively, be in excess of 25 µg/m³ and 5µg/m³ for the receptors and times

²¹¹ Petitioners did not challenge the Illinois EPA’s review and acceptance of Prairie State’s 24-hour PM₁₀ NAAQS culpability analysis.

for which the modeled NAAQS violations are predicted.²¹² [See, Respondent's Exhibit 4, page C-28, Table C-4, C-51-53]. The modeling analysis showed that the proposed plant did not contribute significantly to the modeled exceedances of the 3-hour or the 24-hour SO₂ NAAQS.²¹³

Meanwhile, the July 2004 full impact analysis demonstrated that emissions from Prairie State complied with the NAAQS for PM₁₀. Based upon the July 7, 2004, modeling submittal, the PM₁₀ NAAQS modeling results indicate that the total concentration due to the high second-high value is 134.76 ug/m³ rather than that claimed by Petitioners, 353.62 ug/m³. [See, Respondent's Exhibit 5, Modeling Addendum No. 2 at page 10; see also, Petitioners' Exhibit 12, Response to Comment No. 286; see also, Petition at page 91]. Prairie State's NAAQS analysis appropriately stopped at this juncture.²¹⁴ In addition, the Illinois EPA performed selected audit modeling runs to verify Prairie State's results for the preliminary impact analysis and the full impact analysis. [See, Respondent's Exhibit 15, pages 15-19]. Based on its review of the data and analysis provided by Prairie State and its own audit modeling, the Illinois EPA appropriately concluded that the proposed facility would not significantly impact the 3-hour or 24-hour SO₂ NAAQS and the 24-hour PM₁₀ NAAQS. See, *Hawaiian Electric Company, Inc. v. United States Environmental Protection Agency*, 723 F.2d 1440, 1446 (9th Cir. 1984) (need for agency discretion in applying the modeling results).

²¹² These de minimis or significant impact levels both reflect an air quality impact that is less than 2.0 percent of the applicable standard.

²¹³ [See, Respondent's Exhibit 15, pages 15-19; see also, Respondent's Exhibit 5, Modeling Addendum No. 2 at pages 8-9; Appendix D to Appendix D, Spreadsheet 3 from 1989 24-hour SO₂ culpability analysis from Prairie State Generating Station; see also, Petitioners' Exhibit 12, Response to Comment No. 271; see also, Respondent's Exhibit 4, pages C.51-C.53].

²¹⁴ While not challenged by Petitioners, Prairie State also considered whether its emissions would cause or contribute to an exceedance of the SO₂ and PM₁₀ increments. Prairie State's modeling results, as clearly noted in the modeling addendum, showed that the proposed facility would not cause or contribute to SO₂ increments or PM₁₀ increment violation. [See, Respondent's Exhibit 5, Addendum: Updated Cumulative SO₂ Class I Increment Analysis for the Prairie State Generating Station, at pages 11-23].

3. The significant impact level is the appropriate standard for determining whether a proposed source has caused or contributed to a NAAQS violation.

On the whole, the Petitioners reading of the Clean Air Act and the implementing regulations cannot be reconciled with the USEPA's established guidance and interpretation of the Clean Air Act over the past twenty-five years or the EAB's past rulings in the framework of the *NSR Workshop Manual* on PSD air quality analysis. Historically the USEPA has interpreted Section 165(a)(3) of the Clean Air Act, 42 U.S.C. §7475(a)(3), to mean that a source does not contribute to an exceedance of a NAAQS or increment if its impact at a given receptor is not significant.

References in the Code of Federal Regulations codify the USEPA's interpretation of Section 165(a)(3). For instance, Section 52.21(l) directs air quality modeling be based on the requirements of Part 51, Appendix W. 40 CFR §52.21(l); *see also, In re South Shore Power, L.L.C.*, PSD Appeal No. 03-02, slip op. at 3-4 (EAB, June 4, 2003) (recognizing the applicability of the requirements specified in Appendix W of Part 51). Appendix W provides direction to new sources predicted to have a *significant ambient impact* in an attainment area on the particulars of the required NAAQS analyses. *See*, 40 CFR Part 51, Appendix W, Section 11.2.3.2. In fact, Section 11.2.3.2 states that the determination of whether a source contributes to a NAAQS violation is based on the "significance of its temporal and spatial contribution to any modeled violation." 40 CFR Part 51, Appendix W, Section 11.2.3.2. Meanwhile, Part 51, Appendix S sets forth with specificity the significant impact levels that would be considered to cause or contribute to a violation of a NAAQS in an attainment area. *See*, 40 CFR Part 51, Appendix S § III.A.

From the beginning, the USEPA has employed the concept of “significance levels” in the context of ambient impacts to implement the 1977 Clean Air Act. For instance, the USEPA has stated:

Also, since the air quality impact of many sources falls off rapidly to *insignificant levels*, EPA does not intend to analyze the impact of a source beyond the point where the concentrations from the source fall below certain levels. . . These levels shown below are therefore interpreted by the Administrator as representing the minimum amount of ambient impact that is *significant*. . . . However, since the 1977 Amendments provide special concern for Class I areas, any reasonably expected impacts for these areas must be considered irrespective of the 50 kilometer limitation or the above *significance levels*.

See, 43 Fed. Reg. 26,379, 26,398 (June 19, 1978) (emphasis added) (subsequently identifying the significant impact level for 3-hour and 24-hour SO₂, respectively, at 25 µg/3 and 5 µg/m³); *see also*, *Id.* at page 26,401 (in areas where PSD increments are exceeded, “major construction cannot continue to be approved unless all increment violations *significantly impacted* by the proposed emission increase are corrected prior to operation of the proposed source”); *see also*, 45 Fed. Reg. 52,675, 52,678 (August 8, 1980) (stating that for proposed major sources an assessment of the existing air quality for each regulated pollutant must be completed, however, this “requirement does not apply to pollutants for which the new emissions proposed by the applicant would cause insignificant impacts”).

Historically, the USEPA has consistently taken the position that for purposes of PSD permitting, a source will not cause or contribute “to a predicted NAAQS or increment violation if the source’s estimated air quality impact is insignificant (i.e., at or below defined de minimis levels).” [*See, Respondents’ Exhibit 71, at page 1, (Memorandum from Gerald A. Emison, Director, Office of Air Quality Planning and Standards (MD-10) to Thomas J. Maslany, Director, Air Management Division (3AM00), Air Quality Analysis for Prevention of Significant Deterioration, July 5, 1988*)]. For instance, in 1980, the USEPA responded to a question

concerning whether a proposed source would significantly contribute to NAAQS violation in a PSD area. [See, Respondents' Exhibit 72, at page 1, (Memorandum from Richard G. Rhodes, Director, Control Programs Development Division (MD-15), USEPA, to Alexandra Smith, Director, Air & Hazardous Materials Division, Region X, USEPA, Interpretation of "Significant Contribution," December 16, 1980)]. The USEPA responded that "[i]f the proposed source or modification has no *significant contribution* to the nonattainment problem, then the proposed project does not contribute to this violation." [*Id.* (Emphasis added); see also, Respondent's Exhibit 73, at page 1, (Memorandum from James T. Wilburn, Chief, Air Management Branch, Air and Waste Management Division, Region IV, USEPA, to W. Fin Johnson, Chief, Air Quality Section, Division of Environmental Management, North Carolina Dept. of Natural Resources & Community Development, July 12, 1984) ("a proposed source which causes a modelled [sic] violation of NAAQS can be approved if the source's contribution to total air quality levels at the site of the violation is less than the significance levels")]. In the second part of the guidance, the USEPA stated that a proposed source's significant impact must occur simultaneously with the actual violation at the particular nonattainment site. [*Id.*]. The USEPA acknowledged that if the proposed source did not have a significant impact during the time of the actual NAAQS violation, the source would meet the applicable requirements so long as it did not create a new NAAQS violation. [*Id.*].

The USEPA later reaffirmed its position in a July 5, 1988, Memorandum explaining its preferred approach as one in which it:

projects air quality concentrations throughout the proposed source's impact area, but does not automatically assume that the proposed source would cause or contribute to a predicted NAAQS or increment violation. Instead, the analysis is carried one step further in the event that a modeled violation is predicted. The additional step determines whether the emissions from the proposed source will have a significant ambient impact at the point of the modeled NAAQS or

increment violation when the violation is predicted to occur. If it can be demonstrated that the proposed source's impact is not "significant" in a spatial and temporal sense, then the source may receive a PSD permit.

[*See, Respondents' Exhibit 71, at page 2; see also, Respondents' Exhibit 74, (Memorandum from Marcia L. Spink, Chief, Air Programs Branch, Region III, USEPA, to John M. Daniel, Jr., P.E., Assistant Executive Director, Department of Air Pollution Control, Virginia, April 25, 1990) (outlining procedures for the issuance of PSD permits to sources with and without significant impacts in areas with modeled violations)*].

Consistent with this guidance, the USEPA's Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), specifically stated that the "EPA does not intend to analyze the impact of a source beyond the point where the concentrations from the source fall below certain levels" and, in so stating, referenced the previously designated significant ambient air quality impact levels. [*See, Respondent's Exhibit 75 at pages A-7 and A-8, Table A-3, (USEPA's Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, May 1987)*]. The *NSR Workshop Manual* remains in step, setting forth with particularity, a staged-type approach to the air quality analysis (i.e., the proposed source will not cause a significant ambient impact at any location; the proposed source, "in conjunction with existing sources, will not cause or contribute to a violation of any NAAQS or PSD increment;" or the proposed source, "in conjunction with existing sources, will cause or contribute to a violation, but will secure sufficient emissions reductions to offset its adverse air quality impact"). [*See, Respondent's Exhibit 4, at pages C.51-53*]. Of particular relevance to the instant proceeding is USEPA's further explanation of whether the proposed source, in combination with existing sources, will cause or contribute to a NAAQS violation:

When a violation of any NAAQS or increment is predicted at one or more receptors in the impact area, the applicant can determine whether the net

emissions increase from the proposed source will result in a significant ambient impact at the point (receptor) of each predicted violation, and at the time the violation is predicted to occur. The source will not be considered to cause or contribute to the violation if its own impact is not *significant* at any violating receptor at the time of each predicted violation. In such a case, the permitting agency, upon verification of the demonstration, may approve the permit. However, the agency must also take remedial action through applicable provisions of the state implementation plan to address the predicted violation(s).

[*See, Respondent's Exhibit 4, at page C.52*]. The EAB has found that the *NSR Workshop Manual* reflects the USEPA's thinking on PSD issues. *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 129 fn. 13 (EAB 1999); *see also, In re Hawaii Electric Light Company*, 8 E.A.D. 66, 72 (EAB 1998); *see also, Washington State Dept. of Social and Health Servs. v. Guardianship Estate of Keffeler*, 537 U.S. 371, 385 (2003) ("administrative interpretations . . . not [the] products of formal rulemaking . . . nevertheless warrant respect"). As evidenced by these statements, the USEPA has repeatedly expressed an opinion that if the proposed source or modification does not significantly contribute to the nonattainment problem, then the proposed project is not responsible for this violation. *See*, 42 U.S.C. §7475(a)(3). Considerable deference should be afforded to the USEPA's construction of Section 165(a)(3) of the Clean Air Act. *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 866 (1984). *See also, Whitman v. American Trucking Associations, Inc.*, 531 U.S. 457, 481 (2001).

While USEPA guidance clearly supports the Illinois EPA's interpretation of significant air quality impact, the EAB has had few occasions to consider the relevancy of these passages in the *NSR Workshop Manual*. During those limited happenings, the EAB has both acknowledged "significant ambient impact levels," and the relevancy of the *NSR Workshop Manual* for purposes of a hierarchical approach to air quality analysis. *See, In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 149, fn. 40 (EAB 1999); *see also, In re AES Puerto Rico L.P.*, 8 E.A.D. 324, 330-

332 (EAB 1999); *see also, In re Hadson Power 14-Buena Vista*, 4 E.A.D. 258, 271 (EAB 1992); *see also, In re Ecoelectrica, L.P.*, 7 E.A.D. 56, 66 (EAB 1997); *see also, In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 25-29 (EAB, June 21, 2005). The *Knauf I* decision provides the most detailed review of the beginning stages of the analysis performed by Prairie State. In *Knauf I*, the EAB considered a challenge to the applicant's compliance demonstration with the NAAQS and PSD increments. The *Knauf I* decision consequently provided a discussion of the contents of a preliminary analysis and many of the elements of a full impact air modeling analysis. [*Id.* at 149-154]; *see also, In re AES Puerto Rico L.P.*, 8 E.A.D. 324, 343-344 (EAB 1999) (discussing particulars of preliminary analysis); *see also, In re Ecoelectrica, L.P.* 7 E.A.D. 56 (EAB 1997).

In *Knauf I*, the EAB examined relevant instruction from the *NSR Workshop Manual* on PSD air quality analysis including a preliminary analysis of pollutant modeling to the initiation of a full impact analysis in the event of a finding of an exceedance of the significant impact level from such source. *In re Knauf Fiber Glass, GMBH*, 8 E.A.D. 121, 149-154 (EAB 1999). Relying upon the *NSR Workshop Manual*, the EAB considered Knauf's predicted "ambient air concentrations of PM₁₀ in excess of the PM₁₀ (24-hour) significant ambient impact level" that thereby necessitated the performance of a full impact analysis for the PM₁₀ significant impact level. *In re Knauf Fiber Glass, GMBH*, 8 E.A.D. 121, 150 (EAB 1999). The EAB found that the applicant appropriately considered the most distant point where the significant impact would occur, the "impact area, and that the remaining elements of an air quality analysis are carried out within the defined impact area." [*Id.* at page 151]. Consistent with the *NSR Workshop Manual*, the EAB acknowledged that the next step in the full impact analysis included "modeling emissions from sources in addition to the proposed new source whose emissions may affect the

air quality within the impact area. *NSR Workshop Manual* at C.30-C.31.” [*Id.*]. After confirming that other potential sources of impact were appropriately included in Knauf’s analysis, the EAB concluded with a review of whether predicted emissions from the proposed source and existing sources would cause or contribute to a violation of the NAAQS or the PSD increment. [*Id.* at pages 152-154]. The EAB agreed that the proposed source demonstrated compliance with the PM₁₀ NAAQS and the PSD increment for PM₁₀. [*Id.*]; see also, *In re AES Puerto Rico L.P.*, 8 E.A.D. 324, 343-344 (EAB 1999) (acknowledgment that even where NAAQS violations are found to exist, the proposed source must actually cause or contribute to violations of air quality impacts); see also, *In re South Shore Power, L.L.C.*, PSD Appeal No. 03-02, slip op. at 3-4 (EAB, June 4, 2003) (recognizing the applicability of Appendix W of Part 51).

Even more significant is the abbreviated discussion in *Hadson Power*, where the EAB discussed whether the proposed plant would significantly contribute to a violation of the 3-hour SO₂ increment of 25 µg/m³ in a designated Class I area. *In the Matter of Hadson Power 14-Buena Vista*, 4 E.A.D. 258, 270-271 (EAB 1992) (where the administrator acknowledged that Hadson Power’s would consume 32.1 µg/m³). The EAB found:

VDAPC does not contest that Hadson Power’s preliminary modeling predicted increment violations in the Park. VDAPC concluded, however, that the violations are due primarily to two previously permitted but not yet constructed sources, not Hadson Power, and that Hadson Power would contribute only a small amount to these violations. Hadson Power requested and received approval from VDAPC (and EPA) to conduct modeling with different meteorological data. In addition, because significance levels for class I increment consumption had not been established by EPA, VDAPC proposed, and EPA approved, that for this permit, the class I significance levels be proportional to those used for class II areas. Based on this analysis, VDAPC concluded that Hadson Power would not contribute significantly to the violation. The County has not demonstrated that this conclusion is in error.

[*Id.* at 271]. What is clear about these opinions is that the EAB has not only affirmed the use of significant impact levels but has relied upon guidance addressing preliminary and full air quality

impact analyses in the *NSR Workshop Manual*. Just as this guidance provided instruction in *Knauf, AES Puerto Rico* and *Hadson Power*, it likewise lends direction to today's applicants and permitting authorities. See, *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 134-135, fn. 25 (while the *NSR Workshop Manual* is not mandatory, an expectation exists that the permit applicant will provide an analysis that is at least as detailed as the *NSR Workshop Manual*); see also, *In re Three Mountain Power, LLC*, 10 E.A.D. 39, 54 (EAB 2001). Under such circumstances, it was more than appropriate for Prairie State and the Illinois EPA to consider "whether the net emissions increase from the proposed source will result in a significant ambient impact at the point (receptor) of each predicted violation, and at the time the violations is predicted to occur." [See, *Respondent's Exhibit 4, page C.51-53*].

Despite this clear mandate, Petitioners argue that because Section 110(a)(2)(D)(i)(I) of the Clean Air Act specifically requires each state's SIP to contain adequate provisions prohibiting significant contribution to nonattainment in another state in violation of applicable standards, and Section 110(a)(2)(D)(i)(II) of the Clean Air Act, under PSD, requires each state's SIP to prohibit any contribution to a violation of air quality standards in another state, that Section 165(a)(3) prohibits any contribution to a violation of a NAAQS or increment. [See, *Petition at page 93*]. This argument reflects flawed logic. While Petitioners are correct that this would suggest that the PSD program sets a more stringent criteria level for contribution, it does not follow that this more stringent level must be *any* contribution. Another measure exists for the level of contribution that is prohibited under the PSD rules. As reflected in long-standing USEPA policy, guidance and practice, the criteria for a prohibited contribution from a major new source or major modification under the PSD program is more than a "de minimis impact." Again, this is a more stringent criteria than "significantly impact" but it is not identical to "any

impact.” The fact that the USEPA has elected to use the term “significant impact level” as the label for this level of de minimis impact is unfortunate as it can be confused with the explicit term in Section 110(a)(2)(D)(i)(I).

At the same time, it should be readily apparent that Section 110 contemplates a level of impact far in excess of the level of de minimis impact used under the PSD rules. This is because Section 110 addresses a far more controversial issue than the contribution of a proposed new project to air quality. Rather, Section 110 address the circumstances in which existing sources can be held to account for contributing to air quality levels in another state, beyond the jurisdiction of the state in which they are located.

As this discussion makes evident, Prairie State performed the modeling in accordance with the USEPA’s historical interpretation that a source will “not cause or contribute to a predicted NAAQS or increment violation if the source’s estimated air quality impact is insignificant (i.e., at or below de minimis levels).” [See, *Respondents’ Exhibit 71, at page 1*]. Accordingly, Petitioners fail to offer any compelling reason for the EAB to conclude that the Illinois EPA’s determination was clearly erroneous or otherwise warrants review.

4. The Illinois EPA’s conclusion that the proposed facility will not cause or contribute to NAAQS violations was based upon the Administrative Record not post hoc rationalizations.

Petitioners conclude their argument by stating that while the Illinois EPA found that modeling for the proposed plant suggested ambient impacts above the 3-hour and 24-hour SO₂ NAAQS and 24-hour PM₁₀ NAAQS, the Illinois EPA supported its decision to issue the permit with “post hoc rationalizations.” [See, *Petition at pages 94-95*]. These “post hoc rationalizations” purportedly include Illinois EPA assertions that the “alleged violations of the SO₂ NAAQS by the proposed plant are a result of the methodology used for air quality modeling

as it addresses existing sources," the questionable support for the use of the significant impact level in NAAQS compliance demonstrations, and statements that NAAQS violations are likely due to errors in the underlying inventory, the source of which is currently being investigated by the Illinois EPA. [See, *Petition at pages 94-96; see also, Petitioners' Exhibit 12, Response to Comment No. 49*]. While the preliminary analysis yielded maximum concentrations for SO₂ and PM₁₀ in excess of the applicable significant impact levels and the full impact analysis also indicated concentrations that were greater than the SO₂ NAAQS, the modeling showed that the proposed plant did not contribute significantly to exceedances of the 3-hour and 24-hour SO₂ NAAQS. [See, *Respondent's Exhibit 5, Modeling Addendum No. 2 at pages 8-10; Appendix D to Appendix D, Spreadsheet 3 from 1989 24-hour SO₂ culpability analysis from Prairie State Generating Station; see also, Petitioners' Exhibit 12, Response to Comment Nos. 271, 286; see also, Respondent's Exhibit 4, pages C.51-C.53*].

The Illinois EPA stated that the "alleged violations" of the SO₂ NAAQS are a result of the methodology employed for air quality modeling. This was appropriate in the context of a widely distributed *Responsiveness Summary*, as it generally explains that modeling conducted for certain existing sources, as is required in a full modeling analysis, is largely responsible for the predicted violations and such predicted violations do not necessarily represent actual violations of NAAQS. However, the Illinois EPA further explained that a more considered review of the modeling showed that the predicted violations are not caused or contributed to by the proposed plant but existing sources. [See, *Petitioners' Exhibit 12, Response to Comment No. 49*].

Petitioners respond that this is not a sufficient basis for the Illinois EPA to reject the methodology required by 40 CFR § 52.21(l). However, Petitioners misconstrue the Illinois EPA's response; the Illinois EPA never suggested that it rejected the methodology required by

Section 52.21(l). Rather, while the first phase of the full impact analysis showed concentrations in excess of the PSD increment, the culpability analysis, in fact, indicated that the proposed plant did not significantly contribute to the modeled receptor and time violations. Prairie State's analysis is in step with the requirements of Section 52.21(l) requiring all ambient air estimates be based on the applicable requirements of Part 51, Appendix W, and, in particular, Section 11.2.3.2, stating that the determination of whether a source contributes to a NAAQS violation is based on the "significance of its temporal and spatial contribution to any modeled violation." 40 CFR Part 51, Appendix W, Section 11.2.3.2.

Next, Petitioners persist in questioning the support for the Illinois EPA's use of the significant impact level in its NAAQS compliance demonstrations, stating that significant impact levels are only appropriately considered in the context of the preliminary analysis. [*See, Petition at pages 95-96*]. For brevity's sake, the Illinois EPA will not repeat the extensive backing, including twenty-five years of USEPA support and EAB precedent, for its consideration of significant impact levels in the context of the full impact analysis. However, the Illinois EPA will simply note that contrary to Petitioners' implications, the Illinois EPA's foundation for its position extended beyond a mere reference to page C.28 of the *NSR Workshop Manual*. The Illinois EPA reasoned that significant impact levels are an inherent aspect of the PSD program that have been established by the USEPA for various pollutants and averaging times. [*See, Petitioners' Exhibit 12, Comment Nos. 264, 267 (citing to NSR Workshop Manual page C.52)*]. The Illinois EPA further explained that where existing sources are contributing emissions above the significant impact level, the PSD program does not require a denial to a permit applicant that is not contributing emissions above the significant impact level. [*See, Petitioners' Exhibit 12, Comment No. 269*].

Petitioners cite to Petitioners' Exhibit 18, page 17 to bolster an assertion that the Illinois EPA purportedly agreed that the significant impact levels are used in the preliminary analysis to determine if additional modeling is required but not to "excuse NAAQS violations once they are detected within the SIA." [See, *Petition at page 95*]. Petitioners' Exhibit 18 is, in fact, a letter from the Illinois EPA to the USEPA on an unrelated permitting action; the letter makes absolutely no reference to significant impact levels. Rather, consistent with the language set forth in the *NSR Workshop Manual*, the Illinois EPA made clear that the significant impact levels are used in both the preliminary analysis and the full impact analysis. [See, *Respondent's Exhibit 4, at pages C.24-C.53*].

Finally, Petitioners claim that the Illinois EPA is seeking to justify NAAQS violations by stating that these are likely due to errors in the underlying inventory, the source of which is currently being investigated by the Illinois EPA. Petitioners' arguments are peppered with inconsistencies. Initially, Petitioners cite to page C.52 of the *NSR Workshop Manual* for the requirement that the Illinois EPA must "take remedial action through applicable provisions of the state implementation plan to address the predicted violation." [See, *Petition at page 92, citing NSR Workshop Manual at page C.52*]. Petitioners summarily conclude that the Illinois EPA has not performed any remedial measures but then later quibble with commitments made by the Illinois EPA to investigate the source whose emissions are largely responsible for the modeled exceedances. [See, *Petition at pages 92 and 96*]. The Illinois EPA explained in the *Responsiveness Summary* that it tentatively believes that most of the modeled exceedances are due to erroneously high emission rates but that the review is ongoing. [See, *Petitioners' Exhibit 12, Response to Comment No. 264; see also, Respondents' Exhibit 15 at page 17*].

While Petitioners imply that any remedial measures to be performed "through applicable

provisions of the state implementation plan” must be completed before the permit issues, no support has been provided for such assertion. [See, *Petition at page 96*]. In fact, the *NSR Workshop Manual* provides when the “proposed source would cause or contribute to a PSD increment violation, a PSD permit cannot be issued until the increment violation is entirely corrected.” [See, *Respondent’s Exhibit 4, page C.53*]. Accordingly, only if the proposed source would be a significant contributor to nonattainment should the permitting authority defer action until the violations have been corrected. Such guidance is in line with Section 165(c) of the Clean Air Act requiring the granting or denial of PSD permits by the Administrator within one year of the submittal of a complete permit application. See, 42 U.S.C. §7475(c). If an applicant did not significantly contribute to the violations but the Administrator could only issue the permit once it had completed any necessary remedial actions to the state implementation plan, the permit would likely not be issued within one year as it generally takes at least this long to revise a SIP and to submit it to the USEPA for approval. Here the modeling clearly showed that Prairie State was not a significant contributor to the nonattainment problem, thus, the Illinois EPA was not required to complete any remedial action to the SIP prior to the permit’s issuance. The EAB should accordingly decline consideration of this issue because Petitioners have failed to show that the Illinois EPA’s issuance of the permit under these circumstances was clearly erroneous.

O. Prairie State’s Modeling Demonstrated That the Proposed Plant Would Not Be a Significant Contributor to the Predicted 24-hour SO₂ NAAQS Violations.

Next, Petitioners stress, despite their statutory argument, the culpability analysis was flawed because their review of Prairie State’s December 9, 2003, modeling submittal showed numerous receptor and time combinations that violated the 24-hour SO₂ NAAQS. [See, *Petition at pages 96-97*]. Petitioners’ allegations have not been preserved for appeal as Petitioners fail to explain how the Illinois EPA’s response to this issue was clearly erroneous or otherwise warrants

review. To the extent that the EAB wishes to reach the merits of the issue, the Administrative Record provides ample support for the Illinois EPA's conclusion that the proposed plant would not significantly contribute to the predicted 24-hour SO₂ NAAQS violations.

1. Petitioners' argument fails to satisfy EAB's procedural requirements for obtaining review.

The Illinois EPA addressed this issue in the *Responsiveness Summary* as concerns were articulated by the public that the modeling allegedly showed exceedances of the significant impact level for 24-hour SO₂ NAAQS. The Illinois EPA explained that modeling performed for the 24-hour SO₂ NAAQS demonstrated that the plant would not cause or contribute to a violation of such standard. [See, *Petitioners' Exhibit 12, Response to Comment Nos. 264, 266-271*]. In presenting the conclusion that the plant will not cause or contribute to a violation of the 24-hour SO₂ NAAQS, the Illinois EPA relied on the modeling analysis dated July 12, 2004, rather than the December 9, 2003, submittal that Petitioners continue to reference. Petitioners ignore that the Illinois EPA's review of the July 12, 2004, modeling indicated no violation of the 24-hour SO₂ NAAQS. Further, nothing presented by the Petitioners refutes the Illinois EPA's scrutiny of the July 12, 2004, modeling information. Petitioners have failed to demonstrate how the Illinois EPA's responses to comments were somehow inadequate or in clear error. *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997). As review "should be only sparingly exercised" and "most permit conditions should be finally determined at the [permitting authority] level," the EAB should appropriately decline consideration of this issue. *See, In re Knauf Fiber Glass*, 8 E.A.D. 121, 127 (EAB 1999), *citing*, 45 Fed. Reg. 33, 290, 33, 412 (May 19, 1980).

2. Petitioners fail to show that the Illinois EPA's decision regarding this issue was clearly erroneous or otherwise merits review.

Turning to the merits of this issue, as discussed in Section N of this Response, the review of the 24-hour SO₂ NAAQS is more appropriately based on the July 12, 2004, Modeling Addendum that reflects inventory and anemometer height corrections.²¹⁵ Again, the full impact analysis initially showed concentrations greater than the 24-hour SO₂ NAAQS, thus, Prairie State considered whether the proposed plant would be a significant contributor to the predicted NAAQS violations. To be a significant contributor to the predicted 24-hour SO₂ NAAQS violation, any contribution by the proposed plant to the predicted violation must be in excess of 5µg/m³ for the receptors and times during which the modeled NAAQS violations occurred. [See, Respondent's Exhibit 4, page C-28, Table C-4, C-51-53].

While the results of the modeling demonstrated that the proposed plant would not significantly contribute to modeled exceedances of the 24-hour SO₂ NAAQS,²¹⁶ some further discussion of the modeling is warranted for a better understanding of the significant impact analysis performed by Prairie State. It should be noted that due to the nature of the modeling performed, any discussion of this topic is somewhat complicated for a simple narrative review. However, a full discussion of the modeling may be found by the EAB in the July 12, 2004, Modeling Addendum #2 at Respondent's Exhibit 5.

²¹⁵ Petitioners' argument is predicated in its entirety on the December 9, 2003, modeling rather than the updated July 12, 2004, modeling that clearly showed no significant contribution to exceedances of the 24-hour SO₂ NAAQS. Moreover, even based upon Petitioners' mistaken review and interpretation of the modeling results, Petitioners seem to suggest that the final limit established by the permit would ensure no violation of the 24-hour SO₂ NAAQS. [See, Petition at pages 96-97; see also, Petitioners' Exhibit 1, Unit Specific Condition 2.1.7(a)(ii)] (SO₂ emissions from the boilers shall not exceed 2,450 lb/hr, daily average).

²¹⁶ [See, Respondent's Exhibit 15, pages 15-19; see also, Respondent's Exhibit 5, Modeling Addendum No. 2 at pages 8-9; Appendix D to Appendix D, Spreadsheet 3 from 1989 24-hour SO₂ culpability analysis from Prairie State Generating Station; see also, Petitioners' Exhibit 12, Response to Comment No. 271; see also, Respondent's Exhibit 4, pages C.51-C.53].

For comparison purposes, Prairie State set up two group files, one entitled "All" that represented all the SO₂ NAAQS sources including Prairie State and a second group file called "PSGS" comprised of only Prairie State sources. Each file contained "max files" that identified all the receptors for each group that equaled or exceeded designated threshold values. The threshold for the "All" group was set to identify those receptors with a NAAQS exceedance minus background levels. Meanwhile, the threshold value for "PSGS" was set at 4.99 µg/m³. Once these "max files" were created, the values were delineated in an EXCEL spreadsheet that is included within Modeling Addendum No.2. [See, Respondent's Exhibit 5, Modeling Addendum No. 2, Appendix D to Appendix D, Spreadsheet 3 from 1989 24-hour SO₂ culpability analysis from Prairie State Generating Station]. For each year, Prairie State reviewed the EXCEL spreadsheet to determine whether exceedances for the "All" group and the "PSGS" group had the same receptor (X and Y coordinates) and time coordinates. There were no instances where both groups had the same receptor and time coordinates thereby indicating that the proposed plant would not contribute significantly to exceedances of the 24-hour SO₂ NAAQS.²¹⁷ Under such circumstances it is difficult to imagine how Petitioners have meet their burden. In fact, Petitioners do not present any factual evidence contradicting either the Administrative Record or the Illinois EPA's reasoning and they fail to offer any other compelling reason for the EAB to conclude that the Illinois EPA's determination was clearly erroneous or otherwise warrants review.

P. Petitioners Fail to Show that Illinois EPA's Decision to Accept the SO₂ Modeling Was Clearly Erroneous (Murray).

²¹⁷ [See also, Respondent's Exhibit 5, Modeling Addendum No. 2 at pages 8-9; Appendix D to Appendix D, Spreadsheet 3 from 1989 24-hour SO₂ culpability analysis from Prairie State Generating Station; see also, Respondent's Exhibit 15, pages 15-19; see also, Petitioners' Exhibit 12, Response to Comment No. 271; see also, Respondent's Exhibit 4, pages C.51-C.53].

Petitioners find fault with the emission rate that Prairie State employed for the small coal-fired boilers used at the Warren G. Murray Developmental Center (Murray) in certain 24-hour SO₂ modeling. Contrary to Petitioners' assertion, Murray's permitted 1-hour SO₂ limit, had no bearing on the 24-hour SO₂ modeling because this source, which is located almost 35 miles away from the site of the proposed plant, ultimately was screened from the analysis. Given such facts, the EAB should decline consideration of this issue.

As discussed in Sections N and O, and as documented by the Administrative Record, the Illinois EPA possessed familiarity with Prairie State's SO₂ culpability analysis through its review of the modeling information submitted by Prairie State. Of significance to the instant discussion, the NAAQS modeling was based upon an emissions inventory developed through consultation between Prairie State, the Illinois EPA and other states. [See, Respondent's Exhibit 5, Modeling Addendum No. 2 at page 5; see also, Respondent's Exhibit 4, pages C.31-C.36]. For SO₂, Prairie State opted to utilize the same inventory for short-term and long-term modeling. The inventory extended 50 km beyond the designated short-term significant impact area and thus, included sources within 100 km of Prairie State. [See, Petitioners' Exhibit 12, Response to Comment No. 279].

Particular to the Murray Developmental Center, in electronic mail dated November 18, 2003, the Illinois EPA provided the SO₂ emission rates and gas exit velocities for the boilers at this facility to Prairie State's consultant. [See, Petitioners' Exhibit 4, Exhibit 3, Email from Jeff Sprague to Dwain Kincaid, dated November 18, 2003]. In its efforts to develop a short term (24-hour average) SO₂ emission rate that would not result in a significant contribution by Prairie State to a modeled NAAQS exceedance, in December 2003, Prairie State submitted NAAQS modeling results based on different scenarios for SO₂ emissions from its proposed boilers (i.e.,

0.51, 0.47, 0.44, 0.41 lbs/mmBtu). Based on the various refined runs, Prairie State concluded that it would not significantly contribute to the predicted 3-hour SO₂ NAAQS exceedances. However, based upon an emission scenario of 0.51 lbs/mmBtu, various receptors and times showed that the proposed plant would significantly contribute to modeled exceedances of the 24-hour SO₂ NAAQS. Due to these modeled exceedances, Prairie State scaled the "modeled emission rate by the ratio of the SIL and the originally modeled impact" to arrive at the maximum compliant emission rate, 0.42 lbs/mmBtu. [See, Respondent's Exhibit 43, pages 2-7]. While this is the 24-hour SO₂ emission rate proposed by Prairie State, the permit not only requires the boilers at the proposed plant to initially meet the 3,126 lb/hour, daily average (0.42 lbs/mmBtu) but within 12 to 24 months after initial boiler startup, the 24-hour SO₂ emission rate shall not exceed 2,450 lb/hour, daily average, equivalent to 0.33lbs/mmBtu. [See, Petitioners' Exhibit 1, Unit-Specific Condition 2.1.7(a)].

In response to public comments, changes were ultimately made to the modeling input to correct the anemometer height for the St. Louis Lambert Field surface station and to make inventory corrections. Corrected emission rates from the units at Murray were based upon information contained within the Illinois EPA's statewide emission inventory database. [See, Petitioners' Exhibit 12, Response to Comment No. 271]. The establishment of the inventory is a highly technical process; in such context, the EAB has routinely afforded deference to the permitting authority. *In re Indeck-Niles, L.L.C.*, PSD Appeal No. 02-03, slip op. at 18 (EAB, March 11, 2002) (recognizing that the appropriate location for mixing height data is highly technical and the EAB typically defers to the permit issuer on those issues that depend on the permit issuer's technical expertise). At this juncture, the Illinois EPA deemed the modeling inventories complete. *See, Appalachian Power Company v. EPA*, 135 F.3d 791, 802 (D.C. Cir.

1998) (“It is only when the model bears no rational relationship to the characteristics of the data to which it is applied that we will hold that the use of the model was arbitrary and capricious.”).

Consistent with established modeling, the Illinois EPA routinely allows sources to be removed from the modeling inventory if they will not meaningfully affect the NAAQS compliance demonstration. Toward this end, it is customary to “screen” sources based on the Q=10D method (10D) that considers the annual tonnage of a particular pollutant emitted by the source of interest, in this instance Murray, and the distance between that source and the applicant’s proposed project.²¹⁸ [See, Respondent’s Exhibit 76 (Electronic mail from Matt Will, IEPA, to Kyle Lucas, Black & Veatch, dated July 10, 2001) (Certified Index No. 353)]. Based on discussions between Prairie State and the Illinois EPA, the 10D analysis was conservatively modified to include all sources located within the significant impact area regardless of whether they could be excluded through the 10D analysis. In addition, for “short-term modeling, the variable ‘D’ was determined by calculating the distance from the source to PSGS [and] [f]or the long-term modeling, ‘D’ was determined by calculating the distance from the source to the SIA perimeter.”²¹⁹ [See, Respondent’s Exhibit 5, Modeling Addendum No. 2].

In this case, Prairie State’s 10D analysis showed that emissions from Murray would not be significant thereby eliminating Murray from the short-term (3-hour and 24-hour) modeling for SO₂. [See, Respondent’s Exhibit 5, Modeling Addendum No. 2, Appendix A to Appendix D, Spreadsheet from SO₂ 10D analysis from Prairie State Generating Station; see also,

²¹⁸ In the October 2002 Application, Prairie State discussed the 10D [sic] rule compared to the USEPA’s similar 20D rule concluding that the Illinois EPA’s 10D rule is more conservative due to the smaller multiplier. Due to Illinois EPA’s smaller multiplier, more sources are included in the full impact analysis compared to USEPA’s 20D rule. [See, Petitioners’ Exhibit 27, pages 6-25 to 6-26, fn.15; see also, 57 Fed. Reg. 8,077 (March 6, 1992) (recognizing the USEPA’s 20D rule)].

²¹⁹ Based on the Illinois EPA’s review of public comments, comments were not provided on the 10D analysis.

Petitioners' Exhibit 12, Response to Comment No. 271]. Notwithstanding, Petitioners' argument that Prairie State utilized the wrong one-hour average SO₂ emission rate in the NAAQS analysis, Petitioners' argument is unconvincing in light of the results of the 10D analysis. As Murray was screened from the NAAQS analysis based on its annual emissions and the distance between it and Prairie State, Petitioners' argument that Prairie State utilized the wrong one-hour average SO₂ emission rate in the NAAQS analysis is simply not relevant.²²⁰ See, *Appalachian Power Company, et al. v. Environmental Protection Agency*, 135 F.3d 791, 802 (D.C. Cir. 1998) ("It is only when the model bears no rational relationship to the characteristics of the data to which it is applied that we will hold that the use of the model was arbitrary and capricious"); see also, *Hawaiian Electric Company, Inc. v. United States Environmental Protection Agency*, 723 F.2d 1440, 1446 (9th Cir. 1984) (recognizing discretion afforded to agency when applying modeling results). In view of the Illinois EPA's considered judgment on modeling issues, the EAB should decline consideration of this issue.

Q. Petitioners Fail to Show that the Illinois EPA's Decision to Accept the Additional Impact Analysis Was Clearly Erroneous.

Petitioners claim that the Illinois EPA inappropriately accepted the one-hour ozone standard²²¹ in lieu of the soils and vegetation additional impacts analyses dictated by 40 C.F.R. § 52.21(o).²²² According to Petitioners, the assessment performed by Prairie State and reviewed

²²⁰ As discussed in Sections N and O of the Response, the modeling demonstrated that emissions from Prairie State would not cause or contribute to an exceedance of the short-term SO₂ NAAQS.

²²¹ In addition, Petitioners raise the argument that the soils and vegetation analysis was clearly erroneous because it was based on the 1-hour ozone NAAQS rather than the new 8-hour ozone NAAQS.

²²² When the regulations pertaining to the additional impact analysis were originally promulgated, the USEPA focused on the impact to Class I areas. "Where there would be no Class I impacts, impacts elsewhere may affect the BACT determination, but would typically not have a significant bearing on the final approval decision. The impact assessment should generally be qualitative in nature and designed to inform the general public of the relative impact of the source on [air quality related values]." 43 Fed. Reg. 26,379, 26,403 (June 19, 1978).

by the Illinois EPA was inadequate, thereby necessitating what it characterized as an “appropriate analysis of ozone impacts on vegetation.” [See, *Petition at page 100*]. Petitioners’ argument is a “repackaging” of their earlier argument pertaining to the adequacy of the ozone NAAQS compliance demonstration. [See, *Petition at page 39*]. Despite the redundancy in their assertions, the Respondent must respond, but nevertheless will attempt to minimize the repetition in its response.

Petitioners are mistaken in their allegations that the soils and vegetation analysis was flawed. Further, some of their allegations were not preserved for appeal, or if previously raised during the public comment period, Petitioners neglect to explain how the Illinois EPA’s response was clearly erroneous or otherwise warrants review. Many of their assertions are loosely made and unsubstantiated, thus warranting the EAB’s review as to whether some portions of Petitioners’ arguments are procedurally viable. To the extent that the EAB wishes to reach the merits of the issue, the Administrative Record provides ample support for the Illinois EPA’s decision regarding the adequacy of the additional impact analysis.

1. Petitioners’ argument fails to satisfy the EAB’s procedural requirements for obtaining review.

This argument has not been preserved for appeal. Based on the Illinois EPA’s review of the hearing transcript and various written comments, the merits of the soils and vegetation analysis have been addressed by the Illinois EPA in the response to public comments. The Illinois EPA responded, at some length, to the aforementioned concerns in its *Responsiveness Summary*.²²³ In responding to this issue, the Illinois EPA stated that the ozone air quality standard serves as both a primary and secondary standard that is protective of public welfare

²²³ [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 297-303*.]

(plants, animals and soils) and of human health.²²⁴ See, *In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 130 (EAB 1997) (denial of review of additional impact analysis due, in part, because “emissions from the plant would be ‘well below’ state and national ambient air quality standards, including the secondary NAAQS, which are intended to prevent adverse impacts to the public welfare, including impacts on soils and vegetation”). In addition, the modeling analysis demonstrated that the 1-hour ozone standard would be met and that the proposed plant would not threaten vegetation compared to the 8-hour ozone standard.²²⁵

As evidenced by the *Responsiveness Summary*, the Illinois EPA considered the 8-hour ozone standard in its additional impact analysis.²²⁶ In particular, the Illinois EPA recognized that:

While this modeling focused on the 1-hour ozone standard, consistent with guidance from USEPA, it also provides relevant insight on the impact of new power plant project on the 8-hour ozone standard. This is because modeling also identified grid cells during each day of the selected ozone episodes in which the base concentration of ozone was above 80 ppb in any hour. For this purpose, this modeling is very conservative, overstating the identified changes in ozone levels, as they reflect 1-hour impacts, rather than 8-hour average impacts. . .

[See, *Petitioners’ Exhibit 12, Response to Comment No. 294, citing Assessing the Impact of the St. Louis Ozone Attainment Demonstration from Proposed Electrical Generating Units in*

²²⁴ [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 297, 299*]; see also, 42 U.S.C. §7409(b) (NAAQS are set at levels designed to protect public health and welfare); see also, 40 C.F.R. §50.2 (NAAQS are set at levels designed to protect public health). While Petitioners cite to *Hawaiian Electric Company v. EPA* for the statement that “Congress repeatedly emphasized that NAAQS alone were insufficient to protect public health and welfare,” Petitioners inappropriately frame the reference of this quote. See, *Petition at page 99, citing Hawaiian Electric Company v. EPA*, 723 F. 2d 1440, 1446-47 (9th Cir. 1984). The Ninth Circuit made such a statement in support of the permitting agency’s ability to require the installation of BACT on pollution-increasing sources. [*Id. at 1447*]. In this context, it is clear that the Illinois EPA acted no different than the USEPA in *Hawaiian Electric* by requiring control technology deemed to be BACT and thus, protective of the NAAQS.

²²⁵ [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 294, 297, 299*].

²²⁶ [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 294, 299*].

Illinois]. The Illinois EPA concluded that the proposed plant would not threaten the 8-hour ozone standard, stating “the proposed plant would not have a significant impact on ozone levels.” [Id.]. Among other things, the Illinois EPA found that no evidence had emerged as part of the permit review to warrant a finding that soils, vegetation or visibility would be impaired.²²⁷ With respect to pollutants other than ozone, the Illinois EPA cited to the evaluation performed by Prairie State indicating that pollutant concentrations would be measurably below the screening levels developed by USEPA to protect the most sensitive species of vegetation.²²⁸ Additionally, several documents or informational references relating to the additional impact analysis were made a part of the Administrative Record compiled by the Illinois EPA in this proceeding. Those documents that were considered by the Illinois EPA during the permit review process are contained within footnote 229.²²⁹ The Administrative Record verifies that the Illinois EPA possessed a broad familiarity with the additional impacts analysis conducted by Prairie State.

Petitioners have made no effort to articulate how the *Responsiveness Summary* failed to respond to the public’s concerns regarding the use of the ozone standard as another approach to the soils and vegetation analysis. See, *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764,

²²⁷ [See, *Petitioners’ Exhibit 12, Response to Comment Nos. 297 - 303*].

²²⁸ [See, *Petitioners’ Exhibit 12, Response to Comment No. 297*]. In addition, the Illinois EPA noted that Prairie State performed a separate assessment to assist the Illinois EPA and USEPA in conducting an endangered and threatened species consultation. The Screening Level Ecological Risk Assessment (“SLERA”) evaluated impacts of certain compounds of ecological concern to threatened and endangered species, their habitats and Illinois Natural History Area sites. Based on the foregoing, the Illinois EPA concluded that the “potential for long-term adverse effects on habitats or for chronic health effects on species was determined to be unlikely.” [See, *Petitioners’ Exhibit 12, Response to Comment No. 298*].

²²⁹[See, *Petitioners’ Exhibit 27*; see also, *Respondent’s Exhibits 43, 54, 69*; see also, *Respondent’s Exhibit 77 (Letter from Dianna Tickner to Mr. Chris Romaine regarding Additional Information in Support of Previously Submitted Additional Impact Analysis of Growth and Visibility Impacts, dated June 18, 2004, and attachments)*; see also, *Respondent’s Exhibit 78 (Letter from Dianna Tickner to Mr. Chris Romaine regarding Lead & Beryllium Emissions, dated June 18, 2004, and attachments)*; see also, *Respondent’s Exhibit 79 (Letter from Dianna Tickner to Jeffrey Sprague, Air Quality Planning Section, Illinois EPA, regarding additional impact analysis, dated January 7, 2005 [sic] and attachments)*].

769 (EAB 1997), citing *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995). (“[i]n order to establish that review of a permit is warranted, §124.19(a) requires a petitioner to both state the objections to the permit that are being raised for review, and to explain why the permit decision maker’s previous response to those objections (i.e., the decision maker’s basis for the decision) is clearly erroneous or otherwise warrants review.”). It is not sufficient for the petitioner to simply repeat objections previously articulated during the public comment period. See, *In re Knauf Fiber Glass, GMBH*, 9 E.A.D. 1, 5 (EAB 2000). The petitioner must demonstrate that the permitting authority’s response to comments was inadequate. See, *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997).

Nothing presented by the Petitioners in their argument on appeal refutes the Illinois EPA’s position identified in the *Responsiveness Summary*. Rather, Petitioners essentially cite verbatim the comments raised during the public comment period in their Petition for Review. In both, Petitioners state that the soils and vegetation impact analysis for ozone was inappropriately based on the 1-hour ozone NAAQS rather than the 8-hour ozone NAAQS. [See, *Petition at pages 99-100; see also, Petitioners’ Exhibit 12, Response to Comment No. 299*]. Further, in both, Petitioners voice concerns that Prairie State inappropriately relied upon USEPA’s 1980 guidance document stating “sensitive plants are susceptible to ozone damage at 0.06 ppm over an 8-hour period, i.e., 25 percent lower than the current 8-hour NAAQS of 0.08.” [See, *Petition at page 100, citing Ukelley Comments, Petitioners’ Exhibit 4 (Ex. 11 at 11, 14 & Ex. 13 at 2)*]. Additionally, both the public comments and the Petition specifically rely upon the 2002 *IEPA Annual Air Quality Report* in support of the assertion that the Illinois EPA recently concluded “[a]dverse effects on sensitive vegetation have been observed from exposure to photochemical oxidant concentrations of about 100 µg/m³ (0.05 ppm) for 4 hours.” [See, *Petition at page 100,*

citing 2002 Annual Air Quality Report at 1; see also, *Petitioners' Exhibit 12, Response to Comment No. 299*].²³⁰ Nowhere in either public comment or the Petition is there an articulated basis for their argument in support of review except for a passing reference to the 8-hour ozone standard. The latter argument does not begin to address the merits of the Illinois EPA's consideration of the 8-hour ozone standard.²³¹ Moreover, nothing in Petitioners' comments puts forth an alternative methodology or criteria by which to evaluate the potential impacts of the proposed plant on vegetation. In the absence of a rationale, Petitioners have merely restated the issue that was raised in the proceedings below and therefore fail to satisfy the EAB's procedural requirements for obtaining review. See, *In re Kendall New Century Development*, PSD Appeal No. 03-01, slip op. at 14, 16-17, 19 (EAB April 29, 2003).

2. Petitioners fail to show that the Illinois EPA's decision regarding this issue was clearly erroneous or otherwise merits review.

Petitioners state that "Peabody submitted an additional impact analysis that simply concluded that a soils and vegetation additional impact analysis need only look at whether the source will cause or contribute to a violation of the ozone NAAQS." [See, *Petition at page 98*]. This mischaracterization of Prairie State's additional impact analysis allows the Petitioners to present the novel argument that the Illinois EPA's interpretation of the soils and vegetation analysis in 40 C.F.R. §52.21(o) is redundant with the requirements in 40 C.F.R. §52.21(k) (i.e., proposed source must demonstrate that it will not cause or contribute to a NAAQS violation). Apart from raising a new legal argument for the first time on appeal, Petitioners fundamentally

²³⁰ This statement was made in introductory material provided in an air quality report prepared by the Illinois EPA on an annual basis to present ambient air quality data collected by the Illinois EPA's monitoring work. As such, this statement lacks any particular relevance to the proposed project. Rather, it is best characterized as a broad acknowledgement that ambient ozone can affect vegetation.

²³¹ [See, *Response to Petition, Section F*; see also, *Petitioners' Exhibit 12, Response to Comment No. 294*].

misrepresent both the regulatory provision at issue and the additional impact analysis performed by Prairie State.

Section 52.21 (o)(1) requires the owner or operator of a new source or modification to conduct “an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source.” *See*, 40 C.F.R. §52.21(o)(1). The PSD regulations do not identify the preferred means or methods for performing the soils and vegetation analysis nor do they provide criteria against which any potential impacts are to be evaluated. *Cf.*, *Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 156-157 (EAB 1999) (PSD regulations do not delineate how the visibility analysis must be conducted or define what constitutes visibility impairment). USEPA’s *NSR Workshop Manual* offers only limited insight into the desired nature of the evaluation or its corresponding level of detail. [*See, Respondent’s Exhibit 4, pages D.1 through D.12*]. The guidance document cites to several references for permit applicants and regulators to consider but it does not endorse any particular methodology. [*Id. at D.5*]. Perhaps the most illustrative comment from the guidance provides that “[f]or most types of soils and vegetation, ambient concentrations of criteria pollutants below the secondary national ambient air quality standards will not result in harmful effects.” [*Id.*]. The EAB has previously affirmed an applicant’s consideration of secondary NAAQS in its additional impact analysis. *See, In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 130 (EAB 1997) (denial of review where Petitioners failed to show existence of sensitive plant species that would be harmed by exposure to pollutants existing at levels below the secondary NAAQS).²³²

²³² EAB precedent and the *NSR Workshop Manual* affirm the application of surrogates. *See, In re Genesee Power*, 4 E.A.D. 832, 859-860 (EAB 1993) (approving the employment of CO emission compliance as a surrogate indicator of VOC emissions); *see also, In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 17-23 (EAB, June 21, 2005) (affirming the application of PM as a surrogate for PM₁₀ and PM₁₀ for PM_{2.5}); [*see also, Respondent’s Exhibit 4, pages H.6, I.6*] (recognizing use of surrogate parameter monitoring for continuous direct monitoring).

In this instance, the Illinois EPA not only considered whether the proposed plant will cause or contribute to a violation of the ozone NAAQS, but Prairie State performed its own evaluation of the impacts to visibility, soils and vegetation from the proposed plant. First, in recognition of the ozone air quality standard serving as both a primary and secondary standard that is protective of public welfare (plants, animals and soils) and of human health, the Illinois EPA conducted an analysis of ozone air quality impacts of new power plants, including the proposed Prairie State plant. As previously articulated, the NAAQS compliance demonstration showed that the 1-hour ozone standard would be met and that the proposed plant would not threaten vegetation compared to the 8-hour ozone standard.²³³

Turning to Prairie State's evaluation that was submitted to the Illinois EPA as part of the Air Quality Modeling Analysis in the permit application, this was based on guidance developed by the USEPA.²³⁴ The analysis contains a narrative discussion of the projected impacts on sensitive vegetation and soils, as well as several illustrations of their concentrations compared with various screening levels.²³⁵

²³³ [See *Response to Petition, Section F*; see also, *Petitioners' Exhibit 12, Response to Comment Nos. 294, 297, 299*]; see also, 42 U.S.C. §7409(b) (NAAQS are set at levels designed to protect public health and welfare); see also, 40 C.F.R. §50.2 (NAAQS are set at levels designed to protect public health).

²³⁴ [See, *Petitioners' Exhibit 27*; see also, *Respondent's Exhibit 24, 43, 54, 69, 77, 78, 79*].

²³⁵ To enhance the qualitative analysis, Prairie State also submitted a quantitative visibility analysis for a non-Class I area employing VISCREEN. [See, *Respondent's Exhibit 77*, attached VISCREEN ANALYSIS on the predicted emissions from the Prairie State Generating Station]. In *Knauf I*, the EAB summarized VISCREEN as follows:

A visibility analysis can involve three levels of screening. [New Source Review Workshop Manual at D.6, D.7]. Each level is more complex and site-specific than the previous. The Level 1 analysis typically utilizes the VISCREEN model and a large number of worst-case default values. Level 2 introduces more site-specific data into the VISCREEN model. A Level 3 analysis is the most detailed and requires special visibility models.

The guidance document relied upon by Prairie State was the *Screening Procedure* developed by USEPA's Office of Air Quality Planning and Standards in 1980 to provide guidance to state and local air pollution control agencies in implementing the PSD regulations.²³⁶ As evidenced in the document's introductory pages, the *Screening Procedure* was meant as a tool for air quality engineers to "screen" for PSD sources that might cause significant air quality impacts under the scrutiny of Section 52.21(o) or (p). *See*, 40 CFR §§ 52.21(o) or (p). The document is largely dedicated to the impacts of pollutants on soils and vegetation.

Nothing in USEPA's *Screening Procedure*, *NSR Workshop Manual* or other guidance suggests that a permit applicant or permitting authority cannot rely upon readily available information in performing the soils and vegetation analysis. The Illinois EPA does not read the PSD regulations or USEPA guidance to require further assessment under Section 52.21(o) where, as in this case, an impacts analysis has been presented by the applicant under an approved screening procedure and for which no contrary evidence has been presented. *See, Hawaiian Electric Company, Inc., v. United States Environmental Protection Agency*, 723 F.2d 1440, 1447 (9th Cir. 1984), *citing Whirlpool Corp. v. Marshall*, 445 U.S. 1, 11 (1980) ("Considerable deference is afforded to an agency's interpretation of a statute it administers"). Petitioners

In re Knauf Fiber Glass, GMBH, 8 E.A.D. 121, 157 (EAB 1999). Level I screening required the input of specified default assumptions; it predicted an exceedance of the screening criteria. *VISCREEN ANALYSIS on the predicted emissions from the Prairie State Generating Station, pages 1-3*. Prairie State subsequently performed the requisite Level 2 screening. [*Id.*]. The Level 2 screening allowed for the inclusion of the relevant meteorological conditions. As the Level 2 screening showed no exceedances, no further analysis was required. [*Id. at pages 3-8*]; *see also, In re Knauf Fiber Glass, GMBH*, 8 E.A.D. 121, 157 (EAB 1999) (While the Level 2 analysis predicted that visibility criteria would be exceeded, the VISCREEN analysis satisfied the requirement to analyze potential impairment to visibility. "The PSD regulations do not specify maximum impairment levels or other mandatory criteria for addressing visibility. This is one of the many determinations in the permitting process that are appropriately left to the reasoned judgment and expertise of the permitting authority. The record adequately documents the visibility analysis and provides a rationale conclusion regarding the results of that analysis").

²³⁶ [See, Respondent's Exhibit 80 (U.S. EPA's Office of Air Quality Planning & Standards, *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils and Animals, December 12, 1980*)].

therefore fail to show that the Illinois EPA's interpretation of the soil and vegetation analysis in 40 CFR §52.21(o) was in clear error.

The *Screening Procedure* attempts to identify the "minimum" concentration levels of pollutants at which impairment has been reported through the available literature, and, to a lesser extent, specific source studies. These concentration levels, expressed in terms of their impact on the ambient air, soils or aerial plant tissues, are compared with the maximum ambient concentrations that may be caused by the source. If any values exceed the screening concentrations, then the impacts from the source may be considered adverse to soils and vegetation and therefore require further detailed analysis or other action in accordance with Section 52.21(o) or (p).

The initial step in the *Screening Procedure* is an estimation of the maximum ambient concentration of pollutants emitted by the new source, an analysis typically determined through air quality modeling which identifies source-specific concentration estimates. As previously discussed, the necessary air quality modeling was performed for the proposed plant for various pollutants other than ozone in accordance with the PSD regulations. The maximum ambient concentrations derived from the air quality modeling analyses are then, compared with screening concentrations for ambient exposures to vegetation.²³⁷ The *Screening Procedure* provides that the "vegetative impact review can be done along with the review for NAAQS and PSD

²³⁷ The screening concentrations are found at Table 3.1 of the guidance document and reflect the minimum concentration levels at which impairment (i.e., effects from adverse growth or tissue injury) was reported in vegetation from exposure to certain gaseous pollutants (i.e., a list of seven gaseous pollutants are identified; the guidance document indicates that data for other gaseous pollutants was not included because of incomplete data (i.e., lack of averaging times)). [See, *Respondent's Exhibit 80*]. Pollutant sensitivities of plant species are also indicated from the table. Separate values are designated for sensitive, intermediate and resistant plants and a listing of each of the categories is referenced in Appendix B to the guidance document.

increments.” [See, Respondent’s Exhibit 80 at page 15] Prairie State performed its soils and vegetation analysis in the same manner.²³⁸

The deposition of trace elements in the soil is calculated and the amount by which those elements are taken up into plant tissues is evaluated.²³⁹ An additional step that can be employed in this analysis involves calculating the percentage increase in deposited soil concentrations over endogenous soil concentrations.²⁴⁰ Comparisons between the calculated concentrations and tabulated screening concentrations are then made to assess the potential vegetative impairments due to trace elements.²⁴¹ If comparative analyses reveal an exceedance of one of the applicable screening concentrations, the result is considered an indicator of potential adverse impacts to

²³⁸ In the December 9, 2003, submittal of *Addendum I, Short Terms SO₂ Modeling Results and Additional Impact Analysis*, Prairie State correctly noted that “NAAQS . . . are designed to protect public health and welfare, including the environmental effects, from any unknown or adverse effects of air pollution, including effects on vegetation.” [See, Respondent’s Exhibit 43, page 17]. Prairie State observed that no NAAQS or PSD increment exceedances were predicted for the power plant project. Prairie State compared the sensitive vegetation screening levels for SO₂ and NO_x with the predicted SO₂ and NO_x impacts from the new source. The results of this screening analysis revealed that the predicted maximum concentrations of SO₂ and NO_x would be below the minimum reported levels at which adverse effects to vegetation had been documented. [See, Respondent’s Exhibit 43, pages 16-18 and Table 7.2-1].

²³⁹ Deposited soil concentrations, which represent the maximum concentration of trace elements deposited in soil, are derived by an equation based on trace element concentrations at a depth of 3 centimeters, an assumed lifetime of 30 years for the proposed source and maximum annual average concentrations of trace elements from the source. [See, Respondent’s Exhibit 80, pages 35-36]. Tissue concentrations are estimated by multiplying the deposited soils concentration by plant: soil concentration ratios that are to be used in this analysis. [*Id.*, pages 22, 37-38].

²⁴⁰ Site-specific data or average endogenous concentrations identified from Table 3.5 of the guidance can be employed in making this assessment. A calculation resulting in a greater than 10 percent increase is an indication that further action may be necessary if the primary screening for deposited concentrations is violated. This component of the guidance is thus not a “primary decision parameter” but, rather, only an indicator.

²⁴¹ The deposited soil concentrations are compared to the screening concentrations for trace elements set forth in Table 3.4, which depicts the minimum reported concentrations for exposure to trace elements in both soil and plant tissue. [See, Respondent’s Exhibit 80, pages 17, 38-39]. The calculated tissue concentrations are compared to tissue concentrations from Table 3.4.

plant, soils or animals and the guidance suggests further review of the proposed new source.

[*Id.*, page 39].

Prairie State calculated both soil and plant tissue concentrations by employing the equations and plant: soil concentration ratios provided by the guidance, then compared them with the USEPA's recommended screening concentrations.²⁴² These analyses indicate that the proposed power plant would not cause any exceedance of those screening concentrations referenced in the guidance.

As evidenced by the final Construction Permit/ PSD Approval, the Illinois EPA ultimately concluded that Prairie State had satisfied all of the applicable requirements of the PSD regulations. [See, *Petitioners' Exhibit 1*]. This determination, in part, rests the NAAQS compliance demonstration evincing that the proposed plant would meet both the 1-hour and 8-hour ozone standards. It is further grounded in the belief that Prairie State's additional impact analysis was both credible and sufficiently thorough.²⁴³ The Illinois EPA, in the administration of its delegated permit authority, has routinely accepted the use of *USEPA's Screening Procedure* for assessing impacts to soils and vegetation under the PSD program. While the guidance document may be somewhat dated and was not explicitly mentioned by the USEPA in

²⁴² Prairie State compared the impacts on the soils from HAPs to the levels set forth in Table 3.4 of the U.S. EPA's Office of Air Quality Planning and Standards, *Screening Procedure*, pages 17; 38-39. In each instance, the modeled effect was less than the applicable screening concentration. Because none of the primary screening concentrations were exceeded, no further action was triggered under the *Screening Procedure*. [See, *Respondent's Exhibit 43, Addendum I, Short Term Modeling Results and Additional Impact Analysis*, §7.3, pages 22-25, Tables 7.3-1 and 7.3-2; see also, *Respondent's Exhibit 69*; see also, *Respondent's Exhibit 78* (showing that the predicted lead and beryllium impacts are less than the screening values employed in the additional impact analysis); see also, *Respondent's Exhibit 54*; see also, *Respondent's Exhibit 79*].

²⁴³ Arguably, Prairie State's additional impact analysis includes the ecological risk assessment that was described in the SLERA submitted on April 16, 2004. The SLERA concluded that emissions from Prairie State should not cause adverse impacts to any threatened or endangered species.

the later-published *NSR Workshop Manual*, its methodology is similar in many ways to the other publications referenced therein.

Despite the foregoing evaluation, Petitioners denounce the additional impact analysis as inappropriate due to its consideration of the 1-hour ozone NAAQS rather than the more recent 8-hour ozone standard. [*See, Petition at pages 99-100*]. Although not completely clear, Petitioners also seem to suggest that a consideration of the 8-hour ozone standard is not entirely appropriate concluding that Prairie State should be required to perform a yet-to-be identified analysis of the ozone impacts on vegetation. [*Id.*]. In particular, Petitioners complain that the guidance document relied upon by Prairie State suggests “that sensitive plants are susceptible to ozone damage at 0.06 ppm over an 8-hour period, ie., 25 percent lower than the current 8-hour NAAQS of 0.08” and that the *2002 IEPA Annual Air Quality Report* asserts that adverse impacts on sensitive vegetation have been noted from exposure to photochemical oxidant concentrations of approximately 0.05 ppm for 4 hours. [*See, Petition at page 100*].

As NAAQS are set at levels designed to protect public health and welfare, the recent designation of the 8-hour ozone NAAQS at 0.08 ppm indicates that Petitioners’ concerns are not also held by the USEPA. Nor do Petitioners’ statements address potential source impacts from Prairie State. Rather, Petitioners articulate concerns about the impacts to sensitive plants from ambient ozone. In so doing, Petitioners have failed to substantiate the argument; Petitioners have not shown that the Illinois EPA’s analysis of ozone air quality impacts or its decision to accept Prairie State’s soils and vegetation analysis was clearly erroneous for the reason alleged. Something more than an isolated reference to an air quality report discussing ambient ozone levels rather than the particular source’s impacts should be required for a petitioner to meet its burden of proof in a PSD permit appeal. *Cf., In re Avon Custom Mixing Services, Inc.*, 10

E.A.D. 700, 708 (EAB 2002). In view of the Illinois EPA's considered judgment on the general issue of ozone air quality, as well as its relevance to the additional impacts analysis, the EAB should refrain from granting review of this issue. Apart from restating obvious facts or selected references from the public comments, Petitioners do not substantiate their argument. [*Id.*]. Moreover, Petitioners clearly do not show why the Illinois EPA has acted in a way that constitutes clear error.

R. The Modeling Appropriately Utilized the BACT NO_x Emission Rate in the 1-Hour Ozone Demonstration.

Petitioners argue that Illinois EPA erred in its modeling by employing the wrong NO_x emission rate for Prairie State's 1-hour ozone compliance demonstration. Relying only upon a recommendation contained in 40 CFR Part 51, Appendix W, Table 9-2,²⁴⁴ the Petitioners advance the position that the compliance demonstration for the 1-hour ozone standard should be based upon the federally enforceable 24-hour NO_x limit (short-term or maximum daily emission rate) rather than the federally enforceable NO_x BACT limit (average actual emissions). In making such an argument, Petitioners ignore both the definition of allowable emissions²⁴⁵ and that while Table 9-2 suggests that the maximum allowable emission limit may be used as one possible input for compliance demonstrations, an alternative input is the federally enforceable permit limit. See, 40 CFR Part 51, Appendix W, Table 9-2. Moreover, Petitioners fail not only to acknowledge the discretion possessed by the permitting authority in its highly technical modeling decisions but to consider relevant legal directives and USEPA directives addressing ozone photochemistry as it relates to the modeling typically employed in 1-hour ozone attainment demonstrations.

²⁴⁴ While Petitioners cite to 40 CFR Part 52, Appendix W, Table 9-2 on page 101 of their Petition, they presumably meant to cite to 40 CFR Part 51, Appendix W, Table 9-2.

²⁴⁵ 40 CFR §52.21(16).

1. Petitioners' argument fails to satisfy the EAB's procedural requirements for obtaining review.

Based on the Illinois EPA's review of public comments and the *Responsiveness*

Summary, the Petitioners have simply repeated earlier public comments paying no heed to the Illinois EPA's response. The discussions found in Count XVIII of the Petition and Comment No. 290 are practically identical, each stating that the 1-hour ozone modeling was inappropriately based on the BACT NO_x emission rate (0.08 lbs/mmBtu and 14.47 tons per day) for Prairie State concluding that the short-term limit (24-hour NO_x limit of 893 lbs/hr) should be used for modeling short term impacts. [See, *Petition at pages 100-101*; see also, *Petitioners' Exhibit 12, Response to Comment No. 290*]. Petitioners make no mention of the Illinois EPA's response to comments explaining that it selected a conservative approach that allowed a comparison between the modeled impacts from Prairie State to the earlier 1-hour ozone attainment demonstration for the Metro-East/ St. Louis area. In the previous attainment demonstration, the Illinois EPA used representations of the average actual emissions of ozone precursors, rather than the maximum daily emission limits as suggested by Petitioners. [See, *Petitioners' Exhibit 12, Response to Comment No. 290*]. Petitioners have failed to explain why the Illinois EPA's decision to employ the federally enforceable permit limit, the BACT NO_x emission rate, for the 1-hour ozone modeling was not within the Illinois EPA's discretion or, for that matter, sufficient to confirm that the proposed plant would not cause or contribute to a violation of the 1-hour ozone standard, particularly in the Metro-East/St. Louis area.

In the absence of a rationale, Petitioners have merely restated the issue that was raised in the proceedings below and therefore fail to satisfy the EAB's procedural requirements for obtaining review. "In order to establish that review of a permit is warranted, §124.19(a) requires a petitioner to both state the objections to the permit that are being raised for review, and to

explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review." *In re Commonwealth Chesapeake Corp.*, 6 E.A.D. 764, 769 (EAB 1997) citing, *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 866 (EAB 1993). A petitioner may not simply repeat objections previously made during the public comment period. See, *In re Knauf Fiber Glass, GMBH*, 9 E.A.D. 1, 5 (EAB 2000), citing *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999); *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 251-252 (EAB 1999). The burden is on the petitioner to establish that the permit issuer's response to comments was inadequate. *In re GMC Delco Remy*, 7 E.A.D. 136, 141, fn. 14 (EAB 1997). As EAB's review "should be only sparingly exercised" and "most permit conditions should be finally determined at the [permitting authority] level," the EAB should decline consideration of this matter on procedural grounds alone. *In re Knauf Fiber Glass, GmBh*, 8 E.A.D. 121, 127 (EAB 1999) (quoting 45 Fed. Reg. 33, 290, 33, 412 (May 19, 1980)).

2. Petitioners fail to show that the Illinois EPA's decision regarding this issue was clearly erroneous or otherwise merits review.

It is commonly understood that ozone is produced over time by photochemical reactions when sunlight reacts with precursor compounds such as nitrogen oxides and volatile organic compounds in the atmosphere. The inherent nature of ozone's formation thereby differs from the emission of criteria pollutants, such as SO₂ and CO, which are directly emitted from a pollution source. Based on the manner that a pollutant arrives in the atmosphere (formation in the atmosphere vs. direct emissions), different modeling approaches must be used, with significantly more complex approaches used for pollutants that form in the atmosphere. The USEPA generally recommends photochemical grid models to evaluate the relationships between

precursor compounds and ozone in an entire urban area for SIP demonstrations, rather than emissions and air quality impacts from individual sources. *See*, 40 CFR Part 51, Appendix W, §6.2.1. As a matter of practice, the Illinois EPA routinely employs photochemical grid modeling, the Urban Airshed Model (“UAM”), because it has generally been found to be well suited for urban areas that experience exceedances of the ozone NAAQS. [*See also*, *Respondent’s Exhibit 81 (Environmental Protection Agency, 1991. Guideline for Regulatory Application of the Urban Airshed Model, EPA Publication No. EPA-450/4-91-013, U.S. Environmental Protection Agency, Research Triangle Park, NC)*].

The emission inventory for ozone models such as the Urban Airshed Model typically makes use of representative data for actual emissions from all sources rather than the maximum daily emissions. *See*, Clean Air Act §§182(a)(1) & 182(b) (directing that the inventory for ozone nonattainment plans be based on the actual emissions from all sources); *see also*, Clean Air Act §182(a)(3)(B) (directing that stationary sources of NO_x or VOC provide the State with a statement delineating the actual emissions of NO_x and VOC from that particular source for periodic emission inventories). USEPA guidance also states that actual conditions existing during the peak ozone season are key to the emissions inventory. [*See, Respondent’s Exhibit 82, page 10 (Environmental Protection Agency, 1991. Emission Inventory Requirements for Ozone State Implementation Plans, EPA Publication No. EPA-450/4-91-010, U.S. Environmental Protection Agency, Research Triangle Park, NC)*] (“The CAAA require that the base year inventory be a comprehensive, accurate, and current inventory of actual emissions in the nonattainment area. . . emissions are to be based on conditions that exist during the peak ozone season . . . [i]ndustrial activity, population, VMT, etc. and emissions must represent a typical

peak ozone season weekday for the base year 1990”);²⁴⁶ *see also, Id. at page 35* (“periodic inventories shall be based on actual emissions and shall cover VOC and NO_x emission sources”); *see also, Respondent’s Exhibit 83 (USEPA Supplemental Guidance Emission and Modeling Related Issues, Subject: Issues Associated with the 1990 Base Year Emission Inventory and Modeling (Bill Laxton’s Memorandum dated December 26, 1991)* (responding to an inquiry regarding the types of emission inventories required for the 1990 base year, the USEPA indicated that states were required to submit a 1990 “peak ozone season typical day actual inventory” for the SIP submittal)]. In line with these directives, the *Guideline for Regulatory Application of the Urban Airshed Model* indicates that the starting point for the Urban Airshed Model’s emission inventory is the Clean Air Act’s 1990 SIP nonattainment base year inventory. [See, *Respondent’s Exhibit 81 at pages 31-32*].

Consistent therewith, subsequent to the adoption of the Clean Air Act Amendments of 1990, Illinois and Missouri undertook an effort to demonstrate ozone attainment for the Metro-East/ St. Louis area based upon an application of the Urban Airshed Model. While Illinois and Missouri submitted attainment demonstrations in 1994, the modeling showed that significant amounts of ozone attributable to upwind sources were transported into the St. Louis area. In 2000, Illinois and Missouri submitted revised attainment demonstrations and in June 2001, the USEPA approved the demonstrations and thereby validated Illinois’ modeling approach. Subsequent to the USEPA’s approval, the Illinois EPA received several applications for new

²⁴⁶ “Typical ozone season day” is one in which activities “occur during the three-month period at which the highest ozone exceedances occur, averaged on a daily basis. For example, if during the summer weekdays of 1990 (Mondays-Fridays, June-August) a manufacturing process produces 12,000 tons of material, and this period includes 13 weeks, 5 operating days per week, then the average or “typical” ozone season day activity would be: $12,000 / (13 \times 5) = 185$ tons/day. This value would then be multiplied by the emission factor, control factor, and rule effectiveness factor, if applicable to calculate the typical ozone season day emissions.” [See, *Respondent’s Exhibit 82, page 13*].

electrical generating units (EGUs). As these units were not accounted for in the 2000 attainment demonstration, the Illinois EPA determined it was appropriate to evaluate the projected impacts from the proposed EGUs on the St. Louis attainment demonstration. In order to ensure a consistent comparison between the modeled impacts from the proposed EGUs including Prairie State to the earlier 1-hour ozone attainment demonstration for the Metro-East/ St. Louis area, the Illinois EPA performed a new set of photochemical modeling scenarios in the same manner as the previous attainment demonstration modeling.²⁴⁷ [See, Respondent's Exhibit 24].

As the emission inventory for the St. Louis ozone attainment demonstration was based on actual emissions, rather than maximum daily emissions, the Illinois EPA relied upon actual emissions from existing sources in its analysis to determine potential impacts from the proposed plant. Likewise, the Illinois EPA used a conservative representation of actual emissions from the proposed plant, average daily emissions based on the BACT limit, consistent with the data for the existing sources. It is difficult to envision how the Illinois EPA could have chosen a more reasonable approach especially in light of its efforts to evaluate and thereby, avoid any risk to the St. Louis ozone attainment demonstration. See, *Appalachian Power Company, et al. v. Environmental Protection Agency*, 135 F.3d 791, 802 (D.C. Cir. 1998) ("It is only when the model bears no rational relationship to the characteristics of the data to which it is applied that we will hold that the use of the model was arbitrary and capricious"); see also, *Hawaiian Electric Company, Inc. v. United States Environmental Protection Agency*, 723 F.2d 1440, 1446

²⁴⁷ In particular, the Illinois EPA "employed the same model, emissions, meteorological, and other inputs used in the attainment demonstration for the base simulation. The Urban Airshed Model, Version 1.24 (UAM-V) was used for photochemical modeling simulations." [See, Respondent's Exhibit 24 at page 3]. As detailed in the Respondent's Exhibit 24, emissions from the proposed EGUs including Prairie State were not expected to cause or contribute to a violation of 1-hour ozone NAAQS. [See, Respondent's Exhibit 24]. Nor should it be ignored that the Illinois EPA relied upon this same information, in part, to conclude that Prairie State will not cause or contribute to a violation of the 8-hour ozone NAAQS. [See, Response to Petition, Section F; see also, Petitioners' Exhibit 12, Response to Comment No. 294].

(9th Cir. 1984) (due to the highly technical nature of modeling, courts have recognized the need to afford deference to agency interpretation). Consistency of data is essential for photochemical modeling. However, to perform the analysis in the manner suggested by Petitioners would have created an inherent dichotomy, a comparison based upon actual emissions, in the first place, versus maximum daily emissions, in the second place, for the proposed EGUs.²⁴⁸ It would also have ignored the consequences of the BACT limit for NO_x, which applies as a 30-day average emission rate, for daily emissions of NO_x, in circumstances where the particular scenarios being evaluated for ozone air quality extend over multiple days.

Petitioners offer next to nothing in the way of justification or legal precedent to support their argument with the exception of directing the EAB's attention to one recommendation. *See*, 40 CFR Part 51, Appendix W, Table 9-2. Table 9-2 states that the maximum allowable emission limit may be used as one of two possible inputs for compliance demonstrations in addition to an alternative input, the "federally enforceable permit limit." [*Id.*]. Petitioners' argument suggests that the maximum allowable emission rate consists only of the federally enforceable short-term emission limit, the 24-hour NO_x limit of 893 lbs/hour rather than the federally enforceable NO_x BACT limit. [*See, Petition at page 100-101*]. However, the definition of "allowable emissions" evinces a contrary conclusion.

Allowable emissions means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

²⁴⁸ Petitioners' statements that the Illinois EPA should have modeled ozone impacts based on the permitted 24-hour NO_x limit of 893 lbs/hour for Prairie State suggests that, due to the multi-source nature of ozone modeling, the modeling must necessarily be based on the highest values for all modeled sources at all times. Such a conclusion is not dictated by the Clean Air Act or the recommended guidance. The substance of Petitioners' argument would necessarily overstate the ozone levels for any given region due to the simple reason that sources cannot continually emit at their maximum permitted rate and yet comply with their permitted BACT limit.

- (i) The applicable standards as set forth in 40 CFR parts 60 and 61;
- (ii) The applicable State Implementation Plan emissions limitation, including those with a future compliance date; or
- (iii) The emissions rate specified as a federally enforceable permit condition, including those with a future compliance date.

40 CFR § 52.21(b)(16). As evidenced by the final Construction Permit/PSD Approval and, in accordance with the Illinois EPA's permitting authority, the permit contains a multitude of federally enforceable limits and, of particular relevance here, the 24-hour NO_x limit and the NO_x BACT limit both constitute federally enforceable limits. In addition, both of these limits meet the definition of "allowable emissions." In this instance, the maximum allowable 24-hour NO_x limit is 893 lbs/hour and the maximum allowable NO_x BACT limit is 0.07lbs/mmBtu.²⁴⁹ In line with both of these recommendations in Table 9-2, the Illinois EPA had the option to utilize either the federally enforceable 24-hour NO_x limit or the NO_x BACT limit as its emission input for the NAAQS compliance demonstration.

The Illinois EPA's decision to utilize the federal enforceable NO_x BACT limit rather than the 24-hour NO_x limit is entirely appropriate, especially, in light of the discretion afforded to the permitting authority to make the appropriate modeling determination based on the specifics of the particular case. *See*, 40 CFR § 52.21(l)(2) ("where an air quality model specified in appendix W of part 51 of this chapter . . . is inappropriate, the model may be modified or another model substituted"). The Guideline on Air Quality Models (Part 51, Appendix W) has also recognized the need for case-by-case analysis, stating that:

It would be advantageous to categorize the various regulatory programs and to apply a designated model to each proposed source modeling analysis under a given program. However, the diversity of the nation's topography and climate,

²⁴⁹ At the time of the NAAQS compliance demonstration, the Illinois EPA utilized what it thought would be the federally enforceable permit limit; the modeling employed the BACT NO_x rate of 0.08lbs/mmBtu. To the extent that the BACT NO_x rate was ultimately set at 0.07lbs/mmBtu, it adds an additional element of conservatism to the analysis.

and variations in source configurations and operating characteristics dictate against a strict modeling “cookbook.” There is no one model capable of properly addressing all conceivable situations even within a broad category such as point sources. Meteorological phenomena associated with threats to air quality standards are rarely amenable to a single mathematical treatment; *thus, case-by-case analysis and judgment are frequently required.*

40 CFR Part 51, Appendix W, §1.0(c). While recognizing the ambition for “consistency in the selection and application of models and data bases,” the urge for consistency should not be elevated above “model and data base accuracy.” 40 CFR Part 51, Appendix W, §1.0(d); *see also*, 40 CFR Part 51, Appendix W, § 3.2.2(a) (indicating that the Regional Administrator determines the acceptability of a particular model).

Furthermore, Petitioners do not explain how their proposed analysis would be reconciled with the previous ozone attainment demonstration, notably, how the Illinois EPA would determine whether the proposed plant would impact St. Louis attainment when the Petitioners’ proposed analysis would be based on short-term emissions and the attainment demonstration was based on the actual emissions. To do as the Petitioners’ suggest would force the Illinois EPA to consider the inherent dichotomy typically associated with a comparison of apples to oranges, here, an emission inventory based on short-term emissions versus a second inventory based on actual emissions. In light of the Petitioners’ failure to address how these two analyses should be reconciled, there is no reason that the Illinois EPA should have been restricted to short-term emissions when the ozone attainment demonstration was specifically tailored to actual emissions.

In view of the Illinois EPA’s considered judgment on the general issue of ozone air quality, the EAB should refrain from granting review of this issue. The data inputs selected by the Illinois EPA for the 1-hour ozone compliance demonstration rationally relate to the manner in which the previous St. Louis ozone attainment demonstration was performed. Moreover, in view of the need for flexibility in modeling and the permitting authority’s considered judgment

on such highly technical matters, the permitting authority's modeling determinations are generally afforded great deference. A review of the modeling techniques and the applicable EPA guidance illustrate that the 1-hour ozone compliance demonstration is highly technical in nature. In such context, the EAB has routinely afforded deference to the permitting authority. *In re BP Cherry Point*, PSD Appeal No. 05-01, slip op. at 26-27 (EAB, June 21, 2005) *citing In re Carlota Copper Co.*, NPDES Appeal Nos. 00-23 & 02-06, slip op. at 22 (EAB, September 30, 2004); *accord In re Peabody W. Coal Co.*, CAA Appeal No. 04-01, slip op. at 16-17 (EAB, February 18, 2005); *In re City of Moscow*, 10 E.A.D. 135, 142 (EAB 2001) ("a petitioner seeking review of issues that are generally technical in nature bears a heavy burden because the Board generally defers to the [permitting authority] on questions of technical judgment"); *see also, In re Teck Cominco Alaska Incorporated, Red Dog Mine*, NPDES Appeal No. 03-09, slip op. at 22 (EAB, June 15, 2004). Petitioners have failed to show clear error in the Illinois EPA's handling and response to this issue, accordingly review should be denied.

S. The Illinois EPA's NO_x BACT Limit Represents BACT.

The Petitioners contend the Illinois EPA's BACT determination for NO_x is fatally flawed as the Illinois EPA failed to consider new NO_x emission data prior to its ultimate permit decision. Specifically, the Petitioners criticize the Illinois EPA for not reconsidering its NO_x BACT determination prior to final PSD approval to reflect a reasoned analysis of new data generated by the USEPA. Petitioners further contend that the Illinois EPA neglected to appropriately consider a report prepared by Matt Haber. Finally, Petitioners claim that the Illinois EPA ignored a proposed amendment to the New Source Performance Standards ("NSPS") for electric utility steam generating units.²⁵⁰ [*See, Petition at pages 103-105*]. Based

²⁵⁰ On February 28, 2005, the USEPA issued for public comment a proposed amendment to Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After

on the following, the EAB should decline review on procedural grounds, or in the alternative, the EAB should find that the Petitioners have not shown that the Illinois EPA's decision was clearly erroneous or otherwise warrants review.

1. The Illinois EPA properly considered available information when establishing BACT for NO_x emissions.

The Petitioners contend that during the Illinois EPA's reconsideration of its January 14, 2005 permit decision and comments received during the public comment process as directed by the Board in *In re Prairie State Generation Station*, PSD Appeal No. 05-02, 12 E.A.D. ____ (EAB 2005), the Illinois EPA failed to reconsider and revise its permit decision to reflect a BACT determination for the period January 14 through April 28, 2005. [*See, Petition at page 101*]. Petitioners argue that a BACT determination is not established until the final permit decision is issued. [*Id.*]. Petitioners' syllogize that as the Illinois EPA's permit decision establishes a NO_x BACT emission limit of 0.07 lb/mmBtu, and purportedly new data ascertained after the Board's decision suggests that a lower NO_x emission limit was achievable, the Illinois EPA failed to properly determine a NO_x BACT emission limit consistent with NO_x emission data available through April 28, 2005. [*See, Petition at pages 101-102*]. In support of their arguments, Petitioners' reference NO_x emission rates allegedly achieved at 18 generating units equal to or below 0.07 lb/mmBtu and a less stringent NO_x limit of 0.04 lb/mmBtu heat input contained within a proposed amendment to the NSPS for new electric utility steam generating units.²⁵¹

September 18, 1978; Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units; and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. 70 Fed. Reg. 9706 (February 28, 2005).

²⁵¹ On February 28, 2005, the USEPA issued for public comment a proposed amendment to Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978; Standards of Performance for Industrial-Commercial-Institutional Steam Generating

The mere fact that certain NO_x emission rate data for certain generating units equipped with SCR documents average NO_x emissions as low as 0.03 lb/mmBtu does not demonstrate the Illinois EPA's BACT determination is flawed. Petitioners' claims are unsubstantiated and fail to meet the Board's threshold requirements for obtaining review. Indeed, a proposed amendment to the NSPS for new electric steam generating units does not propose an emission rate of 0.04 NO_x lb/mmBtu heat input but when properly converted into lb NO_x/mmBtu is 0.10 or 0.11 lb/mmBtu, which is actually about 50 percent higher than the NO_x limit set as BACT for the proposed plant.

- a. **Petitioners' arguments concerning information generated by the USEPA relative to NO_x emission rates were not adequately raised during the public comment process.**

The public comment period in this matter began on February 4, 2004, with the issuance of a draft permit by the Illinois EPA and publication of the requisite notice affording public comment consistent with procedural requirements prescribed by the Board.²⁵² [*See, Petitioners' Exhibit 12 at page 4*]. After a public hearing, on March 22, 2004, the comment period was extended an additional five times by the Hearing Officer, during which Petitioners' representatives submitted numerous written comments, with the public comment period ultimately closing on August 27, 2004. [*Id.*]. The Illinois EPA issued a final permit decision on January 14, 2005.

Petitioners filed with the Board a petition seeking review of the Illinois EPA's permit decision. Among other things, Petitioners asserted the Illinois EPA erred when it issued a *Responsiveness Summary* after its final permit decision. The Board agreed ruling the Illinois EPA must reconsider and reissue a final permit decision, after giving appropriate consideration

Units; and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. 70 Fed. Reg. 9706 (February 28, 2005).

²⁵² Procedural rules for issuing, modifying, revoking, reissuing or terminating permits required by the PSD program are found at 40 CFR §124, *et. seq.*

to public comments, exercising its discretion consistent with the facts and the law. *In re Prairie State Generation Station*, PSD Appeal No. 05-02, slip op.at 7, 12 E.A.D. ____ (EAB 2005). Notably, the Board also ruled its decision did not require reopening of the public comment period. [*Id.*].

Initially, the Petitioners posit that as the Illinois EPA's NO_x BACT determination was not set until a final permit decision was issued on April 28, 2005, the Illinois EPA was required to reconsider and revise its BACT determination to reflect new information raised by Petitioners, after January 14, 2005, concerning more stringent NO_x emission rates. [*See, Petition at pages 101-102*]. Petitioners rely upon a previous decision by the Board ruling that the failure of a permitting authority to consider more stringent NSPS emission standards proposed during the intervening 15 month period between the close of public comment and the issuance of a final permit decision was clearly erroneous. *In re St. Lawrence County Solid Waste Disposal Authority*, PSD Appeal No. 90-9 (Adm'r, July 27, 1990). The Board further ruled that in cases of unusual delay, the record may be reopened following the close of the public comment period. [*Id.*]. The *St. Lawrence* ruling is distinguishable from the present case, and Petitioners' reliance upon the ruling as precedent is misplaced.

After vacating and remanding the Illinois EPA's permit decision, less than four months elapsed between the January 14, 2005 permit decision and the issuance of a final permit decision by the Illinois EPA, on April 28, 2005. Facts upon which Petitioners now rely to support their position were not raised during the public comment process. Notwithstanding, Petitioners contend the Illinois EPA's NO_x BACT determination is flawed because it failed to consider new information communicated by the Sierra Club, to the Illinois EPA, by letter dated April 13, 2004, raising an amendment proposed by the USEPA to the NSPS for electric utility steam generating

units. The proposed amendment was issued for public comment on February 28, 2005 and referenced a NO_x emission rate of 0.04 lb/MmBtu heat input achieved by the WA Parish coal-fired power plant.²⁵³ [*See, Petition at page 102*].

The Petitioners' argument rests upon a seemingly implausible and ultimately unsupported premise that the less than four month differential between the January 14, 2005 permit decision and the issuance of a final permit decision was material from a BACT standpoint and a source of unusual delay. Given appropriate allowances for minimal delays inherent in issuing a permit are necessary, including the delay between the close of the public comment and issuance of a final permit decision, the Board should find there is no basis to conclude the Illinois EPA's NO_x BACT determination is deficient or an unusual delay resulted in this instance. As a practical matter, should the limited time period necessary to issue a final permit decision after the close of public comment be a source of unwarranted delay, the permit review process would conceivably be forever subject to reopening. Petitioners should not benefit from facts that were raised outside the public comment process and, therefore not preserved for review.

Petitioners further challenge the Illinois EPA's NO_x BACT determination asserting "new information available before April 28, 2005 but after January 25, 2005" demonstrates an achievable NO_x emission limit as low as 0.03 lb/mmBtu evidenced by 30-day average NO_x emission rate data obtained from the USEPA for certain coal-fired boiler plants retrofitted with SCR technology. [*See, Petition at page 102; see also, Petitioners' Exhibit 49*]. Petitioners fail to provide any supporting data from the USEPA's database explaining whether the same or similar data was available prior to the close of the public comment other than to state the new information results from 30-day average data calculated from acid rain/OTC hourly emissions

²⁵³ Petitioners incorrectly state the date of the Sierra Club letter is April 13, 2004. The Illinois EPA, in fact, received the letter, dated April 13, 2005, after the close of the public comment process.

data available at <http://www.epa.gov/airmarkets/emissions/raw/index.html> for July through September 2004. [See, *Petitioners' Exhibit 49*].

Contrary to Petitioners' claim, 30-day average NO_x emissions data for power plants selectively chosen by Petitioners is not new and was reasonably ascertainable since at least July 2004 by simply accessing the USEPA's database cited by Petitioners, or obtaining the data directly from the source or appropriate state agency through the Freedom of Information Act ("FOIA") process, prior to the close of the public comment. Petitioners would have the Board believe an apparent lack of awareness as to whether such information existed or the absence of quarterly NO_x data solely for the third quarter of 2004 for each power plant selected by Petitioners rises to the level of new information not reasonably ascertainable prior to the close of public comment. Significantly, as discussed below, historical operating and NO_x data for the WA Parish facility cited by Petitioners was provided to the Illinois EPA by the State of Texas, in 2004, explaining why a NO_x emission limit of 0.03 lb/mmBtu is not warranted. Petitioners fail to explain their claim that NO_x emission rate data maintained by the USEPA for each power plant selected by Petitioners is new and was not ascertainable during the public comment process.

Regardless, this data presented by the Petitioners supports the BACT limit the Illinois EPA set for NO_x emissions from the proposed plant. This data shows that for the 15 units burning bituminous coal, similar to the boilers at the proposed plant, over the brief span of three months addressed by the data, the highest NO_x emission rates on a 30-day average using the mass-based average applicable under the NO_x Trading Program, ranged from 0.04 to 0.12 lb NO_x/mmBtu. Two of the units emitted more than 0.07 lb/mmBtu, three emitted 0.07 lb/mmBtu, five emitted 0.06 lb/mmBtu and only five of the units emitted 0.04 or 0.05 lb/mmBtu. The data shows that a limit of 0.07 lb/mmBtu is appropriately set as BACT for NO_x as over 80 percent of

these units equipped with new SCR technology would meet such limit. In contrast, fewer than 35 percent of the units would have met a limit set at 0.05 lb/mmBtu.

Petitioners now rely upon limited factual information relative to 18 power plants selected from the USEPA's database and a NO_x emission limit of 0.04 lb/MmBtu heat input referenced within a proposed NSPS as support to challenge the Illinois EPA's BACT determination. The Petitioners challenge the Illinois EPA's NO_x BACT determination without fully raising all reasonably ascertainable issues during the public comment period. A petitioner seeking review should not be afforded an opportunity to argue additional facts in its appeal without first raising such issues during the public comment period. To ensure that consideration is afforded to their comments, Petitioners are required to raise all reasonably ascertainable issues by the close of the public comment period. *See*, 40 CFR §124.13; *see also*, *In re Kendall New Century Development, supra* at 19-20; *see also*, *In re AES Puerto Rico, LP*, 8 E.A.D. 324, 342 at fn. 20 (EAB 1999). The Illinois EPA is under no obligation to consider comments received after the close of the public comment period. *See*, 40 CFR §124.18(a)-(b). As such, Petitioners' arguments were not preserved for appeal and should not be considered by the Board.

b. Petitioners' arguments concerning information obtained from the USEPA relative to NO_x emission rates are unsubstantiated and lacking in specificity.

Petitioners draw unwarranted support from an amendment proposed by the USEPA to the NSPS for electric utility steam generating units and limited information relative to NO_x emission rates for 18 coal-fired boilers. Petitioners seize upon a reference within the proposed NSPS to the WA Parish electric generating station, mentioning a demonstrated control of approximately 0.04 lb/mmBtu heat input as evidence that the Illinois EPA's NO_x BACT determination is flawed. [*See, Petition at page 102*]. While the proposed rule amendment illustrates consideration was

given by the USEPA to NO_x control technologies and NO_x emissions generated by various sources, Petitioners' allegations lack substance and are without merit.

A plain reading of the proposed NSPS demonstrates Petitioners misinterpret NO_x emission data considered by the USEPA when developing a proposed NO_x emission standard in comparison to the NO_x BACT determination made by the Illinois EPA. When developing the proposed NO_x emission standard, the USEPA made a clear distinction between boiler heat input and gross energy output to reflect a final NO_x value. The proposed NSPS would limit NO_x emissions from boilers to 1.0 lb/MWhr "gross energy output," not energy input as represented by Petitioners. As the proposed NSPS states, "... we are proposing for the NO_x standard a level of 130 ng/J (1.0 lb/MWhr) gross electricity output as determined on a 30-day rolling average." 70 Fed. Reg. 9,706, 9,717 (February 28, 2005). The Petitioners ignore the fact that the NO_x BACT emission limit of 0.07 lb/mmBtu determined by the Illinois EPA is equivalent to approximately 0.64 lb/MWhr gross energy output, significantly below the 1.0 lb/MWhr NO_x emission standard proposed by the USEPA.²⁵⁴ Notably, Petitioners also fail to recognize that the Illinois EPA's NO_x BACT determination is also well within a range of 0.47 and 1.3 lb/MWhr presently being considered by the USEPA for the final rule. *See*, 70 Fed Reg. 9,706, 9,717 (February 28, 2005).

Although Petitioners place significant emphasis on the proposed NSPS to establish support for their claim that the NO_x BACT determination made by the Illinois EPA is erroneous,

²⁵⁴ The calculation utilized to determine a 0.64 lb/MWhr gross energy output is as follows:

$$\frac{7436\text{mmBtu/hr} \times 0.07 \text{ lb/mmBtu}}{810 \text{ MWhr gross energy output}^*} = 0.64 \text{ lb/MWhr gross energy output}$$

*Although the net energy output for each of Prairie State's boilers is 750 MW, an additional 60 MW is generated and consumed in parasitic loads involved in the boiler system, for an estimated gross energy output of 810 MW. If this adjustment were overlooked, the NO_x BACT limit would be equivalent to 0.7 lb/MWhr when expressed in terms of net energy output.

the USEPA plainly considered and rejected the NO_x emission level achieved by the WA Parish facility referenced within the proposed NSPS in favor of a NO_x emission level of 0.11 lb/mmBtu heat input as the basis for the proposed standard.²⁵⁵ See, 70 Fed. Reg. 9,706, 9,716 (February 28, 2005). Contrary to Petitioners' argument, the proposed amendment to the NSPS for NO_x emissions simply confirms the soundness of the Illinois EPA's NO_x BACT determination.

Moreover, despite Petitioners claim that the Illinois EPA failed to consider NO_x emission data relative to WA Parish, the Administrative Record provides ample evidence that the Illinois EPA's NO_x BACT determination is based, in part, upon a rational analysis of historical operating and NO_x emission data obtained from the Texas Commission on Environmental Quality ("TCEQ") relative to WA Parish prior to the Illinois EPA's final permit decision. Based upon information obtained from the TCEQ, on December 2, 2004, the Illinois EPA was aware that while WA Parish facility was capable of actually achieving emission rates in the range of 0.03 lb/mmBtu, operational factors including flow dynamics, ash plugging and accumulation on the catalyst, and catalyst breakthrough did not reasonably justify a NO_x emission limit in the range of 0.03 lb/mmBtu. [See, *Respondent's Exhibit 84 (Electronic Mail from Erik Hendrickson, Texas Commission on Environmental Quality to Shashi Shah, Permit Section, Illinois EPA, dated December 2, 2004 (Certified Index No. 415))*]. Further, in response to public comment raising the issue that the Texas Natural Resources Conservation Commission supports a NO_x emission limit of 0.03 lb/mmBtu, the Illinois EPA stated:

For new coal-fired utility boilers, Texas is considering applications in which the proposed BACT limits for NO_x are about 0.07 lb/mmBtu, 30-day average. While the initial performance of existing boilers equipped with SCR's is better than this, Texas is concerned about factors that affect the performance of the SCR's over their operating life. Identified factors include flow dynamics, ash plugging, ash accumulation on catalyst, and catalyst deterioration....

²⁵⁵ A overall efficiency factor of 36 percent was utilized by the USEPA to convert this value to lb/MWhr resulting in the final proposed NO_x standard of 1.0 lb/MWhr. See, 70 Fed. Reg. 9,706, 9,717.

[*See, Petitioners' Exhibit 12, Response to Comment No. 134*]. Petitioners' position is unsubstantiated and contrary to the evidence contained within the record.

Petitioners also challenge the Illinois EPA's NO_x BACT determination on the basis that it failed to consider data selectively obtained by Petitioners from the USEPA relative to 30-day average NO_x emission rates for certain coal-fired power plants for the third quarter of 2004. The conclusion that such data is sufficient to challenge the Illinois EPA's technical judgment is apparently drawn only from a collection of 30-day NO_x rates obtained over a three-month period documenting NO_x emissions at or below 0.07 lb/mmBtu.

Despite the source from which Petitioners obtain their collection of data, the underlying value and reliability placed upon the data by Petitioners is misplaced and unsubstantiated. A telling fact that undermines the reliability of data cited by Petitioners is their reliance upon a NO_x emission level for WA Parish as one of 18 power plants. As discussed above, the TCEQ determined in 2004 that while a NO_x emission level in the range of 0.03 lb/mmBtu may be consistently achieved by the WA Parish facility now cited by Petitioners, too many operational uncertainties exist, including ash plugging, to justify the NO_x emission level. [*See, Respondent's Exhibit 84*]. As Petitioners merely present collected 30-day average NO_x data in isolation without further relevant facts and supporting technical information that substantiate Petitioners' position, the Petitioners fail to provide any compelling reason for the Board to conclude that the Illinois EPA's NO_x BACT determination is not rationally supported by the record. Quite the contrary, the Administrative Record provides ample support that the Illinois EPA's permit decision results from a proper exercise of its technical judgment.

Apart from general references to the proposed NSPS and NO_x emission data, Petitioners fail to provide specific information that substantiates their position. The Board has previous held

that to warrant review, a Petitioners' allegations must be substantiated and specific *See, In the Matter of: Hadson Power 14-Buena Vista*, 4 E.A.D. 258 (EAB 1995). The Petitioners' have failed to meet this core principle. Petitioners now cite information clearly not preserved for review in this instance. Further, Petitioners have not provided any specific relevant facts that create a compelling reason to conclude the Illinois EPA's NO_x BACT determination is flawed. Absent more probative facts, Petitioners should not be allowed to rely upon mere references to a collection of 30-day NO_x data obtained from a USEPA website and a single reference to a NO_x emission level relative to WA Parish considered within a proposed amendment to the NSPS and rejected by the USEPA to demonstrate the Illinois EPA erred. The Illinois EPA's permit decision is plainly supported by the record.

2. The Illinois EPA fully considered and provided a rational response to the opinion statement of Matt Haber during the public comment process.

Petitioners complain that, during the public comment process, the Illinois EPA disagreed with and rejected opinions and conclusions set forth within an opinion statement prepared by Matt Haber supporting Petitioners' comment urging the Illinois EPA to establish a more stringent NO_x BACT emission limit. [*See, Petition at pages 103-105*]. The Petitioners contend the mere fact that the Illinois EPA considered and rejected the opinions and conclusions of Matt Haber is evidence that the Illinois EPA's NO_x BACT determination is clearly erroneous. [*Id.*]. Petitioners' assertion is unsupported by the record and fails to meet the Board's threshold requirements for review.

a. Petitioners' argument lacks specificity and is not substantiated with supporting fact.

Petitioners rely upon one comment referencing a report prepared by Matt Haber, a USEPA BACT expert, providing opinions and conclusions relative to the Baldwin Generating Station, located in Baldwin, Illinois, in preparation for litigation against Illinois Power regarding

a violation of federal NSR requirements at the Baldwin facility as support for a more stringent NO_x BACT emission limit at the proposed source. [See, *Petitioners' Exhibit 12, Response to Comment No. 133, see also, Petitioners' Exhibit No. 5*]. Matt Haber concludes within his opinion statement that a NO_x BACT emission limit of 0.015 lb/mmBtu for a new unit and 0.020 lb/mmBtu, over a 3-hour average, for a retrofit unit, is achievable at the Baldwin facility using low-NO_x burners, SCR technology, and a combustion optimization system. [*Id.*]. Matt Haber concedes the limit may be adjusted as high as 0.04 lb/mmBtu if a lower limit was not achievable. [*Id.*].

The Illinois EPA responded to Petitioners' comment and the conclusions expressed by Matt Haber stating:

The limit for NO_x recommended by Mr. Haber is significantly below the limit for NO_x being required of other new boilers, to a degree that is unrealistic. It reflects ideal performance of the low-NO_x combustion controls and SCR systems on the boilers, without any initial safety factor. As noted by the comment itself, Mr. Haber indicates that the BACT limit that is actually achievable for NO_x may actually be two and a half times a value that is initially being recommended. A more telling piece of information from this lawsuit is the levels of NO_x emissions that would be required under the Settlement Agreement for the Baldwin power plant, ie. Boilers 1 and 2, which are equipped with low-NO_x combustion controls and SCRs, are subject to a limit of 0.10 lb NO_x/mmBtu on a 30-day rolling average.

[See, *Petitioners' Exhibit 12, Response to Comment No. 133*].

Petitioners dismiss the Illinois EPA's response by simply restating and citing to the opinions and conclusions contained within the expert witness report prepared by Matt Haber and offered during the public comment process. In response to the Illinois EPA's statement that the opinions expressed by Matt Haber reflect ideal performance without any initial safety factor, Petitioners simply restate the opinion of Matt Haber and cite to the Haber report at pages 36, 42, 43, 49, and 50. [See, *Petition at pages 104-105*]. Similarly, in response to the Illinois EPA's statement that Matt Haber acknowledges an achievable NO_x BACT emission limit may actually

be two and a half times a value that is initially recommended, Petitioners again simply restate the opinions expressed by Matt Haber and cite to the Haber report at page 52, and Section II.C.2. [See, *Petition at page 105*]. Petitioners fail to sustain their burden to explain with sufficient specificity why the Illinois EPA's response is unsupported by the record and is clearly erroneous or otherwise warrants review.

Furthermore, Petitioners do not refute nor even acknowledge the Illinois EPA's response to Petitioners' comment and the opinion statement of Matt Haber raising the issue that the Settlement Agreement resulting in resolution of the Baldwin enforcement case establishes a NO_x emission limit of 0.10 lb/mmBtu based upon a 30-day rolling average.²⁵⁶ [See, *Respondent's Exhibit No. 22, at page 15*]. The core of Petitioners' argument challenging the Illinois EPA's NO_x BACT determination is the underlying BACT analysis performed by Matt Haber and contained within his report that Petitioners assert "may be the most definitive, up-to-date, and thorough USEPA statement as to what constitutes BACT for a coal-fired power plant." [See, *Petition at page 104*]. It is difficult to reconcile how the "definitive" BACT analysis formulated by Matt Haber, the government's BACT expert in *The United States of America, et. seq. v. Illinois Power Company and Dynegy Midwest Generation, Inc.*, No. 99-833-MJR, resulted in a NO_x emission limit of 0.10 lb/mmBtu contrary to the opinion of Matt Haber, yet ultimately accepted by the USEPA and U.S. Department of Justice.

While the Illinois EPA does not challenge the educational background and engineering qualifications of Matt Haber, the Illinois EPA concludes that opinions contained within the Haber report were prepared simply to advocate an engineering judgment that is unsupported by

²⁵⁶ Beginning 45 days after entry of the Consent Decree, Dynegy Midwest Generation must commence operation of SCR's installed at Baldwin Unit 1, Unit 2, and Havana Unit 6 so as to achieve and maintain a 30-day rolling average emission rate from each unit of not greater than 0.10 lb/mmBtu of NO_x. [See, *Respondent's Exhibit 22*].

the Administrative Record in this instance. Petitioners should not gain review of a permit merely by presenting an alternative theory regarding a technical matter. *See, In re Steel Dynamics, Inc.*, 9 E.A.B.165 (EAB 2001). A plain reading of the record demonstrates the Illinois EPA considered issues raised by Petitioners' comment and the opinion statement of Matt Haber, and that its NO_x BACT determination was rational, supported, and reflects considered technical judgment. The Board should decline consideration of Petitioners' argument as it fails to demonstrate clear error in the Illinois EPA's response to comments.

b. Petitioners' fail to sustain their burden to meet the Board's threshold requirements for review.

As the Board has previously ruled, Petitioners may not simply include within their petition for review mere references to comments made during the public comment process, but must show why a permitting authority's response to issues raised during public comment is clearly erroneous. *See, In the Matter of: Hadson Power 14-Buena Vista*, 4 E.A.D. 258 (EAB 1992); *see also, In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1 (EAB 2000) (Petitions for review may not simply repeat objections made during the comment period). Further, the Board has ruled that the failure to respond to the primary rationale set forth within a response to public comment fatally flaws a petition in that regard. [*Id.*]. Other than simply providing a restatement of the opinions expressed by Matt Haber, and additional facts lauding the educational background and engineering qualifications of Mr. Haber, Petitioners fail to respond to the primary rationale of the Illinois EPA's response to Petitioners' comments that the NO_x limitation asserted by Matt Haber is not realistic. Moreover, Petitioners fail to provide specific facts supporting their position that the Illinois EPA's response to Petitioners' comment and Matt Haber's opinions warrants review. For these reasons, the Board should not accept review of this issue.

T. The Startup, Shutdown and Malfunction Provisions are Lawful.

Petitioners argue that the provisions pertaining to startup, shutdown and malfunction included in the permit issued to Prairie State by the Illinois EPA are contrary to the requirements of the Clean Air Act and thus unlawful. As more fully addressed below, the Board should decline to hear this argument as the Petitioners have failed to establish that the Illinois EPA's decision was clearly erroneous.

1. Startup, shutdown, and malfunction are not excluded from BACT limits.

The Petitioners do not dispute that excess emissions may occur during startup, shutdown or malfunction.²⁵⁷ Further, they do not challenge the Illinois EPA's determination that during startup, shutdown and malfunction, compliance with the numerical BACT limits that apply during other modes of operation may be technically infeasible. Rather, Petitioners allege that the Illinois EPA has "blanket exempted" startup, shutdown and malfunction events from short-term BACT emissions limitations. [*See, Petition at page 106*]. More specifically, Petitioners charge that the Illinois EPA "replaced" the short-term BACT limitations applicable to the coal-fired boilers' emissions of filterable PM, total PM10, VOM, sulfuric acid mist and fluorides during startup, shutdown and malfunction with a requirement that the source follow good air pollution control practices and with secondary emissions limitations, and that neither the work practice requirement nor the secondary emissions limitations result from a BACT analysis nor is a substitute for the short-term BACT emissions limitations. [*Id. at pages 106-107*]. Petitioners scoff at the requirement for a startup, shutdown and malfunction plan ("SSM plan"), written operating and maintenance procedures and a written fuel management plan, and express concern that none of these documents are in the Administrative Record nor approved via the Part 124 process which affords public review, and that the work practice requirement does not specify

²⁵⁷ In their Petition, Petitioners state "emissions can be higher during startups and shutdowns ..." [*See, Petition at page 105*].

how emissions are to be minimized during startup, shutdown and malfunction. [*Id.* at pages 106-108]. Additionally, Petitioners grouse that the imposition of the secondary BACT short-term emissions limitations "...made the problem worse, not better."²⁵⁸ [*Id.* at page 106].

Simply put, Petitioners mischaracterize the Illinois EPA's approach to BACT, as clearly appeared in the draft permit and as continues to appear in the permit issued April 28, 2005. The permit has never contained a "blanket exemption" from the above-mentioned BACT emissions limitations. Further, the Illinois EPA did not "replace" these BACT emissions limitations with a requirement to follow good air pollution control practices nor with non-BACT emissions limitations. Rather, faced with the difficult task of factoring startup, shutdown and malfunction events into BACT requirements and absent any relevant guidance from USEPA for doing so, the Illinois EPA further developed the BACT requirements, in response to public comments, to establish what is now a three-faceted approach to BACT to comprehensively address emissions of filterable PM, total PM10, VOM, sulfuric acid mist and fluorides from the coal-fired boilers. Additionally, the work practice requirement was subject to public comment and sufficiently addresses emissions minimization measures, particularly in concert with the third facet of the Illinois EPA's BACT approach, i.e., additional emissions limitations that apply during periods of startup, shutdown, and malfunction.

Petitioners must demonstrate that review is sought based upon a finding of fact or conclusion of law that is clearly erroneous. *See, 40 CFR §124.19(a); see also, In re Encogn Cogeneration Facility*, 8 E.A.D. 244, 252 (EAB 1999). Petitioners may not merely repeat objections made during the public comment period. *See, In re Knauf Fiber Glass, GMBH*, 9

²⁵⁸ The Petitioners had urged the imposition of emissions limitations during startup, shutdown and malfunction. [*See, Petition at page 105*]. Failing to prescribe such limitations, Petitioners left the establishment of secondary BACT short-term emissions limitations to the technical expertise of the Illinois EPA.

E.A.D. 1, 5 (EAB 200). Petitioners have failed to provide any factual basis for their claims that startup, shutdown, and malfunction emissions are excluded from the BACT analysis and limitations, and the Illinois EPA's decision is fully supported by the record. The EAB should decline consideration of this issue on procedural grounds alone, or, alternatively conclude that Petitioners have not met their burden.

Turning to the merits, this three-faceted approach to BACT is clearly set forth in the issued permit. First, the coal-fired boilers are subject to short-term emission limitations for filterable PM, total PM₁₀, VOM, sulfuric acid mist and fluorides that are rate based. [See, *Petitioners' Exhibit 1, Unit-Specific Conditions 2.1.2(b)(i)(B), 2.1.2(b)(v), 2.1.2(b)(vi), and 2.1.2(b)(vii)*]. These limitations apply at all times other than startup, shutdown and malfunction, an aspect of these limitations that is retained from the draft permit. [*Id.*, *Unit-Specific Conditions 2.1.2(b)(i)(B), 2.1.2(b)(v), 2.1.2(b)(vi) and 2.1.2(vii)*]. In addition, separate from BACT the coal-fired boilers are subject to long-term or annual limitations on emissions of these same pollutants. [*Id. Unit-Specific Condition 2.1.7(a)(i)*]. These annual limitations apply to all emissions including emissions that occur during startup, shutdown and malfunction. [*Id.*].

Second, the coal-fired boilers are subject to a requirement to employ good air pollution control practices. [*Id. Unit Specific Conditions 2.1.2(e) and 2.1.6*]. Such requirement applies during startup, shutdown and malfunction and is designed to ensure that emissions are as limited as possible. As applied to emissions during startup, shutdown, and malfunction, this requirement specifically requires emissions be minimized, because there is not another basis upon which to judge the adequacy of emissions control. It also acts to indirectly assure that emissions during such periods do not threaten the NAAQS or increment provisions.

Third, the coal-fired boilers are subject to limitations for filterable PM, total PM10, sulfuric acid mist and fluorides that are hourly, and which are characterized in the permit as “secondary” emission limitations. [*Id.*, *Unit-Specific Condition 2.1.2(e) and 2.1.7(a)(i)*]. These limitations apply during periods of startup, shutdown and malfunction. [*Id.*]. These additional limits were not present in the draft permit, but were added to the permit to address public comments. While characterized as secondary emission limits, they are actually the third facet of the BACT provisions of the permit.

The short-term emissions limitations are complemented by the work practice requirement. In turn, the work practice requirement is complemented by a second set of short-term emissions limitations. The primary emissions limitations and work practice requirements appeared in the draft permit. Those two elements were supplemented with the third element in the issued permit.²⁵⁹

This three-faceted approach to BACT and particularly the work practice requirement is consistent with the federal PSD regulations. The establishment of BACT in the permit through work practice requirements that are applicable during startup, shutdown and malfunction events is expressly supported by the federal PSD regulations. In particular, the definition of “BACT” provides, in pertinent part:

[I]f the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology.

²⁵⁹ As addressed more thoroughly herein, the secondary emissions limitations were inserted into the PSD permit in response to public comment, not because they are required by the federal PSD program and not because the Illinois EPA finds them essential. These limits were also included at the urging of the USEPA. By letter dated July 26, 2004, the USEPA first advised the Illinois EPA of the *Rock Gen Energy Center* determination, 8 E.A.D. 536 (EAB 1999) suggesting it may be instructive on the issue of startup, shutdown and malfunction. [*See, Respondent's Exhibit 63*].

(emphasis added) *See, 40 CFR § 52.21(b)(12)*].

The Illinois EPA, as the administering agency of the PSD program, made an on-the-record determination that compliance with primary short-term emissions limitations for the boilers for filterable PM, total PM₁₀, VOM, sulfuric acid mist and fluorides is technically infeasible. This determination was based on information in Prairie State's application and resulted from consideration of, among other things, "the capabilities of the boilers and control devices that are being used, the size of the boilers and the possible duration of startup events." [See, *Petitioners' Exhibit 12, Response to Comment No. 184*]. It also resulted from consideration of "the compliance methodology that may be used to determine compliance with BACT limits." [Id.]. The Illinois EPA furthered this determination with a finding as to the provisions that are necessary and appropriate to minimize emissions during startup, shutdown and malfunction events. This determination is also based on information in Prairie State's application for permit, such as its commitment to utilize natural gas during startup of the boilers while the control equipment is coming on line.²⁶⁰ That the Illinois EPA considered means by which to address startup, shutdown and malfunction and means or minimum elements to address emissions from such events, embodying a work practice in the draft permit that underwent public review and comment, distinguishes this matter from *In re Tallmadge Generation Station*, PSD Appeal No. 02-12 (EAB, May 21, 2003). In *Tallmadge*, the record was devoid of evidence that the permitting authority considered ways to reduce or eliminate emissions from startup, shutdown or malfunction events.

This determination is reflected at Unit Specific Condition 2.1.2(e), which requires as a work practice the use of natural gas during startup and prior to firing coal. It is further evidenced by the work practice requirements to operate the boilers and associated air pollution control

²⁶⁰ [See, *Petitioners' Exhibit 27 at C-44*].

equipment in accordance with written operating procedures that include a SSM plan, and to conduct inspection, maintenance, and repair of the boilers in accordance with written maintenance procedures.

The general good air pollution control work practice of Unit-Specific Condition 2.1.2(c) is further developed by Unit-Specific Condition 2.1.6, which fleshes out the requirements for written operating procedures including a SSM plan, and written maintenance procedures. Among other things, it requires Prairie State to handle the boiler fuel in accordance with a written fuel management plan. Additionally, it calls for plans and procedures by which good air pollution practice shall be addressed to be reviewed regularly and no less frequently than annually and revised as necessary to accomplish good air pollution control practices. These provisions further rely on Unit-Specific Condition 1.4 of the permit, which incorporates provisions of the USEPA's NESHAPs that require subject sources to maintain and operate in accordance with SSM plans.

In addition, with respect to malfunction events, Unit-Specific Condition 2.1.6(a)(iv) specifically provides that upon occurrence of emissions that would exceed applicable limits, the Permittee must as soon as practicable take actions to restore compliant operations. Moreover, if malfunctions are infrequent, sudden, and not caused by poor maintenance or careless operation, the permit allows a short period for correction.

This work practice approach is not only authorized by the federal PSD regulations but is consistent with the approach taken by USEPA in the NSPS, and the NESHAP. Under the NSPS, USEPA recognizes good emissions control practices during startup, shutdown and malfunction, providing an affirmative defense for excess emissions from and during such events under certain

conditions.²⁶¹ Under the NESHAP, the USEPA requires an owner or operator of an affected source to develop and implement a written SSM plan.²⁶²

Further, this approach is consistent with the *Rock Gen Energy Center* decision, 8 E.A.D. 536 (EAB 1999) which is instructive on the provisions relating to startup, shutdown and malfunction and to which the USEPA directed the Illinois EPA for guidance pursuant to its review of the Prairie State permit. In *RockGen*, the Board deemed appropriate on the record determinations of whether compliance with BACT emissions limitations is infeasible and, if so, the provisions to minimize emissions from startup, shutdown and malfunction. In the present matter, there is evidence on the record of a determination of infeasibility and an emissions minimization requirement, which as discussed later herein is essentially “capped” by a secondary short-term emissions limitation.

Moreover, this approach is consistent with federal guidance²⁶³ pertaining to startup, shutdown and malfunction events. While it is debatable whether such guidance applies to permitting under the federal PSD regulations or only to the development of state implementation plans, assuming *arguendo* this federal guidance is applicable, the permit conditions at issue are consistent with the guidance. First, as previously discussed, the Prairie State permit does not provide for any “automatic exemption” of BACT requirements. Further, the permit requires

²⁶¹ 40 CFR §60.11(d).

²⁶² 40 CFR §63.6(e).

²⁶³ The USEPA has issued guidance on excess emissions. In 1982 and 1993, the USEPA issued guidance memoranda, respectively entitled, *Policy on Excess Emissions During Startup, Shutdown, Maintenance and Malfunction* and *Automatic or Blanket Exemptions for Excess Emission During Startup, Shutdown under PSD*. In 1999, the USEPA issued supplemental guidance on the topic entitled *State Implementation Plans: Policy Regarding Excess Emissions During Malfunction, Startup and Shutdown*. In 2001, the USEPA issued clarification guidance entitled *Re-Issuance of Clarification-State Implementation Plans (SIPS): Policy Regarding Excess Emissions During Malfunctions, Startup and Shutdown*.

Prairie State to develop and implement emissions minimization measures during startup, shutdown and malfunction events and places an upper limit on these short-term emissions. As stated in the *Responsiveness Summary*, the work practice requirement "...does not shield the plant for excess emissions arising from poor operation, maintenance or design, or excuse the plant from careful planning to eliminate or minimize emissions during periods of startup and shutdown." [See, *Petitioner's Exhibit 12, Response to Comment No. 191*]. Petitioners embellish their concern for the work practice requirement suggesting that these work practice requirements can be modified without regard for PSD procedural requirements for notice, review and appeals. This concern is baseless. As previously discussed, this requirement for work practice is a considered aspect of the approach to BACT for Prairie State. As such, this requirement was subjected to the applicable procedural requirements mandating public notice and comment. Further, any attempt to modify this requirement would require the submittal of a new permit application and, as the source is major, a new PSD analysis. The Illinois EPA would necessarily be required to follow the PSD procedures in order to issue a revised construction permit to Prairie State. Moreover, the work practice requirement and particularly the requirement that the Permittee maintain and operate in accordance with procedures and plans will be subject to additional scrutiny at the time the Illinois EPA prepares an operating permit for the source.²⁶⁴

Petitioners proceed to argue that the SSM plan requirements are unenforceable.²⁶⁵ This, too, is unfounded. The planning elements of the permit consisting of the written operating procedures including a SSM plan, the written maintenance procedures, and the written fuel

²⁶⁴ As a major source, Prairie State is subject to the permitting requirements under Title V of the Clean Air Act. An application for Title V permit will be due within one year of commencement of operation. Draft Title V permits are necessarily subject to public notice and review. Presumably the requirement at issue would be contained within a draft permit and thus, subject to review.

²⁶⁵ In making this argument, Petitioners are also indirectly arguing that the provision of 40 CFR Part 63, upon which these provisions were based, is also inadequate and unenforceable.

management plan, as set forth in Unit Specific Condition 2.1.6, were included in the draft permit and thus were subject to public review and comment. Those planning elements outline the work practice requirement. Prairie State's SSM plan, once completed, must further describe how, during startup, shutdown and malfunction events, Prairie State will minimize excess emissions during the duration of such an event. Revision of the plan to include additional provisions may be required by the Illinois EPA or USEPA as needed to better address and appropriately respond to particular incidents that have occurred. The existence and sufficiency of the written procedures and SSM plan and adherence to the procedures and plan are issues that may be addressed via enforcement action by a citizen or the state or federal government.

Significantly, the permit subjects the source to record keeping and reporting requirements that would provide the Illinois EPA, USEPA, and the public with information on the existence and sufficiency of the required plans and procedures. These records would also address "deviations" from any and all applicable requirements. Thus, the permit not only expressly affords the state and federal government an opportunity to request revision of the procedures and plans, but also provides for ample information from which the government may gauge the adequacy of the procedures and plans.

The PSD Construction Permit/PSD Approval issued to Prairie State authorizes construction of the source as well as operation for a limited period of time, consistent with the terms and conditions of the construction permit. The written operating and maintenance procedures, SSM plan, and fuel management plan address the operation of the proposed source. While the procedures and plans will have the effect of assuring that emission units operate within compliance, that is not their primary purpose. Rather, the primary purpose of the procedures and plans is to ensure effective operating and maintenance practices and thus minimization of

emissions consistent with the capability of the equipment. The procedures and plans attempt to address the variability of startup, shutdown and malfunction events. In *In re Indeck-Niles Energy Center, PSD Appeal No. 04-0, (EAB, September 30, 2004)*, the Board acknowledged the difficulty in articulating the terms of such plans in PSD construction permits which necessarily issue before commencement of operation, and thus at a time when information regarding future operating conditions is largely speculative. [*Id. at 17*]. This action further confirms that a regulatory approach needs to be approved or established during permitting, but not the details of the plan, which must be developed at a more opportune time and be able to evolve in response to actual events and experience. Moreover, *Indeck-Niles* and the instant case are distinguishable from *RockGen* where the Board's finding was largely based on a lack of public review and record of due consideration. See, *In re RockGen Energy Center, supra at 553-554*.

Regarding the third facet to BACT, as an extra measure of emission control and a further check on the quantity of emissions during startup, shutdown and malfunction, and in response to comment, the Illinois EPA established a second set of short-term emissions limitations. Petitioners suggest that these limits must derive of a BACT analysis and be part of the PSD determination and that this did not occur in this instance.

In making their arguments that the secondary emission limitations do not constitute BACT, Petitioners dwell on, and take issue with, the language the Illinois EPA used in the permit to characterize the secondary emissions limitations suggesting the language does not properly characterize²⁶⁶ as BACT the emissions limitations at issue. However, the plain

²⁶⁶ Petitioners acknowledge the language of Unit Specific Conditions 2.1.2(b) and (e) and 2.1.7(a)(i), yet argue that there exists consequential significance to the fact that the emissions limitations are referenced but not physically delineated within the Unit-Specific Condition section entitled control technology determination. [*See, Petition at page 107*]. This argument is not only disingenuous but without merit, where the language at issue is clear on its face as to what the Illinois EPA intended, and where, as more

language of Unit-Specific Conditions 2.1.2 and 2.1.7 makes clear that the limits are in fact BACT and are consistent with a PSD air quality analysis conducted by Prairie State, contained within its permit application, and reviewed by the Illinois EPA. To the point, Unit Specific Condition 2.1.2(e) provides in pertinent part:

[F]or PM, VOM, sulfuric acid mist and fluorides for which the numerical limits in condition 2.1.2(b) and (e) do not apply during startup, shutdown and malfunction, the lb/hr limits, 3-hour average, in Condition 2.1.7(a) [Attachment 1: Table 1], which continue to apply during such periods, shall serve as 'secondary limits' for purposes of BACT ...

[See, *Petitioners' Exhibit 1 at Unit-Specific Condition 2.1.2(e)*]. Moreover, Unit Specific Condition 2.1.7(a)(i) provides in relevant part:

[t]he limits in Table I are based upon the emission rates and the maximum firing rate specified in the permit application consistent with the air quality analysis submitted by the Permittee pursuant to PSD. [*Id. at Unit-Specific Condition 2.1.7(a)(i)*].

In making the argument that the units do not derive of a BACT analysis, Petitioners overlook the application complete with air quality analysis, that fully encompasses the conditions and terms at issue, and further overlook the Illinois EPA's discussion of the issue in the calculation sheet and *Responsiveness Summary*. Petitioners also completely disregard the derivation of the limits as they are developed from the product of the short-term BACT limitations and the capacity of the boiler, and reflect emission rates used in the air quality analysis. The Petitioners also ignore the complexity of establishing other alternate short-term emissions limitations for events that are prospective, may or may not occur, would at most occur a small percentage of operating time attributable to startup and shutdown, and infrequently for malfunction and for which the circumstances of any such events call for speculation. In the case of Prairie State, the primary short-term emissions limitations are appropriately "load-based," not design based, that is, the

fully addressed herein, the administrative record not only evidences the Illinois EPA's position but offers support for same.

allowed emissions are related to the "heat-input" or operating load of the boiler, with numerical limits expressed in lb/mmBtu. Generally, the establishment of a single or multiple short-term load-based emissions limitation for all modes of operation is virtually impossible, if for no other reason than compliance with such limit could never be verified during startup, shutdown and malfunction events. Add to which, to the extent such BACT emissions limitations could be verified, provided a source complies with the applicable limitation, the requirement to utilize good air pollution control practices and to minimize emissions, during startup, shutdown or malfunction events should be greatly diminished. Further, the practical enforceability of any emissions minimization requirement is hampered. More specifically, the limitations would necessarily be set to accommodate the higher emissions during startup, shutdown and malfunction, and thus over-stated for non startup, shutdown and malfunction modes of operation. Hence, after careful consideration, the Illinois EPA established a primary requirement consisting of numerical, load-based emissions limitations, a secondary requirement for work practice during startup, shutdown, and malfunction, and a tertiary requirement consisting of a second set of short-term emissions limitations. As written, the permit at issue holds Prairie State fully accountable for appropriate action as needed to minimize emissions, in the first instance via work practice and in the second instance by the secondary emissions limitations which place upper boundaries on the emissions consequences of any startup, shutdown or malfunction event. This approach is rigorous and readily enforceable.

The allegation that modeling was not performed for startup and shutdown events is baseless and can, at best, be viewed as confusion on the part of Petitioners. In fact, the modeling that was performed by Prairie State among other things, addressed startup and shutdown events, and encompasses the terms and conditions in the final permit. That the startup and shutdown

modeling is not stand-alone modeling is of no consequence. However, Petitioners' conclusion that modeling was not performed is simply erroneous. In its application for permit, Prairie State performed a number of air quality analyses. [See, *Petitioners' Exhibit 27*; see also, *Respondent's Exhibit 5, 43*].

For purposes of this argument, of the pollutants at issue, PM is the sole pollutant for which there exists a NAAQS or PSD increment. Modeling occurred for PM. [See, *Respondent's Exhibit 5*]. This modeling was mass rate based (lb/hr) not operationally or concentration based (lb/mmBtu). This manner of modeling is based on the concept of modeling worst-case emission consequences. The modeled number is the BACT limit multiplied by 8,760 hours. The modeled number more than accommodates the hourly secondary short-term emissions limitations; in particular, the results of the analyses indicate that neither the NAAQS nor PSD increment is threatened. [See, *Respondent's Exhibit 5*; see also, *Response to Petition, Section N*].

In its *Responsiveness Summary*, the Illinois EPA addressed the concerns for compliance with air quality standards. Specifically, the Illinois EPA remarked that:

[T]he issued permit for the proposed plant contains necessary provisions to protect ambient air quality standards. It is not necessary that these provisions be set as numerical BACT limits. In this regard, the issued permit includes various changes to the provisions setting limits on the permitted emissions as necessary to protect short-term air quality.

[See, *Petitioners' Exhibit 12, Response to Comment No. 18*].

Petitioners assert that the second set of short-term emissions limitations are unenforceable because emissions testing is not required to determine compliance with these limits, and that no demonstration has been made that testing is not feasible. [See, *Petition at page 108*]. This is simply not true. As set forth in the Administrative Record, as a general matter and in the case of Prairie State, emissions testing during startup, shutdown and malfunction events "is problematic" and poses technical issues [Petitioners' Exhibit 12,

Response to Comment No. 185]. In fact, the imposition of secondary emissions limitations was conditioned on the express recognition that testing would not be required as a compliance methodology but rather compliance would be assessed with an engineering evaluation. [See, *Petitioners' Exhibit 12, Response to Comment No. 184; see also, Respondent's Exhibit 15 at page 14*]. As a base load power plant, Prairic State's coal-fired boilers would experience a limited number of startup and shutdown events, which would be normally scheduled for coordination with planned maintenance outages of a boiler. Additionally, it is commonly understood that shutdown events often occur suddenly and unforeseeably. This creates an inherent contradiction in the use of testing to demonstrate compliance with emissions limits during startup, shutdown, and malfunction events. Replication of the various startup and shutdown events would be essential for compliance testing. However, that replication of operating conditions during startup and shutdown events is next to impossible using established USEPA Reference Methods. Accordingly, and as set forth in Unit-Specific Condition 2.1.2(e), the Illinois EPA has required Prairic State to demonstrate compliance with the established secondary BACT emission limitations through engineering analysis and calculations. To this end, data collected from emissions tests conducted during operations other than startup, shutdown and malfunction will be adapted to the startup, shutdown and malfunction events using standard engineering principles. [*Id.*]. This approach is consistent with the New Source Review manual, which allows the use of equipment and other standards to demonstrate compliance when direct emissions testing is not feasible. [See, *Respondent's Exhibit 4 at H.8*]

The permit carefully articulates the circumstances under which the plant is permitted to exceed the short-term primary BACT emissions limitations. Similarly it articulates emissions minimization measures with a "cap". That these requirements collectively constitute BACT is

similarly articulated in the permit and in the Administrative Record. Lastly, that this approach resulted from a BACT analysis is amply clear in the permit and in the Administrative Record, and is consistent with USEPA guidance. In sum, there exists no need for the Board to hear this issue much less afford the relief suggested by Petitioners to wit a “remand for a formal BACT determination and characterization of limits as BACT.” [See, *Petition at page 108*].

2. Alternate compliance procedures for SO₂ and NO_x do not redefine BACT.

Petitioners generally argue that compliance procedures are “part” of BACT emissions limitations, and thus in establishing the alternate compliance methods for calculating emissions of SO₂ and NO_x during startup, and startup and shutdown, respectively, the Illinois EPA redefined BACT and triggered a new BACT analysis. [See, *Petition at pages 109-110*]. This assertion is wholly unsubstantiated. First, the Illinois EPA, when developing the BACT provisions for SO₂ and NO_x in response to comments, only established alternative procedures for SO₂ BACT as related to startup and for NO_x BACT as related to startup and shutdown. Second, the Illinois EPA increased the stringency of the permit, as compared to the draft permit, as the numerical emissions limitations for SO₂ BACT and NO_x BACT were extended to address periods of startup, and startup and shutdown, respectively.

For NO_x and SO₂, pollutants for which continuous emissions monitoring is required, the permit contains a single short-term BACT emissions limitation, but two methods for compliance with these limits. [See, *Petitioners' Exhibit 1, Unit-Specific Conditions 2.1.2(b)(ii)(A) and 2.1.2(b)(iii)*]. For SO₂, the permit allows a compliance procedure, for those 30-day periods during which the source experiences a startup event and a separate procedure for those 30-day periods when no such events occur. [*Id.*, *Unit-Specific Conditions 2.1.2(b)(ii)(A)*]. For NO_x, the permit allows a compliance procedure for those 30-day periods during which the source

experiences a startup or shutdown and a separate procedure for those 30-day periods when no such events occur. [*Id.*, *Unit-Specific Conditions 2.1.2(b)(iii)*].

This approach derives of Illinois EPA's position that it is not technically feasible for Prairie State to comply with the established BACT emissions limit for SO₂ during the specific period of startup, and for NO_x during startup and shutdown events. More specifically, for SO₂, compliance during startup events is not readily guaranteed using the NSPS approach to calculating emissions when natural gas is fired during a portion of the startup and the scrubber is being brought on line. [*See, Petitioners' Exhibit 12, Response to Comment No. 285*]. Likewise, the NSPS approach to calculating emissions is of concern for NO_x, as the SCR system is not immediately effective as the temperature in the SCR must reach the proper range before the catalytically facilitated NO_x reduction reaction will occur. [*Id. Response to Comment No. 184; see also, Petitioners' Exhibit 27, page C-45 and Respondent's Exhibit 15 at page 8*]. Therefore, for SO₂, the issued permit allows a mass balance approach, an approach authorized by USEPA to determine compliance with the Acid Rain program, to calculate the 30-day emissions during a 30-day period that includes a startup event. Similarly, for NO_x, the issued permit allows a mass balance approach, consistent with the approach under the NO_x Trading Program. Significantly, the mass balance compliance determination approach is one the Illinois EPA believes is being utilized in other permits for new power plants.²⁶⁷ [*See, Respondent's Exhibit 41*].

The Illinois EPA's position is based on its experience with industrial coal-fired boilers from which it has learned that the rate-based methodology during startup and shutdown cannot

²⁶⁷ By way of example, in July 2004, the Sierra Club entered into a Consent Decree relative to the Longview Power, LLC PSD permit. [*See, Respondent's Exhibit 41*]. The parties agreed to, among other things, the inclusion in the permit of annual NO_x and SO_x limits that are mass based. [*Id. at 3*]. Further, these limits apply at all times during the calendar year. [*Id. at 3*]. This is contrasted with the Illinois EPA's approach to SO₂ and NO_x where the limits are rate based and compliance is determined on this basis except in limited circumstances.

with confidence demonstrate compliance with BACT limits during startup or shutdown. [See, *Petitioners' Exhibit 12, Response to Comment No. 184*]. As the Illinois EPA indicated in its *Responsiveness Summary*:

[T]his is because a partial day in which a boiler starts up and experiences a high startup emission rate is not weighted for the actual extent of operation during the day. Instead, it is averaged with other days and given equal weight as days when the boiler operated at normal load.

[*Id.*]. The alternate compliance methodology is intended to give the proper weight to partial operating days and to startup events to ensure compliance with the stringent BACT emission limitations.

Not only did the Illinois EPA consider what compliance methodology would be appropriate, but the effect this change would have on compliance with the BACT emissions limitations. More specifically, the Illinois EPA reviewed the differences in the mechanics of the two methodologies finding that they produce different results due to how they handle low load operation of a boiler, which is the specific mode of operation that is being addressed with startup and shutdown of the boilers at the proposed plant. If no such events occur, so that these base-load boilers operate at similar loads during the entire 30-day averaging period, the two methodologies would produce similar results. As is also evident from the mechanics of the methodologies, the selection of methodology is also related to the stringency of the applicable emission limit. That is, the difference in the consequences of the two methodologies for compliance becomes more critical when the applicable emission limit is lowered. This is what has occurred for emissions of NO_x, for which the limit in the permit is both lower and more extensive than the limit in the draft permit, as it applies to all modes of operation of a boiler.²⁶⁸

²⁶⁸ It warrants mention that Petitioners do not at all address the methodologies or the difference between the two methodologies for determining a boiler's average emission rate. The first methodology, the "NSPS methodology," is a numerical average of daily emission rates, in lbs/mmBtu, over a period of 30

days. This methodology does not weight the emission rate on each day by the actual operating level or load of the boiler during the day. That is, a day with a startup or a shutdown, in which the boiler would operate at low load, would be given the same weight as days in which the boiler operated at full load. In fact, as a regulatory matter under the NSPS for Utility Boilers, 40 CFR Part 60, Subpart Da, periods of startup and shutdown would be excluded from the compliance determination. This is because 40 CFR 60.46a(c) provides that these NSPS limits do not apply, among other events, for NO_x during startup, shutdown and malfunction, and for SO₂ during startup and shutdown. This is important because the occurrence of such events during a 30-day period could otherwise suggest noncompliance independent of any failure or deficiency of the underlying control technology. This is illustrated by the following sample calculation for NO_x emissions.

Sample Calculation – NSPS methodology

Startup Day 1 – 0.16 lb/mmBtu @ 5 % load daily average
 Startup Day 2 -- 0.12 lb/mmBtu @ 10% load daily average
 Shutdown Day – 0.10 lb/mmBtu @ 30% load daily average
 Days 4 through 30 – 0.065 lb/mmBtu @ 80% load daily average

Average Emission Rate = 0.71 lb/mmBtu

$$(0.15 + 0.12 + 0.10 + 0.065 + 0.065 \dots + 0.065)/30 = 0.71$$

The second methodology, the "Acid Rain methodology," accounts for the actual emissions and heat input for the entire 30-day period. The average emission rate is calculated from the overall ratio of emissions and heat input during the period. Alternatively expressed, the daily emission rate, in lb/mmBtu, is weighted for the actual load during each day. This methodology became possible with more developed emissions monitoring techniques under the Acid Rain Program, which allow reliable determinations of emissions in both lbs and lbs/mmBtu. The potential effect of this methodology is shown by another sample calculation using the same assumed base data. (For convenience, a nominal boiler capacity of 1,000 mmBtu/hr is assumed for purposes of the calculations.)

Sample Calculation -- Acid Rain methodology

Startup Day 1 – 0.16 lb/mmBtu @ 5 % ave. load or 192 lbs & 1200 mmBtu
 Startup Day 2 – 0.12 lb/mmBtu @ 10% ave. load or 288 lbs & 2400 mmBtu
 Shutdown Day – 0.10 lb/mmBtu @ 30% ave. load or 720 lbs & 7200 mmBtu
 Days 4 through 30 – 0.065 lb/mmBtu @ 80% ave. load or 1248 lbs & 19200 mmBtu

Average Emission Rate = 0.066 lb/mmBtu

$$\frac{(192 + 288 + 720 + 1248 + 1248 \dots + 1248)}{(1200 + 2400 + 7200 + 19200 + 19200 + \dots + 19200)} = 0.066$$

As should be evident from these examples, these two methodologies produce different results due to how they handle low load operation of a boiler, which is the specific mode of operation that is being addressed with startup and shutdown of the boilers at the proposed plant. If no such events occur, so that these base-load boilers operate at similar loads during the entire 30-day averaging period, the two methodologies would produce similar results. As is also evident from the examples, the selection of methodology is also related to the stringency of the numerical emissions limitation that is applicable. That is, the difference in the consequences of the two methodologies for compliance becomes more critical when the applicable

For SO₂, the alternate compliance methodology poses no concerns for NAAQS or increment provisions as emissions as determined by the alternate methodology are fully encompassed within the modeling performed by Prairie State and contained within its application. The 3-hour average SO₂ impacts are the relevant consideration,²⁶⁹ and modeled concentrations for the impacts of Prairie State alone were well below the NAAQS for this pollutant and averaging times.²⁷⁰

For NO_x, the NAAQS and increment are an annual standard. Prairie State's modeling confirms that both are protected at .08 lb/mmBtu, which is higher than the applicable emissions rate set forth in the permit. As expressed on the record,

[T]hough not specifically modeled, increased NO_x emissions during startup would not be expected to result in an annual impact that would exceed the NO₂ annual standard, nor the significance level (1 ug/m³) for this pollutant.

[*Id.*, *Response to Comment No. 285*].

Further, similarly to its treatment of PM, PM₁₀, VOM, sulfuric acid mist, and fluoride emissions, the Illinois EPA has required the source to comply with short-term emissions limitations as well as to use good air pollution control practices during all startup, shutdown and malfunction events. Indeed, for the reasons previously articulated in Section T.1, this combined approach of mass balance calculation and work practice requirements is a stringent approach to such events.

Petitioners have failed to explain how the *Responsiveness Summary* failed to respond to their concerns.

emissions limitation is lowered. This is what has occurred for emissions of NO_x, for which the limit in the permit is both lower and more extensive than the limit in the draft permit, as it applies to operation of a boiler in all modes.

²⁶⁹ [*Id.*, *Response to Comment No. 285*].

²⁷⁰ [*Id.*].

[I]n order to establish that review of permit is warranted, §124.19(a) requires a petitioner to both state the objections to the permit that are being raised for review, and to explain why the permit decision maker's previous response to those objections (i.e., the decision maker's basis for the decision) is clearly erroneous or otherwise warrants review.

In re Kawaihae Cogeneration Project, 7 E.A.D. 107, 125 (EAB 1997) citing *In re Puerto Rico Electric Power Authority*, 6 E.A.D. 253, 255 (EAB 1995); *In re Genesee Power Station L.P.*, 4 E.A.D. 832, 866 (EAB 1993); *In re Commonwealth Chesapeake Corp* 6 E.A.D 764, 769 (EAB 1997). Further, the Petitioners have failed to show how the Illinois EPA's determination is clearly erroneous or otherwise warrants review. The Petitioners have therefore, failed to meet their burden.

3. The CO startup, shutdown, and malfunction limit is practically enforceable.

Petitioners contend that the secondary CO emissions limitation is not practically enforceable. [*See, Petition at 110-111*]. More specifically, they maintain that the permit does not address when startup ends nor when shutdown begins, whether the compliance period is 24 hours or a lesser period reflecting the actual duration of the startup or shutdown event, nor how emissions are calculated where a startup or shutdown event is less than 24 hours in length, and thus they are not certain how to determine compliance with the secondary CO emissions limitation, and cannot enforce the limitation. [*Id.*].

The issue of the practical enforceability of the CO limit was not specifically raised during the public comment period. In particular, Petitioners or other commenters did not point to any concerns regarding the compliance period. Admittedly, the secondary CO emissions limitation was not contained in the draft permit, however, the Petitioners generally sought the application of BACT during startup, shutdown and malfunction events, and could well have recognized that compliance with any secondary emissions limitation might be determined on a timeframe similar

to that for the primary emissions limitation, which is a 24-hour block average. Further, the issue now raised was present in the draft permit relative to the primary emissions limitation as again the compliance period is a 24-hour block average and the short-term emission limitation would not have applied during startup, shutdown and malfunction events. Moreover, when generally seeking to have short-term emissions limitations apply to startup, shutdown and malfunction events, Petitioners could have recommended not only a short-term CO emissions limitation, but a compliance period for same.

Instead of raising this issue in some fashion during public comment, Petitioners voice their concern for the first time in this Petition. It is a long-standing requirement that Petitioners cannot raise issues for the first time on appeal, but rather must do so during the public comment period. Based on the Illinois EPA's review of the hearing transcript and various written comments, it does not appear that the issue of whether the practical enforceability of the compliance period for startup, shutdown, and malfunction events was ever raised in the proceedings below. Petitioners themselves do not point to any part of the proceedings below demonstrating that this issue was raised or not otherwise reasonably ascertainable. As the issue was not raised during the public comment period, it was not preserved for review. *See*, 40 CFR §124.13 (all reasonably ascertainable issues must be raised "by the close of the public comment period"); *see also*, 40 CFR §124.19(a); *see also*, *In re Keystone Cogeneration Sys., Inc.*, 3 E.A.D. 766, 766 (Adm'r 1992).

Notwithstanding this procedural deficiency, on the merits, there exists no issue. The Petitioners have simply propounded a series of questions for which answers readily exist in the text of the permit. More specifically, Unit-Specific Condition 2.1.2(b)(iv)(B) provides that the

secondary short-term emissions limitation for CO shall apply on a 24-hour block average. This condition defines the beginning and ending periods of this block as follows:

For a startup event, the 24-hour period shall begin with the startup of the boiler, i.e., initial firing of fuel. For a shutdown event, the 24-hour period shall end with the shutdown of the boiler, i.e., cessation of fuel flow to the boiler.

[See, *Petitioners' Exhibit 1, Unit-Specific Condition 2.1.2(b)(iv)(B)*].

The plain meaning of words is ordinarily the guide to their definition. Giving "24-hours" its plain and ordinary meaning, the startup period must end no later than 24 clock hours after fuel is first fired in the boiler. Likewise, for shutdown events, the shutdown period must begin no later than 24 clock hours prior to the cessation of fuel flow to the boiler.

Not only is the permit clear as to the period over which compliance is to be demonstrated and when this period begins and ends, it warrants mention that block average is a common term, particularly in the practice of air pollution control. In fact, it is generally understood that a block average is the arithmetic mean of the values recorded during the prescribed time period.

It also bears mention that in addition to delineating the compliance period, the permit addresses how compliance shall be measured requiring that CO emissions be continuously monitored, irrespective of the operational mode. [*Id.*, *Unit-Specific Condition 2.19*].

Significantly, as is also generally understood, continuous emissions measurement is a preferred approach to demonstrating compliance.

In sum, the permit language is clear and unambiguous, and presents no obstacles to compliance determinations or enforcement. The permit clearly articulates the emissions limitations, the periods during which these limitations apply, the period over which compliance with these limitations shall be measured, and the means by which compliance with these limitations shall be measured. Petitioners not only failed to raise their issue during public

comment, they now fail to articulate and provide support for the issue. Specifically, they fail to delineate how it is that the language contained in the permit fails to address their questions and further fail to address how this language hinders or precludes enforcement. *See, In re Keystone Cogeneration Sys., Inc.*, 3 E.A.D. 766, 766 (Adm'r 1992); *see also, In re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 125 (EAB 1997). For these reasons, the Petitioners have failed to meet their burden.

U. The Clean Air Act Affords the Illinois EPA Discretion to Establish Emission Limits Lower Than the Maximum Degree of Emission Reduction Achievable.

Petitioners complain the Illinois EPA's response to comments fails to show that permitted emission limits are representative of the maximum degree of emissions reduction achievable and thus, the BACT analysis for SO₂ and NO_x emissions are in error. [*See, Petition at page 111 citing Petitioners' Exhibit 12, Response to Comment Nos. 111, 114, 136 and 137*]. In particular, Petitioners claim the Illinois EPA position is in error as an emission limit or control efficiency need not be "achieved" over a long period before it can be considered in a BACT determination. [*See, Petition at page 111*]. Rather, Petitioners opine a BACT limit need only be "achievable" based on reasoned engineering judgment without regard to whether the limit has been proven by existing units over the long term, and that the Clean Air Act does not afford permitting authorities discretion to consider the degree of reduction achieved in practice at similar sources. [*See, Petition at pages 111-112*].

As discussed in greater detail above in response to Petitioners' challenges to SO₂ and NO_x BACT emission limits, deference given to practical considerations concerning a specific new source include, but are not limited to, a reasonable factor of safety is a legitimate method of deriving a specific emission limitation to ensure compliance under all operational circumstances and to avoid future noncompliance with a BACT limit. A BACT limit is determined on a case-

by-case basis for the specific type of source under review. For the more particular reasons stated below, the Illinois EPA's decision represents a lawful exercise of its permitting authority consistent with the PSD program and previous Board decisions, and does not warrant review.

1. **The Illinois EPA's BACT decision for SO₂ is rationally supported ensuring Prairie State will reliably achieve compliance with BACT emission limits.**

Citing to the Illinois EPA's response to Comment No. 111, Petitioners claim the Illinois EPA erroneously based its SO₂ control efficiency on what has been "achieved" in practice rather than what is "theoretically" achievable. [See, *Petition at page 111*]. Comment No. 111 relates to concerns that Prairie State allegedly failed to demonstrate that alternative SO₂ control measures are infeasible and that the proposed new source will not be required to achieve a scrubber control efficiency of at least 99 percent for SO₂. [See, *Petitioners' Exhibit 12, Response to Comment No. 111*]. In response, the Illinois EPA explained that while data provided by Petitioners demonstrates modern controls can achieve high levels of SO₂ control on both a short-term and long-term basis, the data does not show that these controls can reliably achieve greater than 98 percent control. [See, *Petitioners' Exhibit 12, Response to Comment No. 111*].

The Illinois EPA may appropriately consider during the PSD approval process whether the proposed source can reliably achieve compliance with a BACT limit under representative operational conditions, and a sufficient margin exists over actual operational data to ensure the BACT limit is achieved on a consistent basis. The Board has recognized that permitting authorities have the discretion to set a BACT limit that does not necessarily reflect the highest possible control efficiency, but "will allow permittees to achieve compliance on a consistent basis." *In re Three Mountain Power, LLC*, 10 E.A.D. 39 (EAB 2001); citing, *In re Masonite Corp.*, 5 E.A.D. 551 (EAB 1994); see also, *In re Kendall New Century Development*, PSD Appeal No. 03-01 (EAB April 29, 2003), 11 E.A.D. ___ (petitioner failed to show clear error in

reasons identified by the permitting authority as the basis for permit limits that were not the lowest achieved at other facilities).

As exhibited by the plain language contained within the *Responsiveness Summary*, Petitioners fail to accurately characterize the meaning of the Illinois EPA's response to the SO₂ BACT emission limits. The record clearly demonstrates the Illinois EPA carefully considered comments it received, and adopted an approach in the final permit that is both rational and supportable. Having formulated a reasoned technical judgment, the Illinois EPA determined that Prairie State's permit application complied with all applicable PSD requirements. [See, *Petitioners' Exhibit 27*; see also, *Respondent's Exhibit 15*; see also, *Petitioners' Exhibit 12*]. Petitioners fail to offer a compelling reason for the Board to conclude the Illinois EPA's decision is unsupported by facts within the Administrative Record and was not a proper exercise of its permitting discretion based upon a rational technical judgment. By failing to offer such an explanation, the Petitioners fail to demonstrate the Illinois EPA's reasoning was clearly erroneous and warrants review.

As the proponent of a permit requirement different from the one adopted by the Illinois EPA, Petitioners have the burden to demonstrate the Illinois EPA's decision is clearly erroneous. See, *In re Three Mountain Power, LLC*, 10 E.A.D. 39 (EAB 2001). Petitioners' argument is unsubstantiated and fails to demonstrate the Illinois EPA's decision is not supported by facts within the Administrative Record. Accordingly, Petitioners fail to sustain their burden to demonstrate the Illinois EPA's decision requiring a scrubber control efficiency of 98 percent and assuming the proposed source reliably achieves compliance is clear error and an abuse of its permitting discretion.

- 2. Petitioners fail to show that rejection of data by the Illinois EPA that does not demonstrate achievement of an actual level of control efficiency for SO₂ was clearly erroneous.**

In making its assertion that the emission rate need only be achievable, Petitioners cite to the Illinois EPA's response to Comment No. 114 as erroneously standing for the position that a control efficiency must have been achieved for a long time. [*See, Petition at page 111*]. This commentor originally claimed that the Illinois EPA improperly rejected information demonstrating the AES Petersburg power plant located in Indiana, achieved scrubber efficiencies greater than 98 percent, in 2003, utilizing washed bituminous coal. [*See, Petitioners' Exhibit 12, Response to Comment No. 114*]. The Illinois EPA explained that, the data submitted by the commentor suggested calculated scrubber efficiencies for Petersburg Units 1 and 2 were, respectively, 97.95 percent and 98.27 percent. However, the data did not demonstrate achievement of an actual level of control efficiency that would allow a limit higher than 98 percent to be set with an adequate factor of safety. [*Id.*]. In addition, the Illinois EPA disagreed with Petitioners' interpretation of data relative to coal-washing as the coal supply to the Petersburg plant is a separate aspect of SO₂ emissions unrelated to the scrubbers. [*Id.*].

The Board has previously ruled, "a permit writer is not required to use the lowest emissions limit that has been demonstrated in a similar facility." *In re Cardinal FG Company*, PSD Appeal No. 04-04 (EAB, March 22, 2005); *citing In re Kendall New Century Development*, PSD Appeal No. 03-01 (EAB, April 29, 2003). Additionally, "the inclusion of a reasonable safety factor in the emission limit calculation is a legitimate method of deriving a specific emission limitation that may not be exceeded." *In re Knauf Fiber Glass, GmbH*, 9 E.A.D. 1 (EAB 2000). Petitioners fail to mention whether factors relative to safety were considered when setting the SO₂ emission limit for the AES Petersburg plant. Further, Petitioners fail to address how the

Illinois EPA's consideration given to adequate factors of safety specific to the proposed new source is erroneous. While the SO₂ emission limit suggested by Petitioners based on certain emission data from another facility may be lower than the BACT emission limit determined by the Illinois EPA in the present case, that alone does not demonstrate clear error in the Illinois EPA's decision nor that the decision is unsupported by the record. *See, In re New York Power Authority, Applicant Permit Application (Arthur Kill Station)*, 1 E.A.D. 825 (Adm'r 1983)(BACT determinations are site specific).

3. The Illinois EPA's decision properly considered the absence of long-term performance data for NO_x CEMS data for similar facilities.

Next, Petitioners' cue to the Illinois EPA's response to Comment No. 136 wherein the Illinois EPA rejected NO_x CEMS data from the Montour facility, located in Pennsylvania, as further support for their claim the Illinois EPA erroneously based its NO_x emission limits on what had been achieved. [*See, Petition at page 111*]. The Illinois EPA did conclude that the data does not provide an adequate basis to assess long-term performance.²⁷¹ [*See, Petitioners' Exhibit 12, Response to Comment No. 136*]. However, the underlying concern expressed by the Illinois EPA regarding the absence of long-term performance data is readily ascertainable when read in its entirety. In particular, the Illinois EPA recognized that while Petitioners suggested an emission limit for NO_x of 0.04 lb/mmBtu based upon a letter of the USEPA commenting upon the proposed design of the Longview plant, this letter did not provide the requisite details to determine long-term performance of the SCRs. [*Id.*]. The referenced letter contained certain performance data from the Montour facility utilizing SCR control, however, the Montour facility would only achieve an emission rate of 0.07 lb/mmBtu during the normal operating cycle of the SCRs. This is due to the Montour plant experiencing a NO_x inlet level for the SCRs at 0.45

²⁷¹ The Illinois EPA acknowledges the inadvertent omission of the word 'not' from its response to comment No. 136. [*See, Petitioners' Exhibit 12, Response to Comment No. 136*].

lb/mmBtu combined with the SCRs reliably achieving an 85 percent removal rate. [*Id.*]. In addition, the Illinois EPA noted that the West Virginia Department of Environmental Protection initially set a NO_x BACT limit of 0.08 lb/mmBtu, 24-hour average, for the proposed Longview plant given concerns of increased emissions of CO, VOC, and sulfuric acid mist. [*Id.*]. The permit limit was subsequently modified by a Consent Decree with a limit of 0.7 lb/mmBtu, 30 day average. [*Id.*].

The statutory definition of BACT states, in part, that BACT is an emission limitation set by the permitting authority on a case-by-case basis that is achievable “for such source.”²⁷² The term “emission limitation” is defined, in part, as a requirement relating to the operation or maintenance of a source to assure continuous emission reduction.²⁷³ It is readily apparent from these definitions that BACT determinations are tailor-made emission limitations for each facility. Consistent with such definitions, the Board has reasoned that all BACT determinations are site specific and what may be determined as BACT at one site would not necessarily be deemed BACT at another site. *See, In re New York Power Authority, Applicant Permit Application (Arthur Kill Station)*, 1 E.A.D. 825 (Adm’r 1983).

Recognizing the emission limitation and supporting data suggested by the commenter would not assure that the proposed source would consistently achieve compliance, the Illinois EPA provided a reasoned explanation supported by the Administrative Record that the commenter’s data raised uncertainty about the overall performance of the SCRs absent information relative to their long-term performance. [*See, Petitioners’ Exhibit 12, Response to*

²⁷² The definition of BACT is set forth in Section 169(3) of the Clean Air Act. *See*, 42 U.S.C. § 7479(3). *See also*, 40 CFR § 52.21(b)(12)(definition of BACT is what is “achievable for such source” not simply what is “achievable”)

²⁷³ The definition of emission limitation is set forth in Section 302(k) of the Clean Air Act. *See*, 42 U.S.C. § 7602(k).

Comment No. 136]. As set forth above, “a permit writer is not required to use the lowest emissions limit that has been demonstrated in a similar facility.” *In re Cardinal FG Company*, PSD Appeal No. 04-04 (EAB, March 22, 2005); citing *In re Kendall New Century Development*, PSD Appeal No. 03-01 (EAB, April 29, 2003). As the Petitioners argument is unsubstantiated with supporting facts, the Petitioners have failed to sustain their burden.

4. The Illinois EPA’s decision to set a NO_x BACT limit that is not the maximum achievable, but allows Prairie State to consistently achieve compliance, was not clearly erroneous.

Finally, Petitioners reference the Illinois EPA’s response to Comment No. 137 in support of their argument that the Illinois EPA erroneously based its limits on what is “achieved” rather than what has been “achievable.” [See, *Petition at pages 111-112*]. In responding to public comments, Petitioners characterize the Illinois EPA’s response as “rejecting NO_x CEMS data because it does not prove ‘lower emission rates can consistently be achieved.’” [See, *Petition at page 111; see also, Petitioners’ Exhibit 12, Response to Comment No. 137*]. In fact, this comment pointed specifically to the result of emissions calculations purporting to demonstrate that an emission rate less than 0.080 lb/mmBtu. was achievable. [*Id.*]. In particular, the comment stated that the highest reported 30-day rolling average for NO_x emissions generated during the operation of 11 coal-fired boilers selected from the USEPA’s website range from 0.049 to 0.071 lb/mmBtu. [*Id.*].

The Illinois EPA responded, at some length, to the Petitioners’ concerns stating, in part, that while the data provides substantial support for a lower limit, and was relied upon by the Illinois EPA to set a BACT NO_x limit of 0.07 lb/mmBtu for the proposed coal-fired boilers, it does not demonstrate lower emission rates can be consistently achieved by SCR systems on those or newer units. [*Id.*]. The Illinois EPA noted that when emissions data for the 11 boilers is

compared to a possible limit of 0.065 lb/mmBtu, five of the boilers would have violated the limit and three would have approached the limit, at 0.064 lb/mmBtu or 98.5 percent of the limit. [*Id.*]. Notably, only two of the boilers would have operated at 90 percent or less of the limit. [*Id.*]. Additionally, the Illinois EPA observed that, when compared to a NO_x limit of 0.07 lb/mmBtu, one of the 11 units would have exceeded the limit at 0.071 mm/Btu thereby supporting the Illinois EPA's BACT decision. [*Id.*]. Significantly, the NO_x emission limitation of 0.07 lb/mmBtu set by the Illinois EPA is within the range of emission limits suggested by Petitioner.

Petitioners ignore previous rulings by the Board deciding the issue of whether a permitting authority may set a BACT limit that is not the maximum achievable emission limit, but that allows a permittee to consistently achieve compliance. As the Board has ruled, and the Illinois EPA previously argued herein, "a permitting authority must be allowed a certain degree of discretion to set the emissions limitation at a level that does not necessarily reflect the highest possible control efficiency, but will allow the permittee to achieve compliance consistently." *In re Masonite Corporation*, 5 E.A.D. 551 (EAB 1994). Petitioners fail to sustain their burden to show the Illinois EPA's decision was an abuse of its permitting discretion, clearly erroneous or otherwise merits review.

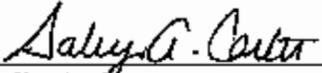
The Board recognizes that, since the inception of the PSD program, the USEPA has interpreted the statutory BACT definition as containing two core criteria: consideration of the most stringent control technologies available, and a reasoned justification of any decision to require less than the "maximum degree of reduction in emissions achievable, after considering energy, environmental and economic impacts and other costs." *In re Union County Resource Recovery Facility, permit application No. [pending]*, 3 E.A.D. 455 (Adm'r 1990). Contrary to Petitioners' claims, implicit in the development of an appropriate BACT limit is the underlying

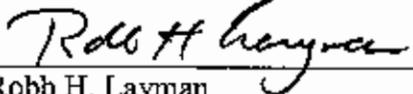
principle that a BACT limit must be based upon reasoned engineering judgment and a consideration of whether compliance with a particular BACT limit can be consistently achieved. A BACT limit need not be established at the lowest emission rate achieved by any other similar source. *See, In re Three Mountain Power, LLC.*, 10 E.A.D. 39 (EAB 2001); citing, *In re Masonite Corp.*, 5 E.A.D. 551 (EAB 1994). Rather, the establishment of a BACT limit is a case specific determination based upon the particulars of the proposed source. Consistent with the Illinois EPA's position, the EAB has reasoned that all BACT determinations are site specific and what may be deemed as BACT at one site may not necessarily be BACT at another site. *See, In re New York Power Authority, Applicant (Arthur Kill Station)*, 1 E.A.D. 825 (Adm'r 1983). Accordingly, Petitioners have failed to demonstrate that the Illinois EPA's justification to require BACT limits less than the maximum degree of emissions reduction achievable, and the rationale for the Illinois EPA's permit decision, are clearly erroneous and warrant review.

IV.

CONCLUSION

For the reasons set forth herein, the Illinois EPA respectfully requests that the EAB deny review of all issues sought by Petitioners in this appeal or, in the alternative, order such relief that is deemed just and appropriate.


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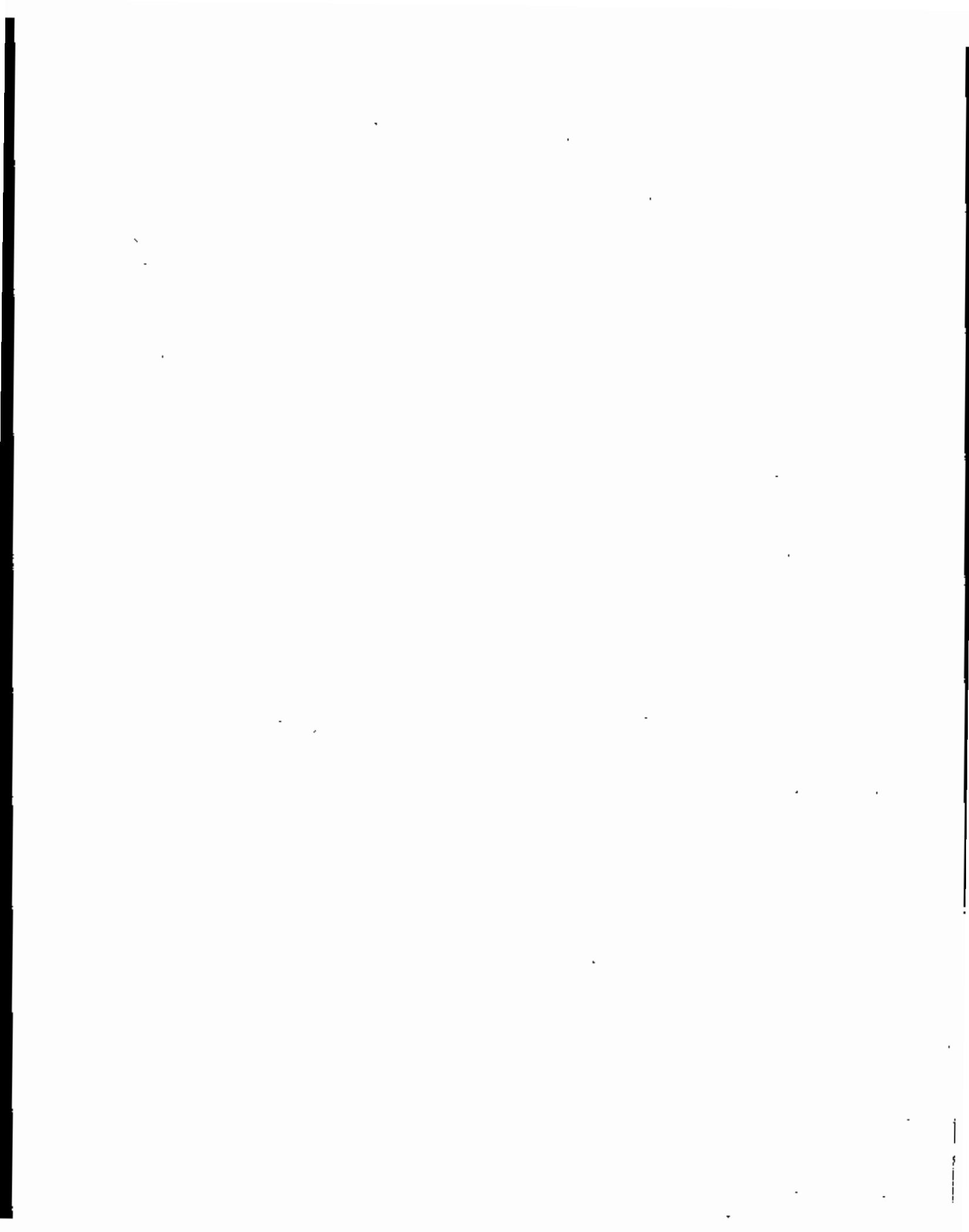
Respectfully submitted,
ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY,

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Dated: July 28, 2005
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BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

IN THE MATTER OF:)
)
 PRAIRIE STATE GENERATING)
 COMPANY, LLC) PSD APPEAL NO. 05-05
)
 PERMIT NUMBER)
 189808AAB)

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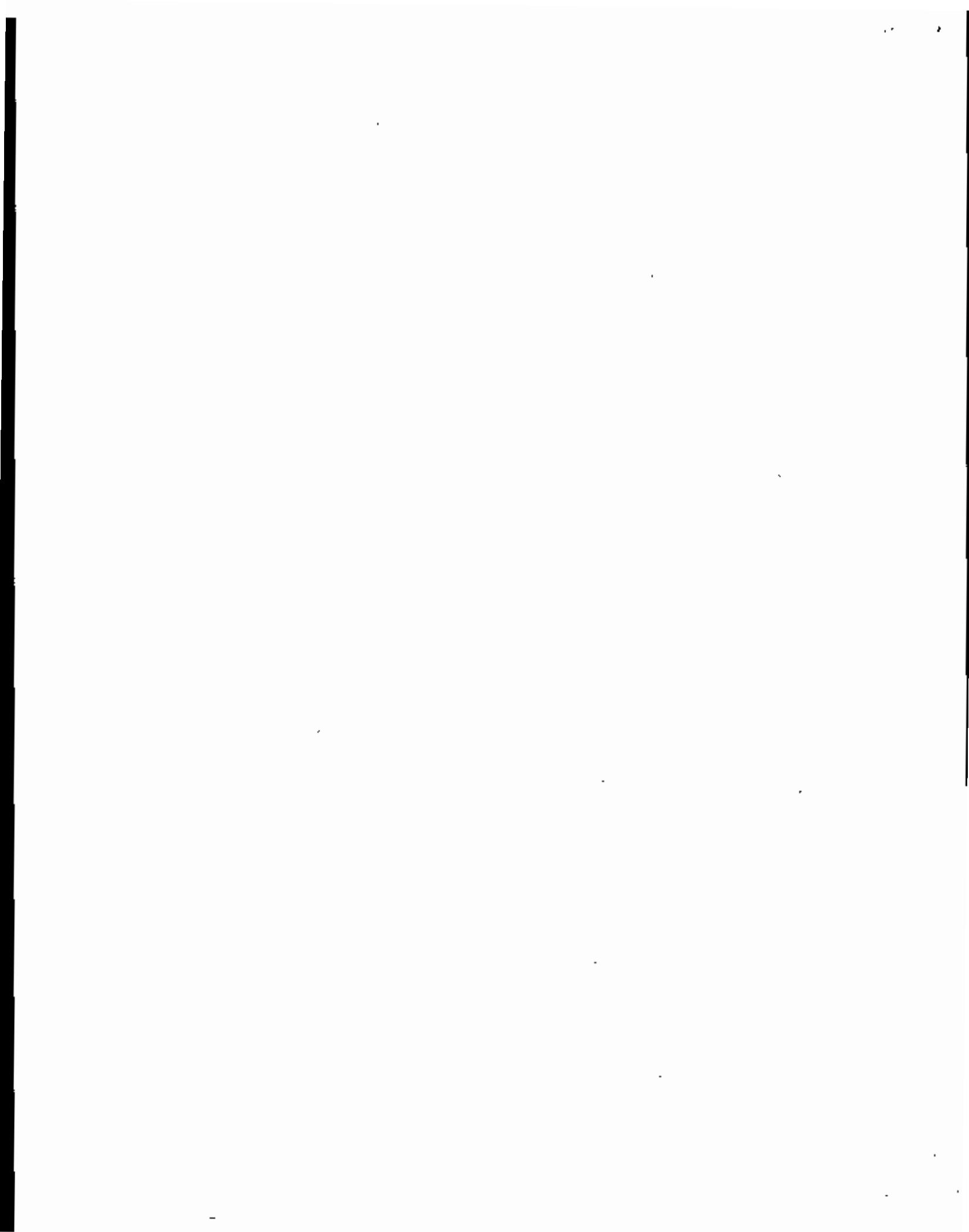
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37. Letter from Dianna Tickner, Vice President, Prairie State to Charles Matocian, Hearing Officer, Illinois EPA, July 12, 2004, responding to Dr. Phyllis J. Fox comments.
38. Information pulled from USEPA's Acid Rain website.
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40. Longview Preliminary Determination/Fact Sheet, August 26, 2003 (Certified Index 403).
41. Consent Order, *Sierra Club v. John Benedict, intervenor Longview Power* (Certified Index 403).
42. Electronic mail from Chris Romaine, Manager, Utility Unit, Permit Section to Donald Sutton, Manager, Permit Section, May 19, 2004 (Certified Index 355).
43. Letter from Dianna Tickner, Prairie State Generating Station to Chris Romaine and Rob Kaleel, Illinois EPA, regarding Additional Supporting Information for the PSD/ Title IV Permit Application, December 9, 2003, and attachments.
44. Letter from Dianna Tickner, Prairie State Generating Station to David Kolaz, Bureau Chief, Illinois EPA, June 21, 2004, and attachments.
45. Prairie State Generating Company, Inc. Class I Air Quality Modeling Protocol, March 2003.
46. Letter from Dianna Tickner to Chris Romaine regarding Prairie State Generating Station's Visibility Analysis, dated April 25, 2003, and attachments.
47. Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wildlife Refuge, dated April 2003.

48. Letter from Dianna Tickner to Rob Kaleel regarding Final Results of Class I Modeling, dated August 8, 2003, and attachments.
49. Letter from Michael Teague, Highland Marine Enterprises, Inc., regarding Update on Prairie State, dated October 7, 2003.
50. Letter from Dianna Tickner to Chris Romaine, December 19, 2003 [sic] and attachments.
51. Addendum: Updated Class I Increment Analysis for the Prairie State Generating Station and Calculation of the Maximum Compliant Emission Rate, January 14 2004.
52. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Illinois EPA, Permits Section, providing Additional Information in Support of Prairie State Generating Company's PSD/Title IV Permit Application for Prairie State Generating Station, April 19, 2004, and attachments.
53. Letter from Paul Hoffman, Acting Assistant Secretary, Fish & Wildlife & Parks, DOI, to David Kolaz, Bureau Chief, Illinois EPA, May 14, 2004, and attachments.
54. Letter from Dianna Tickner, Vice President, Prairie State Generating Company, to Charles Matoesian, Hearing Officer, Illinois EPA, responding to comments submitted June 17, 2004, by Robert Ukeiley on Behalf of the Sierra Club, the Clean Air Task Force, and the Lake County Conservation Alliance, July 12, 2004, and attachments.
55. Letter from Dianna Tickner, Vice President, Prairie State to David Kolaz, Bureau Chief, Illinois EPA, October 28, 2004, and attachments.
56. Letter from Dianna Tickner, Vice President, Prairie State to Laurel Kroack regarding Potential Visibility Impacts at Mingo, December 22, 2004.
57. Letter from Laurel Kroack to Deputy Assistant Secretary Hoffman, January 13, 2005.
58. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Manager, Utility Unit, Permit Section, Illinois EPA and Rob Kaleel, Manager, Modeling Unit, Illinois EPA: Addendum: Update Cumulative SO₂ Class I Increment Analysis for the Prairie State Generating Station, May 2004.
59. *Interagency Workgroup on Air Quality Modeling Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts*, USEPA, EPA-454/R-98-019, December, 1998.
60. Letter from Craig Manson, Assistant Secretary For Fish and Wildlife and Parks, US, Department of Interior, to Jan Sensibaugh, Director, Montana Dept. of Environmental Quality, January 10, 2003.
61. Public Notice (Notice of Public Hearing and Comment Period).

62. Alstom Power Letter, dated September 26, 2002, concerning Prairie State's request for information describing the removal of SO₂, NO_x, PM/PM₁₀, H₂SO₄, HCl and Mercury in the air quality control system proposed by Alstom.
63. Letter from Pamela Blakley, Chief, Air Permit Section, USEPA-Region V to Donald Sutton, Manager, Permit Section, Illinois EPA, July 26, 2004.
64. Electronic mail of James Allison, from Shashi Shah, Permit Section, Illinois EPA to Chris Romaine, Utility Manager, Permit Section, Illinois EPA, April 26, 2005.
65. Permit to Construct an Electrical Power Generation Facility, Longview Power, LLC, effective date March 2, 2004 (Certified Index No. 403).
66. Construction Permit/PSD Approval, Indeck-Elwood LLC, dated October 10, 2003 (Certified Index No. 400).
67. Letter from Kyle Lucas, Air Permitting Manager, Black & Veatch Corp. to Don Sutton, Manager, Permit Section, Illinois EPA, Air Modeling Workplan and Request for Cumulative Source Inventory, July 9, 2001, and attached Ambient Air Quality Impact Analysis Workplan.
68. Prairie State Generating Station Prevention of Significant Deterioration Air Construction Permit Application, Title IV & Case-by-Case MACT Application, October 19, 2001.
69. Letter from Dianna Tickner Vice President, Prairie State to Charles Matoesian, Hearing Officer, Illinois EPA, June 14, 2004, replying to comments made regarding Dynegy.
70. Affidavit of Shashi Shah, Permit Section, Illinois EPA.
71. Memorandum from Gerald A. Emison, Director, Office of Air Quality Planning and Standards (MD-10) to Thomas J. Maslany, Director, Air Management Division (3AM00), *Air Quality Analysis for Prevention of Significant Deterioration*, July 5, 1988.
72. Memorandum from Richard G. Rhodes, Director, Control Programs Development Divisions (MD-15), USEPA, to Alexandra Smith, Director, Air & Hazardous Materials Division, Region X, USEPA, *Interpretation of "Significant Contribution"*, December 16, 1980.
73. Memorandum from James T. Wilburn, Chief, Air Management Branch, Air and Waste Management Division, Region IV, USEPA, to W. Fin Johnson, Chief, Air Quality Section, Division of Environmental Management, North Carolina Dept. of Natural Resources & Community Development, June 12, 1984.
74. Memorandum from Marcia L. Spink, Chief, Air Programs Branch, USEPA, to John M. Daniel, Jr., Assistant Executive Director, Department of Air Pollution Control, Virginia, April 25, 1990.

75. *USEPA's Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)*, USEPA, EPA-450/4-87-007, May 1987.
76. Electronic mail from Matthew Will, Modeling Unit, Illinois EPA to Kyle Lucas, Black & Veatch, July 10, 2001, 3:02:33 PM (Certified Index 353).
77. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Manager, Utility Unit, Permit Section, June 18, 2004, re: additional information in support of previously submitted additional impact analysis of growth and visibility impacts.
78. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Manager, Utility Unit, Permit Section, June 18, 2004, re: Lead & Beryllium Emissions.
79. Letter from Dianna Tickner Vice President, Prairie State to Jeffrey Sprauge, Modeling Unit, Illinois EPA, January 7, 2005 [sic], and attachments, re: additional impact analysis.
80. *A Screening Procedure for the Impacts of Air Pollution Sources and Plants, Soils and Animals*, USEPA, EPA-450/2-81-078, December 12, 1980.
81. *Guideline for Regulatory Application of the Urban Airshed Model*, USEPA, EPA-450/4-91-013, July 1991.
82. *Emission Inventory Requirements for Ozone State Implementation Plans*, USEPA, EPA-450/4-91-010, March, 1991.
83. USEPA Supplemental Guidance Emission and Modeling Related Issues, Subject: Issues Associated with the 1990 Base Year Emission Inventory and Modeling (Bill Laxton's Memorandum, dated December 26, 1991).
84. Electronic mail from Erik Hendrickson, Texas Commission on Environmental Quality, to Shashi Shah, Permit Section, Illinois EPA, December 2, 2004.



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39. Miscellaneous information pertaining to Longview Power (Certified Index 403).
40. Longview Preliminary Determination/Fact Sheet, August 26, 2003 (Certified Index 403).
41. Consent Order, *Sierra Club v. John Benedict, intervenor Longview Power* (Certified Index 403).
42. Electronic mail from Chris Romaine, Manager, Utility Unit, Permit Section to Donald Sutton, Manager, Permit Section, May 19, 2004 (Certified Index 355).
43. Letter from Dianna Tickner, Prairie State Generating Station to Chris Romaine and Rob Kaleel, Illinois EPA, regarding Additional Supporting Information for the PSD/ Title IV Permit Application, December 9, 2003, and attachments.
44. Letter from Dianna Tickner, Prairie State Generating Station to David Kolaz, Bureau Chief, Illinois EPA, June 21, 2004, and attachments.
45. Prairie State Generating Company, Inc. Class I Air Quality Modeling Protocol, March 2003.
46. Letter from Dianna Tickner to Chris Romaine regarding Prairie State Generating Station's Visibility Analysis, dated April 25, 2003, and attachments.
47. Application of CALMET and CALPUFF to Assess the Impacts of the Proposed Prairie State Generating Station at the Mingo Wildlife Refuge, dated April 2003.

48. Letter from Dianna Tickner to Rob Kaleel regarding Final Results of Class I Modeling, dated August 8, 2003, and attachments.
49. Letter from Michael Teague, Highland Marine Enterprises, Inc., regarding Update on Prairie State, dated October 7, 2003.
50. Letter from Dianna Tickner to Chris Romaine, December 19, 2003 [sic] and attachments.
51. Addendum: Updated Class I Increment Analysis for the Prairie State Generating Station and Calculation of the Maximum Compliant Emission Rate, January 14 2004.
52. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Illinois EPA, Permits Section, providing Additional Information in Support of Prairie State Generating Company's PSD/Title IV Permit Application for Prairie State Generating Station, April 19, 2004, and attachments.
53. Letter from Paul Hoffman, Acting Assistant Secretary, Fish & Wildlife & Parks, DOI, to David Kolaz, Bureau Chief, Illinois EPA, May 14, 2004, and attachments.
54. Letter from Dianna Tickner, Vice President, Prairie State Generating Company, to Charles Matoesian, Hearing Officer, Illinois EPA, responding to comments submitted June 17, 2004, by Robert Ukeiley on Behalf of the Sierra Club, the Clean Air Task Force, and the Lake County Conservation Alliance, July 12, 2004, and attachments.
55. Letter from Dianna Tickner, Vice President, Prairie State to David Kolaz, Bureau Chief, Illinois EPA, October 28, 2004, and attachments.
56. Letter from Dianna Tickner, Vice President, Prairie State to Laurel Kroack regarding Potential Visibility Impacts at Mingo, December 22, 2004.
57. Letter from Laurel Kroack to Deputy Assistant Secretary Hoffman, January 13, 2005.
58. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Manager, Utility Unit, Permit Section, Illinois EPA and Rob Kaleel, Manager, Modeling Unit, Illinois EPA: Addendum: Update Cumulative SO₂ Class I Increment Analysis for the Prairie State Generating Station, May 2004.
59. *Interagency Workgroup on Air Quality Modeling Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts*, USEPA, EPA-454/R-98-019, December, 1998.
60. Letter from Craig Manson, Assistant Secretary For Fish and Wildlife and Parks, US, Department of Interior, to Jan Sensibaugh, Director, Montana Dept. of Environmental Quality, January 10, 2003.
61. Public Notice (Notice of Public Hearing and Comment Period).

62. Alstom Power Letter, dated September 26, 2002, concerning Prairie State's request for information describing the removal of SO₂, NO_x, PM/PM₁₀, H₂SO₄, HCl and Mercury in the air quality control system proposed by Alstom.
63. Letter from Pamela Blakley, Chief, Air Permit Section, USEPA-Region V to Donald Sutton, Manager, Permit Section, Illinois EPA, July 26, 2004.
64. Electronic mail of James Allison, from Shashi Shah, Permit Section, Illinois EPA to Chris Romaine, Utility Manager, Permit Section, Illinois EPA, April 26, 2005.
65. Permit to Construct an Electrical Power Generation Facility, Longview Power, LLC, effective date March 2, 2004 (Certified Index No. 403).
66. Construction Permit/PSD Approval, Indeck-Elwood LLC, dated October 10, 2003 (Certified Index No. 400).
67. Letter from Kyle Lucas, Air Permitting Manager, Black & Veatch Corp. to Don Sutton, Manager, Permit Section, Illinois EPA, Air Modeling Workplan and Request for Cumulative Source Inventory, July 9, 2001, and attached Ambient Air Quality Impact Analysis Workplan.
68. Prairie State Generating Station Prevention of Significant Deterioration Air Construction Permit Application, Title IV & Case-by-Case MACT Application, October 19, 2001.
69. Letter from Dianna Tickner Vice President, Prairie State to Charles Matoesian, Hearing Officer, Illinois EPA, June 14, 2004, replying to comments made regarding Dynegy.
70. Affidavit of Shashi Shah, Permit Section, Illinois EPA.
71. Memorandum from Gerald A. Emison, Director, Office of Air Quality Planning and Standards (MD-10) to Thomas J. Maslany, Director, Air Management Division (3AM00), *Air Quality Analysis for Prevention of Significant Deterioration*, July 5, 1988.
72. Memorandum from Richard G. Rhodes, Director, Control Programs Development Divisions (MD-15), USEPA, to Alexandra Smith, Director, Air & Hazardous Materials Division, Region X, USEPA, *Interpretation of "Significant Contribution"*, December 16, 1980.
73. Memorandum from James T. Wilburn, Chief, Air Management Branch, Air and Waste Management Division, Region IV, USEPA, to W. Fin Johnson, Chief, Air Quality Section, Division of Environmental Management, North Carolina Dept. of Natural Resources & Community Development, June 12, 1984.
74. Memorandum from Marcia L. Spink, Chief, Air Programs Branch, USEPA, to John M. Daniel, Jr., Assistant Executive Director, Department of Air Pollution Control, Virginia, April 25, 1990.

75. *USEPA's Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)*, USEPA, EPA-450/4-87-007, May 1987.
76. Electronic mail from Matthew Will, Modeling Unit, Illinois EPA to Kyle Lucas, Black & Veatch, July 10, 2001, 3:02:33 PM (Certified Index 353).
77. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Manager, Utility Unit, Permit Section, June 18, 2004, re: additional information in support of previously submitted additional impact analysis of growth and visibility impacts.
78. Letter from Dianna Tickner, Vice President, Prairie State to Chris Romaine, Manager, Utility Unit, Permit Section, June 18, 2004, re: Lead & Beryllium Emissions.
79. Letter from Dianna Tickner Vice President, Prairie State to Jeffrey Sprauge, Modeling Unit, Illinois EPA, January 7, 2005 [sic], and attachments, re: additional impact analysis.
80. *A Screening Procedure for the Impacts of Air Pollution Sources and Plants, Soils and Animals*, USEPA, EPA-450/2-81-078, December 12, 1980.
81. *Guideline for Regulatory Application of the Urban Airshed Model*, USEPA, EPA-450/4-91-013, July 1991.
82. *Emission Inventory Requirements for Ozone State Implementation Plans*, USEPA, EPA-450/4-91-010, March, 1991.
83. USEPA Supplemental Guidance Emission and Modeling Related Issues, Subject: Issues Associated with the 1990 Base Year Emission Inventory and Modeling (Bill Laxton's Memorandum, dated December 26, 1991).
84. Electronic mail from Erik Hendrickson, Texas Commission on Environmental Quality, to Shashi Shah, Permit Section, Illinois EPA, December 2, 2004.