APPENDIX A

Summary of Informational Order

ILLINOIS POLLUTION CONTROL BOARD

December 21, 2000

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ILLINOIS POLLUTION CONTROL BOARD ADOPTS INFORMATIONAL ORDER ON PEAKER PLANTS DOCKET No. R01-10

In response to a request from Governor George H. Ryan, the Illinois Pollution Control Board (Board) today adopted an Informational Order on natural gas-fired, peak-load electrical power generating facilities (peaker plants). Peaker plants generate electricity during periods of peak electricity demand. The recent proliferation of peaker plants has been a source of much public controversy in the Chicago metropolitan area.

The Informational Order follows seven days of public inquiry hearings across the State (August 23 and 24 in Chicago; September 7 in Naperville; September 14 in Joliet; September 21 in Grayslake; and October 5 and 6 in Springfield). Over 80 persons testified at these public hearings, including individual citizens, representatives of citizen groups, representatives of State and local government, and representatives of industry. The hearing transcripts comprise nearly 1,300 pages of testimony. The Board also received 195 written public comments. The transcripts and public comments are available on the Board's Web site at www.ipcb.state.il.us.

The Board was created by the Illinois Environmental Protection Act (Act) to "determine, define and implement the environmental control standards applicable in the State of Illinois." In addition to the Board's duty to promulgate environmental regulations and to decide contested environmental cases, the Board is authorized to conduct such other noncontested or informational hearings as may be necessary to accomplish the purposes of the Act. Specifically, the Board can conduct inquiry hearings to gather information on any subject the Board is authorized to regulate.

Citing public concern over the recent proliferation of peaker plants in Illinois, Governor Ryan, in a July 6, 2000 letter, asked Board Chairman Claire A. Manning to undertake Board inquiry proceedings. The Governor's letter specifically asked that the Board hold public hearings to address the following issues and to make recommendations on whether further regulation or legislation is necessary to safeguard Illinois' environment:

1. Do peaker plants need to be regulated more strictly than Illinois' current air quality statutes and regulations provide?

2. Do peaker plants pose a unique threat, or a greater threat than other types of State-regulated facilities, with respect to air pollution, noise pollution, or groundwater or surface water pollution?

3. Should new or expanding peaker plants be subject to siting requirements beyond applicable local zoning requirements?

4. If the Board determines that peaker plants should be more strictly regulated or restricted, should additional regulations or restrictions apply to currently permitted facilities or only to new facilities and expansions?

5. How do other states regulate or restrict peaker plants?

In its Informational Order, the Board provides specific answers to each of the Governor's questions and makes recommendations. Copies of the Informational Order will be available to the public on Friday, December 22. The Board is also preparing a companion report that it expects to release sometime in January. This report will summarize all of the information received by the Board in these proceedings. The Informational Order and companion report, when released, will be posted on the Board's Web site at www.ipcb.state.il.us. Copies may be obtained by calling the Board's Chicago office at (312) 814-3620 or its Springfield office at (217) 524-8500.

In its Informational Order, the Board recommends that the State tighten current environmental regulations concerning peaker plants to ensure the protection of the environment.

In the area of air emissions, the Informational Order notes that peaker plants burn natural gas, which is a relatively clean fuel from an environmental perspective. While peaker plants emit various pollutants into the air, nitrogen oxides (NO_x) are of particular concern because they are ozone precursors. In Illinois, a facility that emits less than 250 tons per year (TPY) is considered a "minor" source under current State and federal environmental regulations. Many of the proposed peaker plants are being permitted to allow for emissions just under this threshold and are intended to emit much less than that. Due to their "peaking" nature, however, the Board finds that these plants are unique. They can emit most if not all of their permitted annual amount of air emissions during a concentrated period of time. This time period is generally the summer months when the ozone risk is highest.

In its Informational Order, the Board recommends that the Illinois Environmental Protection Agency (IEPA) and the Board engage in rulemaking under the Act to consider requiring these plants to use the "Best Available Control Technology" (BACT) in controlling their air emissions. BACT is a federally-derived regulatory methodology intended to determine the maximum degree to which air emissions can be reduced in light of energy, environmental, and economic impacts. Generally in Illinois, BACT only applies to "major" sources, which are those that emit 250 TPY or more.

Also regarding air regulations, the Board recommends codifying two practices that IEPA Director Tom Skinner administratively implemented to respond to public concern over the proliferation of peaker plants: dispersion modeling and public hearings for all proposed peaker plant construction permits.

Dispersion modeling is intended to ensure that peaker plant air emissions do not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS). While not required for minor sources, IEPA has recently been requesting this modeling information from peaker plant developers during the permit process. The modeling should use conservative parameters to determine the worst-case impact, including any cumulative impact due to the clustering of peaker plants.

On the question of noise, the Board finds that Illinois' current noise regulations are adequate to address most concerns and that citizen's enforcement actions before the Board are available to enforce noise standards. Nonetheless, the Board recognizes that a "gap" exists in current Illinois noise regulation. While the State noise standards are strict, IEPA does not currently have a program in place to ensure at the time of air permitting that facilities will meet those noise standards. The Board recommends remedying that problem.

Finally, on the question of whether peaker plants should be subject to siting requirements beyond local zoning, the Board stops short of making any specific recommendation on siting. Instead, the Board provides the Governor with an informed discussion of the concerns raised and potential solutions.

In announcing the Board's Informational Order, Board Chairman Claire A. Manning stated: "The Board very much appreciates the valuable and insightful public participation in these proceedings from all interested persons, businesses, and associations. The huge record that was created has allowed the Board to address the threshold issues presented to us by the Governor and by the participants. We have been able to make several valuable recommendations to enhance the regulations that apply to these plants—and to further safeguard Illinois' environment. We commend Governor Ryan for the leadership he has shown on these issues and thank him for the opportunity to have served him and the citizens of the State of Illinois on these important questions."

The Board is an independent State board comprised of seven technically qualified individuals, all of whom are appointed by the Governor with the advice and consent of the Senate. For more information about the Board and its members, please visit the Board's Web site at www.ipcb.state.il.us.

APPENDIX B

PERSONS TESTIFYING

Chicago Hearings

August 23, 2000

1. Charles Fisher, Executive Director, ICC

2. Thomas Skinner, Director, IEPA

3. Christopher Romaine, Manager, Utility Unit, Permit Section, Division of Air Pollution Control, Bureau of Air, IEPA

4. Robert Kaleel, Manager of Air Quality Modeling Unit, Division of Air Pollution Control, Bureau of Air, IEPA

5. Greg Zak, Noise Advisor, IEPA

6. Steve Nightingale, Manager, Industrial Unit, Bureau of Water Permits Section, IEPA

7. Rick Cobb, Manager, Groundwater Section, Bureau of Water, IEPA

8. Todd Marvel, Assistant Manager of Field Operations Section and RCRA Coordinator/USEPA Liaison/IEPA

9. Dr. Brian Anderson, Director, OSRA, DNR

10. Dr. Derek Winstanley, Chief, ISWS, DNR

August 24, 2000

1. Gerald Erjavec, Manager, Business Development, Indeck

2. Greg Wassilkowsky, Manager, Business Development, Indeck

3. Arlene Juracek, Vice President, Regulatory and Legislative Services, ComEd

4. Steven Nauman, Vice President, Transmission Services, ComEd

5. Deirdre Hirner, Executive Director, IERG

6. Richard Bulley, Executive Director, MAIN

7. Freddi Greenberg, Executive Director and General Counsel, MWIPS

8. Michael Kearney, Manager, Economic Development, Ameren

9. Richard Trzupek, Manager, Air Quality, Huff & Huff

Suburban Hearings

Naperville
September 7, 2000

1. Mayor George Pradel, Naperville

2. State Senator Chris Lauzen

3. State Representative Mary Lou Cowlishaw

4. Mayor Vivian Lund, Warrenville

5. Paul Hoss, Zoning Manager, DuPage County Department of Development and Environmental Concerns

6. Richard Ryan, President and Chairman, Standard Power and Light, Oak Brook

7. Dianne Turnball, consultant to several citzen groups, a private foundation, and businesses opposing certain peaker plants

8. Carol Dorge, Director, LCCA

9. Connie Schmidt, representative of the River Prairie Group of the Illinois Sierra Club

10. Mark Goff, resident, Warrenville

11. Cathy Capezio, resident, Aurora

12. Terry Voitik, resident, DuPage County, and founder of CAPPRA

13. Maurice Gravenhorst, member, CAPPRA

14. Lucy Debarbaro, member, CAPPRA

15. Terry Voitik on behalf of Steve Arrigo, CAPPRA

16. Susan Zingle, Executive Director, LCCA

17. Beverly DeJovine, representative, Bartlett CARE

18. Cathy Johnson, Vice Chair, Rural and City Preservation Association

19. Chris Gobel, member, CAPPRA

20. Elliot "Bud" Nesvig

21. Sandy Cole, Commissioner, Lake County Board

Joliet
September 14, 2000

1. Dr. Thomas Overbye, Associate Professor, Department of Electrical and Computer Engineering, University of Illinois, Champaign-Urbana

2. Alan Jirik, Director, Environmental Affairs, CPI

3. Carol Stark, Director, CARE, Lockport

4. Susan Zingle, Executive Director, LCCA

5. Keith Harley, Chicago Legal Clinic

6. Elliot "Bud" Nesvig

7. Michael Shay, Senior Planner, Will County

Grayslake
September 21, 2000

1. State Senator Terry Link

2. State Representative Susan Garrett

3. Tom Lynch, Trustee, Libertyville Township

4. Betty Rae Kaiser, Trustee, Village of Wadsworth

5. Daniel J. Kucera, Chapman & Cutler, appearing on behalf of the Lake County Public Water District

6. Jim LaBelle, Chairman, Lake County Board

7. Sandy Cole, Commissioner, Lake County Board

8. Bonnie Thomson Carter, Commissioner, Lake County Board

9. Greg Elam, CEO, American Energy

10. Larry Eaton, attorney, on behalf of the Liberty Prairie Conservancy, Prairie Holdings Corporation, and Prairie Crossing Homeowners Association

11. Toni Larsen, resident, Zion

12. Chris Geiselhart, Chairperson, CCLC

13. Dianne Turnball, representing Liberty Prairie Conservancy, CCLC, CARE from McHenry County, Bartlett CARE, and Southwest Michigan Perservation Association

14. Lisa Snider, Resident, Wadsworth

15. Verena Owen, Co-Chair, Zion Against Peaker Plants

16. Elliot “Bud” Nesvig

17. Carolyn Muse, resident, Zion

18. John Matijevich

19. Dennis Wilson, resident, Island Lake

20. Terry Jacobs, resident, Libertyville

21. Jim Booth, resident, Newport Township, Lake County

22. William McCarthy, resident, Libertyville

23. Susan Zingle, Executive Director, LCCA

24. Barbara Amendola, resident, Zion

25. Mark Sargis, attorney, working with citizens concerned about peaker plants

26. Cindy Skrukrud, resident, Olin Mills, McHenry County

27. Paul Geiselhart, resident, Libertyville

28. Dr. William Holleman, President, Illinois Citizen Action

29. Evan Craig, Volunteer Chair, Woods & Wetlands Group of the Sierra Club

30. Phillip Lane Tanton

31. Sally Ball, on behalf of State Representative Lauren Beth Gash

Springfield Hearings

October 5, 2000

1. Roger Finnell, Engineer, Division of Aeronautics, Bureau of Airport Engineering, IDOT

2. John Smith, representative of ISAWWA

3. Brent Gregory, representative of National Association of Water Companies, Illinois Chapter

4. James R. Monk, President, IEA

5. Patricio Silva, Midwest Activities Coordinator, NRDC

6. Brian Urbaszewski, Director, Environmental Health Programs, ALAMC, and board member of IEC

7. Elliot “Bud” Nesvig

8. Carol Dorge, Director, LCCA

October 6, 2000

1. Susan Zingle, Executive Director, LCCA

2. Scott Phillips, Deputy Counsel, IEPA

3. Kathleen Bassi, Assistant for Program and Policy Coordination for Bureau of Air, IEPA

4. Chris Romaine, Manager, Utility Unit, Permit Section, Division of Air Pollution Control, Bureau of Air, IEPA

5. Greg Zak, Noise Advisor, IEPA

6. Todd Marvel, Assistant Manager of Field Operations Section and RCRA Coordinator/USEPA Liaison, IEPA

7. Steve Nightingale, Manager, Industrial Unit, Bureau of Water Permits Section, IEPA

APPENDIX C

EXHIBIT LIST

Exhibit Number	Description
ICC Exh. 1 (8/23/00)	Prefiled testimony of Charles Fisher
IEPA Grp. Exh. 1 (8/23/00)	Prefiled testimony of IEPA witnesses (Thomas Skinner, Christopher Romaine, Robert Kaleel, Greg Zak, Steve Nightingale, Richard Cobb, and Todd Marvel)
IEPA Grp. Exh. 2 (8/23/00)	Set of 20 documents, beginning with "Simple Cycle Gas Turbine Application Diagram," and including two oversized maps
DNR Exh. 1 (8/23/00)	Prefiled testimony of Dr. Brian Anderson
DNR Exh. 2 (8/23/00)	Prefiled testimony of Dr. Derek Winstanley
Indeck Exh. 1 (8/24/00)	Prefiled testimony of Gerald Erjavec
Indeck Exh. 2 (8/24/00)	Copy of PowerPoint presentation and Supporting Documentation
ComEd Exh. 1 (8/24/00)	Prefiled testimony of Arlene Juracek and Steven Naumann
IERG Exh. 1 (8/24/00)	Prefiled testimony of Deirdre Hirner
MAIN Exh. 1 (8/24/00)	Prefiled testimony of Richard Bulley

MWIPS Exh. 1 (8/24/00)	Prefiled testimony of Freddi Greenberg
Ameren Exh. 1 (8/24/00)	Prefiled testimony of Michael Kearney
Huff & Huff Exh. 1 (8/24/00)	Prefiled testimony of Richard Trzupek, with attachments
CAPPRA Exh. 1 (9/7/00)	CAPPRA Mission Statement and photographs
CAPPRA Exh. 2 (9/7/00)	Steven Berning, *et al*. v. The City of Aurora, et al., 00-CH-0361, Second Amended Complaint for Declaratory Judgment pending in DuPage County Circuit Court
CAPPRA Exh. 3 (9/7/00)	Testimony of Michael Warfel
CAPPRA Exh. 4 (9/7/00)	Testimony of Steve Arrigo
DuPage County Board Exh. 1 (9/7/00)	Versar Report
DuPage County Board Exh. 2 (9/7/00)	Map—DuPage County Municipalities and Unincorporated Areas
DuPage County Board Exh. 3 (9/7/00)	Testimony of Paul J. Hoss, Zoning Manager for DuPage County Department of Development and Environmental Concerns
Standard Power and Light Exh. 1 (9/7/00)	Addendum No. 2 to Application for PSD Deterioration Construction

	Permit for Standard Energy Ventures, LLC Electrical Generation Facility
Bartlett CARE Exh. 1 (9/7/00)	Testimony of Beverly DeJovine
Zingle Exh. 1 (9/7/00)	"Peaker" Electrical Generating Plants Press Coverage—2000
Zingle Exh. 2 (9/7/00)	Testimony of LCCA
Zingle Exh. 3 (9/14/00)	Testimony of LCCA, with attachments
Zingle Exh. 4 (9/21/00)	Video Tape
Zingle Exh. 5 (10/6/00)	"Typical Daily Load Curve" of Reliant
Zingle Exh. 6 (10/6/00)	"The Status of U.S. Electricity Deregulation"
Zingle Exh. 7 (10/6/00)	Arthur Andersen's "Impact Analysis Mallory Parcel—Libertyville, Illinois"
Zingle Exh. 8 (10/6/00)	"Effects of the Proposed Indeck Facility on Property Values, Land Use and Tax Revenue"
Zingle Exh. 9 (10/6/00)	August 15, 2000 letter from Lake County State's Attorney, Michael J. Waller, to Kenneth L. Larson
Zingle Exh. 10 (10/6/00)	News Articles, beginning with "Ordinance Would Place Provisos on Peaker Plants"
Zingle Exh. 11 (10/6/00)	"Business Overview—Electrical

	Generating Companies"
Sierra Club Exh. 1 (9/7/00)	Testimony of Connie Schmidt
Overbye Exh. 1 (9/14/00)	"Need for New Peaker Generation in Illinois" PowerPoint presentation
CPI Exh. 1 (9/14/00)	Testimony of Alan L. Jirik
Stark Exh. 1 (9/14/00)	Testimony of Carol Stark
Stark Exh. 2 (9/14/00)	Newspaper article
Chicago Legal Clinic Exh. 1 (9/14/00)	Petition to USEPA requesting revocation of the NO_x waiver
Chicago Legal Clinic Exh. 2 (9/14/00)	Testimony of Keith Harley
Link Exh. 1 (9/21/00)	Statement of State Senator Terry Link
Lynch Exh. 1 (9/21/00)	Comments of Tom Lynch, Libertyville Township Trustee
Kaiser Exh. 1 (9/21/00)	Village of Wadsworth Resolution R130 and letter of December 21, 1999
Kucera Exh. 1 (9/21/00)	Comments on behalf of the Lake County Public Water District

Lake County Exh. 1 (9/21/00)	Testimony of Jim LaBelle, Chairman Lake County Board
Lake County Exh. 2 (9/21/00)	Testimony of Sandy Cole, Lake County Board Member
Lake County Exh. 3 (9/21/00)	Testimony of Bonnie Thomson Carter, Lake County Board Member
Lake County Exh. 4 (9/21/00)	Testimony of Greg Elam, CEO of American Energy, including PowerPoint presentation and FERC article
Lake County Exh. 5 (9/21/00)	Lake County 2000—Legislative Program
Eaton Exh. 1 (9/21/00)	Testimony of Larry Eaton on behalf of Liberty Prairie Conservancy, Prairie Holdings Corporation, and Prairie Crossing Homeowners Association
CCLC Exh. 1 (9/21/00)	Testimony of Chris Geiselhart, Chairperson
CCLC Exh. 2 (9/21/00)	Comments of Richard Domanik during an April 25, 2000 hearing in Libertyville, with attached articles
Nesvig Exh. 1 (9/21/00)	Testimony of E.M. Nesvig
Nesvig Exh. 2 (9/21/00)	"Electric Power Monthly" (July 2000 edition)
Nesvig Exh. 3 (10/5/00)	Written testimony of E.M. Nesvig
Nesvig Exh. 4 (10/5/00)	Hard copy of Air Permit Public Hearing Presentation (September

	28, 2000) by Elwood Energy II and Elwood Energy III
Nesvig Exh. 5 (10/5/00)	"U.S. Electricity Imports and Exports 1995–1999"
McCarthy Exh. 1 (9/21/00)	Correspondence of William McCarthy, PhD, regarding proposed Libertyville plant
McCarthy Exh. 2 (9/21/00)	Guidance for Power Plant Siting and Best Available Control Technology
McCarthy Exh. 3 (9/21/00)	"Catalytica" publication regarding "XONON™ Technology"
Sargis Exh. 1 (9/21/00)	Written comments of Mark R. Sargis (dated September 7, 2000)
IDOT Exh. 1 (10/5/00)	October 5, 2000 letter from James V. Bildilli to Chairman Claire A. Manning
Gregory Exh. 1 (10/5/00)	Written testimony of Brent Gregory
Monk Exh. 1 (10/5/00)	Written testimony of James Monk
Monk Exh. 2 (10/5/00)	"System Peak Load and Capacity—Historical 1990-2000 & Projected 2001-2003
ALAMC Exh. 1 (10/5/00)	Joint Comments of the ALAMC and IEC
Dorge Exh. 1 (10/5/00)	Written comments of LCCA

Dorge Exh. 2 (10/5/00)	"Peaker" Natural Gas Fired Turbines—Permits Issued
Dorge Exh. 3 (10/5/00)	"Peaker" Natural Gas Fired Turbines Permits Issued—PSD
Dorge Exh. 4 (10/5/00)	Group of four exhibits, beginning with "Lake County Conservation Alliance written comments in Carlton air permitting proceeding"

APPENDIX D

PUBLIC COMMENTS

1	Reliant, submitted by Cindy Conte, Manager, State Affairs
2	Debbie Halvorson, Sentator, 40th District
3	Ron Molinaro
4	Peter J. Cioni, Director of Community Development, City of Zion
5	Lake County Zoning Board of Appeals submitted by Bob Mosteller, Deputy Director
6	Larry Eaton
7	Susan Zingle
8	Response to Questions—Charles Fisher of the ICC
9	IEPA Response to Questions
10	John Smith, ISAWWA
11	"The Status of U.S. Electricity Deregulation" submitted by Susan Zingle, LCCA Executive Director
12	Gary Hougen
13	Robert Brooks
14	Amy Snyder
15	Gary A. Bellak
16	Sally J. Carr
17	Rollin and Sara Shaw
18	Paul and Cyndy Niles
19	Mike Miller
20	Bill O'Donnell
21	Wesley Landmeier
22	Lucille Landmeier
23	Julie and Curt Moon
24	Lester Landmeier
25	Joyce Landmeier
26	Jim Schindel
27	Diane Schindel
28	Joyce Sanders
29	Lawrence H. Robertson
30	Harold and Barbara Snyder
31	Curt W. Peters
32	Walter Quanstrom
33	Byron and Kristin Henn
34	Kris O'Donnell
35	John Geltz,
36	Brian J. Gelf

37	Veda E. Miller
38	Sheri and Keith Fitzgerald
39	Tim Geltz
40	Gail Geltz
41	Sue Andersen
42	Kenneth Andersen
43	Mrs. Arnold Nier
44	Gary Brigel
45	Jeanette Bower
46	James and Kelly Reuland
47	Linda J. Ott
48	Darrin J. Ott
49	Duane Rhoades
50	Steven R. Weissinger
51	William A. Thompson and Karen R. Thompson
52	Mary Backes
53	Ruth A. Brigel
54	Lisa Weissinger
55	Richard Pave
56	Marcia Lee
57	Leon Backes
58	Scott Ritter
59	Mr. and Mrs. Robert J. Krajecki
60	Dorothy Gum
61	Norman L. Curry, Fox
62	Mr. and Mrs. Jeffrey Berg
63	Doug Tuell
64	Jon and Lori Simon
65	David Young
66	Lynne B. Pave
67	Elaine Tuell,
68	Phyllis Pierson, Sugar
69	Margaret Kathleen McCrimmon
70	A. Gum, Big Rock
71	Robert E. Pierson
72	Nancy Fayfar
73	Ronnie Simpkins
74	Kelly Salazar
75	Sheila M. Simpkins
76	Patricia L. McKenzie
77	Wray V. McKenzie, Jr.

78	Marilyn Lasecki and Edmund Lasecki, Jr.
79	Patricia McBroom and Roger McBroom
80	Cheryl Romano and Thomas Romano
81	Dorothy Holland
82	Annie Buckmiller
83	Alice Hulka
84	Mary Copp
85	Patrick and Linda Barnes
86	Carla S. Miller
87	John and Carrie Loehmann
88	Helen LeBeau
89	James E. McCrimmon
90	Lynette and Dave Weidin
91	Jane Erdman
92	Frederick C. Runge
93	Julie A. Anderson, Elburn
94	(unable to read name) Elburn
95	Ben Halls
96	Kathryn M. Hellwig,
97	Anita Sennett,
98	Gregory G. Goss and Jo A. Goss
99	William and Cheryl Oeser
100	Debra E. Raymond, Big Rock
101	Lawrence Von Ohlen
102	Ricky Gum
103	John Hellwig
104	Diane M. Howard
105	Orville Howard
106	Rose Marie Diedesch and Bill C. Diedesch
107	Udo A. Heinze on behalf of Ameren
108	Jeannine Kannegiesser, Center for Neighborhood Technology
109	Patricia Silva, Midwest Activities Coordinator, NRDC, Washington, D.C.
110	IMEA, submitted by Ronald D. Earl, General Manager & CEO
111	AIEC, submitted by Earl W. Struck, President/CEO
112	Verena Owen
113	Simon Klambauer
114	Peter and Dawn Roberts
115	Cathy Jo Magee
116	C. Beau and Sue Carlson
117	Richard A. and Mary C. LaFleur

118	Jennifer E. Johnson
119	William P. Fischer
120	Karen Yoeler
121	Bill Yoeler
122	Judy M. Hoffman
123	David R. Mag
124	Daniel Salazar
125	JoAnn I. Kline
126	Laurie Kazmiercek
127	Pam S. Wedeen
128	Ramona A. Kline
129	William F. Kline, Sr.
130	Jeff Hoffman
131	Ronald L. Burgess
132	Ed Whatley
133	Elaine and Harold Morris
134	James Scott
135	Lois Long
136	Dale N. Johnson
137	Elaine Fischer
138	Larry Hawhes
139	Cynthia S. Polfer
140	Mr. and Mrs. Mau
141	Ruth Pessina
142	Fritz Landmeier
143	Patricia and Joseph Heimonen
144	Elizabeth Simmons
145	Tom Pattermann
146	Sheela A. Faulkner
147	A. Denise Farrugia
148	Barry and Leah A. Morsch
149	Mary Hankes
150	Andy and Barb Kearns
151	Jackie Beane
152	Michelle Drauz
153	Marilyn Hannemann
154	Sandy Madden
155	James R. Kidd
156	W.R. Hannemann III
157	Mark and Lisa Spangler
158	Allen and Jeanette Krodel

159	Robert and Sharon Phillips
160	James Gasdiel
161	Mary Thurow
162	Margaret Bock
163	Midwest Generation, submitted by Cynthia A. Faur
164	ComEd, submitted by Christopher W. Zibart
165	Joint testimony of ALAMC and IEC, submitted by Brian Urbaszewaki, the Director of Environmental Health Programs for ALAMC and a board member of IEC
166	Final Comments of Carol Dorge, Director, LCCA
167	IEA, submitted by James R. Monk, President
168	IEPA additional comments, submitted by Scott Phillips, Deputy Counsel
169	Sierra Club Woods & Wetlands Group, submitted by Evan L. Craig
170	PG&E, submitted by Stephen Brick, Director, External Relations and Environmental Affairs
171	MWIPS, submitted by Freddi L. Greenberg, Executive Director and General Counsel
172	Sierra Club, Illinois Chapter
173	Indeck, submitted by Gerald M. Erjavec, Manager, Business Development
174	Marvin and Eunice Gapinske
175	Ronald and Mary Jane Davis
176	Clifford and Gloria Sisko
177	Donald and Linda Czachor
178	Clara Arm Babel
179	Julie and Karl Kettelkamp
180	Audrey and David Boston
181	Suzanne Pyle
182	Terry and Sherilyn Sorensen
183	Donna Morris
184	Debra K. Galvan
185	Mr. and Mrs. Bradley Scott
186	Ersel C. Schuster, McHenry County Board, District 6
187	IERG, submitted by Katherine D. Hodge
188	Dr. Donna M. Lawlor and Lynn Hoeth
189	CCLC & Liberty Prairie Conservancy submitted by Dianne Turnball
190	Jim LaBelle, Chairman, Sandy Cole, and Bonnie Thomson Carter, Members of the Lake County County Board, submitted by Jim

	LaBelle
191	Marsha B. Winter
192	Ken Bentsen
193	Lois Scott and Burton Scott
194	Ralph N. Schleifer
195	Marci Rose

APPENDIX E

ABBREVIATION LIST

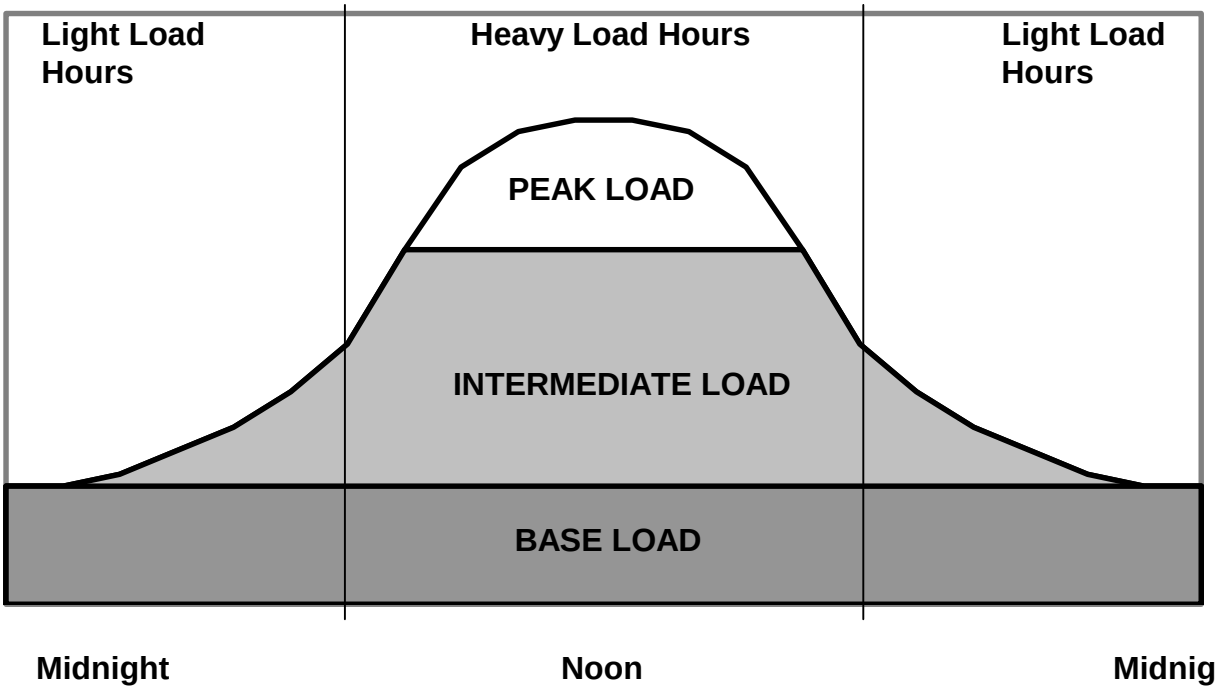
Acentech	ACENTECH, INC.
Act	ENVIRONMENTAL PROTECTION ACT
AIEC	ASSOCIATION OF ILLINOIS ELECTRIC COOPERATIVES
ALAMC	AMERICAN LUNG ASSOCIATION OF METROPOLITAN CHICAGO
Ameren	AMEREN CORPORATION
American Energy	AMERICAN ENERGY SOLUTIONS, INC.
BACT	BEST AVAILABLE CONTROL TECHNOLOGY
Bartlett CARE	BARTLETT CITIZENS ADVOCATING RESPONSIBLE ENVIRONMENTS
Board	ILLINOIS POLLUTION CONTROL BOARD
CAA	CLEAN AIR ACT
CAAPP	CLEAN AIR ACT PERMIT PROGRAM
CAPPRA	CITIZENS AGAINST POWER PLANTS IN RESIDENTIAL AREAS
CARE	CITIZENS AGAINST RUINING THE ENVIRONMENT
CCLC	CONCERNED CITIZENS OF LAKE COUNTY
CEC	CALIFORNIA ENERGY COMMISSION
CESQG	CONDITIONALLY-EXEMPT SMALL-QUANTITY GENERATOR
CNT	CENTER FOR NEIGHBORHOOD TECHNOLOGY
CO	CARBON MONOXIDE
CO_2	CARBON DIOXIDE
ComEd	COMMONWEALTH EDISON COMPANY
CPI	CORN PRODUCTS INTERNATIONAL, INC.
dB	DECIBEL
dB(A)	A-WEIGHTED DECIBEL
DNR	ILLINOIS DEPARTMENT OF NATURAL RESOURCES
EGU	ELECTRICAL GENERATING UNIT
EIS	ENVIRONMENTAL IMPACT STATEMENT
Illinois Electricity Choice Law	ELECTRIC SERVICE CUSTOMER CHOICE AND RATE RELIEF LAW OF 1997
ERMS	EMISSIONS REDUCTION MARKET SYSTEM
FAA	FEDERAL AVIATION ADMINISTRATION
FERC	FEDERAL ENERGY REGULATORY COMMISSION
HAP	HAZARDOUS AIR POLLUTANT
Huff & Huff	HUFF & HUFF, INC.
ICC	ILLINOIS COMMERCE COMMISSION
IDOT	ILLINOIS DEPARTMENT OF TRANSPORTATION

IEA	ILLINOIS ENERGY ASSOCIATION
IEC	ILLINOIS ENVIRONMENTAL COUNCIL
IEPA	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
IERG	ILLINOIS ENVIRONMENTAL REGULATORY GROUP
IMEA	ILLINOIS MUNICIPAL ELECTRIC AGENCY
Indeck	INDECK ENERGY SERVICES, INC.
IPP	INDEPENDENT POWER PRODUCER
ISAWWA	ILLINOIS SECTION OF THE AMERICAN WATER WORKS ASSOCIATION
ISWS	ILLINOIS STATE WATER SURVEY
kW	KILOWATT
kWh	KILOWATT HOUR
LAER	LOWEST ACHIEVABLE EMISSION RATE
LCCA	LAKE COUNTY CONSERVATION ALLIANCE
MACT	MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
MAIN	MID-AMERICA INTERCONNECTED NETWORK, INC.
MEAC	MIDWEST ENVIRONMENTAL ASSISTANCE CENTER
Midwest Generation	MIDWEST GENERATION EME, LLC
mmBtu	MILLION BRITISH THERMAL UNIT
MSSCAM	MAJOR STATIONARY SOURCES CONSTRUCTION AND MODIFICATION
MW	MEGAWATT
MWh	MEGAWATT HOUR
MWIPS	MIDWEST INDEPENDENT POWER SUPPLIERS
NAA	NONATTAINMENT AREA
NAAQS	NATIONAL AMBIENT AIR QUALITY STANDARDS
NESHAP	NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANT
NIPC	NORTHEASTERN ILLINOIS PLANNING COMMISSION
NO	NITRIC OXIDE
NO_2	NITROGEN DIOXIDE
NO_x	NITROGEN OXIDES
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NRC	ILLINOIS NUCLEAR REGULATORY COMMISSION
NRDC	NATURAL RESOURCES DEFENSE COUNCIL
NSPS	NEW SOURCE PERFORMANCE STANDARD
NSR	NEW SOURCE REVIEW
NYS Siting Board	NEW YORK STATE BOARD ON ELECTRIC GENERATION SITING AND THE ENVIRONMENT
OSRA	OFFICE OF SCIENTIFIC RESEARCH AND ANALYSIS

OTAG	OZONE TRANSPORT ASSESSMENT GROUP
PG&E	PG&E NATIONAL ENERGY GROUP
PM	PARTICULATE MATTER
PM 10	PARTICULATE MATTER NOMINALLY 10 MICRONS AND LESS
PM 2.5	PARTICULATE MATTER NOMINALLY 2.5 MICRONS AND LESS
POTW	PUBLICLY OWNED TREATMENT WORKS
ppb	PARTS PER BILLION
ppm	PART PER MILLION
ppmv	PARTS PER MILLION BY VOLUME
PSD	PREVENTION OF SIGNIFICANT DETERIORATION
RACT	REASONABLY AVAILABLE CONTROL TECHNOLOGY
Reliant	RELIANT ENERGY POWER GENERATION, INC.
RTO	REGIONAL TRANSMISSION ORGANIZATION
SB 172	SENATE BILL 172 (REFERENCE FOR POLLUTION CONTROL FACILITY SITING PROVISIONS UNDER THE ACT)
SCR	SELECTIVE CATALYTIC REDUCTION
SCW&WG	SIERRA CLUB WOODS & WETLAND GROUP
SIP	STATE IMPLEMENTATION PLAN
SO_2	SULFUR DIOXIDE
TPY	TONS PER YEAR
USEPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
UAM-V	URBAN AIRSHED MODEL—VERSION V
Versar	VERSAR, INC.
VOC	VOLATILE ORGANIC COMPOUND
VOM	VOLATILE ORGANIC MATERIAL
Water Use Act	ILLINOIS WATER USE ACT OF 1983
WRAC	WATER RESOURCES ADVISORY COMMITTEE

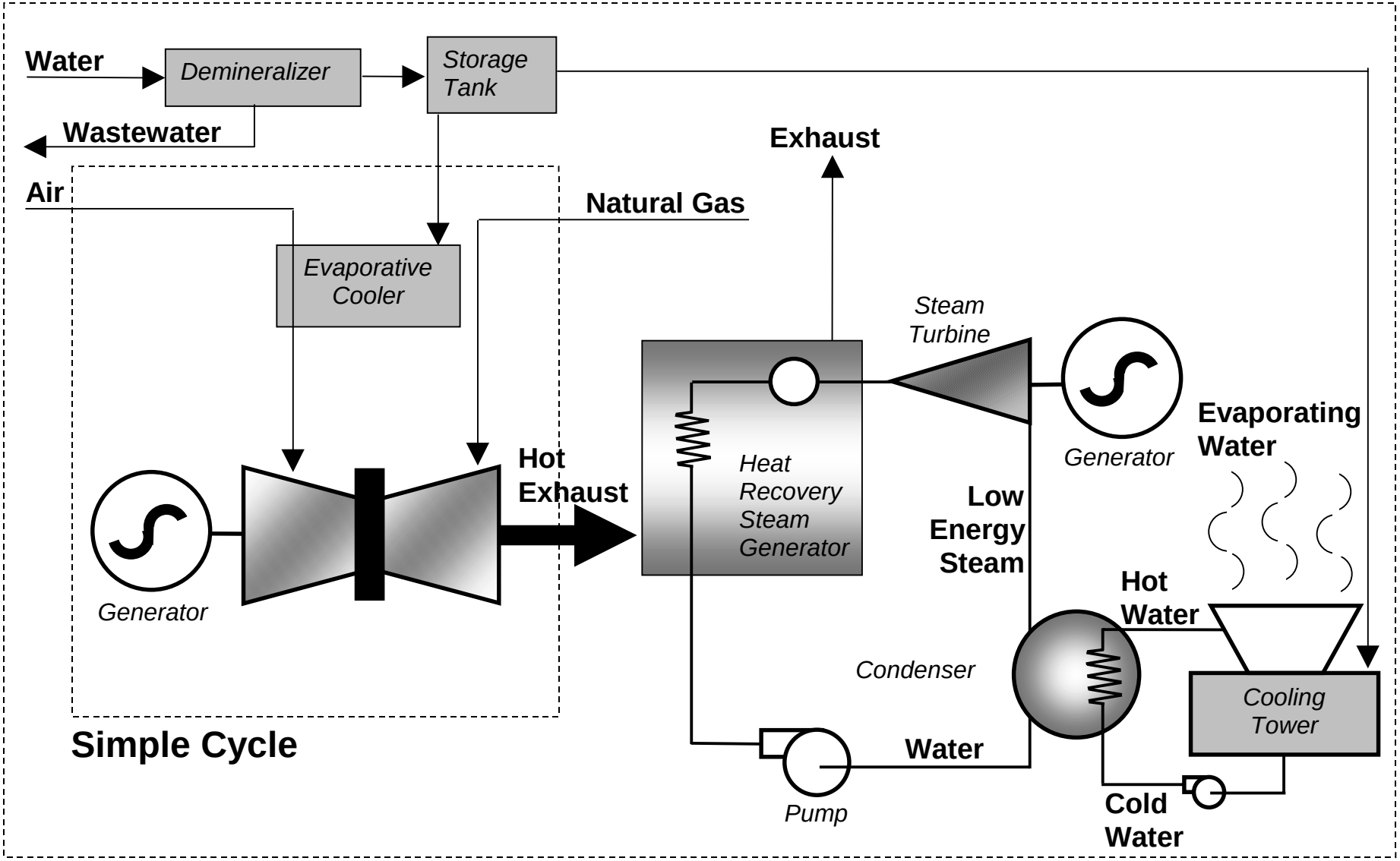
APPENDIX F

Figure 1: Typical Daily Load Curve



Based on drawing presented in Reliant's public comment (PC 1).

Figure 2: Simple Cycle and Combined Cycle Combustion Turbine Power Plant



Based on drawing entitled Peaking vs. Combined Cycle Facility. Indeck Exh. 2.

Table 1: Existing & New Natural Gas-Fired, Simple Cycle and Combined Cycle Units

based on IEPA Grp. Exh. 2, No. 7 and PC 168, Att. 2

Combined Cycle Units are shaded.

Map #	ID #	Company Name	City	County	EGU Site:	Permit			Total Capacity	Fuel Used	Load Type	NOx	Rule
					Existing or New	Number	Type	Status	(MW)			(tons/ yr)	
1	021814AAG	Dom. Energy-Lincoln Generation	Kincaid	Christian	Existing	00020011	C	Add. Info Ltr 3/6/00	688	NG	Peak		Major-PSD
2	025803AAD	Aquila Energy/ MEP Flora Power	Harter/ Flora	Clay	New	00050050	C	Review Pending	567	NG	Peak	245	NSPS
3	025804AAC	Entergy Power-Flora Peaking Stn	Flora	Clay	New	00030053	C	Public Notice	292	NG	Peak	212	NSPS
	025804AAC	Entergy Power-Flora Peaking Stn	Flora	Clay	New	00030053	C	Public Notice	296	NG	Peak	212	NSPS
4	031600AMI	Midwest Generation	Chicago	Cook	Existing	95090081	Title V	Review Pending	264	JP-4, NG	Peak		None
5	031600GGV	People's Energy/Calumet Power	Chicago	Cook	New	99100023	C	Permitted	266	NG	Peak	233	NSPS
6	031600GHA	Calumet Energy Team LLC	Chicago	Cook	New	99110107	C	Permitted	305	NG/ Oil	Peak	240	NSPS
7	031801AAI	Duke Energy Chicago Hts	Chicago Hts	Cook	New	00040068	C	Review Pending	620	NG	Base		Major
8	041806AAC	Ener Star- Montana Stn	Newman	Douglas	New	00060075	C	Review Pending	322	NG	Peak		NSPS
	041806AAC	Ener Star- Montana Stn	Newman	Douglas	New	00060075	C	Review Pending	40	NG	Peak		NSPS
9	043090ADB	Standard Energy Venture, LLC	West Chicago	DuPage	New	99120001	C	Draft Permit	800	NG/ Oil	Base/ Peak	732	PSD/BACT
10	043407AAF	Reliant Energy/Reliant DuPage Cty LP	Aurora	DuPage	New	99110018	C	Permitted	680	NG	Peak	247	NSPS
	043407AAF	Reliant Energy/Reliant DuPage Cty LP	Aurora	DuPage	New	99110018	C	Permitted	270	NG	Peak	247	NSPS
11	043412AAH	Grand Prairie Energy, LLC/ABB	Bartlett	DuPage	New	99090051	C	Permitted	500	NG/ Oil	Base	213	PSD/BACT

Map #	ID #	Company Name	City	County	EGU Site: Existing or New	Permit			Total Capacity (MW)	Fuel Used	Load Type	NOx (tons/ yr)	Rule
						Number	Type	Status					
12	051030AAD	Spectrum Energy/C.I. C.S.Power	St. Peter	Fayette	New	99100013	C	Permitted	45	NG	Peak	85.9	NSPS
13	051808AAK	Cent.Ill. S C Pow./ Spectrum	St. Elmo	Fayette	New	99060052	C	Permitted	45	NG	Peak	85.9	NSPS
14	053803AAL	Ameren CIPS	Gibson City	Ford	New	99020071	C	Permitted	270	NG/ Oil	Peak	245	NSPS
15	055803AAB	Entergy -Franklin County Pwr	Thompsonville	Franklin	New	00080055	C	Review Pending	295.6	NG	Peak	250	NSPS
	055803AAB	Entergy -Franklin County Pwr	Thompsonville	Franklin	New	00080055	C	Review Pending	291.6	NG	Peak	250	NSPS
16	055807AAD	Gen Power	W. Frankfort	Franklin	New	00090005	C	Review Pending	0		Peak		PSD Minor
17	063800AAP	Kinder Morgan-Aux Sable Power Plt	Morris	Grundy	New	00030031	C	Draft Permit	176	NG	Peak	247.5	NSPS
18	077806AAA	Ameren CIPs	Grand Tower	Jackson	Existing	99080101	C	Permitted	600	NG	Base	1911.5	NSPS
19	089425AAC	DMG (Dynegy/Rocky Road)	East Dundee	Kane	New	98120016	C	Permitted	35	NG	Peak	245	NSPS
	089425AAC	DMG (Dynegy/Rocky Road)	East Dundee	Kane	New	98120016	C	Permitted	242	NG	Peak	245	NSPS
	089425AAC	DMG (Dynegy/Rocky Road)	East Dundee	Kane	New	99050098	C	Permitted	121	NG	Peak	245	NSPS
20	089802AAF	Fox River Pkng Stn/Coastal Power Co.	Big Rock	Kane	New	99110073	C	Final Review	345	NG	Peak		NSPS
21	091015AAD	Indeck-Bourbonnais Energy Center	Bourbonnais	Kankakee	New	00060010	C	No Action	683.2	NG	Peak		NSPS
22	091806AAM	Duke Energy	Manteno	Kankakee	New	00040067	C	Public Notice	620	NG	Base		Major
23	093801AAN	Kendall New Cent. Dev./Enron	Plano	Kendall	New	99020032	C	Permitted	664	NG	Peak	426.4	PSD/BACT
24	093808AAD	L S Power/Kendall Energy	Minooka	Kendall	New	98110017	C	Permitted	1000	NG	Base/ Peak	99 (SCT), 630.7 (CCT)	PSD/BACT

Map #	ID #	Company Name	City	County	EGU Site: Existing or New	Permit Number	Permit Type	Permit Status	Total Capacity (MW)	Fuel Used	Load Type	NOx (tons/ yr)	Rule
25	097190AAC	Midwest Generation	Waukegan	Lake	Existing	95090043	Title V	Consoldation	132	JP-4, NG	Peak	No Limit	None
	097190AAC	Midwest Generation	Waukegan	Lake	Existing	00050071	C	Review Pending	291.6	NG	Peak		NSPS
26	097200ABB	Skygen/Zion Energy Center LLC	Zion	Lake	New	99110042	C	Final Review	800	NG/ Oil (back-up)	Peak	697.5	PSD/BACT/NSPS
27	097810AAC	Carlton Inc./North Shore Power	Zion	Lake	New	99120057	C	Final Review	561	NG	Peak	245	NSPS
28	103814AAC	Lee Cty Gen. Facility/L S Power	Nelson	Lee	New	98080039	C	Permitted	1000	NG/ Oil	Base/ Peak	630.8	PSD/NSPS
29	103817AAH	Lee Generating Stn./Duke Energy	South Dixon	Lee	New	99090029	C	Permitted	664	NG/ Oil	Peak		PSD/BACT
30	107815AAC	Spectrum Energy-Logan County	New Holland	Logan	New	00050025	C	Permitted	270	NG	Peak		NSPS
31	111805AAP	Reliant Energy	Woodstock	McHenry	New	99050089	C	Permitted	510	NG	Peak	248	PSD/BACT
32	119090AAH	Reliant Energy (Cardinal Energy)	Roxana	Madison	New	98090064	C	Permitted	633	NG, Refinery Gas	Base	330.5	PSD/BACT
33	119105AAA	Ameren CIPS	Venice	Madison	Existing	95090017	Title V	Permitted	37	Oil	Peak	No Limit	None
34	121803AAA	AmerenEnergy Gen. Company-Kinmundy	Patoka	Marion	New	99020027	C	Permitted	270	NG/ Dis. Oil	Peak	245	NSPS
35	127899AAA	Electric Energy/Midwest Elec. Power	Joppa	Massac	Existing	99100060	C	Permitted	216	NG	Peak	349.3	Netted
	127899AAA	Electric Energy/Midwest Elec. Power	Joppa	Massac	Existing	99100060	C	Permitted	102	NG	Peak		Netted
36	145842AAA	AmerenEnergy Gen. Company	Pinckneyville	Perry	New	99090035	C	Permitted	388	NG	Peak		NSPS
	145842AAA	AmerenEnergy Gen. Company	Pinckneyville	Perry	New	00090076	C	Review Pending	192	NG	Peak		NSPS
37	147803AAA	MEP Investments-DeLand	Goose Creek	Piatt	New	00090082	C	Review Pending	567	NG	Peak		NSPS
38	161807AAN	Cordova Energy	Cordova	Rock Island	New	99020097	C	Permitted	500	NG	Base	306.6	PSD/BA

Map #	ID #	Company Name	City	County	EGU Site: Existing or New	Permit			Total Capacity (MW)	Fuel Used	Load Type	NOx (tons/ yr)	Rule
						Number	Type	Status					
													CT
39	167822ABG	CWLP	Springfield	Sangamon	New	94120058	O	Permitted	100	NG/ #2 Oil	Peak	249	NSPS
40	171851AAA	Soyland Power	Alsey	Scott	New	98120050	C	Permitted	60	NG/ Oil	Peak		old unit
	171851AAA	Soyland Power	Alsey	Scott	New	98120050	C	Permitted	25	NG/ Oil	Peak		old unit
41	173801AAA	Shelby Enrgy Cntr/ Reliant Energy	Sigel	Shelby	New	99090085	C	Permitted	328	NG	Peak	198	NSPS
42	173807AAG	Holland Energy, LLC	Holland	Shelby	New	99100022	C	Permitted	336	NG/Oil (CT), NG (D.B.)	Base	342	PSD/BA CT
43	183090AAE	DMG/Tilton Energy Center	Tilton	Vermilion	New	98110018	O	Permitted	176	NG	Peak	197	NSPS
44	189802AAA	MEP Investments-Posen	Bolo	Washington	New	00090081	C	Review Pending	567	NG	Peak		NSPS
45	197030AAO	Power Energy Partners/ Crete Energy Park	Crete	Will	New	99120056	C	Draft Permit	393	NG	Peak	245	NSPS
46	197035AAG	Elwood Energy/Peoples Gas	Elwood	Will	New	00010076	C	Permitted	344	NG	Peak	217.56	Major-PSD
	197035AAH	Elwood Energy/Peoples Gas	Elwood	Will	New	00010077	C	Permitted	516	NG	Peak	326.34	Major-PSD
	197808AAG	Elwood Energy Center,LLC	Elwood	Will	New	98060091	C	Permitted	680	NG/ Ethane	Peak	1565.7	PSD/BA CT
	197808AAG	Elwood Energy Center,LLC	Elwood	Will	New	98060091	C	Permitted	2500	NG/ Ethane	Base	1565.7	PSD/BA CT
47	197810ABS	Rolls-Royce/Lockport Pwr Gen.	Lockport	Will	New	00050010	C	Permitted	372	NG	Peak	245	NSPS
48	197811AAH	Desplaines Greenland/Enron	Manhattan	Will	New	99020021	C	Permitted	664	NG	Peak	419.4	PSD/ BACT
	197811AAH	Desplaines Greenland/Enron	Manhattan	Will	New	99020021	C	Final Revision	167	NG	Peak		PSD/ BACT
49	197899AAB	Univ. Park Energy/ Constellation Po.	Univ. Park	Will	New	99120020	C	Permitted	300	NG	Peak	245	NSPS

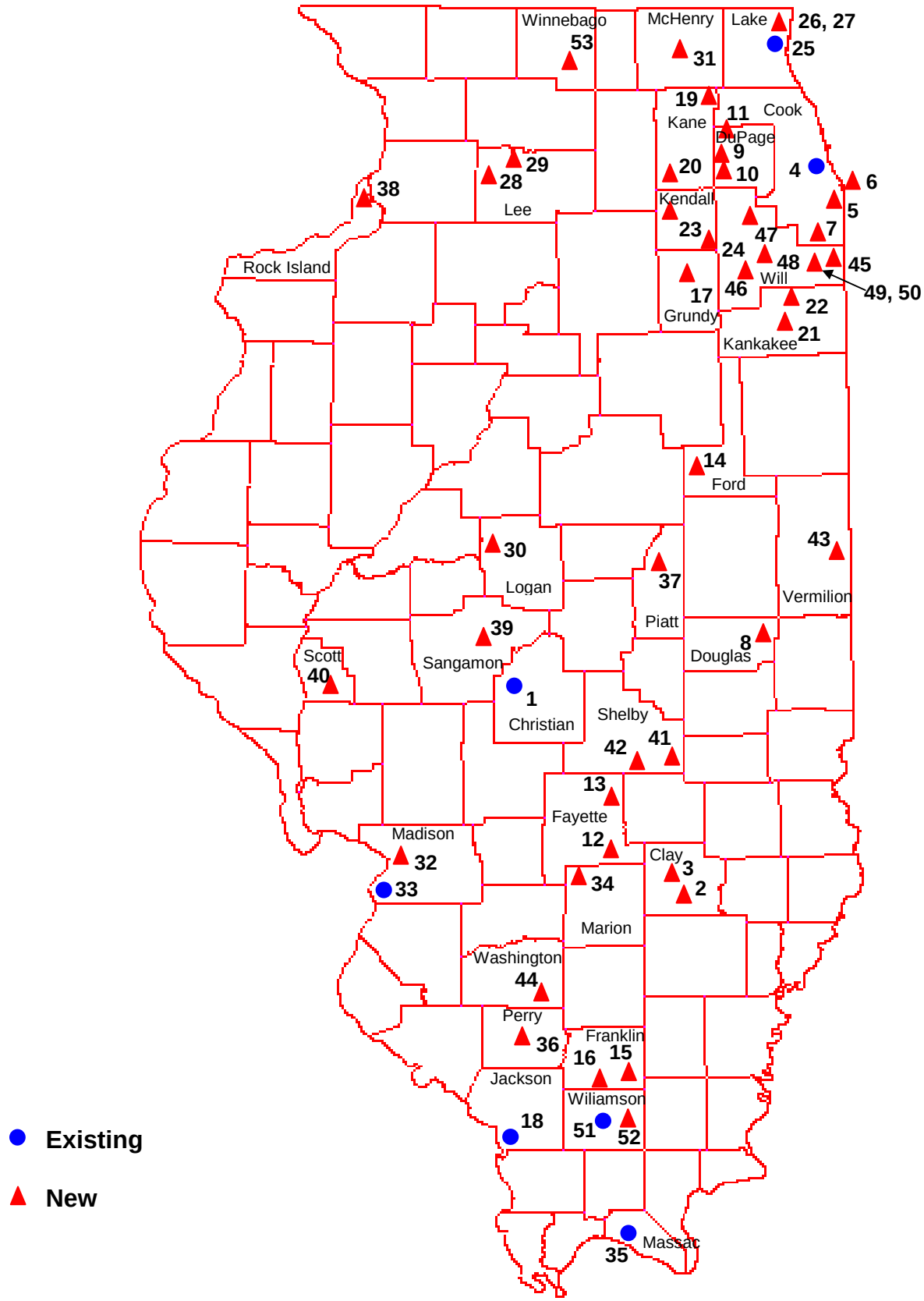
Map #	ID #	Company Name	City	County	EGU Site: Existing or New	Permit Number	Permit Type	Permit Status	Total Capacity (MW)	Fuel Used	Load Type	NOx (tons/yr)	Rule
50	197899AAC	Univ. Park Power (PPL Global)	Univ. Park	Will	New	00080078	C	Review Pending	530.4	NG	Peak		NSPS
51	199856AAC	Southern Ill. Power Coop.	Marion	Williamson	Existing	00070029	C	Draft Permit	166	NG/ Oil	Peak		Netting
52	199856AAK	Reliant Energy/ Williamson Enrgy Cntr	Crab Orchard	Williamson	New	99090084	C	Permitted	328	NG	Peak	198	NSPS
53	201030BCG	Indeck-Rockford	Rockford	Winnebago	New	99110088	C	Permitted	300	NG	Peak	199	NSPS
TOTALS			**36** Ozone Attainment **31** Nonattainment		**58** New **9** Existing	**67 Permits**			**27,329** MW Capacity	**8** Base **56** Peak **3** B/P		**16,183+** tons NO_x/yr	

Abbreviations:

EGU	Electrical Generating Unit
C	Construction
O	Operating
MW	Megawatt
NG	Natural Gas
FO	Fuel Oil
DFO	Distillate Fuel Oil
JP-4	Jet Fuel

Figure 3: Map of Existing & New Natural Gas-Fired, Simple Cycle and Combined Cycle Units

based on IEPA Grp. Exh. 2, No. 7 and PC 168, Att. 2

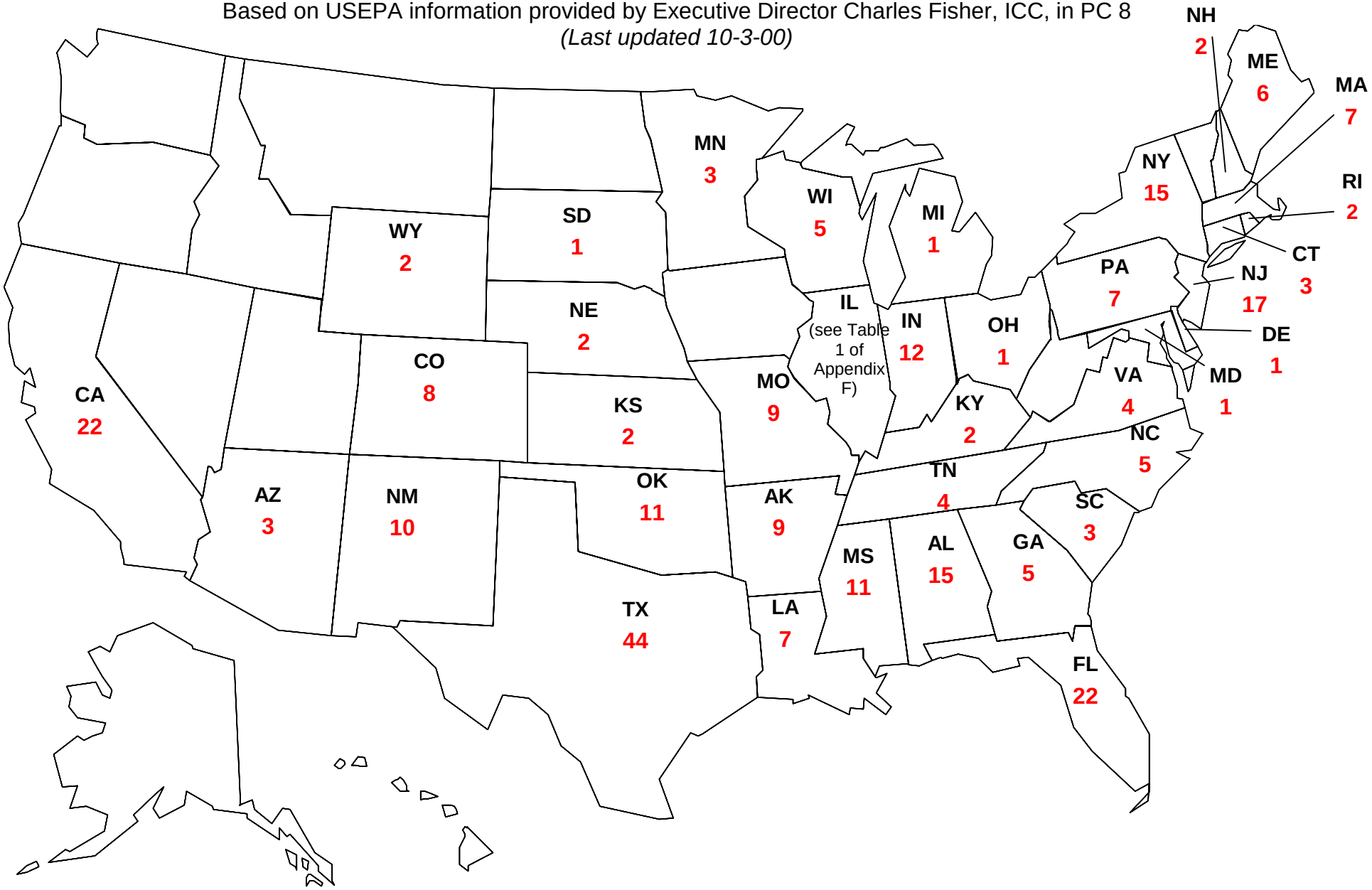


Note: Some locations have multiple air permits and gas-fired turbines.

Figure 4: National Combustion Turbine Projects

Based on USEPA information provided by Executive Director Charles Fisher, ICC, in PC 8

(Last updated 10-3-00)



Numbers represent numbers of facilities with draft permits or recently-issued final permits.
Some facilities have multiple turbines.

APPENDIX G

ILLINOIS POLLUTION CONTROL BOARD

600 South Second St. ♦ Suite 402 ♦ Springfield, IL 62704 ♦ 217-524-8500 ♦ Fax 217-524-8508

October 25, 2000

Thomas V. Skinner, Director
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Brent Manning, Director
Illinois Department of Natural Resources
524 S. Second Street
Springfield, Illinois 62701-1787

Dear Director Skinner and Director Manning:

On behalf of the Pollution Control Board, I am happy to present the following information for the review of the Water Resources Advisory Committee. While the Vonnahme-Park letter of October 5, 2000 to the Committee seeks commentary in three assignment areas, these remarks focus on "Assignment Number One": the need for substantive changes in law or regulation governing the usage of water in the State of Illinois.

In the June 6, 2000 press release announcing the establishment of this committee, Governor Ryan explained: "I want this new committee to take a close look at our water resources and specifically examine the impact of industry, agriculture and population on Illinois' groundwater and surface water supplies. It's important for us to look into the effects of our usage of our limited natural resources." More specifically, the Governor set forth the committee's task as follows: to focus on our water resources and its usage, including the effects of peaker plants on groundwater and surface water supplies.

As all of you know, at the same time Governor Ryan created this committee, he asked the Pollution Control Board to hold a series of Inquiry Hearings concerning the potential environmental impact of proposed new natural gas-fired peaker plants. Given the proliferation of these new facilities and the expressed public concerns, he asked the Board to specifically address the issue of whether further regulations or legislation is necessary to adequately protect the

environment. Pursuant to that request, the Board held seven days of public hearing (August 23-24, Chicago; September 7, Naperville; September 14, Joliet; September 21, Grayslake; and October 5-6, Springfield.) During those hearings, the Board heard testimony from over 80 individuals -- representing a broad variety of interests: state and local government officials; legislators; industry representatives, and concerned citizens. I have enclosed a list of those persons who testified. The complete transcript of testimony for each hearing is available on the Board's Web site at www.ipcb.state.il.us.

While water usage was NOT the focus of these Board hearings, the issue of water usage was nonetheless an expressed concern of many who testified. Since it is the function of this committee to address those concerns, the Board has prepared a summary of all testimony relevant to the issue of water usage. For review by this committee, I have attached that summary. Especially important, I believe, is the testimony of local government officials who seek greater regional or state regulation of the State's precious supply of water.

For review of this committee, I have also asked Board staff to research the regulatory framework of several other Midwestern states (Iowa, Indiana, Missouri, Minnesota, Ohio, Wisconsin) as it concerns the use of water in each state. Interestingly, Illinois is alone in the virtual absence of state controls or plans regarding the use of water.

Based upon the enclosed information, I believe it is time to focus the committee's attention on the development of a workable regulatory framework for the conservation and fair allocation of water resources in this great State: one that meets the needs of all concerned entities and citizens. I hope the enclosed information aids us in that important task. I look forward to seeing you both at the next meeting of the Governor's Water Resources Advisory Committee.

Sincerely,

Claire A. Manning

Claire A. Manning
Chairman

cc: Renee Cipriano
Members of the Water Resources Advisory Committee

PERSONS TESTIFYING AT BOARD PEAKER HEARINGS

Chicago Hearings

August 23, 2000

1. Charles Fisher, Executive Director, Illinois Commerce Commission
2. Thomas Skinner, Director, IEPA
3. Christopher Romaine, Manager, Utility Unit, Permit Section, Division of Air Pollution Control, Bureau of Air, IEPA
4. Robert Kaleel, Manager of Air Quality Modeling Unit, Division of Air Pollution Control, Bureau of Air, IEPA
5. Greg Zak, Noise Advisor, IEPA
6. Steve Nightingale, Manager, Industrial Unit, Bureau of Water Permits Section, IEPA
7. Rick Cobb, Manager, Groundwater Section, Bureau of Water, IEPA
8. Todd Marvel, Assistant Manager of Field Operations Section and RCRA Coordinator/USEPA Liaison/IEPA
9. Brian Anderson, Director, Office of Scientific Research and Analysis, IDNR
10. Derek Winstanley, Chief, Illinois State Water Survey, IDNR

August 24, 2000

1. Gerald Erjavec, Business Development, Indeck Energy Services, Inc.
2. Greg Wassilkowsky, Manager, Business Development, Indeck Energy Services, Inc.
3. Arlene Juracek, Vice President, Regulatory and Legislative Services, ComEd
4. Steve Nauman, Vice President, Transmission Services, ComEd
5. Deirdre Hirner, Executive Director, IERG
6. Richard Bulley, Executive Director of Mid-America Interconnected Network

7. Freddi Greenberg, Executive Director and General Counsel, Midwest Independent Power Suppliers

8. Michael Kearney, Manager, Economic Development, Ameren Corp.

9. Richard Trzupek, Manager, Air Quality, Huff & Huff

Suburban Hearings

Naperville
September 7, 2000

1. Mayor George Pradel, Naperville

2. State Senator Chris Lauzen

3. State Representative Mary Lou Cowlishaw

4. Mayor Vivian Lund, Warrenville

5. Paul Hass, Zoning Manager, DuPage County Department of Development Environmental Concerns

6. Richard Ryan, President and Chairman, Standard Power and Light, Oak Brook

7. Diana Turnball, Consultant to variety of citzen groups, private foundations and businesses who have been in opposition to some of the peaker plants

8. Carol Dorge, Attorney representing Lake County Conservation Alliance

9. Connie Schmidt, Representative of River Prairie Group

10. Mark Goff, Resident, Warrenville

11. Cathy Capezio, Resident, Aurora

12. Terry Voitik, Resident, DuPage County, and Founder of Citizens Against Power Plants in Residential Areas (CAPPRA)

13. Maurice Gravenhorst, Member, CAPPRA

14. Lucy Debarbaro, Member, CAPPRA

15. Terry Voitik on behalf of Steve Arrigo, CAPPRA

16. Susan Zingle, Executive Director, Lake County Conservation Alliance

17. Beverly Dejovine, Representative, Citizens Advocating Responsible Environments (CARE), Bartlett

18. Cathy Johnson, Vice Chair, Rural and City Preservation Association (R&CPA)

19. Chris Gobel, Member, CAPPRA

20. Elliot "Bud" Nesvig

21. Sandy Cole, Commissioner, Lake County Board

22. Chris Gobel, Member, CAPPRA

Joliet
September 14, 2000

1. Dr. Thomas Overbye, Associate Professor, Department of Electrical and Computer Engineering, University of Illinois, Champaign-Urbana

2. Alan Jirik, Director, Environmental Affairs, Corn Products International, Inc.

3. Carol Stark, Director, Citizens Against Ruining the Environment, Lockport

4. Susan Zingle, Executive Director, Lake County Conservation Alliance

5. Keith Harley, Chicago Legal Clinic

6. Elliot "Bud" Nesvig

7. Michael Shay, Senior Planner Responsible for Long-Range Planning, Will County

Grayslake
September 21, 2000

1. State Senator Terry Link

2. State Representative Susan Garrett

3. Tom Lynch, Trustee, Libertyville Township

4. Betty Rae Kaiser, Trustee, Village of Wadsworth

5. Daniel J. Kucera, Chapman & Cutler, appearing on behalf of the Lake County Public Water District

6. Jim LaBelle, Chairman, Lake County Board

7. Sandy Cole, Commissioner, Lake County Board

8. Bonnie Carter, Commissioner, Lake County Board

9. Greg Elam, CEO, American Energy

10. Larry Eaton, Attorney, on behalf of the Liberty Prairie Conservancy, Prairie Holdings Corporation, and Prairie Crossing Homeowners Association

11. Toni Larsen, Resident, Zion

12. Chris Geiselhart, Chairperson, Concerned Citizens of Lake County

13. Diane Turnball, Representing Liberty Prairie Conservancy, Concerned Citizens of Lake County, CARE from McHenry County, Bartlett CARE, and Southwest Michigan Perservation Association

14. Lisa Snider, Resident, Wadsworth

15. Verena Owen, Co-Chair, Zion Against Peaker Plants

16. Elliot "Bud" Nesvig

17. Carolyn Muse, Resident, Zion

18. John Matijevich

19. Dennis Wilson, Resident, Island Lake

20. Terry Jacobs, Resident, Libertyville

21. Jim Booth, Resident, Newport Township in Lake County

22. William McCarthy, Resident, Libertyville

23. Susan Zingle, Executive Director, Lake County Conservation Alliance

24. Barbara Amendola, Resident, Zion

25. Mark Sargis, Attorney, working with citizens who have been concerned about peaker issues

26. Cindy Skrukrud, Resident, Olin Mills, McHenry County

27. Paul Geiselhart, Resident, Libertyville

28. Dr. William Holaman, President, Illinois Citizen Action

29. Evan Craig, Volunteer Chair, Woods and Wet Lands Group of the Sierra Club

30. Phillip Lane Tanton

Springfield Hearings

October 5, 2000

1. Roger Finnell, Engineer, Division of Aeronautics, Bureau of Airport Engineering, IDOT

2. John Smith, Representative of Illinois Section of American Waterworks Association

3. Brent Gregory, Representative of National Association of Water Companies, Illinois Chapter

4. James R. Monk, President, Illinois Energy Association

5. Patricio Silva, Midwest Activities Coordinator, Natural Resources Defense Council

6. Brian Urbaszewski, Director, Environmental Health Programs, American Lung Association

7. Elliot "Bud" Nesvig

8. Carol Dorge, Attorney representing Lake County Conservation Alliance

October 6, 2000

1. Susan Zingle, Executive Director, Lake County Conservation Alliance

2. Scott Phillips, Attorney, IEPA

3. Kathleen Bassi, Attorney, IEPA

4. Chris Romaine, Manager, Utility Unit, Permit Section, Division of Air Pollution Control, Bureau of Air, IEPA

5. Greg Zak, Noise Advisor, IEPA

6. Todd Marvel, Assistant Manager of Field Operations Section and RCRA Coordinator/USEPA Liaison/IEPA

7. Steve Nightingale, Manager, Industrial Unit, Bureau of Water Permits Section, IEPA

Testimony and Comments Regarding Use of Water by Peaker Plants — given to IPCB in context of Peaker Plant Hearings

CHICAGO HEARINGS

Commonwealth Edison – Prefiled Testimony of Arlene A. Juracek and Steven T. Naumann

> Water impacts, including with regard to any potential contamination and water supply, are also carefully assessed during the planning and development of any peaker plant. Stringent state requirements regulate the discharge of contaminants while local authorities often directly oversee issues of water supply. In addition, the impact of peaker plants and other facilities on water resources and usage will be closely examined by Governor Ryan's newly appointed Water Resources Advisory Committee, which will present its recommendations to the Governor by December 2000.

Midwest Independent Power Suppliers Coordination Group -- Prefiled Testimony of Freddi Greenberg

> While water usage will vary depending upon the specifics of the plant involved, the simple cycle technology currently used for peaker facilities typically places a small demand on water resources. For example, the owner of one peaker plant located in Kane County advises that the plant consumes no more than *2.5* million gallons of water in a year. In comparison, the average golf course in the Great Lakes region consume[sj almost 31,000,000 gallons of water in a year. (Weathermetrics, Inc. 1999 website) MWIPS recommends that the Pollution Control Board defer its consideration of the impact of peaker plants on water resources so as to consider the report the impact of peaker plants on water supply which will bc issued by Governor Ryan's Water Resources Advisory Committee.

Indeck Energy Services, Inc. -- Gerald M. Eriavec

> Prefiled Testimony
>
> To counter this effect, various methods are employed to cool the inlet air and increase its density. One such method is the use of chillers; however, these require power to operate and are sometimes counter productive. Another method is called evaporative cooling, in which the air stream is passed over water and the air is cooled through evaporation, much like perspiration cools the

skin. This cooling effect can be limited on humid days. While water consumption varies based on temperature and humidity, an evaporative cooleron a 300 MW plant will average about 40 gallons per minute (gpm) of water consumption.

Even though these hearings are directed at peaking plants, the subject of combined cycle plants is sure to come up, so a brief discussion of them is in order. Simply put, a combined cycle plant adds a steam cycle to the process but directing the hot exhaust gas from the combustion turbine through a boiler, which generates steam to turn a steam turbine. Because more energy from the fuel is recovered and used to produce electricity, combined cycle plants can be as much as 50% more energy efficient tha[n] "simple cycle" peakers; however, they are not suited to peaking use because they cannot be brought on line quickly enough to function as peakers. Combined cycle plants also have increased water needs compared to peakers. The first use of water, in the steam system, is minimal, about 25 gallons per minute in a system that has been coupled to 300 MW of combustion turbines to create a 200 MW steam cycle. Water can also be used to cool the steam after it passes through the steam turbine. If water is the sole medium, up to 2,500 gpm can be consumed, which may be significant in some areas. Fortunately, advances have been made in cooling technologies so that this use can be greatly reduced or eliminated if the situation calls for it.

* * *

Water consumption impacts were also compared against other enterprises and found, in most cases, to be at the low end of the impacts.

Testimony at Hearing

Water consumption can vary by humidity and temperature. For example, on a very humid day, you'll [evaporate] very little water. So very little water will be used. On a hot, dry day would probably be your maximum consumption. Typical for, say, a 300 megawatt unit would be about an average of 40 gallons per minute. It can range from about zero to 80, depending upon the temperature and the humidity.

One of the things that's a concern about this type of plant here is the water use, and I would like to bring that up. The water use, there's two places. Number one, there's water in the steam system going around this way. You have to -- you get some trace contamination going in there. So you have to occasionally blow it down. The steam cycle on this plant, this is based on putting a heat recovery unit on the back of a 300 megawatt plant, would probably be about 25 gallons per minute, which is not a lot.

* * *

You can use about 2500 GPM, which can trend toward, depending upon where you are, significant numbers.

Now, the good news is that there are other ways to attack this problem. They've made significant advances in dry-cooling systems, which would not require this water at all. There are some hybrid systems that cut down on the amount of water use.

Water use, as I noted before, when operating a typical 300 megawatt peaker plant with an evaporative cooler uses a maximum of 80 gallons per [minute], an average of about 50. Technology, the evaporative cooler generally is only used above 60 degrees.

* * *

What is 80 gallons per minute? Well, basically it's the equivalent of 11 homes watering their lawns at the same time. If you walk down the street and you saw 11 homes watering their lawns, you probably wouldn't think anything of it. On an annual basis, approximately the consumption of about 30 homes, 30 average homes. Other water impacts that need to be considered are wastewater and stormwater. Stormwater is captured on site.

* * *

Water consumption, a million gallons per year. Compare your 300 megawatt peaking plant to a 50-home subdivision, a typical high school, or a retirement home, a 200-bed medical center, or a 400-room hotel, way down at the low end, I think my laser pointer is dying here, of water consumption.

IDNR -- Testimony of Brian Anderson, Director, Office of Scientific Research and Analysis

In Illinois, except for withdrawals of water from Lake Michigan, there is extremely limited regulatory authorities associated with water withdrawals from our other surface waters and from groundwater. It's, therefore, more appropriate to deal with water quantity issues in front of -- in the context of Water Resources Advisory Committee, however, we do acknowledge the relationship between these issues and I have asked Dr. Derek Winstanley, Chief of the Illinois Water Survey, to provide a concise summary of some of the water quantity issues relating to peaker power plants.

Illinois State Water Survey, IDNR -- Testimony of Dr. Derek Winstanley, Chief of the Illinois State Water Survey

One focal point that I do wish to make is that the discussion of peaker power plants and the impacts on groundwater resources should be placed within the context of all other water demands including those for combined cycle plants as well as Illinois' growing water needs for domestic, municipal, agricultural and other industrial uses. We do need to look at total demands from groundwater resources as a basis for sound water resource management. The water demands

from the peaker power plants vary widely depending upon plant design, their intended use and the number of days of operation.

I would like to give you some examples of the quantities of water that may be associated with operations of peaker power plants by putting that in context of some other water uses. First of all, peaker power plants, and I am going to focus on just a simple cycle power plant when I refer to the peaker power plants, these are typically small producing a few tenths to a few hundred, perhaps a thousand megawatts of electricity. They do not operate everyday of the year. The typical period of operation is from perhaps 20 to 90 days per year. The range of water use there is from less than 100,000 gallons per day to about 2 million gallons per day. Translating that into an annual use that gives us a range of from about 1.4 to 180 million gallons of water per year.

Turning to baseload power plants, which is combined cycle, these are obviously much larger, typically generate maybe 500 to several thousand megawatts of electricity and are intended to operate more or less continuously throughout the year. They consume water within the range of about 5 to 20 million gallons per day. Translating that to an annual water use, that gives us a range from about 1,500 million gallons per year to 6,000 million gallons per year.

So in context, the peaker power plants consume about a fraction of 1 percent to about 3 percent of the water used by typical baseload combined cycle plants.

Another example of water use, municipal water use, and I give you data from Champaign, Urbana, for context. Champaign, Urbana, has a population of about 120,000 people, and they need that water supply regularly 365 days per year. Champaign, Urbana, currently consumes about 20 million gallons per day of groundwater, which translates into an annual use of about 7,300 million gallons per year.

So to put the water use by peaker plant in context of a municipal use, a typical peaker plant would use the same amount of water as between about 25 and 3,000 people, depending upon the nature of the peaker.

One concept that is important in examining not only peaker power plants but all groundwater use is the concept of sustainable yields. And in my written testimony, I refer to that as potential yield. Sustainable yield is a fairly diffuse concept but generally, it tends to mean the yield of water that can be sustained over the long term so that it can be used not only by the current population but also by future generations and a yield that will have no significant impacts.

The determining sustainable yield is a complex scientific exercise that involves consideration of variables such as rainfall, recharge rates, geology and impacts. Impacts not only on existing wells, but on peaker systems and on stream flows.

The point here is that for most aquifers in Illinois, we do not have a very highly accurate estimate of sustainable yield. We need much better scientific data and modeling capabilities to be able to estimate sustainable yields.

Another important point is that aquifers themselves are not very sensitive to the end uses of water. That is an aquifer doesn't really differentiate whether a million gallons of water is going to be used for drinking water or for peaking power plants or for golf courses but the public often does differentiate among those end uses and, I think, trying to incorporate the public values and preferences into the equation on water resource management is an important consideration as well as the actual amount of water used.

Water quality has been mentioned by people from Environmental Protection Agency giving previous testimony. There are natural occurrences of various chemicals in the groundwaters throughout Illinois. These lead to mineral concentrations that can effect not only the operation of the peaker plants, but also the discharges from the peaker plants. So the water quality also needs to be considered.

In conclusion, I would like to make two points, one focusing exclusively on groundwater, the other combining groundwater with surface water.

Focusing on groundwater, it's important to recognize that in the use of groundwater resources, all uses of groundwater, not just peakers, that we need to consider the scale of the natural resource, that is the aquifer.

Groundwater typically is found in discrete squifers that transcends political jurisdictions. They cut across municipalities, counties and even states. Plumbing management by individual communities will not solve problems in the long term, we need to take an aquifer-wide perspective. Beyond just groundwater, I think that we need much more consideration of the conjunctive use of surface and groundwater. There can be many efficiencies gained in water supplying usages by considering conjunctive uses of surface and groundwater.

So my bottom line is that I think Illinois would benefit from moving towards much more comprehensive regional water resource planning and management. This will bring together communities and cut across jurisdictions and we'd — much more appropriate to the scale of the natural resources, that is the aquifers in the case of the groundwater supplies and river basins and water sheds for surface waters.

* * *

Let me give you one example I think is an excellent model of what is going on in one part of Illinois and that is in central Illinois. We have a major aquifer, the [Mahomet] aquifer, that extends from the Illinois River across to Indiana,

which embraces 15 counties. Now, in the past couple of years, the local communities in that 15 county area have bonded together to form what is called the [Mahomet] aquifer consortium and they're collectively concerned about the future of their own water resources, want to better characterize those resources and opportunities as a basis for self-management to the water resources. So, I think, on the one hand we may need new laws, regulations, but I think we also need to encourage local communities to attempt to solve their own problems.

IEPA -- Prefiled Testimony of Richard P. Cobb, Manager of the Groundwater Section of Bureau of Water

However, the few Illinois court decisions since the enactment of the Water Use Act have interpreted that "reasonable use" for groundwater does not restrict the use of groundwater except from malicious or wasteful purposes of the user.

Concurrent with the requirement for these hearings, Governor Ryan, by Executive Order, established a Water Resources Advisory Committee. The committee's task will be to focus on our water resources and its usage, including the effects of peaker plants on groundwater and surface water supplies. The committee will also examine the various economic and social issues related to energy producing facilities and water use in Illinois and present recommendations for action to the Governor by December 2000. I plan on attending this committee's first meeting on August 31, 2000.

IEPA -- Prefiled Testimony of Christopher Romaine, Manager of the Utility Unit in the Permit Section of Division of Air

A key factor in the design of a peaker plant is the capability to maximize the power output of the plant to be able to meet peak electric power demand. This leads to a number of variations on the basic simple cycle turbine, all due to the scientific fact that the power output of a gas turbine varies based on the density of the air being used in the turbine. The denser the air, the more air that can be pushed through the turbine and the higher the power output. This means that in the absence of any adjustments, the output of a given gas turbine will be significantly less on a 90°F day in July, when peak power is most likely to be needed, than on a 20°F day in January. To correct for this phenomenon, the modem simple cycle turbines used in peaking plants are routinely equipped with devices to cool the air going into the turbine. While it may appear counterproductive to cool the air in a turbine before heating it, cooling the air allows more air to be handled by the air compressor, thereby allowing more fuel to be burned and increasing the power output of the turbine.

Gas turbines can be equipped with several different types of air cooling systems that vary in the effectiveness with which they can cool the inlet air to boost a gas turbine's power output. In the simplest system, water is injected directly

into the incoming air to cool the air by evaporative cooling. Clean demineralized water must be used to prevent excess build up of scale or erosion of the blades in the air compressor of power turbine. In more advanced systems, water may also be injected at a point in the air compressor itself. The inlet air may also be cooled by indirect systems in which the air passes through cooling coils. In this case, water may still be used in an open cooling tower where evaporation of water is used to dissipate the heat generated by a mechanical refrigeration unit. Alternatively, a dry cooling system may be used in which the heat generated by a refrigeration unit is dissipated to the atmosphere by dry cooling towers or radiators. The more complex the cooling system, the greater the amount of energy that is consumed in its pumps and compressors, which accounts for some of the increase in power output.

Another approach to boost power output of a gas turbine is to inject clean water of steam into the burners or to inject steam after the burners. All these measures increase the gas flow through the power turbine and thus increase its power output. Because fuel must be burned to evaporate the water (either in the turbine itself or in a separate boiler to make steam), these measures to increase power output are accompanied by a loss of fuel efficiency by a gas turbine.

NAPERVILLE HEARING

Connie Schmidt, Representative of River Prairie Group

DuPage County is so close to Chicago, one would think it is very urban. I myself have a well and septic on my property and I am incorporated. I live within the city limits of Warrenville. So it is not totally unusual -- and all my neighbors do because we don't have city water in our neighborhood. So the groundwater use as well as what happens to it after it's been used, I think, is a realistic concern in our area.

Mark Goff, Resident, Warrenville

So obviously well water is a concern.

Lake County Conservation Alliance -- Testimony of Susan Zingle, Executive Director

A lot of people have talked about water supply. Some of the peakers do use vast amounts of water. Some of them as much as a combined cycle plant. We're looking at Zion is going to use over 200 gallons (sic) a day. That's as much as the entire city of Zion in itself. McHenry and parts of Wisconsin draw on that same aquifer. How can Woodstock and Zion even be aware of each other's plants let alone determine which of the two plants is built if either. Water supply is not a local issue

Rural and City Preservation Association (R&CPA), Cathy Johnson, Vice Chair

The water issue, which is a major one in McHenry County, is barely even considered in the new standards. A new peaker plant has to only respond to how the water it uses affects the area one-quarter of a mile around the plant. This is ridiculous. This standard isn't there to protect us.

JOLIET HEARING

Corn Products Internal, Inc., Alan Jirik, Director, Environmental Affairs

With regards to cooling water consumption, our plant currently takes water from the Sanitary and Ship Canal. The water is used for non-contact cooling purposed for the corn wet milling operating and then returned to the canal. In a clever and environmentally friendly approach, we plan to use the existing cooling water flow to supply cooling water to the new cogeneration operation. We accomplish this by routing an additional loop from our existing cooling water line to serve the cooling needs of the cogen. After servicing the cogen, the water will return to our existing line and be discharged the same as it is today. Thus, the project will not increase our current water withdrawal and will not result in any new water discharges, any new intake or outfall structures, or cause any other disruptions to water bodies, water tables, groundwater, aquifers or burden the community drinking water supply.

Citizens Against Ruining the Environment, Lockport, Carol Stark, Director and Exchange with Board Member Kezelis

We also have information that states the aquifers located **on this site** are joined together. This is the first of our concerns. The fact that the aquifers, our water supply, could be affected by this peaker using thousands of gallons a day is not a comforting thought.

* * *

Board Member Kezelis: Ms. Stark, do you know what the source of your public water supply is in Lockport?

Ms. Stark: We do -

Board Member Kezelis: Is it the aquifer?

Ms. Stark: Yeah. We do have -- and then there are some people that are on wells, but yes, it's the aquifer. We have never tied into Lake Michigan water.

Will County, Michael Shay, Senior Planner Responsible for Long-Range Planning and Exchange with Chairman Manning, Board Members Flemal, Girard, Kezelis and McFawn

The largest thing that we found that concerned us was that Will County's aquifer reserve water is about 66 million gallons a day. That's how much we have — it's currently recharging -- that we could use for water supply. We contacted several facilities and went on several industry websites and they said five to 12 million gallons a day per facility for a combined cycle facility and roughly a million gallons a day for a simple cycle facility.

So we contacted some of them that actually started operation in Will County, including the one that you visited today. We arrange tours. On our tour, we found out they're actually planning -- or they were planning for an expansion and this comes to a key point that I'd like to discuss today. There was discussion earlier about separating simple and combined cycle plants. We do not think you can separate those two facilities.

Simple cycle facilities are designed and physically organized to be converted to combined cycle facilities down the road and that plans that we received as we reviewed these petitions explicitly and clearly state that; that they are designed to be converted or added Onto at a later date. So we do not want to see those two issues separated at all.

So they -- we get into more discussions with them and they say 16 million gallons a day for one of the facilities which we visited, which means that four such facilities of which there are already that many could eat up the entire reserve water capacity for Will County. We are not likely to get more lake water. River water is another issue altogether regarding quality of our water. So when you add that to the fact that we are the fastest growing -- numerically growing county in Illinois and also the fastest in the sunbelt, we see a problem for a collision between growth and these facilities for that resource.

We are also concerned -- when we continue to do our research, we said, that's a lot of water to draw from one facility. How do you get that? Well, they drop wells in the aquifer obviously and they pull it up at such a rate that it creates a drawdown. It creates a reverse cone or a cone of water supply and the radius on that for a facility of the magnitude that we were discussing is six miles drawdown, 300 feel drawdown at the point of the well and still 35 to 50 feet of the six-mile radius.

Will County has thousands and thousands of wells; residential, industrial or group wells. We're concerned about well failure because we continue to place

these facilities over time and if they're to be converted to combined use facilities.

* * *

Board Member Kezelis: I have a question. I, too, hope to be brief, Mr. Shay.

That status of the suggestions that you and the planners for Will County propose to your board, what is the current status?

Mr. Shay: Well, we have a first set of regulations in place. We're currently discussing the second set of -- we're researching and discussing the second set. If I had to provide a guess, which bureaucrats despise doing, but I will do nonetheless, I would suspect that they will prohibit the use of aquifer water for electric generation.

* * *

Board Member McFawn: Is the only industry that you're concerned about the drawdown well or is that general a concern?

Mr. Shay: It's the only industry we know of that draws that amount that quickly. We can't find another that draws from the aquifer at that rate, but we're unaware of one that draws at that rate.

Let me illustrate this real quickly. When you're talking about 16 million gallons a day, that means that three of those facilities could put a pipe on the end of the Fox River in St. Charles and the river would end while it was in operation.

Chairman Manning: Where did you get those figures in terms of the drawdown effect and how much water is actually being used by these facilities?

Mr. Shay: We got from the-- well, we got the information on flow and amount of the aquifers and reserve capacity from the Illinois Water Survey. They regularly publish those statistics and we acquired them from them and then we acquired numbers on the use actually directly from the industry itself.

The engineers who built the Elwood plant, we -- our land use and zoning committee and planning and zoning committee visited those facilities. In those discussions, we asked them about water use and they gave us very frank answers on that. The number that they gave us came out to 16 million gallons a day and we confirmed with them that that was an accurate assessment. So we're fairly confident of those numbers.

* * *

Board Member Kezelis: Mr. Shay, what's your understanding about the Elwood facility; single or combined?

Mr. Shay: My understanding is that it is currently a single cycle plant that the two additional -- the Elwood two and Elwood three will also be simple cycle.

All three of those phases, though, are designed to be converted to combined cycle should they wish to do so.

Board Member Kezelis: So the 16 million gallons per day --

Mr. Shay: Would be if they became a combined cycle. They are not currently. They do have a well, but it's comparably small.

* * *

Board Member Girard: Mr. Shay, if Will County passes an ordinance that prohibits the use of aquifer water or electrical generating facilities, would that also apply to a facility that tried to site itself inside a municipality in Will County?

Mr. Shay: No. That's why we're concerned about jurisdiction hopping, but it would also cover a number of the intersections of pipelines and transmission facilities.

Board Member Flemal: One of the things that this board may see it necessary to do ultimately in our decision here is to address the issue of how much local and how much regional or state level oversight there ought to be in the siting of these facilities.

We've heard quite a range of perspectives from it should be entirely in the hands of the locals with the facility to what I think I heard you say that there should be a strong top-down oversight on the plants.

First off, have I characterized where you're coming from correctly?

Mr. Shay: Okay. I would like a strong state or national presence on the issue of drawing from wells.

Board Member Flemal: Soley on that issue?

Mr. Shay: And issues that affect cross-jurisdictional -- an aquifer doesn't make a jurisdictional boundary. It could go across several counties and several municipalities, et cetera. Well, local authorities, because we are competing for economical development efforts and because of the nature of the politics between them, are often played against each other by the private industry

Board Member Kezelis: Mr. Shay, the water use, as you know, is not something that we are to address. The Governor has appointed the water commission to address water use for the state. Nonetheless, your reference to the water use a few moments ago, I needed clarification of.

You indicated that approximately 16 million gallons per day would be used by a combined peaker facility and that the drawdown for such a facility would impact roughly a six-mile radius, is that correct?

Mr. Shay: That's correct, according to the information we have from the Illinois Water Survey.

Board Member Kezelis: So you received that information from the Water Survey itself?

Mr. Shay: Yes. We got it off their website. They have a very graphical explanation.

GRAYSLAKE HEARING

Testimony of State Senator Terry Link

Since the effect of peaker power plants, air quality, water supply, natural gas supply, noise, taxes, are felt regionally, not just locally, I believe we must take a regional approach in regulating the pearkers.

Testimony of State Representative Susan Garrett

Our aquifer is on the verge of being mined. We are concerned for our long-term water supply. We need to resolve this.

Testimony of Sally Ball on behalf of State Representative Lauren Beth Gash

Our friends and neighbors are understandably worried about the impact of so-called peaker plants on air quality and water supplies.

Appearing on behalf of the Lake County Public Water District, Daniel J. Kucera, Chapman & Cutler and Exchange with Board Member Kezelis

Now, the term peaker plants is a misnomer because it implies an oversimplification. The types of electric generating facilities being proposed throughout the state, and which are raising environmental concerns for many people, are both base-load plants and peak-demand plants. The environmental impact issues raised by such plants, including water use, differ only in magnitude.

In addition, these plants can be both simple cycle and combined cycle. Accordingly, demand for water and resulting environmental impact of that demand can vary according to the type of plant. Clearly, a combined cycle plant, which uses steam to generate a portion of its electricity, can be expected

to use more water than a small simple-cycle plant, which uses water only for cooling.

A witness for the Illinois State Water Survey in these proceedings, Mr. Winstanley, has testified that simple-cycle peaker plants can use up to 2 million gallons of water per day. And combined-cycle plants can use 5 million to 20 million gallons per day.

* * *

Presently with very limited exception, there is no permitting process or regulatory oversight over the uses of water by peaker plants. Witnesses for IEPA in these proceedings have acknowledged that IEPA currently has no jurisdictional responsibility over peaker plant water use.

A public water supply providing Lake Michigan water to a peaker plant would have to have a sufficient allocation from the Department of Natural Resources to enable it to supply peaker plant demand.

The Illinois Water Use Act of 1983, 525 ILCS *45/ et seq.*, was cited by one of the IEPA witnesses in this proceeding. Section 5 of the Act does provide that a land owner who proposes a new well expected to withdraw over 100,000 gallons per day must notify the local soil and water conservation district. The district is then to notify other units of local government whose water systems may be impacted. And the district is to review the impact and make findings. However, the statute provides no enforcement mechanism.

Moreover, this provision does not even apply to the region governed by diversion and allocation of Lake Michigan water under 615 ILCS 50/1 *et seq.*

The Water Use Act states that the rule of reasonable use does apply to ground water withdrawals, but it does not provide supporting, permitting or regulation.

As to the need for permitting and regulator oversight, I would first address Lake Michigan water. Lake Michigan is a valuable and limited domestic water supply resource. It is valuable because in northern Illinois lake water is perceived to be superior to ground water.

Aquifers in the region commonly contain high levels of iron, manganese and other constituents which raise esthetic issues and which can require costly treatment facilities. Deep wells often contain high radium or alpha-particle contents.

Further, in portions of northern Illinois, water levels in the aquifers have diminished and some deep wells have been mined into salt water. Obviously, there is a great demand for lake water to provide the domestic water supply for as many communities as possible. However, Lake Michigan

water is a limited resource because of legal limits on how much water Illinois may withdraw. Accordingly, the use of Lake Michigan water by peaker plants for cooling, steam production or even as backup to ground water for these uses should be limited or even prohibited.

As to ground water, because peaker plants can be heavy users of ground water, upwards of several million gallons per day, there should be regulatory oversight over such uses. In particular, the potential effects upon aquifers and ground water domestic water supplies should be evaluated as part of the permitting and regulatory process. Mr. Winstanely has well stated the issues in his testimony in this proceeding.

It is also important to point out that the ground water is a limited resource in certain portions of the state. For example, in parts of central Illinois ground water is extremely limited, even for domestic water supplies and, of course, aquifers in northern Illinois have been subject to diminishment.

Finally, other surface water, needless to say where a peaker plan may withdraw water from a stream or inland lake, the impact of such withdrawal also could be evaluated. For example, it could reduce the resource value of the water body for domestic water supply, aquatic life or recreation.

There are now some additional water issues that I would like to bring to your attention, one of them is decommissioning.

For example, if a plant is terminated, who will be responsible for resulting excess capacity in the local public water supply? Who will be responsible for capping the plant's wells? Who will be responsible if leakage from the plant has contaminated the source of supply for the local water utility or for individual residential wells? Where is the accountability when these plants are closed down?

It would seem appropriate to enact a decommissioning procedure to protect water sources and the public when these plants are removed from service. At the very least, there should be a procedure for a state administered trust account, which peaker plants would be required to fund, to assure remediation and restoration funds will be available if plant owners abandon plants without protecting water resources.

Another possibility is a requirement that a surety bond or letter of credit be posted to secure the obligation to protect water sources.

Another issue is competition. Public water supplies can be expected to remain a highly regulated industry so as to continue to assure safe drinking water for the public. Unlike other utility functions, public water supply is not likely to

be deregulated or to be subject to the competitive marketplace. The investment in water infrastructure per customer far exceeds the comparable investment for other utilities. This investment in water infrastructure will only continue to increase under the Sale Drinking Water Act amendments as new requirements are proposed. Redundant water systems do not make sense.

It is important, therefore, that electric generating plants not be permitted to engage in helping to finance new public water supplies which may compete with existing public water supplies. Such predatory competition could deny customer the benefits of economies of scale.

Another issue we believe is siting. Presently siting of electric generating plants is considered to be a local issue. However, there may be siting concerns of a broader interest, as related to water use. Recent proposals indicate multiple peaker plants in close proximity to each other. What is the impact of multiple draw-downs on an aquifer at a particular location?

Another concern relates to soil conditions at a proposed site. How vulnerable are site conditions to a contamination spill? Could a shallow aquifer be adversely impacted? Presently, there is no regulatory oversight of these siting issues.

* * *

Finally, cross-connection. When an electric generation facility is partially served by a public water supply and partially served by the facility's own wells, there must be assurance that no cross-connections will exist. For example, the public water supply may provide water for domestic use and fire protection, while the facility uses its own wells for process water. However, the public water supply might also provide backup in the event the wells are out of service.

Local governments may not necessarily have the staff with skills to constantly monitor for cross-connections in generating plants. Indeed, it is not clear that they ever would have access to the plants. Who then will be responsible for policing for cross-connections and protecting the public water supply?

The District understands that the Governor's water advisory committee may be considering water issues related to peaker plants. We are not aware whether that committee is soliciting public comment. Therefore, we believe it is important that the Pollution Control Board in its report to the Governor include water issues related to peaker plants discussed in the testimony and comments submitted in this proceeding.

In conclusion, we suggest that the Illinois legislature should adopt a permitting of regulatory oversight requirement for process water used by all electric generating facilities, including both base-load and peaker plants.

* * *

Board Member Kezelis: I just have a question. Can you for the record tell us what your rate of capacity is and roughly how many gallons per day your customers do take?

Mr. Kucera: Our peak day capacity is 6 million gallons per day. I think in actuality the customers average between 3 and 4 million gallons a day.

Lake County Board, Jim LaBelle, Chairman

The process should not only consider air quality but also other environmental factors such as water consumption impacts on aquifers or Lake Michigan water allocations.

* * *

In addition to the IEPA considering the polluting impact of multiple plants, the Department of Natural Resources and the ICC need to consider the impact on ground water resources, natural gas availability and pricing impact if numerous peakers operate at the same time.

* * *

The high volume of ground water usage can lessen the supply for any other entity tapping the same aquifer.

Lake County Board, Sandy Cole, Commissioner

In addition to air quality, peaker power plants may affect the region's water supply as they need to draw significant amounts of water from Lake Michigan or local aquifers.

Lake County Board, Bonnie Carter, Commissioner

The village of Island Lake was being asked to annex the land. The plant proposed for the small community on the far western edge of Lake County was not a peaker plant. The plant was proposed to provide base-load power year round with ground water usage of 4 to 8 million gallons daily.

Local officials, myself included, and concerned citizens began investigating the issues surrounding the type of power plant involved. Many issues such as air quality, noise and lighting were raised. Water usage was by far the most overwhelming environmental concern. While gathering information, I became well acquainted with the work of the Illinois State Water Survey, a division of the Department of Natural Resources and an affiliate of the University of Illinois at Urbana-Champaign. According to data assembled by the ISWS, the volume of water required to supply the proposed plant for a year would have been far greater than what was required for the village's entire population.

I further learned that neither the Illinois Environmental Protection Agency, nor the ISWS or any other state agency had any authority limiting ground water withdrawal. The proposal for the Island Lake plant was eventually withdrawn and most of the subsequent plant proposals in Lake County are for peakers, not base-load. This, I feel, is a direct result of the hightened awareness of the water withdrawal issue and how precious a resource water is. Though the issue of water usage is not as critical with peakers, it is still significant enough to warrant scrutiny.

In February 1999 I drove to Springfield with my two constituents who had originally brought this issue to my attention. We met with IEPA Director Tom Skinner, officials from Storm Water Management, Illinois Department of Natural Resources, Fish and Wildlife, the IEPA Bureau of Water, the IEPA Bureau of Air and two state legislators. We expressed our deep concerns with the permitting process of a 90-day review on construction applications, the lack of regulatory authority over ground water withdrawal and the lack of public hearings. We also discussed air quality impacts along with the noise and lighting.

We all felt that the IEPA directors and supervisors that sat among us were frustrated with having to review permit applications without being able to take the regional impacts of these plants into consideration. They agreed that a regional element should be included in the review. We were surprised and shocked to learn that each division did not review the applications together. One division follows the application approval process after the other division has completed its work. They may never have been aware of the combined impact on adjoining property owners or cumulative environmental impacts. In other words, they didn't talk to each other.

After we left Springfield that day, some minor changes did take place. The 90-day review process was reversed back to 180 days. Public hearings started to take place on applications and the IEPA Director Skinner never forgot us in Lake County.

As you may see, we are still dealing with this issue today and we are still very frustrated. I hope and pray we will all be heard today and that, as a result, you recommend improvements, not only to the process, but to help reduce the negative impact power plants could have depending on where they are sited.

As with many of the issues surrounding peaker plants, it is important to recognize that ground water is a regional issue. It is also important to recognize while one peaker plant may not threaten a region's water supply, multiple peakers may. Aquifers do not end at municipal or political boundaries. The water consumed in one village not only limits the supply of its immediate

neighbors, but impacts the supply of further villages, commercial wells and deep community wells which draw from the same aquifer.

In the case of the Island Lake proposal, adjacent villages would have realized significant financial impacts. Nowhere in the permit application process submitted by the applicant were those impacts acknowledged or addressed. One neighboring village, the village of Wauconda, would have incurred expenses close to $1 million to reset the pumping well head in two municipal wells. The taxpayers of this neighboring village, not the power company, would have borne this expense, $1 million. This village had no opportunity to voice its concern during the application review. Surely, this demonstrates why a regional application approach must be in place, must be put into practice.

Determining the amount of water available for peaker use as well as all other users is a significant undertaking for any local community. Dr. Derek Winstanley of the ISWS in his written testimony to this Board wrote of the expense of collecting ground water data. Conducting a study to determine the sustainable level of water usage for Lake County is estimated to be a multi-million dollar project. To expect local communities to shoulder this burden is unreasonable. Yet without regional data, a single community cannot make an informed decision on water supply.

At the August 18th, 1999 meeting of the Lake County Public Works and Transportation Committee, Illinois State Water survey Director Dr. Derek Winstanley reported that around the year 2030, Lake County will maximize its water use. Today, we are at the maximum sustainable level of the northeastern Illinois deep bedrock. We cannot continue to increase withdrawals from the deep aquifer. Water demand is up 20 percent, and we are at the point where supply and demand are beginning to conflict.

Another large source of water for the Lake County area is Lake Michigan. Here again, the County's usage impacts the supply of other counties and states. The supreme court fixes allocations. Local governments do not have an endless supply.

Peaker plants will either draw ground water, which will have an impact on neighboring wells, or draw on Lake Michigan water that has already been fully allocated. Clearly this issue needs to be understood and addressed.

The quality of water will also be impacted by extensive withdrawal. Research has shown that when too much water is pumped, surface waters can be impacted. Water availability to stream beds, wetlands and lakes can decrease, and the quality of the existing water may be threatened. Eventually, animal and plant life will be threatened. Since the technology exists to convert peaker plants to combines plants at any time, peakers should not be considered as a

minor use, but rather as a major use with regional impact. I would suggest that all applications should be specific as to whether they are peaker or base-load. Applications for peakers should question the intention toward possible future conversion to a base-load.

Allowing one industry that provides a very few number of jobs to have unlimited use of our water supply impacts the economic growth in communities where other industries also require water.

Officials in Lake realize that it is not only peaker plants that threaten our water supply. Development of any kind, whether residential, commercial or industrial will place an additional burden on limited resources. County officials further realize that electricity may be one of the resources in short supply. However, our analysis of the realities of peaker power plants and the marketing of power do not convince us that peaker plants located in Lake County will alleviate a power shortage in Lake county. We feel we are being asked to give up one precious natural resource with no guarantee that the sacrifice will realize a benefit for the county's citizens.

The Water Use Act of 1983 and the Water Authorities Act do not give counties the authority to regulate ground water withdrawal. A plan that regulates major aquifer draw-downs is needed. The Lake County Board recommended legislation to do just that. It is believed that there is support from state agencies to clarify regulatory authority for ground water withdrawal. These initiatives are included for your review.

The state needs to determine what the reasonable use is. I finally realize that the IPCB does not have the authority to regulate ground water withdrawal. I have the pleasure of being a member of the Water Resources Advisory committee that was recently initiated by Governor Ryan. This issue will be covered in this committee and our recommendations will be made to the Governor in December. I feel it is imperative to point out that we need to share our expertise with all governing state agencies in order to be better equipped to make decisions involving the power industry. It is too complex an issue for one agency to comprehensively see all facets. I believe that the Pollution Control Board, the ICC, the IEPA, the ISWS also all need to support each other and work together. We need a regional cooperative group with regulatory authority when reviewing applications.

The Lake County Board has made a decision last year to be proactive and not reactive. Our actions support that position. I ask you to support this board and the people of Lake County by doing the same. Place a moratorium on all pending and new applications for power or peaker plants until such time as all agencies have collaboratively worked together reducing and/or eliminating the

negative impact to our quality of life. Thank you, Chairman Manning and the IPC Board.

Toni Larsen, Resident, Zion

In the Zion area, there are at least five pending permits which will be licensed separately for future plants. I believe all facilities within Lake County need to be evaluated regionally to assess the cumulative effect. One of the sites is in Zion and it is zoned industrial, although most of the neighboring properties are not in Zion.

These neighboring communities have no say what goes in their backyard. These communities get their water from wells. One of the proposed peaker plants plans on drilling an industrial well. This plant can use up to 2 million gallons of water a day. I believe that needs to be more study on ground water supply issues.

Concerned Citizens of Lake County, Chris Geiselhart, Chairperson

There is a potential drawdown of hundreds of thousands of gallons of water from Lake Michigan, which already exceeded water usage for the mining of deep well aquifers as sources of water for these facilities.

Zion Against Peaker Plants, Verena Owen, Co-Chair

Environmental impact studies for peaker plants are required by other states, for instance, Wisconsin, Indiana and Ohio. The environmental impact studies should contain at a minimum hydrology and water quality, water usage, waste water, water run-off and potentially polluted run-off containment, air quality, biology, loss of habitat, loss of agricultural land, land use and community character, archaeology, socioeconomic impact, visual impact, impact on local services, traffic, noise and public health and safety.

Jim Booth, Resident, Newport Township in Lake County

Upon investigation, I learned that the city of Zion, who purchases their water from the Lake County Public Water District had exceeded its 822.345 million gallons of Lake Michigan water by 22 million gallons. They purchased 844 million gallons from the Lake County Water District in the period May 1999 through April of 2000.

* * *

Zion, of course, is [considering] the peaker power plant, which would use a maximum peak of 2.124 million gallons of water per day when they are operating their five turbines. And they divide this by 365 days a year, of course. And that would run 230,000 gallons per day. Unless Zion files and is

awarded an increased allocation of Lake Michigan water, they cannot serve my business nor can they serve the proposed peaker plant.

The state of Illinois is in debt to Canada for exceeding their Lake Michigan water allocation. This debt is to be repaid by 2019. I assume you are familiar with that. For 20 years, Illinois took more than their allotted amount of water out of Lake Michigan, and now they have to pay it back. The bottom line is that there is less water to be divided among the municipalities, 177 or so, that use Lake Michigan water.

But the peaker power plant has an alternative which I do not have. They can drill wells and tap into the Ironton Galesville Sandstone Aquifer.

Circular 182 from the Illinois Department of Natural Resources Water Survey by Adrian A. Zuchowski addressed the water level trends and pumpings into the deep bedrock aquifers in the Chicago region in the period 1991 through 195. On page 15 he wrote that Schlect in 1976 estimated that the practical sustained yield of the deep bedrock aquifers regardless of the scheme of well development cannot exceed *65* million gallons a day.

The practical sustained yield of the deep aquifers is defined as the maximum amount of water that can be withdrawn without eventually dewatering the most productive water yielding formation, that is the Ironton Galesville Sandstone Aquifer.

In a fax dated August 15th of this year, Mr. Scott Meyer of the Illinois State Water Survey faxed me and said I recently estimated deep bedrock withdrawals in that area, referring to Zion, at about 71 million gallons a day. That is 6 million gallons above the practical sustained yield.

The point is this. One peaker power plant drawing 230,000 gallons per day from the Ironton Galesville Sandstone may not seem overly significant. But it is reported that there is some 55 peaker power plants proposed in the state of Illinois. How many will be drawing water from the Ironton Galesville Sandstone aquifer in the eight-county area?

Now, the survey that I referred to, the circular 182 involved water being taken from the following eight counties: Cook, DuPage, Grundy, Kane, Kendall, Lake, McHenry and Will. Now, five plants the size of the proposed Zion plant would draw 1,150,000 gallons of water per day from that aquifer. For 20 months plants would draw 4,600,000 gallons per day average, but at peak would draw 42 million gallons in one day. Now, this is out of an aquifer that can only sustain 65 million gallons and is currently being drawn at 71 million gallons.

The former state senator and minority leader Everitt McKinley Dickson once said after attending his first budget meeting, a billion dollars here and a billion dollars there, and pretty soon it added up to some real money. The same thing is true of the peaker power plants and their great appetite for water.

I ask you to consider the following questions. Should quality Lake Michigan water by used for peaker power plants or should that be reserved for human consumption? Should there be a limit on the quantity of water mined from the Ironton Galesville Sandstone Aquifer considering eight counties depend upon this water source, Cook, DuPage, Grundy, Kane, Kendall, Lake, mclienry and Will Counties? This is not a local issue. This is a regional issue.

And remember, this Ironton Galesville Sandstone Aquifer begins in Minnesota, runs through Wisconsin, northern Illinois, central Illinois, into Missouri and finally into the state of Iowa. It can be mined dry.

William McCarthy, Resident, Libertyville

As far as water use is concerned, these plants do use a lot of water.

* * *

Peaker Plants are inefficient. They only covert 28 percent of the power that they burn into electrical energy. Combined-cycle plants convert 56 percent. Obviously, you are going to get a lot more bang for your buck with a combined-cycle plant.

The problem is combined-cycle plants use more than 2 million gallons of water a day. Peaker plants use maybe 120,000 gallons a day. That is a big difference.

And as has been mentioned before, Illinois is under water use restrictions because they don't want Lake Michigan being drained for all different kinds of uses. And probably some of you read National Geographic and you are aware of the Arrow Sea disaster in the Soviet Union. The Arrow Sea was completely drained within a period of 20 years by overirrigation. And it is a water body one fourth the size of Lake Michigan. So they drained -- I think it was 100 billion trillion gallons of water. It is practically gone. If you could just look it up on the Internet, you will see.

Cindy Skrukrud, Resident, Olin Mills, McHenry County

First, relating to the State's commitment to water conservation, ground water withdrawals, McHenry County is one of the many counties in Illinois totally dependent on ground water for our drinking water. Combined-cycle plants with their massive need for water pose a real competitive threat to these water supplies. This is an issue we need to address.

SPRINGFIELD HEARINGS

Illinois Section of American Waterworks Association – Testimony of John Smith and Exchange with Chairman Manning and Board Members Girard and McFawm

Number three: Should new or expanding peaker plants be subject to siting requirements beyond applicable local zoning requirements? ISAWWA believes that peaker plant siting requirements should encourage the siting of these plants near a sanitary water treatment plant, if practical, so as to utilize the discharge from the sanitary water treatment plant known as gray water or cooling water." We only wish to comment on the use of water resources by these facilities. Number one, the State of Illinois must manage, protect and enhance the development of the water resources of the state as a natural and public resource. Number two, water resources have an essential and pervasive role in the social and economic well-being of the people of Illinois and is of vital importance to the general health, safety and economic welfare. Number three, water resources of the state must be used for beneficial and legitimate purposes. And number four, waste and degradation of water resources must be prevented.

ISAWWA is not opposed to the use of water resources by peaker plants. We are only asking for the responsible use of water resources by these facilities and all major new water consumers. We believe the regulation or permitting of large water resource withdrawals should be the responsibility of regional agencies, such as municipalities, counties or water boards, and that a state agency should have oversight of these regional agencies.

We believe that the basis for the decision on how much water can be safely used from a designated water resource be based on the existing knowledge and scientific studies of that resource, and, if knowledge of that resource is lacking, then additional research into the adequacy of this source should be done before allowing major withdrawals. The decision to allow the development of existing or new water resources must be based on sound science, not politics. We believe that funding must be adequate for the state agency to perform these studies.

In conclusion, Illinois Section AWWA is not opposed to peaker facilities. We are calling for the rules and regulations of water resources be based on scientific studies of our valuable water resources and that an unbiased state agency be charged with oversight of regional water use. Adequate funding for the state agency must allow for the scientific study of our state water resources, and the State must have a plan for the efficient management of water resources.

Chairman Manning: Thank you for being here today. I do have just one question. Are you aware of any projects right now that are ongoing between a

peaker plant developer and a sanitary treatment facility in the state we could *speak to*?

Mr. Smith: I'm not aware of any

Board Member Girard: So what you're advocating is that we have a state water resources board that allocates these large withdrawals? Is that what you're saying:

Mr. Smith: What we are saying is that we believe a state agency such as the Illinois State Water Survey should have some oversight over the regional agencies that normally would have some control over water. We believe that in most cases, the regional agency has at least some knowledge of the water resource and how much of that resource can be used safely without impacting other consumers or their industries. However, if the local agency has — unreasonably tries to restrict the use of these water resources, then a state agency could have oversight of the local agency.

* * *

Board Member McFawn: Is your association involved at all with any studies of water resources, be they groundwater or surface water, and their adequacy or even just their quantity?

Mr. Smith: Yes, we are. Illinois Section of AWWA is involved with the Mahomet Aquifer Consortium, which has — is trying to secure federal funding to do further studies of the Mahomet aquifer located in the central part of Illinois. This consortium and the action that we are doing to try to study this reservoir has already generated interest from other states in that they have inquired how we have put together the consortium and how we are going about to try and initiate these studies.

Our friends and neighbors are understandably worried about the impact of so-called peaker plants on air quality and water supplies.

National Association of Water Companies, Testimony of Brent Gregory, Representative of Illinois Chapter and Exchange with Board Members Melas and McFawn

The ability to provide water of sufficient quality and quantity to sustain commercial, industrial and residential growth goes hand-in-hand with the availability of electrical power. Water suppliers rely on adequate available electricity, and generating plants rely on an adequate supply of water. NAWC supports the development of new electrical generating capacity as needed for the economic advancement of Illinois.

We do not believe that peaker plants pose a unique threat to the environment compared to other types of state-regulated facilities. We believe that existing environmental regulations are adequate to address air and water quality concerns from peaker plants.

We emphasize the need for water use decisions to be based on sound scientific assessment of local and regional water resources. Where existing knowledge is insufficient, the state technical agencies should provide the scientific studies needed to permit or deny water withdrawals. State funding must be adequate to support these efforts. The right of existing public water supplies to condition withdrawing at their current installed capacities should be grandfathered into any program that is developed. The state should consider competent third-party assessments presented by those seeking to utilize the water resource.

We believe that permitting of new peaker plants and siting requirements should encourage conservation measures such as recycling of cooling water and use of other discharges for cooling when possible, such as those from sanitary treatment plants.

In summary, NAWC believes that the ability to expand power and water resources is important to the economic growth of Illinois.

* * *

Board Member Melas: Do you have any comments about the quantity of the — or the adequacy of particularly groundwater supplies?

Mr. Gregory: Well, we recognize that in certain areas of the state in particular, there may be some quantity concerns. We're traditionally known as a water-rich state, and yet due to concentrations of industry and populations and other circumstances, there are areas where, particularly in long-term outlook, water quantity is a concern. That's why we concur that there is a need for sound comprehensive management of the state's water resources with regard to quantity.

Board Member McFawn: You mentioned you thought that the quantity -- I believe it was the assessment of it should be done by an independent third party? Could you explain that a little bit more?

Mr. Gregory: Yes, I can. If there is some legislative or regulatory control set up over the use of Illinois water resources, it needs to be based on sound scientific assessment of the resource, which we believe that the state has — is the appropriate — has the appropriate technical resources to conduct those. However, if there would arise a dispute over the use or the application for the use of water or withdrawal of water and there is better science to be presented by a petitioner for the use of that water, that should be allowed.

Board Member McFawn: We are talking about just quantification, not quality?

Mr. Gregory: That is really in the context of quantity.

Mr. Gregory: If somebody wants to withdraw water from an aquifer or from a watershed and is able to hire a qualified consultant to demonstrate the reasonableness of that petition, then that should be considered.

Natural Resources Defense Council - Testimony of Patricio Silva and Exchange with Board Member McFawn

Mr. Silva: The water withdrawals were in part because there was some concern about adverse impact from the water withdrawals on the Hudson River for several fish species in that section of the Hudson River. I cannot remember off the top of my head if there was any impacts for nesting birds, but I don't believe so.

* * *

Board Member McFawn: [Y]ou said that NRDC was concerned about water used in single-cycle units. I've always thought that the single-cycles didn't cause that concern and it was the combined-cycles.

Mr. Silva: A great many single-cycle combustion turbine projects that we've seen -- not just the few that we've looked at in Illinois, but -- in elsewhere across the country -- rely on once-through cooling. Water is used once for evaporative cooling at the inlet duct and then essentially discarded. That, depending on the size of the unit -- and remember, the single-cycle turbines, we've seen anywhere from 80, some projects have 1,000 megawatts, so the water demand is going to be quite dramatic. Some of the combined-cycle units we've seen actually rely on dry cooling where there is essentially a process that involves a closed loop and onetime withdrawal of water.

So the demands — even though the unit — the technology's more efficient, in some applications the combined-cycle units can be hogs as well. They can be quite water intensive. So — But there is — there are technology options.

Exhibit from Reliant Energy

How much water will the plant use?

The plant does not require a large amount of water. Unlike many older plants, Reliant Energy Aurora does not use steam to generate electricity and its demand for water is similar to other light industrial uses. The primary use of water will be to cool the air flowing into the units and to control emissions.

The only other uses of water will be for the purposes of employee sanitation and for fire

The plant will use an average of only 300 gallons per minute (gpm) during the summer months and that the peak water usage rate will be gpm. The water will be provided from a deep aquifer well (Cambrian Ordovician650) which is at least one mile away from any known deep aquifer wells in the area. Compared with the water used in the City of Aurora on an annual basis, the maximum consumption from this well is less than 1% of the city's water use.

Public Comment #3 -- Ron Molinaro

Thirdly, there is the amount of water used. These plants can consume up [tol 2 million gallons of water a day. At a recent Zion City Council meeting a gentleman who owns a local confectionery company spoke of the possibility of the expansion of his business. When checking into the accessibility of additional water he discovered that the city of Zion exceeded its allocated amount for 1999 by 22 million gallons. If we were to allow these plants to be constructed in Zion, will there be enough water allocated for the expansion of existing business or the construction of new homes? This is a question that needs to be answered before we allow any power plants to be constructed in this region.

Public Comment #7 — Susan Zingle

Attachments to Public Comment #7 submitted by Susan Zingle - three letters from the Illinois State Water Survey.

Attachments to Public Comment #7 Submitted by Susan Zingle

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Illinois State Water Survey

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SWS

December 4, 1998

Mr. Robert Wargaski
Lake-McHenry Environmental Cooperative
P.O. Box 134
Wauconda, IL 60084

Dear Mr. Wargaski:

This letter is in response to your request of December 1, 1998, concerning the development of two 5-million gallons per day (mgd) ground-water supplies from the Cambrian-Ordovician-Age aquifer system for the purpose of steam generation in electrical power generating facilities. One site (designated herein as the Island Lake Project) will be located in the SW¼ of Section 9, T.44N., R.9E., Lake County. The other site (designated herein as the Libertyville Project) will be located in the NE¼ of Section 12, T.44N., R.10E., Lake County. The distance between these sites is approximately 9 miles. You have asked the Water Survey to comment on the potential impacts these ground-water withdrawals may have on surrounding water wells finished within the same aquifer system. You also inquired about ground-water law and regulation. The following are responses to the specific questions you posed to the Water Survey concerning this matter:

"The proposed Island Lake and Libertyville sites are within 10 miles of each other. Each would draw up to 5 million gallons of water per day. Please comment on the impact they would have operating together and simultaneously on the aquifer and the surrounding community wells. Which community wells would be affected by the interface drawdown."

Withdrawal of ground water from a well may cause water levels in nearby wells tapping the source aquifer to decline. This water-level decline is referred to as interference drawdown or, more simply, as interference. Interference drawdown decreases with increasing distance in all directions from a pumping well, defining an inverted conical water-level surface around the well. This is known as the cone of depression. The size and shape of the cone of depression created by a pumping well will depend on the areal extent and hydraulic properties of the aquifer, the pumping rate, and the duration of pumping at the well. When interference drawdown causes the water level in a well to decline below the pump intake (in which case the pump breaks suction) or below a level at which the pump can lift the desired volume of water to the surface, remedial measures such as lowering the pump setting or sizing a higher capacity pump may be necessary to restore a normal supply. The risk posed by a pumping well on the ability of a nearby well to deliver its normal supply is, therefore, a function both of the amount of interference and of various construction features of the affected well -- chiefly the pump setting, dynamic head rating of the pump, and well efficiency.

For the Island Lake and Libertyville Projects, nearby existing wells finished within the Cambrian-Ordovician-Age aquifer system, pre-dating the Lake Michigan water allocations to the area of question, may not be severely impacted by the proposed well field because those wells were engineered and

constructed when regional water levels were considerably lower than at present. Prior to Lake Michigan water allocations, pump intakes in water wells were set at lower depths and had greater water lifting capacities because of lower ground-water levels caused by regional pumpage. However, wells finished in the deep sandstones within the last few years could see more severe impacts because they were constructed after the regional "recovery" of water levels within the Cambrian-Ordovician-Age aquifer system.

The impact of the withdrawal of 5 mgd from two sites on ground-water levels with the Cambrian-Ordovician-Age aquifer system was determined through the use of an analytical mathematical model using regional values for the hydraulic properties of this aquifer system. The use of this model required that significant assumptions be made to simplify the natural variability often encountered in aquifer systems. Assumptions include homogeneous and isotropic aquifer hydraulic properties (as opposed to properties that may vary vertically and horizontally in three dimensions), no ground-water recharge, infinite aquifer extent (as opposed to geologic and hydraulic features which may limit the size of the aquifer), and a continuous pumping schedule (as opposed to a time-variant pumping rate).

The hydraulic properties and pumping scenarios were assumed to be identical at the Island Lake and Libertyville Projects sites. As you requested, each proposed well field pumped simultaneously in our model simulation. For purposes of construction of the model, we assumed each well field would consist of eight wells (finished in the St. Peter and Ironton-Galesville Sandstone aquifers) supplying 5 mgd (about 434 gallons per minute each) on a continuous basis for 20 years. Given these parameters, the model provided the graphic output shown in accompanying Figure 1.

Under the pumping and hydraulic conditions described in the above scenario, mutual interference effects between the well fields may cause water level declines of as much as 280 feet. Interference effects decline to approximately 150 feet at 12 miles.

This analytical model also suggests that as much as 520 feet of drawdown would be observed in the centers of each well field. This would lower the potentiometric head of the Cambrian-Ordovician-Age aquifer in the study area into the St. Peter sandstone. Dewatering of any artesian aquifer can lead to the reduction in pumping capacity. For a properly designed well field, the Cambrian-Ordovician-Age aquifer should be able to yield the desired quantity of water on a sustainable basis.

Given the possibility that the aquifer properties, number of pumping wells, well spacing, pumping rates, pumping periods, and total pumpage of the proposed wells may be different than what was assumed for this report, we recommend a more detailed analysis be made of the number of existing wells and their distance from the proposed high-capacity well fields. In addition, static water levels, pumping water levels, and pump intake settings of nearby water wells could be analyzed to determine if, and which, domestic, industrial, or municipal water wells would be potentially impacted.

Pumping water from this aquifer in the Island Lake and Libertyville areas has wider ranging effects than simply being a local phenomenon. Consideration should be given to the effects on the practical sustained yield of the entire aquifer system including the effects of pumping on ground water within the State of Wisconsin. The aquifer system is currently being pumped at, or slightly above, its estimated practical sustainable yield of 65 mgd per day. Further development is likely to contribute to the mining of ground-water in northeastern Illinois. A more sophisticated ground-water model of northeastern Illinois, one that

can incorporate regional variations in aquifer properties (unlike the simplistic analytical model we used to calculate drawdowns for this letter), would be a very important planning tool for state and local governmental leaders to have available to them in their efforts to manage this natural resource.

We recommend that a three-dimensional numerical ground-water model be used to better predict what long-term impacts the proposed ground-water development would have on the Cambrian-Ordovician-Age aquifer in northeastern Illinois. The Illinois State Water Survey has previously modeled this aquifer system (Prickett 1971, Visocky 1982, Burch 1991); however, the Water Survey's most recent model (Burch 1991) will need extensive updating. A three-dimensional numerical ground-water model could incorporate natural variations in aquifer properties, thickness, and withdrawals from existing high-capacity wells. Such a model would also allow studying the aquifer in a more regional context.

To reiterate, estimates of water-level decline contained in this letter were determined from a strictly theoretical consideration of aquifer hydraulics, making use of regional aquifer property data. More accurate estimates would be possible given better aquifer property data and recharge rates collected through properly conducted "on-site" aquifer tests. It is possible that the predictions in this letter will not prove to be accurate. We, therefore, recommend that further study be made of this particular issue. The Illinois State Water Survey has the expertise to provide these services to the residents of Lake and McHenry Counties; however, such involved research would require a contractual agreement (administered through the University of Illinois) between interested parties and the Water Survey.

As to your question relating to which municipal water wells would be affected by the theoretical well fields, the total number of wells impacted and corresponding economic repercussions are impossible to quantify at this time without further in-depth study.

"Does Illinois have any regulations on the limits of water that can be drawn from the aquifer? Do other states have limits and which ones."

The State of Illinois does not have any specific laws that limit ground-water withdrawals. The Rule of Reasonable Use allows "property owners to unlimited and non-permitted use of the water beneath their land as long as the use is 'reasonable' and injury to a neighboring well does not arise but of malice" as stated by Bowman (1991). We suggest that you contact Mr. Gary Clark of the Office of Water Resources, Illinois Department of Natural Resources, at (217) 785-3334 for further information on this matter. Mr. Clark is one of the State's leading experts on ground-water law, and we are confident he will be able to address any ground-water law related questions that you pose to him. For your information, we have enclosed a copy of an Illinois Department of Transportation 1985 report to the Illinois Groundwater Association ***Illinois Groundwater Law: The Rule of Reasonable Use***. Mr. Clark is the author of this document. We are also enclosing a copy of Illinois State Water Survey Report of Investigation 114 ***Ground-Water Quantity Laws and Management***, for additional discussions of Illinois ground-water laws and the law practiced in several other midwestern states.

"What is the change in the level of the deep sandstone aquifer since communities switched from aquifer wells to Lake Michigan water."

For your information on this particular subject, we have enclosed Illinois State Water Survey Circular 182 *Water-Level and Pumpage in the Deep Bedrock Aquifers in the Chicago Region, 1991-1995*. This

publication is an excellent resource for the analysis of water level trends in the Cambrian-Ordovician-Age aquifer system. Figure 9 on page 30 of this document shows changes in the potentiometric surface of the deep bedrock aquifers between 1991 and 1995. In Lake County, there were areas that observed an increase in water levels (potentiometric head) of over 250 feet. Wauconda Municipal Well 4, located in Section 24, T.44N., R.9E., Lake County, experienced a rise in ground-water levels of 45 feet between 1991 and 1995.

"With the growing population trend in Lake and McHenry County, what limitations would you suggest be incorporated to protect the aquifer and keep it healthy for future generations."

The Illinois State Water Survey is a strictly an objective scientific organization. We do not make, nor do we enforce, rules and regulations. However, our research and guidance is often utilized in the development of water-related laws and statutes. In the case of the issues addressed in this letter, we have the knowledge and expertise to offer the citizens and their governmental representatives to make informed decisions about how to develop their natural resources. However, additional research will be needed before we can more accurately address your many concerns.

For your information, I have enclosed all prior letter correspondence that deal with power generation in Lake and McHenry County areas. If we can be of any further assistance, please feel free to call or write.

Sincerely,

Andrew G. Buck

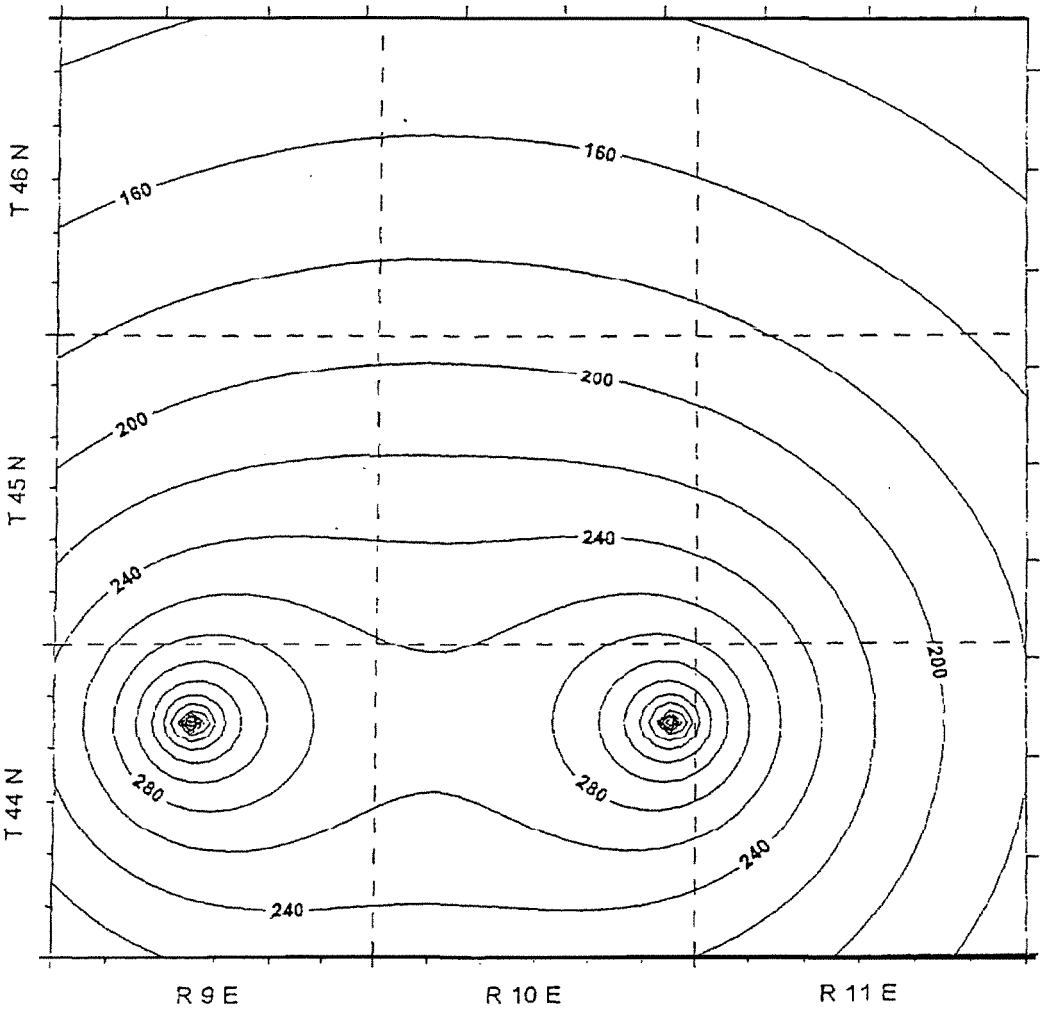
Andrew G. Buck, P.G.
Assistant Hydrogeologist
Ground-Water Section
Phone: (217) 333-6800

agb

Enclosures as stated

cc: Winstanley, ISWS
Bhowmik, ISWS
Roadcap, ISWS
Clark, IDNR-OWR

Drawdown created by two wellfields
each pumping 5 MGD from 8 Wells.
(T = 15,000 gpd/ft, S = 0.0004)



ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Illinois State Water Survey

Main Office • 2204 Griffith Drive • Champaign, IL 61820-7495 • Tel (217) 333-2210 • Fax (217) 333-6540
Peoria Office • P.O. Box 697 • Peoria, IL 61652-0697 • Tel (309) 671-3196 • Fax (309) 671-3106
Ground-Water Section • Tel (217) 333-4300 • Fax (217) 244-0777

SWS

December 2, 1998

Mr. Kenneth C. Hopps
Natural Gas Pipeline Company of America
747 East 22nd Street
Lombard, Illinois 60148-5072

Dear Mr. Hopps:

This letter is in response to your request concerning the development of a 2.5 million gallon per day (mgd) ground-water supply from the Cambrian-Ordovician-Age aquifer system for the purpose of steam generation in an electrical power generating facility. We understand that the proposed power plant will be located in the SW¼ of Section 9, T.44N., R.9E., Lake County. You have asked the Illinois State Water Survey to comment on the potential impact this ground-water withdrawal may have on surrounding water wells finished within the overlying unconsolidated sand and gravel deposits and Silurian-Age dolomite bedrock aquifer. It should be noted that the Water Survey has previously provided estimates of theoretical water level drawdowns in the Cambrian-Ordovician-Age aquifer system given several different water withdrawal scenarios. These previous letter reports to your company were dated September 3 and October 13, 1998, and addressed the interference effects caused by a theoretical well field on wells finished within the Cambrian-Ordovician-Age aquifer.

Withdrawal of ground water from a well will cause water levels in nearby wells tapping the source aquifer to decline. This water-level decline is referred to as interference drawdown or, more simply, as interference. Interference drawdown decreases with increasing distance in all directions from a pumping well, defining an inverted conical water-level surface around the well known as the cone of depression. The size and shape of the cone of depression created by a pumping well will depend on the areal extent and hydraulic properties of the aquifer, the pumping rate, and the duration of pumping at the well. When interference drawdown causes the water level in a well to decline below the pump intake (in which case the pump breaks suction) or below a level at which the pump can lift the desired volume of water to the surface, remedial measures such as lowering of the pump setting or sizing a higher capacity pump may be necessary to restore a normal supply. The risk posed by a pumping well on the ability of a nearby well to deliver its normal supply is, therefore, a function both of the amount of interference and of various construction features of the affected well -- chiefly the pump setting, dynamic head rating of the pump, and well efficiency.

With respect to your question, the key variable when determining whether a well(s) withdrawing ground water will adversely impact a nearby well(s) is dependent on the hydraulic connection

between the source aquifers. In this case, you have asked us to address the potential impacts on wells finished in the unconsolidated sand and gravel deposits above bedrock and wells completed in the Silurian-Age dolomite when the deeper lying Cambrian-Ordovician-Age sandstone aquifers are pumped. For your reference, we have enclosed an excerpt from Illinois State Water Survey Circular 182, titled *Water-Level Trends and Pumpage in the Deep Bedrock Aquifers in the Chicago Region, 1991-1995* (Visocky et al., 1985, page 6 and 7, figure 2), which shows the stratigraphy, water-yielding properties of the rocks, and the character of the ground water in northeastern Illinois. In this part of Illinois, the Ordovician-Age Maquoketa shale separates the unconsolidated materials and Silurian-Age dolomite from the deeper lying Cambrian-Ordovician-Age (St. Peter and Ironton-Galesville sandstones) aquifers.

The Maquoketa shale is approximately 105 feet thick in the area of interest. Under natural conditions, the Maquoketa acts as an effective hydraulic barrier between the upper (sand and gravel and dolomite) and lower (Cambrian-Ordovician-Age sandstones) aquifer systems. Consequently, changes in ground-water levels in the Cambrian-Ordovician-Age are relatively independent of those in the shallower aquifer systems. Given this, pumping the Cambrian-Ordovician-Age aquifer system should not affect water levels in the shallower sand and gravel and dolomite aquifers. It should be noted that this assumes that a well finished in the Cambrian-Ordovician-Age sandstones must be constructed such that the geologic materials from the Ordovician-Age St. Peter sandstone and above are "cased off". An "open" bore hole hydraulically connecting the Silurian-Age dolomite and deeper-lying sandstone formations would render the above conclusions false. Water levels in the shallower aquifers probably will be impacted by water withdrawals from the Cambrian-Ordovician-Age sandstone aquifers if the geologic materials above the St. Peter sandstone were not sealed off by well casing.

If we can be of any further assistance, please feel free to call or write.

Sincerely,

Andrew G. Buck

Andrew G. Buck, P.G.
Assistant Hydrogeologist
Ground-Water Section
Phone: (217) 333-6800

agb/psl

Enclosure as stated

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Illinois State Water Survey

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Ground-Water Section • Tel (217) 333-4300 • Fax (217) 244-0777

SWS

October 1, 1998

Mr. Stan A. Smogorzewski
LS Power, LLC
13522 Calais Drive
Del Mar, California 92014

Dear Mr. Smogorzewski:

This letter is in response to your request concerning the development of a 10.8 million gallon per day (mgd) ground-water supply from the Cambrian-Ordovician-Age aquifer system for the purpose of steam generation in an electrical power generating facility. We understand that you are considering two sites for this facility. One site (designated herein as McHenry Project) will be partially located in the E½ of the NE¼, of Section 8, T.44N., R.9E., McHenry County and partially in the NW¼ of Section 9, T.44N., R.9E., Lake County. The other site (designated herein as Lee Project) will be located in the N½ of the SE¼ of Section 32, T.21N., R.8E., Lee County. You have asked the Water Survey to comment on the potential impacts these ground-water withdrawals may have on surrounding water wells finished within the same aquifer system given this pumping rate over a 1-year period. In this letter report, we will address the theoretical impact that a 7,500 gallon per minute (gpm) well may have on ground-water levels within the Cambrian-Ordovician-Age aquifer system.

Withdrawal of ground water from a well will cause water levels in nearby wells tapping the source aquifer to decline. This water-level decline is referred to as interference drawdown or, more simply, as interference. Interference drawdown decreases with increasing distance in all directions from a pumping well, defining an inverted conical water-level surface around the well known as the cone of depression. The size and shape of the cone of depression created by a pumping well will depend on the areal extent and hydraulic properties of the aquifer, the pumping rate, and the duration of pumping at the well. When interference drawdown causes the water level in a well to decline below the pump intake (in which case the pump breaks suction) or below a level at which the pump can lift the desired volume of water to the surface, remedial measures such as lowering of the pump setting or sizing a higher capacity pump may be necessary to restore a normal supply. The risk posed by a pumping well on the ability of a nearby well to deliver its normal supply is, therefore, a function both of the amount of interference and of various construction features of the affected well -- chiefly the pump setting, dynamic head rating of the pump, and well efficiency.

For the McHenry Project, nearby existing wells finished within the Cambrian-Ordovician-Age aquifer system, pre-dating the Lake Michigan water allocations to the area of question, may not be severely impacted by the proposed well field because those wells were engineered and constructed when regional water levels were considerably lower than at present. Prior to Lake Michigan water

allocations, pump intakes in water wells were set at lower depths and had greater water lifting capacities because of lower ground-water levels caused by regional pumpage. However, wells finished in the deep sandstones within the last few years could see more severe impacts because they were constructed after the regional "recovery" of water levels within the Cambrian-Ordovician-Age aquifer system. This situation does not apply to the Lee Project because water levels in that area have not been regionally lowered.

The impact of the withdrawal of 7,500 gpm on ground-water levels with the Cambrian-Ordovician-Age aquifer system were determined through the use of an analytical mathematical model using regional values for the hydraulic properties of this aquifer system. The use of this model required significant assumptions be made to simplify the natural variability often encountered in aquifer systems. Assumptions include homogeneous and isotropic aquifer hydraulic properties (as opposed to properties that may vary vertically, horizontally, and with direction), infinite aquifer extent (as opposed to geologic and hydraulic features which may limit the size of the aquifer), and a continuous pumping schedule (as opposed to a time-variant pumping rate).

Because the hydraulic properties and pumping scenarios were assumed to be identical at the McHenry and Lee Projects, the distance-drawdown estimates shown below apply to both sites. As you requested, the proposed well field was assumed to consist of only one well (finished in the St. Peter and Ironton-Galesville Sandstone aquifers) supplying 10.8 mgd (7,500 gpm) on a continuous basis for one year. Given these parameters, the model provided the following distance-drawdown relationships (also see the enclosed distance-drawdown plot and map):

Distance from pumped well	*Drawdown after pumping 1-year*
¼ mile	350 feet or less
½ mile	285 feet or less
1 mile	225 feet or less
2 miles	170 feet or less
3 miles	135 feet or less
4 miles	110 feet or less
5 miles	90 feet or less

Although these impacts are considerable, the available drawdown in deep sandstone wells is probably adequate for the desired amount of ground-water yield, assuming a properly designed well field. The number of wells impacted and corresponding economic repercussions are impossible to quantify at this time without further in-depth study.

Given the possibility that the aquifer properties, number of pumping wells, well spacing, pumping rates, pumping periods, and total pumpage of the proposed wells may be different than what was assumed for this report, we recommend a more detailed analysis be made of the number of wells and their distance from the proposed high-capacity well field. In addition, static water levels, pumping water levels, and pump intake settings of nearby water wells could be analyzed to determine if, and

which, domestic, industrial, or municipal water wells would be potentially impacted. Also, it would be prudent to run a sophisticated numerical ground-water model to better predict what long-term impacts the proposed ground-water development would have on the Cambrian-Ordovician-Age aquifer in northeastern Illinois. Such a model could incorporate natural variations in aquifer properties, thickness, and withdrawals from existing high-capacity wells. This would be a very important planning tool for local governmental leaders to have available to them in their efforts to manage this natural resource.

Another issue in any use of water from the Cambrian-Ordovician-Age aquifer system is water quality. There are reports of radioactive isotopes associated with these waters which can be a factor in its use.

To reiterate, estimates of water-level decline contained in this letter were determined from a strictly theoretical consideration of aquifer hydraulics, making use of regional aquifer property data. More accurate estimates would be possible given better aquifer property data collected through properly conducted "on-site" well tests. It is possible that the predictions in this letter will not prove to be accurate. We, therefore, recommend that further study be made of this particular issue. The Illinois State Water Survey has the expertise to provide these services to LS Power and the citizens of Lake, McHenry and Lee Counties; however, such involved research would require a contractual agreement (administered through the University of Illinois) between your firm and the Water Survey.

To further your knowledge of the water resources of the deep sandstones aquifers of Illinois, we have enclosed Cooperative Report 10, titled *Geology, Hydrology, and Water Quality of the Cambrian and Ordovician Systems in Northern Illinois* and Illinois State Water Survey Circular 182, titled *Water-Level Trends and Pumpage in the Deep Bedrock Aquifers in the Chicago Region, 1991-1995*. If we can be of any further assistance, please feel free to call or write.

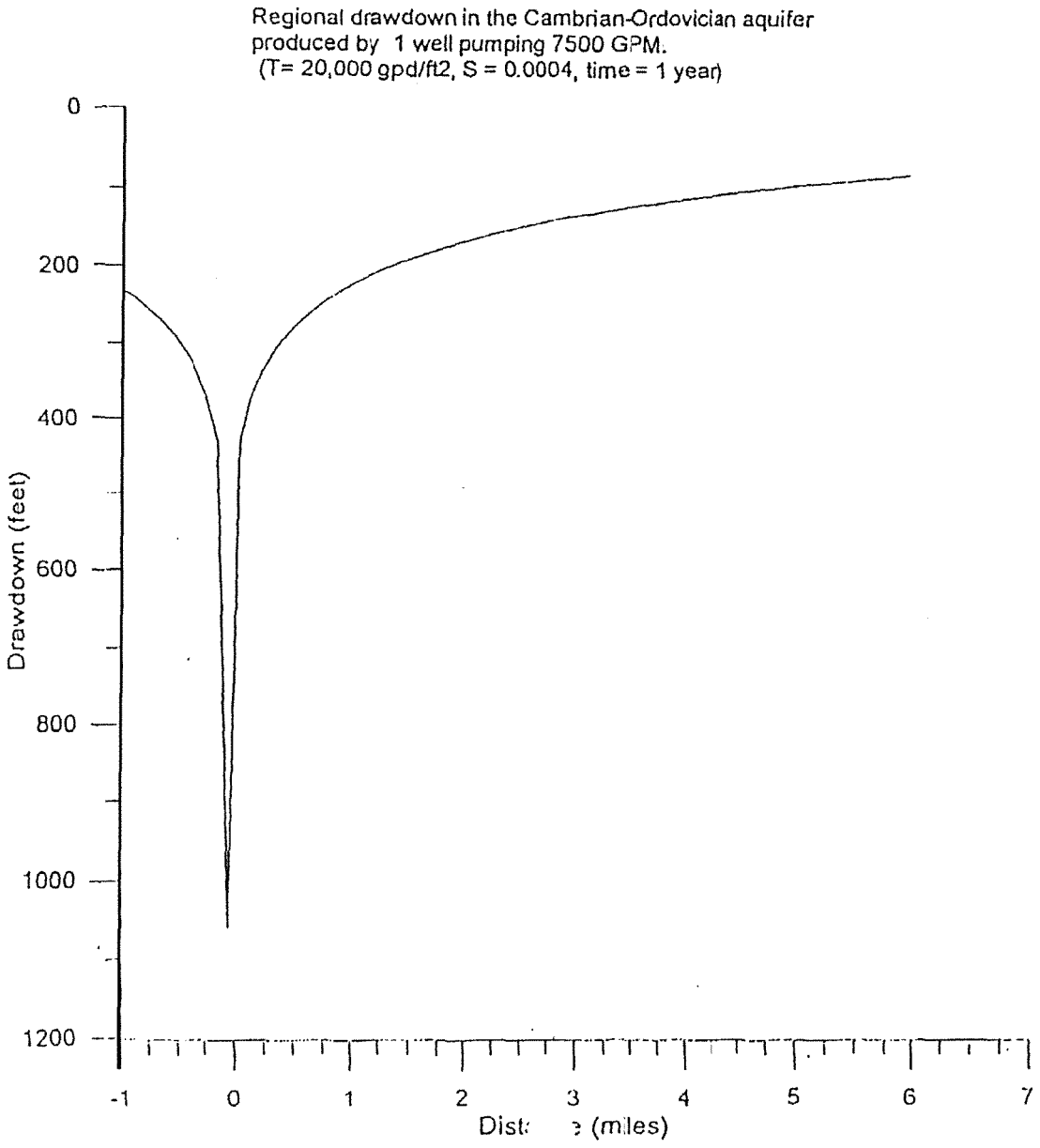
Sincerely,

Andrew G. Buck

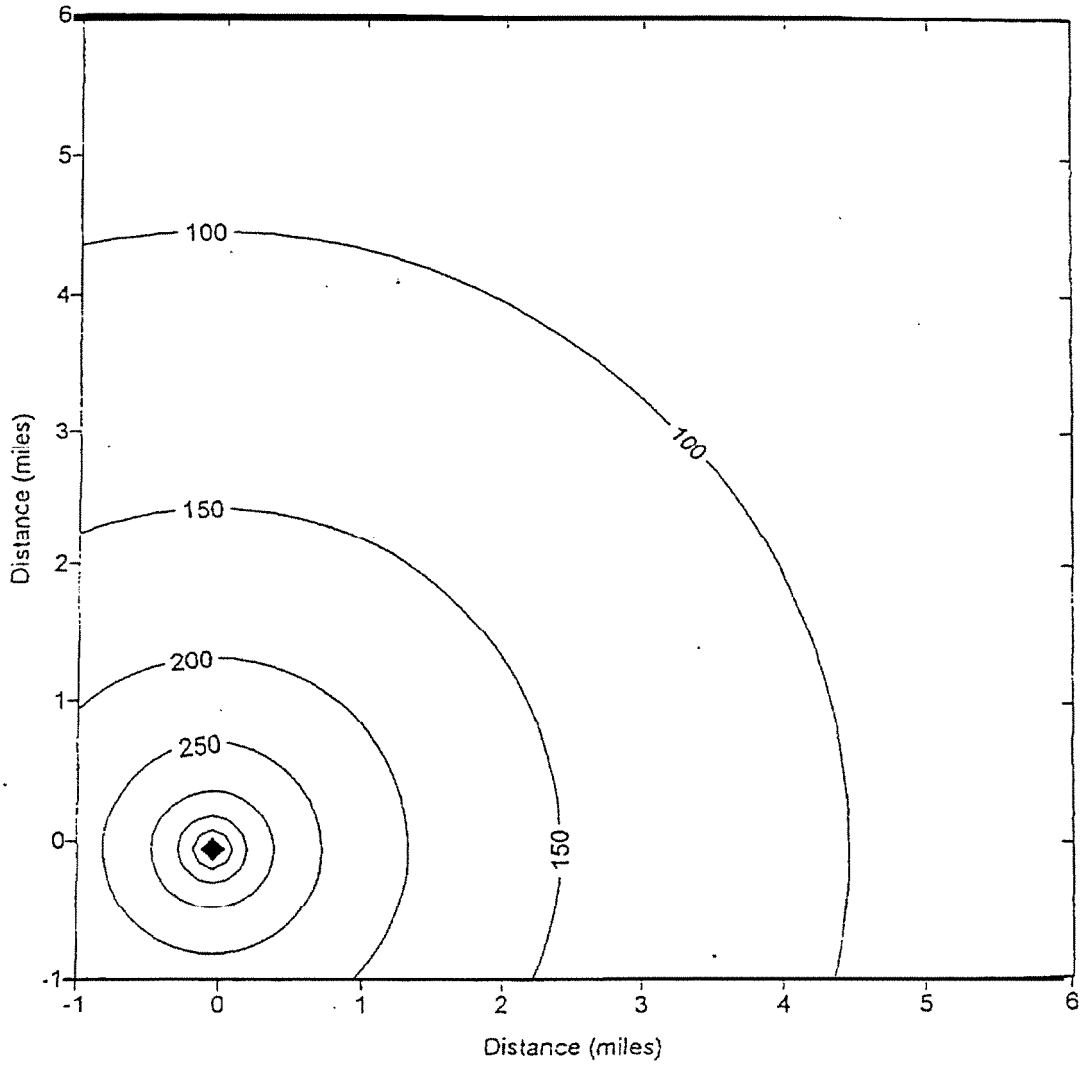
Andrew G. Buck
Assistant Hydrogeologist
Ground-Water Section
Phone: (217) 333-6800

agb/psl

Enclosures as stated


Regional drawdown in the Cambrian-Ordovician aquifer
produced by 1 well pumping 7500 GPM.
(T= 20,000 gpd/ft2, S = 0.0004, time = 1 year)
0
200
400
600
800
1000
1200
Drawdown (feet)
-1
0
1
2
3
4
5
6
7
Dist: ɜ (miles)

Regional drawdown in the Cambrian-Ordovician aquifer
produced by 1 well pumping 7500 GPM.
(T= 20,000 gpd/ft2, S = 0.0004, time = 1 year)



SUMMARY OF WATER QUANTITY LAWS FROM MIDWESTERN STATES

IOWA

Statute: Code of Iowa, 455B (1999)

Regulatory Entity: Department of Natural Resources; Environmental Protection Division

Summary: Permit is required for any person who diverts, stores or withdraws more than 25,000 gallons of water per day (surface or groundwater); Permits are generally issued for 10 years but, depending on geological conditions, can be for lesser period of time; Permit program insures consistency in decisions on allocations; Allocations based upon concept of "beneficial use" the key points of which are (1) water resources are to be put to beneficial use to the fullest extent; (2) waste and unreasonable uses are prevented; (3) water conservation is expected; (4) established average minimum instream flows are protected; Administrative process resolves water use conflicts; Provisions in place for public involvement in issuing water allocation permits and in generally establishing water use policies.

MINNESOTA

Statute: Minnesota Statute 103G.265

Regulatory Entity: Department of Natural Resources; Waters Office

Summary: Permit is required for all users withdrawing (surface and groundwater) more than 10,000 gallons per day or 1 million gallons per year (Exceptions include: domestic uses serving less than 25 persons, certain agricultural drainage systems, test pumping of a groundwater source, and reuse of water already authorized by permit, e.g., water purchased from a municipal water system); Permits granted for no longer than 5 years; Policy: to manage water resources to ensure an adequate supply to meet long-range seasonal requirements for domestic, agricultural, fish and wildlife, recreational, power navigation, and quality control purposes; Water Appropriation Permit Program exists to balance competing management objectives that include both development and protection of Minnesota's water resources; Permitted users required to submit annual reports of water use; Reported information used to evaluate impacts and to aid in resolving conflicts.

OHIO

Statute: Ohio Revised Code Sections 1521.16; 1521.17; Sections 1501.30 and 1501.33

Regulatory Entity: Department of Natural Resources; Division of Water

Summary: Permits are required for those making a new or increased consumptive use of water greater than an average of 2 million gallons per day over a 30-day period; Registration is required for any facility or combination of facilities with the capacity to withdraw more than 100,000 gallons of water (surface or ground) daily; Chief of DNR Division of Water has authority to designate "ground water stress areas" and to require water withdrawal registration in these areas for users of water less than the normal 100,000 gallon threshold; Annual reporting is required of those who must register; Purpose of registration and reporting requirements: to gather data to assist in resolving future water use conflicts; Chief also has responsibility to maintain Water Resources Inventory which must include information to assist in determining the reasonableness of water use; While "reasonable use" is used by courts to determine water conflicts, legislature has set forth nine specific factors (applicable to both surface and groundwater) which define reasonableness; Consumptive use is defined as a use of water resources, other than a diversion, that results in a loss of that water to the basin from which it is withdrawn and includes, but is not limited to, evaporation, evapotranspiration, and incorporation of water into a product or agricultural crop.

INDIANA

Statute: Indiana Code, 14-25

Regulatory Entity: Department of Natural Resources (DNR); Natural Resources Commission (NRC)

Summary: Registration and annual reporting requirement for owners of significant water withdraw facilities (withdrawal of 1,000,000 gallons per day of surface water, groundwater, or combination); NRC has statutory authority to require, by rule, a permit for most water withdrawals from navigable waters, but authority has not yet been exercised; NRC is required to develop and maintain inventories, gather and assess all information needed to properly define water resource availability; NRC can establish, by rule, minimum stream flows; Where groundwater threat, DNR may designate a "restricted use area." Permit then required for withdrawal of more than 100,000 gallons per day beyond use at time of restricted use designation; In granting or refusing a permit, the DNR considers the concept of beneficial use.

MISSOURI

Statute: Missouri Revised Statutes, Chapter 256

Regulatory Entity: Department of Natural Resources (DNR)

Summary: Major water users must register with DNR; A major water user is defined as an entity that is capable of withdrawing or diverting 100,000 gallons or more per day from any water source; Failure to register may result in DNR request that Attorney General file action to stop all withdrawal or diversion; Purpose of registration program is to insure the development of information required for the analysis of certain future water resource management needs.

WISCONSIN

Statute: Wisconsin Statutes, Chapter 281; DNR Rules, Chapter NR 142

Regulatory Entity: Department of Natural Resources (DNR)

Summary: Wisconsin law provides for (1) development of statewide water quantity resources plan; (2) registration and annual reporting (with fees) of major withdrawals (over 100,000 gallons per day in 30-day period); (3) permit approval process (with administrative hearing process) for construction, development and operation of wells where capacity and rate of withdrawal of groundwater from *all wells on one property* is in excess of 100,000 gallons a day; *Specifics of Permit Approval Process*: 90-day approval process. Approval withheld or restricted if withdrawal will adversely effect or reduce availability of public utility water supply or doesn't meet grounds for approval which are: (a) No adverse effect on public water rights in navigable waters; (b) No conflict with any applicable plan for future uses of waters of state or water quantity resources plan; (c) Reasonable conservation practices have been incorporated; (d) No significant adverse impact on environment and ecosystem of the Great Lakes basin or the upper Mississippi River basin; (e) Plan for withdrawal consistent with the protection of public health, safety and welfare and not detrimental to public interest; (f) No significant detrimental effect on the quantity and quality of the waters of the state; (Even more factors apply if the proposed withdrawal will result in an "interbasin diversion). Regulations define water loss and consumptive use; Also, permit is required for any diversion of water from any lake or stream for diversions of 2,000,000 gallons per day in any 30-day period; If DNR receives application for a withdrawal from the Great Lakes basin that will result in a new water loss averaging 5,000,000, gallons per day in any 30-day period, DNR notifies governor of other Great Lakes States, requesting their input. The rules incorporate methods for citizens to initiate DNR investigations of alleged violations.

APPENDIX H

NEW YORK SITING PROCESS

In the State of New York, applications to construct and operate an electric generating facility with a capacity of 80 MW or more are ruled upon by the New York State Board on Electric Generation Siting and the Environment (NYS Siting Board) after various filings and hearings. The NYS Siting Board is comprised of chairmen and commissioners of various state agencies. The NYS Siting Board also includes two members of the public, appointed by the Governor of New York for each project, who reside near the proposed site.

The New York siting process requires the applicant to file a preliminary scoping statement for the proposed project, describing the following: the proposed facility and its environmental setting; potential environmental impacts from construction and operation; proposed mitigation of potential environmental impacts; and reasonable alternatives to the proposed facility. During this pre-application phase, a hearing examiner may mediate disagreements on the scope and method of any environmental impact studies needed in the application.

The application itself must contain the following: a description of the facility and the site including all applicable environmental characteristics; studies of impacts on air, water, visual resources, land use, noise levels, health, and other matters; proof that the proposed facility will meet state and federal health, safety, and environmental regulations; applications for air and water permits; and a complete report of the applicant's public involvement program activities and how it encouraged citizens to participate.

The applicant must publish notice that it filed the preliminary scoping statement and the application, and serve copies of those documents on interested state agencies, members of the legislature, municipalities, local libraries, and other interested persons and organizations. During the siting process, the applicant must carry out a meaningful public involvement program. The applicant is expected to hold public meetings, offer presentations to individual groups and organizations, and establish a presence in the community (*e.g.*, establishing a local office, toll-free telephone number, Web site, or a community advisory group).

To facilitate the ability of local government and the public to evaluate the proposed project, New York requires that the applicant provide funds for intervenors to use in the siting process. When the applicant submits the application, it must include a fee of $1,000 per MW of capacity, not to exceed $300,000, to be used as an intervenor fund. The funds are awarded to municipal and other local parties to help pay for the expenses of expert witnesses and consultants. At least 50% of the fund is designated for the use of municipalities. The applicant receives any intervenor funds remaining at the end of the case.

The New York State Department of Environmental Conservation reviews applications for air and water permits submitted as part of the siting process application. That department must provide the permits to the NYS Siting Board before that board decides whether to

approve siting by granting the applicant a Certificate of Environmental Compatability and Public Need. To grant a Certificate, the NYS Siting Board must determine:

- Either:

  Constructing the facility is reasonably consistent with the most recent state energy plan (the final 1994 plan assesses the state's current energy supplies, infrastructure, and policies, and forecasts energy needs and supplies through 2012), or

  The electricity generated by the facility will be sold into the competitive market;

- The nature of the probable environmental impacts, including evaluating cumulative air quality impacts;

- The facility minimizes adverse environmental impacts, given environmental and other pertinent considerations;

- The facility is compatible with public health and safety;

- The facility will not discharge or emit any pollutants in violation of existing requirements and standards;

- The facility will control the disposal of solid and hazardous wastes;

- The facility is designed to operate in compliance with state and local legal provisions, other than those local legal provisions that the NYS Siting Board finds unreasonably restrictive; and

- The construction and operation of the facility is in the public interest.

Various state agencies involved in the environment, public health, or energy are normally active parties in the New York siting process. Any municipality or resident within a five-mile radius of a proposed facility can become a party to the proceeding. Any organization or resident outside of the five-mile radius may request party status. Party status enables the person or entity to submit testimony, cross-examine witnesses, and file legal briefs. The NYS Siting Board's goal is to decide whether to grant siting within 14 months after it receives the application.

CALIFORNIA SITING PROCESS

California has empowered the California Energy Commission (CEC) to conduct a consolidated approval process for siting all power plants that will have electric generating capacities of 50 MW or larger. The CEC's siting responsibilities include statewide planning analysis. The siting process allows the project applicant to submit a single application for all

necessary state and local approvals and provides analysis of all aspects of a proposed project, including need, environmental impact, safety, efficiency, and reliability.

The CEC has exclusive authority to approve constructing and operating these plants. While the CEC's authority supercedes the authority of other state and local agencies, the CEC solicits their participation in the siting process to ensure compliance with all applicable requirements, including local requirements. Under this approach, the applicant seeks a single regulatory permit from the CEC.

The California siting process, which has public hearings and allows the public to participate, has two main phases. The first phase is expected to take nine months to one year to complete. It typically involves a conceptual review of the project, determining the need for a proposed plant, site suitability and acceptability, and alternatives to the proposed project. The second phase is expected to take 12 to 18 months to complete. It involves considering the specific site, technology, and equipment. In the second phase, the design, construction, operation, and closure of the power plant is reviewed against applicable laws, rules, and ordinances. The second phase is used to identify negative environmental effects and ways to mitigate them. The CEC also determines, or reconfirms, the need for the facility.

The California siting process includes a public adviser, nominated by the CEC and appointed by the Governor of California to a three-year term. The public adviser is responsible for ensuring that the public and other interested parties have full opportunities to participate in the siting process. The public adviser does not act as the public's legal counsel before the CEC but instead advises the public on how to effectively participate in the proceedings.

California has experienced delays with its siting process, resulting in changes to the program. The CEC amended its procedures to allow any proponent of a natural gas-fired merchant power plant to proceed to the second phase without applying for an exemption from the first phase. Apparently the California legislature created a "fast track" siting process of six months for new electric generating facilities presenting no significant adverse environmental impacts. It also appears that, under that legislation, a simple cycle peaker plant can receive a three-year operating permit in less than four months if it presents no significant adverse environmental impacts and is equipped with certain stringent emission control technology. A permit condition, however, requires the facility, within three years, to either convert to a combined cycle operation or cease operating.

APPENDIX I

ILLINOIS SB 172 SITING CRITERIA

The Act's pollution control facility siting criteria are as follows:

i. the facility is necessary to accommodate the waste needs of the area it is intended to serve;

ii. the facility is so designed, located and proposed to be operated that the public health, safety and welfare will be protected;

iii. the facility is located so as to minimize incompatibility with the character of the surrounding area and to minimize the effect on the value of the surrounding property;

iv. (A) for a facility other than a sanitary landfill or waste disposal site, the facility is located outside the boundary of the 100 year floodplain or the site is flood-proofed; (B) for a facility that is a sanitary landfill or waste disposal site, the facility is located outside the 100-year floodplain, or if the facility is a facility described in subsection (b)(3) of Section 22.19a, the site is flood-proofed;

v. the plan of operations for the facility is designed to minimize the danger to the surrounding area from fire, spills, or other operational accidents;

vi. the traffic patterns to or from the facility are so designed as to minimize the impact on existing traffic flows;

vii. if the facility will be treating, storing or disposing of hazardous waste, an emergency response plan exists for the facility which includes notification, containment and evacuation procedures to be used in case of an accidental release;

viii. if the facility is to be located in a county where the county board has adopted a solid waste management plan consistent with the planning requirements of the Local Solid Waste Disposal Act or the Solid Waste Planning and Recycling Act, the facility is consistent with that plan; and

ix. if the facility will be located within a regulated recharge area, any applicable requirements specified by the Board for such areas have been met. 415 ILCS 5/39.2(a) (1998).

APPENDIX J

State Laws & Regulations
Peaker Plants

Area	LAWS and REGULATIONS	DESCRIPTION
	ARIZONA	
Energy Portfolio	**Electric Utility Restructuring Efforts** (5/00) http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	The AZ Commerce Commission issued an order that requires electricity providers to derive 1.1% of their total product from renewable energy sources by 2007. Implementation will begin with 0.4% from renewables by January 1, 2001. 50% of their renewable power must be derived from solar-generating facilities.
	CALIFORNIA	
Siting	"**Guidance for Power Plant Siting and Best Available Control Technology**," July 22, 1999 http://www.arb.ca.gov/powerpl/powerpl.htm	In July 1999, the CA Air Resources Board approved guidelines for major power plant permits. The guidelines are intended to ensure that air districts require power plants to use the cleanest emissions control technology currently available. Districts will also be expected to require newer, cleaner control technology as it becomes available. This document does not establish any new laws or rules but provides guidance on applying existing state & federal rules and authority to peaker/merchant power plants. • **SITING:** CEC and local Air Districts have control over siting power plants >50 MW. Electric generating facilities >50 MW are required to receive certification from the Energy Facilities Siting and Environmental Protection Division. Certifications are open to the public. In the siting phase, the design, construction, operation, and closure of the power plant is closely examined in relation to applicable laws, ordinances, rules, and standards. Adverse environmental effects are identified and mitigation measures established. The need for the facility is determined, or reconfirmed, if preceded by a Notice of Intent. The siting process ensures that the proposed power plants are safe, reliable, environmentally sound, and comply with all applicable requirements. The Siting Division also oversees construction and operation.
Air		• **AIR DISTRICTS:** Local Air Districts provide analysis and recommendations to the CEC on proposed projects to determine compliance with air pollution control regulations. The Local Air Districts use a permitting process to control emissions from non-vehicular sources (stationary sources) that is incorporated into the CEC's power plant siting process. The CEC's power plant siting regulations specifically provide for the district's participation in the process. Each district's regulations may vary depending on the air quality conditions in the district and the district's policies and strategies for attaining or maintaining compliance with the federal and state ambient air quality standards. The district's analysis and recommendations are provided to the CEC in a document known as a Determination of Compliance (DOC).

Air		• **BACT/LAER:** Major sources are required by permit to use "California BACT," which is equivalent to the more stringent federal LAER in most CA air districts. • **EMISSIONS OFFSETS:** Air pollution control and air quality management district (district) NSR rules and regulations employ both BACT and emission offset requirements to reduce the impact on air quality from new or modified stationary sources. If emission increases are above certain specified levels, district NSR rules require applying BACT. If the emission increases after installing BACT are still above specified levels, then emission offsets may be required. • **AIR IMPACT ANALYSIS:** CA Health & Safety Code requires Air Districts to evaluate air quality impacts in addition to the federal CAA requirements on PSD. This ensures new permits will not be issued for emission units (sources) that will prevent or interfere with the attaining or maintaining any applicable air quality standard. • **HEALTH RISK ASSESSMENT:** Power plant applicants are asked to submit a Health Risk Assessment under the CA Environmental Quality Act and the Health & Safety Code. A health risk assessment addresses three categories of health impacts from all pathways of exposure, if appropriate: acute health effects from inhalation only, chronic non-cancer health effects, and cancer risks from multiple exposure paths. • **ADDITIONAL PERMITTING CONSIDERATIONS:** Permits address start-up/shut-down emissions, continuous air monitoring, sulfur content of fuel, and ammonia slip from air pollution controls.
Water	**Water Recycling Act of 1991** http://leginfo.ca.gov	• Established grants and loans for water reclamation projects and encouraged water reuse among suppliers. • Applies only to public entities that produce or supply water and to entities responsible for groundwater replenishment.
	CONNECTICUT	
Energy Portfolio	**An Act Concerning Electric Restructuring** *(RB 5005)* (4/98) http://www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html#CT	• The bill requires renewable energy funding, a 5.5% renewable portfolio standard, and environmental protections.
Noise	**State Policy Regarding Noise** *(CT General Statutes Ch. 442, Sec. 22a-67 to 22a-76)* http://www.cslib.org//statutes/title22a/t22a-p5.htm	• Noise regulations address impulse noises and a model ordinance.

	FLORIDA	
Siting	**Electrical Power Plant Siting Act, 1973** *(FL Statute Section 403.501-.518)* http://www.dep.state.fl.us/siting/Programs/progER-pps.htm	• FL has an **Siting Coordination Office** responsible for siting of: ➢ Electrical Power Plants ➢ Electrical Transmission Lines ➢ Natural Gas Transmission Pipelines ➢ High Speed Rails ➢ Hazardous Waste Facilities • Electrical Power Plant Siting Act applies only to steam or solar electric generation > 75 MW. This would include combined cycle plants but not simple cycle combustion turbines. • Final approval body for the permits is not the Siting Board, but the Department of Environmental Protection. • Fees are charged to the applicant. • BACT for NO_x is 9 ppm based on dry low NO_x combustion technology.
	Ten Year Site Plan Requirements (TYSP) *(Part of the electrical power plant siting process)*	• FL Public Service Commission (PSC) oversees the submission of plans by the utilities that describe current generation capacity and anticipated need for more capacity. The TYSPs also provide information on future sites for power plants to accommodate the anticipated need. This information includes land use data, environmental factors, and similar topics. Other state and local agencies can comment on the plans to the FL PSC. Based on this information and its own conclusions, the FL PSC will determine the suitability of the plan.
	Need Determination *(Part of the electrical power plant siting process, s. 403.519, F.S.)*	• Need Determination is a formal process and is conducted by the FL PSC. The FL PSC reviews the need for the generation capacity that would be produced by the proposed facility in relation to the needs of the region, and to the state as a whole. The FL PSC also looks at whether the facility would be the most cost-effective means of obtaining the capacity.
	EIS *(Statute section 62-1.211(1), F.A.C.)* http://www.dep.state.fl.us/siting/Law_Rule/apform-pps-a.htm	• Site certification application forms for power plants resemble an EIS. Site Certifications are issued by the Governor and Cabinet. Before issuing a Site Certification, the Department of Environmental Regulation (DER), Department of Community Affairs (DCA), FL PSC, Water Management Districts (WMD), and other affected agencies are required to assess the potential effects upon the environment, ecology, and society by the proposed plant to ensure that the construction and operation of the plant will be consistent with applicable environmental standards.
	GEORGIA	
Water	**Water Withdrawal Permits** http://www.ganet.org/dnr/environ/aboutepd_files/branches_files/wrb.htm	• GA has a Water Withdrawal Permit Program. • Develops short-term and long-term water management policies and strategies to address environmental problems induced by unsustainable use of GA's water resources.
Air	**Air Permit Modeling** http://167.193.59.200/metdata/	• GA maintains a Web site with geographical meteorological data for air permit modeling based on 5 years of data.
	HAWAII	
Noise	**Noise Pollution** *(HI Revised Statutes Chapter 342F)* http://www.capitol.hawaii.gov/hrscurrent/Vol06/hrs342f/HRS_342F.htm	• HI's noise regulations incorporate both a permit program and enforcement provisions.

	ILLINOIS	
Air	**Air Pollution** *(35 Ill. Adm. Code, Subtitle B)* http://www.ipcb.state.il.us/title35/35conten.htm	• State rules follow federal requirements.
Energy Portfolio	**Renewable Energy Initiatives** http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• 09/00 - Chicago Mayor Richard M. Daley announced that the City of Chicago and 47 other local government bodies plan to buy electric power as a group, requiring that 20% of the purchase (80 MW) come from renewable energy. The City has issued a request for proposals to the 13 licensed power providers in IL. This is the first opportunity that government agencies have had to purchase power competitively since IL passed its restructuring law. • 10/99: ComEd plans to allocate $250 million to a special fund to support environmental initiatives and energy-efficiency programs throughout the State.
Noise	**Noise** *(35 Ill. Adm. Code 900 – 952)* http://www.ipcb.state.il.us/title35/35conten.htm	• According to Greg Zak of IEPA, IL is more active than other states in regulating noise. However, some states may have cities that regulate noise through local ordinances.
	INDIANA	
Air		• Requires BACT for all new projects emitting >25 TPY VOM.
Siting		• Requires public utilities to obtain a *certificate of necessity* before constructing electric generating facilities. (The IN Utility Regulatory Commission considers IPPs to be public utilities.)
Water	**Water Rights & Resources** *(IN Code, 14-25)* http://www.ai.org/dnr/index.html http://www.ai.org/legislative/ic/code/title14/ar25/ch4.html	• Registration and annual reporting requirement for owners of significant water withdrawal facilities (> 1,000,000 gallons/day of surface water, groundwater, or combination). • IN Natural Resources Commission (NRC) has statutory authority to require, by rule, a permit for most water withdrawals from navigable waters, but authority has not yet been exercised. • IN NRC is required to develop and maintain inventories, gather and assess all information needed to properly define water resource availability. • IN NRC can establish, by rule, minimum stream flows. • Where groundwater is threatened, IN Department of Natural Resources (DNR) may designate a "restricted use area." Permit is then required for withdrawal of >100,000 gal/day beyond use at time of restricted use designation. In granting or refusing a permit, the IN DNR considers the concept of beneficial use.
	IOWA	
Energy Portfolio	**Electric Utility Restructuring Legislation** *(3/00)* http://www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html#CT	• The IA Department of Natural Resources has proposed including a Renewable Portfolio Standard in restructuring legislation. The proposal would require renewable energy sources, such as wind, to be 4% in 2005 and increase to 10% by 2015. • Each peaker plant application is reviewed for acid rain potential and, in some cases, new sources must purchase credits from USEPA.

Water	**Water Allocation and Use; Flood Plain Control** *(Code of IA, 455B.261-290)* (1999) http://www.state.ia.us/dnr/organiza/epd/wtrsuply/alloca.htm http://www.legis.state.ia.us/cgi-bin/IACODE/Code1999SUPPLEMENT.pl	• Permit is required for any person who diverts, stores or withdraws >25,000 gal of water/day (surface or groundwater). Permits are generally issued for 10 years but, depending on geological conditions, can be for lesser period of time. • Permit program ensures consistency in decisions on allocations. Allocations are based upon concept of "beneficial use," the key points of which are: 1. water resources are to be put to beneficial use to the fullest extent; 2. water and unreasonable uses are prevented; 3. water conservation is expected; 4. established average minimum instream flows are protected. • Administrative process resolves water use conflicts. • Provisions are in place for involving the public in issuing water allocation permits and in generally establishing water use policies.
	KENTUCKY	
Air		• State rules follow federal air requirements.
Noise	**KY State Noise Control Act** *(KY Revised Statutes: KRS 220.30-100 to 220.30-190)* http://162.114.4.13/KRS/224-30/CHAPTER.HTM	• Regulations address a model ordinance.
	MAINE	
Energy Portfolio	**Electric Utility Restructuring Legislation** (5/97) http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• ME's restructuring legislation contains the nation's most aggressive renewables portfolio, requiring 30% of generation to be from renewable energy sources (including hydroelectric).
	MASSACHUSETTS	
Energy Portfolio	**Electric Utility Restructuring Legislation** Http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• MA's restructuring legislation includes a renewable portfolio requirement and established a renewable energy fund, funded via a system benefits charge. Funds will also be used to create initiatives to increase the supply of and demand for renewable energy.
	MICHIGAN	
Air	**Emissions Limitations and Prohibitions – New Sources of VOC Emissions** *(R336.1702)* Http://www.deq.state.mi.us/pub/aqd/rules/part7.pdf	• Requires BACT for all new sources of VOCs.

Siting	**MINNESOTA**	
	Power Plant Siting Act *(MN Adm. Code 116C.51-69.)* http://www.revisor.leg.state.mn.us/stats/116C/	• Power Plant Siting Act applies to facilities greater than 50 MW. • The siting authority is the MN Environmental Quality Board (EQB). Its purpose is to locate facilities compatible with environmental preservation and efficient use of resources. The MN EQB is to choose locations that minimize adverse human and environmental impact while insuring continuing electric power system reliability and that electric energy needs are met. • The MN EQB develops an inventory of study areas to guide the site selection process. The inventory is developed in a public planning process where all interested persons can participate in developing the criteria and standards to be used by the MN EQB. • A utility (public or private) must apply to the MN EQB for designation of a specific site for a specific size and type of facility. The application must contain at least two proposed sites. The MN EQB has 12-18 months to issue a decision. When the EQB designates a site, it issues a *certificate of site compatibility* to the utility with any appropriate conditions. No large electric power generating plant can be constructed except on a site designated by the MN EQB. • In designating a site, the MN EQB considers: ➢ effects on land, water and air resources; ➢ effects of water and air discharges and electric fields resulting from these facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including base line studies, predictive modeling, and monitoring of the water and air mass at proposed and operating sites and routes; ➢ new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment; ➢ sites proposed for future development and expansion and their relationship to the land, water, air and human resources of the state; ➢ effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects; ➢ potential for beneficial uses of waste energy from proposed large electric power generating plants; ➢ direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired; ➢ adverse direct and indirect environmental effects that cannot be avoided; ➢ alternatives to the applicant's proposed site ➢ irreversible and irretrievable commitments of resources should the proposed site or route be approved; and ➢ where appropriate, consideration of problems raised by other state and federal agencies and local entities. • The MN EQB must hold a public hearing in the county where the proposed facility is to be located.

Water	**Water Supply Management** *(MN Statutes: Ch. 103G)* http://www.revisor.leg.state.mn.us/stats/103G http://www.dnr.state.mn.us/waters/programs/water_mgt_section/appropriations/permits.html http://www.dnr.state.mn.us/waters/programs/water_mgt_section/appropriations/progdesc.html	• Permit is required for all users withdrawing (surface and groundwater) more than 10,000 gallons per day or 1 million gallons per year. (Exceptions include: domestic uses serving less than 25 person, certain agricultural drainage systems, test pumping of a groundwater source, and reuse of water already authorized by permit, *e.g.*, water purchased from a municipal water system.) • Permits are granted for no longer than 5 years. • Policy is to manage water resources to ensure an adequate supply to meet long-range seasonal requirements for domestic, agricultural, fish and wildlife, recreational, power navigation, and quality control purposes. • Water Appropriation Permit Program exists to balance competing management objectives that include both developing and protecting MN's water resources. • Permitted users are required to submit annual reports of water use. Reported information is used to evaluate impacts and to aid in resolving conflicts.
Noise	**Noise Pollution Control** *(MN Rules Chapter 7030)* http://www.revisor.leg.state.mn.us/arule/7030/ http://www.pca.state.mn.us/programs/pubs/noise.pdf	• The MN Pollution Control Agency is empowered to enforce the state noise rules.
	MISSOURI	
Air		• State air rules follow federal requirements. • Major source threshold is 100 TPY.
Water	**Geology, Water Resources and Geodetic Survey** *(MO Revised Statutes, Chapter 256)* http://www.dnr.state.mo.us/dgls/wrp/wateruse statutes.htm http://www.moga.state.mo.us/statutes/c200-299/2560400.htm	• Major water users must register with MO Department of Natural Resources (DNR). A major water user is defined as an entity that is capable of withdrawing or diverting 100,000 gal or more per day from any water source. • Failure to register may result in MO DNR request that Attorney General file action to stop all withdrawal or diversion. Purpose of registration program is to ensure the development of information required for the analysis of certain future water resource management needs.
	NEVADA	
Energy Portfolio	**Electric Utility Restructuring, AB 366** *(6/99)* http://www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html#CT	• AB 366 provides that the NV Public Utilities Commission establish portfolio standards for renewable energy. The standard will phase-in a requirement (beginning with 0.2% by January 2001 and adding 0.2% of a percent biannually) that 1% of energy consumed be from renewable energy resources.
	NEW JERSEY	
Water	**Water Supply Management Act** *(NJAC 7:19-1)*	• Water resources management is required for >100,000 gallons per day.

Noise	**Noise Control Rules** *(NJAC 7:29)* http://www.state.nj.us/dep/enforcement/pcp/olem-noise.htm	• The NJ Department of Environmental Protection (NJDEP) has developed a Model Noise Ordinance that can be adopted by local municipalities. • NJDEP does not have a noise control program and does not investigate noise complaints. Noise control is handled locally.
Energy Portfolio	**Electric Utility Restructuring** http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• The restructuring legislation in NJ requires spending $230 million for home weatherization, renewable energy and other programs, and increases spending on new energy conservation programs. Also, electric generation companies must disclose a set of environmental characteristics, including power plant fuels and emissions.
	NEW YORK	
Siting	**Siting and Approval** *(Article X of Public Service Law)* http://www.dps.state.ny.us/articlex.htm	• The NYS Siting Board is in charge of siting and approval of all new power plants. • Article X of the Public Service Law sets forth a unified and expedited review process for applications for power plants > 80 MW. • Proceedings are open to the public • NYS Siting Board may preempt local zoning. • Siting may take up to 18 months. • NYS Siting Board must determine: **1.** either: (a) constructing the facility is reasonably consistent with the most recent **State Energy Plan**, or (b) the electricity generated by the facility will be sold into the competitive market; **2.** the nature of the probable environmental impacts (including evaluating cumulative air quality impacts); **3.** the facility minimizes adverse environmental impacts, given environmental and other pertinent considerations; **4.** the facility is compatible with public health and safety; **5.** the facility will not discharge or emit any pollutants in violation of existing requirements and standards; **6.** the facility will control the disposal of solid and hazardous wastes; **7.** the facility is designed to operate in compliance with state and local legal provisions, other than those local legal provisions that the Siting Board finds unreasonably restrictive; and **8.** the construction and operation of the facility is in the public interest.
	Intervenor Fund for Siting Review *(Article X, Section 164)*	▪ Power plant applicants are required to pay $1,000 per MW of capacity up to $300,000 to establish an Intervenor Fund. ▪ Funds are used to defray expenses associated with the siting review.
	Proposed Amendment to Article X *(NY State Bill A09039)*	▪ The bill would authorize the Commissioner of Environmental Conservation to issue environmental permits necessary to the siting of an electric generation facility if the NYS Siting Board is unable to do so and would make some technical changes to the siting law. ▪ The bill would also require the Energy Planning Board to do a reliability study of the state's transmission and distribution systems.

Water	**New York State Energy Plan 1994** *(NY State Energy Office)*	• The Final 1994 State Energy Plan calls for significant reductions in state energy taxes and endorses greater competition in utility purchases of electricity to lower electric rates in the state. The plan reaffirms the state's long-term energy, economic and environmental goals and its commitment to energy efficiency, but places increased emphasis on the use of energy policy as a means to promote sustained economic development. The plan assesses NY's current energy supplies, infrastructure and policies, and forecasts energy needs and supplies through the year 2012. Based on those findings, the plan sets policy goals and objectives and recommends 180 specific actions. The plan was prepared by the staffs of the State Energy Office and the State Departments of Environmental Conservation and Public Service in response to 1992 legislation that formalized NY Governor Mario Cuomo's model for integrated energy planning. The State Energy Planning Board, which approved the plan on October 31,1994, is made up of the commissioners of those three agencies. State energy law requires that any state action related to energy be reasonably consistent with the plan's findings and recommendations.
	Water Supply Permits *(Chapter 6, NY Codes, Rules and Regulations. Part 601: 6 NYCRR 601)*	• Required for suppliers of potable water with 5 or more service connections. • Applicants must demonstrate: 1. Plans are justified by public necessity. 2. Plans properly consider other sources of supply that are or may become available. 3. Plans provide for proper and safe construction of all work connected therewith. 4. Plans provide for proper sanitary control of the watershed and proper protection of the supply. 5. Plans provide for an adequate water supply. 6. Plans are just and equitable to the other municipal corporations and civil divisions of the state affected thereby and to the inhabitants thereof, particular consideration being given to the present and future necessities for sources of water supply. 7. Plans make fair and equitable provisions to determine and pay any and all damages to persons and property, both direct and indirect, that result from acquiring the lands or executing the plans. 8. Plans, in accordance with local water resources needs and conditions, include a description of an adequate near term and long range water conservation program. • Entities holding Water Supply Permits must report average and peak use to the NY Department of Environmental Conservation annually. If customer demand grows (*i.e.*, new peaker plant begins withdrawing from the water supply), supplier must re-demonstrate the above to the state if the demand exceeds amount authorized in the Water Supply Permit.
	Water Well Program *(Environmental Conservation Law 15-1525)*	• Pre-notification must be filed with the state before drilling specifying desired yield. • No restrictions are specified on the amount of water withdrawal. However, under NY Civil Law, property owners have water rights. If a well causes drawdowns that impact an off-site property owner's water use, then they can sue.

	Water Withdrawal Registration *(6 NYCRR, Chapter X, Subchapter A, Article 1)*	• Applies to withdrawals from Great Lakes: • Great Lakes (6 NYCRR 675): ▪ withdrawals >100,000 gallons per day averaged over 30-day period *- OR -* ▪ lake water loss > 2,000,000 gallons per day averaged over 30-day period • No restrictions are specified on the amount of water withdrawal, just that withdrawals must be registered. Registration fee is $100/year.
	Long Island Water Withdrawal Restrictions	• Water withdrawals from wells are restricted by quantity on Long Island because over pumpage of groundwater on Long Island can cause infiltration of saltwater into the aquifer.
	Electric Utility Restructuring	• Funds to support energy conservation and renewable energy are made available to energy suppliers from the NY State Energy Research and Development Authority. Funds were created through the NY Public Service Commission order establishing a system benefits charge on electricity sales.
	OHIO	
Siting	OH Adm. Code 4906: **Ohio Power Siting Board** http://onlinedocs.andersonpublishing.com/oac/	• The OH Power Siting Board (PSB) within the Public Utilities Commission is the approval authority for all major utilities > 50 MW. • Meetings of the OH PSB where action is taken or deliberations conducted are open to the public. • Applicants for new facilities must consider at least 1 alternate site. • Applications are required to address: ➢ Justification of Need: ▪ Description of generation and associated facility alternatives ▪ Type, number of units, and estimated net demonstrated capability, heat rate, annual capacity factor, and hours of annual generation ▪ Land area requirement ▪ Fuel quantity and quality ▪ Types of pollutant emissions ▪ Water requirement, source of water, treatment, quantity of any discharge and names of receiving streams ➢ Siting issues: ▪ location ▪ major features ▪ the topographic, geologic, and hydrologic suitability for each alternate site ➢ Water: ▪ natural and man-affected water budgets ▪ existing maps of aquifers that may be directly affected ➢ Emissions control & safety equipment ➢ Local ambient air quality of proposed sites ➢ Locations of major and anticipated sources of air pollution ➢ Plans for future additions and the maximum generating capacity anticipated for the site. ➢ Financial data ➢ Environmental data

		➢ Social and ecological data: ▪ Noise ▪ Health & Safety ▪ Impact of water use ▪ Economics, land use, and community development ▪ Cultural impact ▪ Agricultural district impact • After the OH PSB certifies applications for new facilities, public hearings are held in the local vicinity of the proposed facility. • The OH PSB collects application fees.
Air	**NO_x – Reasonably Available Control Technology (RACT)** *(OAC 3745-14)* http://onlinedocs.andersonpublishing.com/oac/	• According to IEPA, certain minor sources must use BAT (Best Available Technology), OAC 3745-14-3. • Major sources are required to use BACT per federal regulations: 15 ppm NO_x for natural gas turbines, 42 ppm NO_x for oil burning. • For NO_x sources >100 TPY, Reasonably Available Control Technology (RACT) is required in certain counties. RACT for combustion turbines is 75 ppm for those firing gaseous fuels and 110 ppm for those firing distillate oil or diesel fuel.
Water	**Application for Permit for major increase in withdrawal of waters of the State** *(OH Revised Code 1501.30 & 33)* **Registration of facilities capable of withdrawing >100,00 gal/day; Groundwater Stress Areas** *(OH Revised Code 1521.16)* **Determination of reasonable use of water** *(OH Revised Code 1521.17)* http://onlinedocs.andersonpublishing.com/revisedcode/ http://www.dnr.state.oh.us/odnr/water/waterinv/waterinv.html	• Permits are required for those making a new or increased consumptive use of water than an average of 2 millions gallons per day over a 30-day period. • Registration is required for any facility or combination of facilities with the capacity to withdraw more than 100,000 gallons of water (surface or ground) daily. Annual reporting is required of those who must register. The purpose of registration and reporting is to gather data to assist in resolving future water use conflicts. • Chief of OH Department of Natural Resources Division of Water has authority to designate "groundwater stress areas" and to require water withdrawal registration in these areas for users of water less than the normal 100,000 gallon threshold. • Chief also has responsibility to maintain water Resources Inventory that must include information to assist in determining the reasonableness of water use. • While "reasonable use" is used by courts to determine water conflicts, legislature has set forth nine specific factors (applicable to both surface and groundwater) to define reasonableness. • "Consumptive use" is defined as a use of water resources other than a diversion that results in a loss of that water to the basin from which it is withdrawn and includes, but is not limited to, evaporation, evapotranspiration, and incorporation of water into a product or agricultural crop.
Energy Portfolio	**Electric Utility Restructuring** Http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• Restructuring legislation includes a provision for a $110 million revolving load fund for residential and small commercial energy efficiency and renewable energy projects. Also, electricity marketers must disclose environmental information to consumers.
	OREGON	
Noise	**Noise Control Classification of Violations** *(OR Adm. Rules 340-012-0052)* http://arcweb.sos.state.or.us/rules/OARS_300/OAR_340/340_012.html	• Regulations address a model ordinance.

	PENNSYLVANIA	
Air	**Stationary Sources of NO_x & VOCs** *(PA Code Ch. 129.91)* http://pacode.com/secure/data/025/chapter129/chap129toc.html	• PA charges emissions fees: $42/ton (1999). • PA requires RACT for all major sources of VOC, NO_x.
Energy Portfolio	**Electric Utility Restructuring** *(9/00)* http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• A $21 million Green Energy Fund was created by the PA Public Utilities Commission (PUC) to be used for investment in green energy projects, such as wind, solar, and biomass. The fund, which currently has $5 million, is expected to grow to more than $20 million over the next six years. The fund was created as part of a negotiated settlement between the PA PUC and PPL in the utility's restructuring case two years ago. Businesses and nonprofit organizations that wish to invest in green energy within PPL's territory may apply for the funds.
	TEXAS	
Water	**Use of Reclaimed Water**, *(TX Adm. Code Title 30 Part 1 Chapter 210)* (1997) http://www.tnrcc.state.tx.us/oprd/rules/index.html	• Establishes general requirements, quality criteria, design, and operational requirements for the beneficial use of reclaimed water that may be substituted for potable water or raw water. • Due to limited supply and high demand, reclaimed water can be much less expensive than using municipal drinking water or treating groundwater. The rule is intended to conserve surface and groundwater and to help ensure an adequate supply of water resources for present and future needs. • Use of reclaimed water is voluntary. • Locating reuse facilities near the municipal wastewater treatment plant helps to minimize infrastructure costs in constructing a distribution line. • Reclaimed water is provided to the user on a demand-only basis. • Approved uses include cooling tower make up water under §210.32 (2)(F).
	Water Use Permits *(TX Water Code, §11.121)* http://www.capitol.state.tx.us/statutes/wa/wa001100toc.html	• TX industries must obtain water rights to use surface water or protected groundwater. The authorization may be with or without a term, on an annual or seasonal basis, or on a temporary or emergency basis.
Siting	**Siting**	• Does not have a siting commission for power plant projects. • TX requires *certificates of convenience and necessity* for power plant projects that utilities initiate, but not for projects that IPPs initiate.
Energy Portfolio	**Electric Utility Restructuring** *(9/00)* http://www.eia.doe.gov/cneaf/electricity/chg_str/pbp.html	• TX's renewables portfolio standard requires that the State's utilities install or contract to buy power from 2,000 MW of renewable generating capacity by January 1, 2009.

Siting	**WISCONSIN**	
	State Energy Policy *(WI Statute: 1.12)* http://folio.legis.state.wi.us/cgi-bin/om_isapi.dll?clientID=111571&infobase=stats.nfo&jump=ch.%20196 **Power Plant Siting** *(WI Adm. Code Ch. PSC 111, 112)* **Environmental Analysis** *(WI Adm. Code Ch. PSC 4)* http://folio.legis.state.wi.us/cgi-bin/om_isapi.dll?clientID=95483&infobase=codex.nfo&jump=top	• WI's State Energy Policy includes policy on: ➢ Considering the maximum conservation of energy resources as an important factor when making any major decision that would significantly affect energy use ➢ reducing the ratio of energy consumption to economic activity in the state ➢ renewable energy resources ➢ protecting natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces and groundwater resources. • Ch. PSC 111, 112 require the WI Public Service Commission (PSC) to develop a Strategic Energy Assessment (SEA) for power plants. The SEA involves an assessment of electric demand and supply, and information from electricity suppliers on economic, pollutant, and energy conservation data. • Ch. PSC 111,112 require *Certificates of Public Convenience and Necessity* for electric generating facilities. According to the ICC, this requirement applies to facilities > 100 MW. Applications for certificates include: ➢ at least 2 sites: preferred & alternate ➢ number of units, type, size, fuel ➢ hours of operation ➢ generating capacity ➢ pollutant emissions ➢ need for facility in terms of demand ➢ alternative sources of electric supply including energy conservation & efficiency ➢ Natural resources affected ➢ Ecological resources affected ➢ Community information • According to IEPA, siting is required for facilities >12,000 kW. • Ch. PSC 4 establishes procedures to provide the WI PSC with adequate information on the short- and long-term environmental effects of its actions as required by the WI Environmental Protection Act, ch. 274, section 1, laws of 1971 and s. 1.11 of the WI Statutes. PSC 4 requires the WI PSC to prepare an Environmental Assessment (EA) to assist the WI PSC in determining environmental impact of proposed facilities. Combustion turbines are included as types of projects requiring an EA. The WI PSC can approve or deny siting based on the EA or EIS. The EA is made available to the public, and hearings are held.

Water	**Water Resources** *(WI Statutes, Chapter 28, Subchapter II)* **Water Quality and Quantity; General Regulations** *(WI Statutes, Chapter 28, Subchapter III)* http://www.legis.state.wi.us/rsb/Statutes.html WI DNR Rules, Chapter NR 142	• WI law provides for: 1. Developing statewide water quantity resources plan 2. Registration and annual reporting (with fees) of major withdrawals (>100,000 gal/day in 30-day period) 3. Permit approval process (with administrative hearing process) for constructing, developing, and operating wells where capacity and rate of withdrawal of groundwater from all wells on one property is in excess of 100,000 gal/day. Approval is withheld or restricted if withdrawal will adversely effect or reduce availability of public water supply or does not meet grounds for approval, which are: ➢ no adverse effect on public water rights in navigable waters ➢ no conflict with any applicable plan for future uses of waters of state or water quantity resources plan ➢ reasonable conservation practices have been incorporated ➢ no significant adverse impact on environment and ecosystem of the Great Lakes basin or the upper Mississippi River basin ➢ plan for withdrawal consistent with protecting public health, safety, and welfare, and not detrimental to public interest ➢ no significant detrimental effect on the quantity and quality of the waters of the state (even more factors apply if the proposed withdrawal will result in an "interbasin diversion") 4. Permit approval process for diverting water from any lake or stream >2,000,000 gal/day in any 30-day period. If WI Department of Natural Resources (DNR) receives application for a withdrawal from the Great lakes basin that will result in a new water loss averaging 5,000,000 gal/day in any 30-day period, WI DNR notifies governors of other Great Lakes States, requesting their input. • Regulations define "water loss" and "consumptive use." • Rules incorporate methods for citizens to initiate WI DNR investigations of alleged violations.

Note: *This list is not meant to be all-inclusive.*

APPENDIX K

ADDITIONAL SUMMARIES OF PUBLIC COMMENTS—INDEX

#	PUBLIC COMMENT	Air: Emissions Control Technology	Air: Modeling	Air: Ozone Nonattainment	Air: Pollution	Air: Quality	Energy: Alternatives/Efficiency	Energy: Capacity	Energy: Demand	Energy: Deregulation	Energy: Market	Energy: Policy	Energy: Power Distribution	Health: Effects	Health: Safety	Moratorium	Noise	Regulations: Air	Regulations: Applicability	Regulations: Enforcement	Regulations: Permitting	Regulations: NOx SIP Call	Regulations: NOx Waiver	Regulations: Other States	Siting: Zoning	Siting: Local Guidance & Public Involvement	Siting: Number of Plants	Water: Use	Other: Taxes
1	Cindy Conte, Reliant	•	•					•																					
2	Debbie Halvorson, State Senator, 40th District															•													
3	Ron Molinaro, Winthrop Harbor, IL					•					•						•										•	•	
4	Peter J. Cioni, Dir. of Community Development, Zion																										•		
5	Bob Mosteller, Deputy Dir., Lake Cty. Zoning Board of Appeals																							•					
11	Susan Zingle, Exec. Dir., LCCA									•	•																		
12	Gary Hougen, Winthrop Harbor, IL													•														•	
13	Robert Brooks, Waukegan, IL	•																											
14-30, 32-90, 92-106, 113-160, 174-185, 188, 193	Big Rock Form Letter			•		•															•				•			•	
31	Curt W. Peters, Winthrop Harbor, IL																								•				•
91	Jane Erdman, New Holland, IL				•									•															
107	Udo A. Heinze, Mgr., Strategic Projects, Ameren				•										•			•	•		•				•			•	•
108	Jeannine Kannegiesser, Center for Neighborhood Technology						•		•	•	•		•																

#	PUBLIC COMMENT	Air	Emissions Control Technology	Modeling	Ozone Nonattainment	Pollution	Quality	Energy	Alternatives/Efficiency	Capacity	Demand	Deregulation	Market	Policy	Power Distribution	Health	Effects	Safety	Moratorium	Noise	Regulations	Air	Applicability	Enforcement	Permitting	NOx SIP Call	NOx Waiver	Other States	Siting	Zoning	Local Guidance & Public Involvement	Number of Plants	Water	Use	Other	Taxes
109	Patricio Silva, Midwest Activities Coordinator, NRDC					•		•	•	•	•	•			•	•											•	•	•			•	•		
110	Ronald D. Earl, General Manager & CEO, IMEA							•	•	•	•		•																						
111	Earl W. Struck, AIEC								•		•										•								•						
112	Verena Owen, Winthrop Harbor, IL										•			•							•														
161	Mary Thurow, Big Rock, IL																									•			•						
162	Margaret A. Bock, Libertyville, IL				•															•	•	•						•					•		
163	Cynthia A. Faur, Sonnenschein, Nath & Rosenthal on behalf of Midwest Generation									•	•									•	•	•			•	•			•				•		
164	Christopher Zibart of Hopkins & Sutter; Sharon Neal on behalf of ComEd								•	•	•	•	•	•							•	•						•	•						
165	Brain Urbaszewski on behalf of ALAMC & IEC															•																			
166	Carol Dorge, LCCA			•	•	•			•	•								•		•	•	•			•	•	•		•			•	•	•	•
167	James R. Monk, President, IEA												•							•	•	•						•	•						
169	Evan L. Craig, Group Chair, Sierra Club Woods & Wetland Group, Vernon Hills, IL							•																	•		•			•					
170	Stephen Brick, Director, External Relations & Environmental Affairs, PG&E			•						•	•	•													•	•	•	•	•	•	•				

#	PUBLIC COMMENT	Air	Emissions Control Technology	Modeling	Ozone Nonattainment	Pollution	Quality	Energy	Alternatives/Efficiency	Capacity	Demand	Deregulation	Market	Policy	Power Distribution	Health	Effects	Safety	Moratorium	Noise	Regulations	Air	Applicability	Enforcement	Permitting	NOx SIP Call	NOx Waiver	Other States	Siting	Zoning	Local Guidance & Public Involvement	Number of Plants	Water	Use	Other	Taxes
171	Freddi Greenberg, Executive Director and General Counsel, MWIPS						•			•			•							•	•	•			•		•	•	•	•		•			
172	Sierra Club, Illinois Chapter																		•			•										•			
173	Gerald Erjavec, Manager, Business Development, Indeck	•																		•	•	•						•	•				•		
186	Ersel C. Schuster, McHenry County Board																							•											
187	Katherine Hodge & Karen Bernoteit, Hodge & Dwyer/IERG			•		•	•													•	•	•							•		•	•			
189	CCLC and Liberty Prairie Conservancy			•						•	•														•										
190	Jim LaBelle, Sandy Cole, Bonnie Thomson Carter—Lake County Board Members					•													•						•				•				•		
191	Marsha B. Winter, Zion, IL															•				•										•			•		
192	Ken Bentsen, Sugar Grove, IL				•														•			•			•				•			•	•		
194	Ralph N. Schleifer, Kaneville, IL				•														•													•	•		
195	Marci Rose, Big Rock, IL						•									•													•						

ADDITIONAL SUMMARIES OF PUBLIC COMMENTS—SUMMARIES

PC 1—Ms. Cindy Conte, Reliant

Reliant has a 345 MW peaker plant in Shelby County. It currently has an 870 MW peaker project under construction in DuPage County, scheduled to become operational in June 2001. Reliant stated that the industry standard is to have 15 to 20% extra capacity (*i.e.*, reserve margin). Figures from MAIN, which includes Illinois and nearby states, show that the reserve margin in 1998 was 9.6% and 7.6% in 1999. Reliant asserted that it will not be possible to maintain a 15-20% reserve margin without peaker plants in Illinois.

Reliant believes that Illinois has a shortage of peaking capacity in the State, and Illinois should construct additional power plants in the State. It noted that peaker plants are not new to Illinois. For over 30 years, there has been a dual fuel (natural gas/fuel oil) peaking unit in Aurora. Reliant noted that the technology for peaker plants has changed for today's peaker units. Namely, Reliant's peaker project in DuPage County will use turbines with advanced generation and clean emissions control technology fueled by natural gas only.

Reliant alleged that today's peaker plants are among the cleanest power plants operating and are significantly less harmful to the environment than existing fossil plants. Reliant's plants use state-of-the-art, dry-low NO_x and water-injection to control emissions. Reliant completed an air modeling study to determine where the greatest concentration of NO_x emissions would occur from the peaker project in DuPage County. The modeling showed, among other things, that the plant's maximum emissions are concentrated in a small area radiating out a few hundred feet to the north of the property.

Reliant cautioned that in California, due to a booming economy and unseasonably hot temperatures, the state's electricity reserve has gone from 35% in the early 1990s down to almost nothing. Reliant recommended that building peaker plants will help Illinois avoid a similar shortage, brownouts, and high costs for consumers. Reliant supports the current procedures in place for permitting and approval of peaker plants. It also cautioned that Illinois needs more power supplies, and should not rely on neighboring states to fill the gap.

PC 2—State Senator Debbie Halvorson, 40th District

State Senator Halvorson asked the Board to consider delaying the issuance of any air permits until the Board's inquiry proceedings are finished and the Board's recommendations are enacted. She joined State Senator Link in asking Governor Ryan for a moratorium on peaker plants this summer, until they could better understand the plants' effects on communities and general air quality.

PC 3—Mr. Ron Molinaro of Winthrop Harbor

Mr. Molinaro is concerned that if two peaker plants are built in Zion, then the area within a ten-mile radius of Zion would have two coal-burning plants and two peaker plants.

He fears that the cumulative effect of all four of these plants operating would be very detrimental to air quality. He is also concerned that the noise from the proposed plants would disrupt the homes located a few hundred yards away. Mr. Molinaro also wondered if there would be enough water available to new homes and businesses in the area if the plants were built. He mentioned that Zion exceeded its allocated amount of water in 1999 by 22 million gallons. Lastly, he questioned whether the price of electricity will increase if the plants are built.

PC 4—Mr. Peter J. Cioni, Director of Community Development, City of Zion

Mr. Cioni wanted to clarify that Zion is only considering one peaker plant project, namely the Skygen project.

PC 5—Mr. Bob Mosteller, Deputy Director, Lake County Zoning Board of Appeals

Mr. Mosteller, in response to Board Member Flemal's request, sent a copy of the Lake County Zoning Ordinance addressing peaker plants. In his comment, he set forth the standards under which conditional use permits may be approved. He also noted that separate conditions apply to permits for electric generation plants.

PC 11—Ms. Susan Zingle, Executive Director, LCCA

Ms. Zingle stated that, on August 14, 2000, The Wall Street Journal published an article entitled Volatile Electricity Market Forces Firms to Find Ways to Cut Energy Expenses. According to the article, during the summer of 2000, several of the states that had opened their electricity markets to deregulation were struck by extreme price volatility and, in some cases, power shortages. The reasons were varied: higher-than-expected demand; fewer new generating plants than necessary to keep up with demand; an interstate transmission network that is not designed for deregulation; and complex regulations governing the switch from fixed to free market pricing.

The article stated that consumers in San Diego have seen their electric bills double. Legislators there have been trying to introduce bills to ease the expense, but none address the question of who would pay for the difference between wholesale prices and the prices paid by the newly-protected consumer. The shock is causing many to question the main assumption about deregulation: "that competition among power providers would lead to cheaper prices and greater efficiencies."

Big energy users are spending more money on manpower and consultants to cope with deregulation. Their goal is to keep down prices and limit power disruptions. Energy trading company Enron signed contracts to supply $3.8 billion in energy and energy services to customers during the spring of 2000. Enron offers packages that mix fixed and indexed rates much as a mortgage does. It also provides incentives to those firms that allow it to replace their energy infrastructure over time—which gives Enron a better sense of what the client will be spending.

Companies for which electricity is a make-or-break operating cost have less flexibility. They have been most affected by current market conditions. Phelps, a copper producer, has boosted in-house generation to reduce reliance on outside suppliers and is "juggling its production schedules" to avoid operating when power is expensive.

PC 12—Mr. Gary Hougen of Winthrop Harbor

Mr. Hougen is concerned about the proposed peaker plant for Zion. Specifically, he is concerned about the "heightened nitrate ion content in groundwater during summer low-flow water conditions. Heightened nitrate . . . content has been linked to various illnesses . . . ."

Mr. Hougen claimed that "[h]eightened nitrates would occur as the ambient level of this ion is increased during cooling water usage by (water-cooled) peaker plants." Mr. Hougen attached a map showing "Commercial Nitrogen Fertilizer Leaching Vulnerability."

Mr. Hougen requested that the Board "develop a protocol to assure that drinking water of those households on well water in the vicinity of the proposed peaker plant would not incur a significant deterioration from their operation." Mr. Hougen hopes that "the protocol would demonstrate through engineering studies that the EPA limit of 10 ppm would not be exceeded."

PC 13—Mr. Robert Brooks of Waukegan

Mr. Brooks claimed that "advanced distributed power generation technology is now in the demonstration phase which has the following advantages vs. currently proposed turbine peaker or base load systems":

- "Nearly twice the efficiency of simple cycle peakers"
- "Less than 1 ppm NO_x output"
- "Requires no water input (produces a small amount of water) . . . ."

Mr. Brooks also enclosed two recent articles from Ward's Engine and Vehicle Technology Update that describe a distributed power system installed at a California electric utility plant. The system was expected to achieve efficiencies of 60 to 65%. It could also be modified so that its CO_2 emissions could be injected into the ground. The system requires no water, but instead produces a small amount of water.

PCs 14-30, 32-90, 92-106, 113-160, 174-185, 188, 193—Form Letter Filed By a Number Citizens

According to these citizens, Illinois needs to develop a NO_x SIP plan, and the cumulative impact of these plants on the air quality of the Chicago metropolitan area needs to

be considered. They stated that this cannot be accomplished by "look[ing] at permits one at a time." In addition, the Chicago area is an ozone NAA, which also needs to be considered.

In Big Rock, a peaker plant is proposed that would use groundwater as its water source. The citizens stated that all residents of Big Rock depend on groundwater. They asserted that extraordinary care should be made in permitting this use.

The citizens stated that new or expanding peaker plants should be subject to siting requirements beyond applicable zoning requirements. The peaker plant proposed for Big Rock would be located in the middle of what is now agricultural land. The citizens argued that this plant siting is inconsistent with the Kane County 2020 plan. According to the citizens, the State should have a policy to encourage the siting of peaker plants in brownfields.

The citizens maintained that additional regulations or restrictions should apply to "all facilities, old and new." They also asserted that the Board should place a moratorium on air permits for peaker plants at least until the cumulative effects of these plants "on the NO_x SIP call is completed."

PC 31—Mr. Curt W. Peters of Winthrop Harbor

Regarding the proposed peaker plants for the Zion Benton Township area, Mr. Peters stated: "It is my opinion the Zion City Council should explore alternative options to obtain tax base revenue, as well as jobs for the community. I say NO to building power plants of any kind in our township."

PC 91—Ms. Jane Erdman of New Holland

Ms. Erdman is alarmed about having a peaker plant in her area "due to the high possibility of air pollution, within an 8 mile radius of the plant." Ms. Erdman claimed that the emissions of the plant, along with other emissions will contribute to acid rain, "create respiratory problems, affect crop production, erode solids like paint and rock and severely pit metals; possibly creating disasters for this area in order to supply electricity for other states to waste."

PC 107—Mr. Udo A. Heinze, Manager, Strategic Projects, Ameren

Mr. Heinze commented on (1) emissions, (2) siting, (3) water, (4) hazardous materials on plant sites, (5) property taxes, (6) new rule applicability, and (7) the five questions that Governor Ryan posed for the Board's inquiry proceedings.

Emissions

Mr. Heinze noted that NO_x emissions from peaker plants will be kept under the emissions "cap" that the NO_x SIP call ordered. He argued that there is no need for additional requirements to control SO_2 emissions because those are already capped under the federal acid

rain program. Mr. Heinze further noted that most new peaker plants are simple cycle gas-fired combustion turbines. He argued that requiring BACT or LAER controls on these types of plants would be impractical or very expensive. The expense, he argued, would make the units uneconomical to operate.

He acknowledged that mass emissions during start-up might be slightly higher than normal operations. However, they are still very low and do not last long, according to Mr. Heinze. He also noted that IEPA has a process in the permitting of the plants to account for the slightly higher mass emissions that occur during start-up conditions. He added that the permitting process requires IEPA to review any proposed facility, including the modeling of air quality emissions.

Siting

Mr. Heinze argued that zoning should be a local issue, and not a decision that a State agency imposes.

Water

Mr. Heinze noted that the testimony shows that for some high-density areas, water use may be a broader issue. For those areas, he suggested that it would be prudent to consider water use on a regional, rather that purely local basis.

Hazardous Materials on Plant Site

Mr. Heinze noted that not all peaker facilities have backup fuel capability. When they do, however, it is part of the permitting process and would be presented to both IEPA as part of its air construction permit application and the applicable zoning authority. He also argued that storing fuel oil as backup fuel is not a new risk that requires further regulation or control.

Property Taxes

Mr. Heinze asserted that because combustion turbines are portable and can be relocated, they generally are not considered real property for tax purposes. He argued that the local taxing authority is the appropriate jurisdiction to address whether the peaker plants must pay property taxes. He further argued that it is not a foregone conclusion that all proposed peaker plants will obtain tax abatements, noting that many have not.

New Rule Applicability

Mr. Heinze advocated that as regulations governing facilities change, it is more reasonable that those changes apply to facilities that have not committed to purchase orders for equipment rather than to facilities already completed or in the process. He believes that developing generation requires “regulatory certainty.” He believes that any new rules should

not apply retroactively.

Governor Ryan's Questions

With respect to the questions that Governor Ryan posed for the inquiry proceedings, Mr. Heinze submited that Ameren thinks (1) peaker plants do not need to be regulated more strictly than Illinois' current air quality statutes and regulations provide; (2) peaker plants do not pose a unique threat, or greater threat than other types of facilities, with respect to air pollution, noise pollution, or groundwater or surface pollution; (3) peaker plants should not be subject to siting requirements beyond applicable local zoning requirements; (4) any new regulations or restrictions should be applicable on a date-certain basis, prospectively applied; and (5) other states' approaches to peaker plants should not necessarily be applied in Illinois.

PC 108—Ms. Jeannine Kannegiesser, Center for Neighborhood Technology (CNT)

What is peak demand and why are peaker plants appearing in Illinois?

CNT commented:

> Summer peak demand can cause trouble for utilities and their customers as noticed in Chicago's summer of 1999. When demand across the distribution system exceeds the systems capacity to carry power, blackouts and brownouts occur to protect the system. * * *
>
> The 1997 electric restructuring law in Illinois created an attractive business opportunity for merchant power generators. In a state where peak demand is growing, it became legal for alternative suppliers to market their product directly to customers.
>
> [P]eak power producers expect to make a profit by running their plants for a limited number of hours during the year. * * * However, the "annual" peaker plant emissions might occur over only a matter of days or weeks, concentrated during the hot summer months.

What are the alternatives to peaker plants?

CNT stated:

> The motive for building a peak power plant might be reduced if electric customers in Illinois worked to decrease their demand for peak power. Customers can do this by improving end use energy efficiency or by generating their own power at the site of use.
>
> [I]mproving the efficiency of air conditioners is an attractive efficiency project. Upgrades in lighting and other end uses can contribute to decreases in peak load. Distributed generation, also called on-site generation, is the generation of electricity by small, clean generators located on or near the site where the power

> will be used. Distributed generation eliminates the need to transport power long distances over wires and can be dispatched to serve peak demand or to back-up a sensitive operation during power outages. Distributed generation might be a natural gas turbine, fuel cell, or renewable power source like photovoltaic cells.
> * * *
>
> Technologies for generating power at the site of use can decrease the growth in demand for utility power. Thermal storage can shift power usage to the time of day when power is much less expensive.

Why are alternatives to peaker plants not being selected?

> CNT stated:
>
> Because customers do not face real prices, there is no incentive for reducing usage during times when the cost of providing service is at its height. Residential and commercial customers, in particular, pay the same rate per kWh regardless of when they use it, despite the fact that the same kWh on a hot summer afternoon could cost the utility many times what a spring evening kWh costs.

What are the benefits of reducing peak demand?

> CNT claimed that:
>
> Reducing peak demand before the power market opens completely will give small consumers a stronger position in that market, particularly if groups of consumers can pool their more attractive demand and shop together for a lower price.

In addition, CNT maintained that the "distribution system will experience less stress if peak demand is maintained below capacity."

What is CNT doing about the change to a deregulated electric system?

> CNT explained:
>
> [T]hrough its Community Energy Cooperative[,] . . . [CNT] is currently contributing to an effort to improve state programs to promote energy efficiency and distributed resources. * * * On October 17, CNT participated in a meeting hosted by State Senator Steven Rauschenburger where we presented the case for state action to prepare consumers for the competitive market by promoting efficiency and distributed generation. State intervention is necessary during this transition when customers do not face real prices.

What does CNT suggest?

CNT urged the Board:

> [T]o promote energy efficiency and distributed generation as an alternative to increased commodity production by including these options in its report to the Governor. * * * The [Board] should also seek input on quantification of pollution prevention possible from energy efficiency to strengthen the argument for these measures becoming a focus of state policy.

PC 109—Mr. Patricio Silva, Midwest Activities Coordinator, NRDC

A "priority for NRDC is the enactment of state and federal electric utility restructuring legislation that insures that more open and competitive electricity markets do not yield unwanted dividends such as increased air and water pollution." NRDC stated that it:

> generally supports . . . new natural gas-fired combustion turbines as a transitional generating technology, alongside development of new renewable electric generating technologies and additional investment in energy efficiency . . . . The siting and permitting of new electric generating facilities ideally, should integrate evaluation of individual project and aggregate multiple project potential environmental and public health impacts.

According to NRDC, "[s]ince enactment of the [Illinois Electricity Choice Law], . . . Illinois has drawn considerable attention from merchant power plant developers." The result has been "the filing of numerous permit and zoning variance applications before state agencies and municipalities for over 55 new electric generating facilities, with a potential generating capacity of 22,000 MW . . . ." NRDC stated that "nearly all these new electric generating facilities will be . . . single cycle combustion turbines" operating "during periods of peak demand load."

NRDC explained the increase in peaker plant permit applications:

> Many developers of new electric generating facilities believe there are lucrative short-term profits to be made by siting as many peak load serving single cycle combustion turbines as they can within the next 18-24 months, anticipating peak demand episodes similar to that experienced by Illinois in 1999.

However, NRDC disagreed that peaker plants will alleviate the problems that Illinois faced in 1999: "Rather, improvements and upgrades of the distribution system infrastructure were and remain the principal problem and need."

NRDC stated that "[e]lectricity demand in Illinois is forecast to continue increasing. * * * The electric reliability council serving Illinois and portions of Wisconsin, MAIN, . . . projected available generating capacity at 56,523 MW" for the summer of 2000. NRDC noted

that the "Energy Information Administration . . . forecasts 'gas technologies are expected to dominate new generating capacity additions.'" NRDC stated that "[m]uch of this new natural gas-fired generating capacity is expected well before 2020."

NRDC reported:

> Illinois is experiencing the leading edge of an energy 'Oklahoma land rush' phenomenon that has already played itself out in New England . . . . Most relevant is
> that of the 36 combustion turbines being permitted at 19 electric generating facilities across New England, all are combined cycle natural gas-fired combustion turbines. * * *
>
> In the neighboring state of New York, 20 new electric generating facilities are undergoing siting review representing a total of 15,064 MW of generating capacity . . . . [T]hey will be equipped with combined cycle combustion turbines.

According to NRDC, it is not true that:

> [E]lectricity consumption in California is surging out of control . . . . In fact, the California system peak from 1990-1999 grew less than 2% per year . . . . Total statewide consumption of electricity increased less than 1% per year from 1990-1998 . . . .
>
> Electricity use spiked in June 2000, up almost 13% compared to the much cooler June of a year earlier. * * * This clearly contributed to sharply higher wholesale electricity prices for June 2000 . . . . It didn't help, obviously, that natural gas prices also were soaring above five dollars per [mmBtu] . . . . The first three weeks of July saw more moderate weather in California, [and] . . . average wholesale electricity prices dropped about 40%. However, . . . these prices were still very high by recent historical standards.

NRDC added:

> The short term reliability crises in California should be quickly and cost-effectively resolved by additional investment and deployment of energy efficiency and renewable energy on [a] sufficiently large scale, alongside entry into service of single and combined cycle natural gas-fired combustion turbines already in the siting and construction process.

NRDC claimed that the "deployment of energy efficiency and renewable energy investments have already made significant contributions to California's economy and electricity grid." Furthermore, the CEC wrote that "California continues to lead the nation in maximizing the amount of Gross State Product produced per unit of energy." NRDC

continued:

> California still has numerous untapped and inexpensive opportunities to get more work out of less electricity.
>
> Renewable energy is also a critical part of California's energy portfolio, with about one-ninth of the state's supply now generated from wind, solar, geothermal or biomass resources.

NRDC stated:

> Natural gas-fired combustion turbines represent the best available large-scale fossil fuel generation in terms of minimal adverse air quality impacts. Combustion turbines, particularly combined cycle applications are capable of obtaining 55-60% efficiencies . . . . Single cycle natural gas-fired combustion turbines are considerably less efficient, operating between 28-35% with combustion controls limiting NO_x emissions to 15-25 ppm.

However, "the aggregate impact of the proposed combustion turbine projects in Illinois would amount to several hundred tons, likely to be emitted during the worst ozone episodes."

NRDC recommended that USEPA "withdraw the section 182(f) NO_x waiver granted to the Chicago . . . ozone [NAA], which exempts proposed new single cycle combustion turbines from obtaining emission offsets or utilizing [BACT]."

NRDC discussed aggregate impacts from multiple peaker plants:

> In isolation single cycle natural-gas fired combustion turbines do not pose a greater threat to public health and the environment than other types of state-regulated facilities, particularly coal-fired steam turbine generating units. However, the aggregate impact of siting several single cycle natural gas-fired combustion turbines should be thoroughly evaluated since these units can emit quantities of NO_x . . . CO…PM 10…VOCs …SO_2…and sulfuric acid mist . . . in quantities sufficient to trigger permit review thresholds under the [CAA].

NRDC added that peaker plants can:

> [A]lso emit toxic air pollutants, including formaldehyde, acetaldehyde, benzene, lead, mercury and beryllium in quantities sufficient to trigger permit review thresholds under the [CAA].
>
> Toxic air pollutants emissions increase significantly at single cycle combustion turbines equipped to burn distillate fuel oils as an alternative fuel source.

NRDC commented that "many of these proposed single cycle combustion turbine projects maybe converted in the future to combined-cycle . . . . A single cycle generating unit may not tax available water resources for example, but its conversion to combined-cycle operation could create significant allocation quandaries for the host community."

NRDC stated that "[s]ingle cycle combustion turbines are not particularly water intensive, consuming less than 100,000 gallons per day." However, "[w]hen firing distillate fuel oil, water consumption rises to up to 1,000,000 gallons per day when steam injection is employed to reduce NO_x emissions. In comparison a 1,000 MW combined cycle natural gas-fired combustion turbine relying upon wet cooling consumes approximately 7,000,000 gallons per day."

NRDC stated that peaker plants:

> [S]hould avoid disproportionately burdening any community, but particularly low income communities and communities of color. * * * [M]any potential host communities are convinced from their experiences that existing local zoning requirements are not adequate to address all the public interest concerns. * * *
>
> That may be in part attributable to the lack of coordination between municipalities and Illinois regulatory agencies involved in permitting new electric generating facilities, particularly [IEPA] . . . .

NRDC advised that "[w]hen applications are pending for multiple facilities, siting boards should select those that best meet these criteria rather than approve applications on a first-come, first-served basis."

NRDC reported that "California and New York require a coordinated and systematic evaluation [of] the potential environmental and public health impacts of new electric generating facilities":

> The California energy facilities siting process is particularly rigorous, requiring demonstration of need, balanced against the potential environmental and public health impacts. An applicant seeking to site a new electric generating facility of 50 MW or greater is required to submit a pre-application. * * * The California energy facilities siting process requires a single regulatory permit (insured by simultaneous review of air, water quality permit requirements by relevant municipal, state and federal regulatory agencies). * * *
>
> The California Legislature amended the energy facilities siting process by establishing a "fast track" process of 6 months for new electric generating facilities presenting no significant adverse environmental impacts. * * *
>
> Single cycle natural gas-fired combustion turbines operating under contract with [the] California Independent System Operator which emit less than 5 ppm [of

> NO_x] . . . and displace[] more polluting existing generating capacity can obtain expedited air permit approvals. * * *
>
> The State of New York recently consolidated the permitting of new electric generating capacity greater than 80 MW under the [NYS Siting Board], under Article X of the New York Public Service Law. Prior to commencing construction, a power plant developer must obtain a "Certificate of Environmental Compatability and Public Need." * * * [The NYS Siting Board] "is authorized to issue both air and water permits. * * *
> Under [New York's] Article X, the project applicant is required to file a preliminary scoping statement explaining in detail: the proposed facility and its environmental setting; potential environmental impacts from the construction and operation of the proposed facility; proposed mitigation; reasonable alternatives to the proposed facility; and other information that may be relevant or required by the [NYS] Siting Board.
>
> The project applicant is responsible for ensuring the preliminary scoping statement is adequately publicized.
>
> Article X encourages public involvement by requiring the project applicant to hold public meetings, offer presentations to interested parties and establish a local presence in the community. * * * [T]he project applicant must submit with its application a fee to be used as an "intervenor fund," which the [NYS] Siting Board examiner will disburse to municipal and local parties to defray the cost of expert witnesses and other technical assistance. * * *
>
> At present NRDC is participating as an intervenor in 8 of the projects under Article X review.

NRDC believes that the Board should integrate "the currently disjointed local zoning review process with consideration of draft state administered air and water permits." NRDC supports:

> [S]iting laws that encourage new power plants to: (1) use renewable fuels[;] (2) implement state-of-the-art air and water pollution systems; (3) locate on or near existing power plant sites that do not require new fuel supply or transmission infrastructure; and (4) avoid disproportionately burdening low-income communities and communities of color. * * * [S]iting laws should ensure that cumulative environmental and public health impacts decline over time as capacity increases.

NRDC also stated that some entity should take over the ICC's old role and develop "a comprehensive energy strategy for Illinois."

PC 110—Mr. Ronald D. Earl, General Manager & CEO, IMEA

IMEA described itself as a:

> not-for-profit unit of municipal government made up of 39 of the State's 42 municipally-operated electric systems. * * *
>
> The IMEA's primary function is to provide wholesale electricity to its members. Not only does IMEA arrange for a sufficient quantity of electricity, it also schedules the delivery of that power to each community over the State's transmission grid on a real time basis.
>
> At this time, IMEA has contracts with 28 of the State's 42 municipal systems to provide all, or most, of their wholesale electricity.

IMEA claimed that "a reliable electric market requires generation sources in comfortable excess of projected peak demand." IMEA asserted that "generation sources should be located in relatively close proximity to the load they serve. * * * [H]igh volume, peak load days create transmission bottlenecks that have threatened parts of the State with mandatory curtailments as recently as this summer."

IMEA requested that "the State do nothing to create power shortages in Illinois through new and restrictive regulation of natural gas-fired, gas turbine peaking plants. They are . . . the cleanest source of power generation available today that can satisfy peak load needs." IMEA admitted that it would "be ideal if even greener sources of power, such as wind, solar, or hydro, could satisfy the State's growing needs. But such sources of power are not available on demand." IMEA stated that "[w]ithout sufficient power generation, higher costs and diminished reliability . . . will result."

PC 111—Mr. Earl W. Struck, President/CEO, AIEC

AIEC described itself as:

> [T]he statewide service organization for Illinois' 27 electric cooperatives. The 25 electric distribution cooperatives provide electric service[,] . . . primarily in rural areas. * * * Two generation and transmission cooperatives supply wholesale power to the majority of the state's distribution cooperatives.

AIEC stated that "Article XVII of Illinois' deregulation law grants co-ops and municipal systems 'local control' over decisions relating to a deregulated marketplace. * * * [A] number of cooperatives have taken steps to secure additional generation capacity."

AIEC reported:

> Two Illinois cooperatives have recently announced plans to increase coal-fired generation, using advanced 'clean coal' technologies. Several other

> cooperatives have decided to utilize natural gas-fired peaker plants. * * * In each case, planned peaker plants have been located in sparsely-populated and remote rural downstate areas, without objection from local residents, and with the support of local government.

AIEC believes that Board inquiry hearing testimony "indicates that peaker plants are among the 'cleanest' answers to the need for additional generation capacity." AIEC concluded: "The electric cooperatives of Illinois respectfully suggest that to impose new and burdensome regulations regarding installation of new gas-fired peaker plants, especially in light of California's recent experiences, would be unwise."

PC 112—Ms. Verena Owen of Winthrop Harbor

Ms. Owen stated:

> Under the [CAA] 160 (5), the IEPA has to consider all the consequences of a decision to increase air pollution. That includes the basic determination if a facility is needed or not needed. The IEPA has repeatedly refused to look at the need for the peaker proposals, however, the language in the permits tells otherwise. The IEPA has apparently concluded that they are all needed. The IEPA is operating in a [void], i.e. a missing energy policy . . . .

Ms. Owen quoted IEPA's Mr. Romaine (from the transcript of IEPA's Carlton hearing at page 132): "Or if, in fact, there has been a catastrophic change in Illinois' electric power supply system for the particular summer . . . . We have to contemplate potential operation of this facility as a major source." Ms. Owen is concerned that "IEPA is contemplating the possibility that the minors become majors? Again, the permitting section of the IEPA would be making energy policy . . . ."

Ms. Owen "would like to see the . . . Board recommend relieving the IEPA from the responsibility of making energy policy decisions and taking over the role the ICC used to have. I would like to see you ask the legislators to develop a comprehensive energy policy that benefits the citizens of Illinois and protects the environment."

PC 161—Ms. Mary Thurow of Big Rock

Ms. Thurow stated that "[i]f a peaker plant is located in Big Rock, it will destroy a major portion of our small agricultural landscape." Ms. Thurow asked that the Board "study the plans on the NO_x SIP before further plans are acted upon."

PC 162—Ms. Margaret A. Bock of Libertyville

Ms. Bock admitted that "[a]lthough peaker plants have benefits . . . such as generating electricity without nearly the quantity of air pollution as old coal-fired power plants, they also have some negatives such as producing a certain quantity of air pollution, as well as a certain

level of noise. [T]heir water requirements pose a problem."

Ms. Bock stated that "[e]ach village and municipality must assess the proposal in terms of its effect on the local area. And yet, many of the effects have a far wider effect than a local one." Ms. Bock commented:

> I believe that we must consider their impact statewide. We need a statewide discussion on how many peakers would be optimal, and how to decide which sites are appropriate. We need to review our air quality statutes and regulations, and probably make them more rigorous. And those additional regulations or restrictions should apply to currently permitted facilities and to new facilities and expansions. * * * I refer you to the California Environmental Protection Agency Air Resources Board "Guidance for Power Plant Siting and Best Available Control Technology" publication, as approved by the Air Resources Board on July 22, 1999, as an example of what other states are doing.

PC 163—Ms. Cynthia A. Faur, Sonnenschein, Nath & Rosenthal, on behalf of Midwest Generation

Midwest Generation commented:

> Midwest Generation is a subsidiary of Edison Mission Energy . . . . On December 15, 1999, Midwest Generation purchased the fossil fuel-fired assets of [ComEd]. Midwest Generation has an installed capacity of approximately 10,000 [MW] in Illinois—nearly 1,000 [MW] of which is existing peaking capacity.
>
> Midwest Generation has applied to [IEPA] for a permit to install an additional 300 MW of peaking capacity at its existing Waukegan Generating Station. These peaking units will be subject to [NSPS], which in this case will be equivalent to [BACT], and NO_x emissions from these units will be limited to less than 40 [TPY].
>
> Since purchasing the Waukegan Station from ComEd in December of 1999, Midwest Generation has commenced a project to significantly reduce NO_x emissions from that station. In permitting new peaking capacity at the Waukegan station, Midwest Generation is not using any of these emission reductions to offset emission increases from the new peaking units.

Midwest Generation claimed that additional peaking capacity will be required to meet the 17-20% reserve minimums and keep pace with increasing demand. Midwest Generation maintained that peaker plants do not "warrant more stringent regulation than currently provided in existing and proposed Illinois requirements." Midwest Generation continued: "As both Chris Romaine and Kathleen Bassi of [IEPA] testified[,] . . . peaker plants do not

threaten air quality." Midwest Generation stated that "it is important to note that these new peaking units are required to meet the NSPS for Stationary Gas Turbines, 40 CFR § 60.330 *et seq*. This NSPS contains requirements which limit the amount of NO_x and SO_2 that can be emitted from peaking units."

Midwest Generation added:

> [T]he construction permits issued for the peaking units contain both short and long-term emission limitations. Where a peaking unit is located at an existing facility, the requirements can be more stringent. In the case of Midwest Generation's proposed peaking units to be installed at its Waukegan station, Midwest Generation accepted an annual NO_x limitation of approximately 39 tons on emissions from its two peaking units combined to ensure that the addition of these units would be treated as a minor modification to the Waukegan station.
>
> In addition to permitting limitations on peaker plants, many peaking plants will be subject to the NO_x reduction rules currently pending before the Board. Under the NO_x SIP call rule, peaker plants will be allocated NO_x allowances from an allowance "set-aside" available for new sources. Under the NO_x SIP call, NO_x allowances can be purchased on the open market from other sources. Midwest Generation believes that the existing permitting rules, the NSPS standards, and the NO_x SIP rule will effectively regulate emissions from peaker plants.

Midwest Generation claimed that "[t]hese plants do not pose a unique or greater "environmental threat" than other types of sources in Illinois." Midwest Genration continued:

> The primary emissions from these plants will be NO_x, but peaker plants will only be a small portion of the NO_x emitted in the State. * * * With regard to water use, not all peaking units use a great deal of water. In fact, Midwest Generation's existing peaking units, as well as those proposed to be installed at the Waukegan station, use very little water. * * *
>
> [P]eaking units constructed in Illinois are subject to stringent noise regulations which require the operators of peaking units to address noise issues . . . . Midwest Generation does not believe that noise from these peaking units will constitute a unique threat.

Midwest Generation believes that "while [IEPA] can provide technical expertise on the air quality impacts of peaker plants, local governments are the best suited to make land use determinations for their jurisdictions . . . . [L]ocal governments have the authority to deny siting approval for peaker plant even if [IEPA] grants a construction permit for the proposed project."

Midwest Generation does not believe "that [any new] requirements should apply retroactively to existing peaking units":

> Midwest Generation currently operates 9 existing peaking sites—all of which are located in sites that are zoned for that purpose or at existing power plants. If additional requirements were made applicable to these peakers, it could significantly impact the ability of these units to provide needed power during peak periods.

Midwest Generation claimed that "[w]ithout additional peaking capacity in the State, it would be difficult, if not impossible, to maintain reliable electric service."

PC 164—Mr. Christopher Zibart of Hopkins & Sutter and Ms. Sharon Neal on behalf of ComEd

ComEd claimed that the "record accumulated in this docket supports the current regulatory scheme." ComEd stated that it:

> [S]upports the restructuring of the electric industry as crafted by the Illinois Legislature and the [FERC]. ComEd believes that, as designed by the Illinois Legislature, a free market for electric generation will lead to ample capacity at reasonable prices. A critical feature of restructuring is the availability of new privately developed electric generation to meet the State's increasing demand for power. No longer will the customers of a utility be at risk that too much generation will be built, resulting in high rates based on the cost of building it.

ComEd stated that "local governments possess substantial control over the process of siting non-utility generation." ComEd claimed that "[n]ew or more stringent regulation is not warranted." ComEd stated that "[w]hereas California has maintained tight regulatory control over wholesale prices and the approval of new generation, Illinois has allowed prices in a free market to determine what generation needs to be built."

ComEd asserted that additional peak generating capacity is good for Illinois. ComEd stated that "peak load is increasing substantially from year to year. * * * Because electricity cannot be stored, and must therefore be generated at the instant it is demanded, there must be enough generating capacity available to meet the peak load."

ComEd stated that "[i]t is important for Illinois citizens and consumers that many of these new peaker plants be located in Illinois . . . [for] [t]hree key reasons":

> 1. Illinois peakers will benefit Illinois consumers. * * * As the price of electricity in the future depends increasingly on market forces, keeping prices down in the face of increased demand requires more generation, and generation by a diverse group of electric producers. A large number

of sellers directly connected to an Illinois utility's transmission grid, will keep the price of electric power from jumping rapidly.

2. Illinois peakers promote reliability. Local generation helps support voltage on the system, especially near the generator. * * * The closer a generation source is to the load, the fewer potential problems there are with transmitting the power.

3. Distant peakers are not just as good. * * * Only so much power can be transmitted through a given line; at some point, to keep the lines from overloading, a transmission owner must turn down requests to transmit more power or curtail other transactions. * * * There have already been numerous instances on which transmission requests were denied. This is especially true during peak load conditions. It is therefore incorrect that either Illinois can depend heavily on generation in other states, or that Illinois-based generation will be used to supply huge amounts of load in other states. Unless or until massive new transmission line projects redefine the transmission grid, this condition will remain for the foreseeable future. And, regardless of interstate transmission availability, distant generation cannot support voltage on the local system to the same extent that local generation can. [citations omitted]"

ComEd asserted that environmental regulation should not unduly inhibit and frustrate the power market developed by the legislature. ComEd claimed:

> [T]he Legislature has entrusted the emerging free market for electric power to cause the appropriate amount of new generation to be built. This scheme will not function as the Legislature intended if Illinois' environmental regulatory scheme is changed unreasonably. The Board must realize that restrictions on peaker plants will reduce the supply of electricity generated and available to consumers.

ComEd stated that peaker plants are not different from other industrial facilities in Illinois so as to require more stringent regulation. ComEd maintained that "a well-designed peaker plant easily complies with all applicable federal and state environmental requirements and poses no significant environmental threat to the surrounding community."

"As to siting the new peaker plants," ComEd claimed:

> [T]he current system is clearly working . . . . [U]nlike a state-regulated public utility, a private developer must fit its new plant into the zoning and siting scheme of the neighborhood it chooses. Municipalities are well aware of how to use their zoning power and have substantial discretion to grant or deny zoning changes or variances. For this reason, some plants have obtained approval, while numerous other plants have been turned down. (The latest example:

> since the first hearings before the Board in this docket, the Board of Trustees of the Village of Libertyville rejected a zoning request for a new peaking plant.) So, the current situation does not demand an overhaul of the siting mechanism. Certainly, a time-consuming, expensive, bureaucratic process would discourage independent power from locating in Illinois.

ComEd stated that it is unnecessary to address applying new regulations retroactively "because no new regulations are needed." ComEd added, however, that "retro-fitting equipment is terribly expensive, and would be unfair considering that the facilities met the regulations pursuant to which they were permitted."

ComEd concluded that "in California, a slow bureaucratic process has kept construction of independent power plants to a minimum even though the electric industry has been restructured."

PC 165—Mr. Urbaszewski on behalf of ALAMC and IEC

Mr. Urbaszewski stated:

> At the hearing on October 5, 2000[,] . . . there was a request from the Board to provide more information on the estimated number of premature deaths in Illinois due to the effects or airborne [PM] . . . . [A] report published by [NRDC] in 1996 . . . [is] the source of the number of 60,000 premature deaths nationwide due to [PM], as well as being the source of information on deaths in the Chicago Metropolitan area . . . . The name of the report is BREATHTAKING: Premature Mortality due to Particulate Air Pollution in 239 American Cities.

Mr. Urbaszewski reported that, "[f]or the Chicago Metropolitan Area[,] the estimated number of premature deaths was a . . . range from 2075-4759, with a midpoint estimate of 3479. In our original testimony, I stated that the number of premature deaths due to particulate levels was over 2000."

Mr. Urbaszewski stated that the "report includes such estimates for eight metropolitan areas in Illinois. It does not include any figures for rural Illinois counties . . . . Our testimony indicated that there were over 3000 premature deaths statewide. The actual total from the eight metropolitan areas in the report was a range of 3052-7020 with midpoint of 5124."

ALAMC and IEC provided:

> A new report released in mid-October, 2000 that documents the connection between premature deaths and emissions from power plants nationwide. This study, The Particulate-Related Health Benefits of Reducing Power Plant Emissions by Abt Associates also breaks down the estimates of premature deaths by state and metropolitan areas." The summary of the Abt report is titled

> "Death Disease & Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants. Power plant emissions alone are associated with 1,700 premature deaths annually in Illinois, as well as 1,110 hospitalizations and 33,100 asthma attacks. Numbers for the Chicago Metropolitan Area are 995 premature deaths, 648 hospitalizations and 21,400 asthma attacks.

ALAMC and IEC "urged the Board to begin an inquiry into the threat to public health presented by existing coal-fired power plants. These plants are grand-fathered out of ever meeting modern emission standards and now emit the vast majority of [SO_2] emissions statewide—emissions that form airborne fine [PM] less than 2.5 microns (PM 2.5)."

ALAMC and IEC claimed that "[i]t is important to note that while the PM 2.5 standard is the subject of litigation before the Supreme Court, the health effects of PM 2.5 are not at issue. Even the District of Columbia Circuit Court of Appeals, the body that sent the case to the Supreme Court, agreed that the science shows there is a problem."

ALAMC and IEC "would like to correct a statement [at Tr.2 at 105-106], which states the number of people with lung disease in Cook County is 'over 14,000 people.' It should read 'over 400,000 people.'"

PC 166—Ms. Carol Dorge, LCCA

The Peaker Plant Industry

LCCA stated:

> The peaker plants that have been the subject of these hearings are natural gas fired [EGUs]. Some are also being permitted to use diesel fuel as an alternate fuel. Since these hearings commenced, in August, the number of peaker plants seeking air pollution permits from IEPA has grown from around 45 to over 60. Each plant has multiple turbines-usually three or more. We estimate their combined generating capacity to be 27,500 MW and their combined emissions (NO_x) to exceed 20,000 tons.

LCCA continued:

> The Board . . . need[s] to look at the numbers and recognize the reality. First, the fact that [it] is a big new industry and a real industry, and is not designed to serve only peak demand as peakers have in the past. Second, the fact that deregulation of the electric power industry, and relatively lax environmental regulations and local siting have contributed to an explosion in the number of plants choosing Illinois, over other states.

LCCA claimed:

> Simple cycle turbines are not "energy efficient" energy producers and they will contribute significantly to the ozone problem in Illinois and Wisconsin. These plants generate fewer jobs and less tax revenue than other types of industry. They take up large tracts of land. Most of the electricity they produce will be sold to out-of-state customers, and we can expect higher electric prices, and higher natural gas prices. There are few discernable benefits. Most of the municipalities that are approving these facilities are being enticed by financial incentives, through host agreements, or threatened by lawsuits.

LCCA stated that Illinois:

> [I]s currently issuing permits which would allow these sources to emit roughly 20,000 tons of NO_x (estimated), when the state's air regulations and SIP proposals project a NO_x demand for new sources of 1500 tons. Noise is a problem. The transportation and storage of millions of gallons of diesel fuel through and adjacent to residential areas is a problem. We are already observing clustering of facilities. Their combined impact needs to be considered. The state should be proactive and adopt regulations addressing these environmental impacts.

Air Permit Procedures Need to be Strengthened

LCCA commented:

> Almost all of these plants approach or exceed major source thresholds for NO_x, CO, VOM and toxics. [W]e note that facilities are being permitted to emit a wide range of emissions. Emissions of NO_x range from 2.5 ppm to over 40-55 ppm-even plants that are major and subject to BACT. Some of these plants are admittedly major, and subject to PSD and BACT. LCCA believes that even the sources being permitted as major sources are being allowed to emit far more air pollution than BACT should allow.

LCCA claimed that "[i]t is well known that pollutant emissions from combustion processes are higher during periods of start-up (and possibly shut-down)." LCCA also claimed that "IEPA has not been requiring applicants to obtain reliable emissions data from the manufacturers and include the information in their application."

LCCA stated that "[m]any of these plants are being permitted as synthetic minors with emissions of NO_x and CO approaching major sources thresholds. We believe these sources would be major, if all emissions (including emissions during startup) were properly accounted for. IEPA should establish standardized procedures for calculating emissions."

LCCA claimed that "permits are not being issued based on good engineering data" and that "[c]onstruction permits allow these plants to operate for a whole season (180 days) before demonstrating an ability to comply with permit limitations."

LCCA stated that the following items should be a part of every permit application:

- "Identity of the real operator and a demonstration of ability to operate, maintain and decommission the facility;"
- "Information on the duration and expected frequency of startup and shutdown, and emissions of all pollutants during startup;"
- "Information regarding emissions of toxics during normal operation;"
- "Good operating practices for their units;"
- "Information regarding operating factors;"
- "Standard procedures for calculating emissions during normal operation;"
- "Identification of monitoring procedures available to monitor all conditions impacting emissions;"
- "Modeling, including a demonstration that the facility will not contribute to the ozone non-attainment problem.;"
- "Offsets;"
- "[O]perator training;" and
- "Contractual warranties."

LCCA stated that "[t]hese facilities should install LAER, and every effort should be taken to prevent backsliding, particularly in the case of NO_x and VOM emissions. The NSPS (at around 75 ppm NO_x) is over 20 years old and grossly outdated. The Board should declare all of these sources "major" for purposes of all air regulations."

<u>These Sources Will Cause Nonattainment of the Ozone Standard</u>

LCCA reported:

> IEPA showed us, through modeling, that the combined impact of the roughly 45 plants in the pipeline would cause exceedences of the ozone standard, at least at Wisconsin locations. We also note that the Illinois attainment demonstration for ozone appears to account for roughly half of the plants that are being permitted, and does not account for additional plants that may be proposed. * * * These new sources are not currently securing offsets. Only a few of the proposed

sources will utilize LAER. It will not be technically feasible for these sources to reduce their emissions to 1500 Tons or to purchase the necessary allowances from Illinois sources. They will be purchasing allowances from out-of-state sources, while continuing to emit high levels of NO_x, in Illinois. Any regulatory initiative should include incentives designed to reduce levels of NO_x emitted within the state. There should be incentives which encourage the purchase of offsets from Illinois sources.

NO_x Waiver

LCCA stated that the "NO_x waiver should be lifted."

Noise

LCCA recommended that "[t]hese applicants should be required to hire noise experts and demonstrate noise will be controlled, before these plants are built."

Water Use

LCCA believes that "the state should adopt regulations governing water usage and that this should also be subject to review in a permit proceeding."

Water Discharge

LCCA acknowledged that the "NPDES program may adequately address concerns associated with water discharges, including storm water discharges, however, this should also be made part of the record in the permitting process."

Spills and Releases

LCCA claimed that "[c]itizens are extremely concerned about the possibility of spills, releases and possible explosions associated with peaker plant operations" and that "[n]o state agency has responded to those concerns."

Environmental/Engineering Review/Permitting

LCCA recommended "a state level environmental/engineering review and peaker plant permitting process which takes into account all of the environmental impacts associated with these plants, and imposes requirements to mitigate all environmental impacts. The permit applicant should include a financial demonstration of some sort, and a decommissioning plan."

Complete Application

LCCA also recommended that "[w]hen an application is truly complete, [IEPA] should issue Notice of Receipt of a Complete Permit Application to all parties to the permit proceeding."

Siting

LCCA believes "that there is also a need for some state involvement in siting in some, but not all cases."

LCCA's Siting and Permitting Proposal

LCCA's proposal includes:

- "Local siting and zoning approval;"
- "State siting approval may also [be] required;"
- "All property owners located within 2500 feet of the property line of a proposed facility should be provided with notice of the air permit application and peaker permit application;"
- "Any person could ask[] to be placed on the notice list and request service of all application materials;"
- "Hearings will be held upon the request of any party;"
- "Any party to a permit proceeding could appeal any permit that was issued;" and
- "[W]e feel an 'SB 172' type proceeding is warranted."

Questions That Governor Ryan Posed

Do peaker plants need to be regulated more strictly than Illinois' current air quality statutes and regulations provide? LCCA stated:

> The answer is an unequivocal yes. They should be subject to LAER, MACT, [and] the ERMS program. Existing emission standards—particularly the NSPS—are terribly outdated. The regulations should also better define permit application requirements. * * * There must be a way to account for the combined contribution of these facilities, to the ozone problem. A noise standard should be adopted. Siting regulations are needed. * * * Storm water permits should also be required. The combined effect of these facilities needs to be considered.

Do peaker plants pose a unique threat, or a greater threat than other types of State-regulated facilities, with respect to air pollution, noise pollution, or groundwater or surface water pollution? LCCA answered: "Yes, based on the . . . number of units that have been proposed and their combined emissions."

Should new or expanding peaker plants be subject to siting requirements beyond applicable local zoning requirements? LCCA answered: "Absolutely. Local zoning is not adequate, particularly where facilities are sited near a municipality's boundary and near residential areas."

If the Board determines that peaker plants should be more strictly regulated or restricted, should additional regulations or restrictions apply to currently permitted facilities or only to new facilities and expansions? LCCA answered: "The regulations will only be effective if they are retroactive, to cover sources whose applications are pending, who have not commenced construction as of today."

PC 167—Mr. James R. Monk, President, IEA

IEA "is a trade organization representing investor-owned electricity and combination electricity and natural gas companies serving customers in the State of Illinois."

Do peaker plants need to be regulated more strictly than Illinois' current air quality statutes and regulations provide?

IEA answered:

> No. No credible evidence has been presented that would justify more restrictive statutes or regulations for peaker plants than is already imposed on such plants. Existing and newly proposed rules and regulations regarding nitrogen oxide emissions provide stringent emission control requirements to safeguard the health and welfare of Illinois citizens. The permitting process sufficiently guarantees that these plants will not pose air quality problems for the localities in which they are operated. * * * Illinois regulators have yet to receive even the first noise-related complaint regarding those peaker plants that have already been constructed and are operating under approved permits.

Do peaker plants pose a unique threat, or a greater threat than other types of State-regulated facilities, with respect to air pollution, noise pollution, or groundwater or surface water pollution?

IEA answered: "No. * * * [S]ingle-cycle peaker plants create little in the way of [NO_x] emissions or noise and use very small amounts of water. Larger combined-cycle plants are already held to higher standards under existing rules and regulations."

Should new or expanding peaker plants be subject to siting requirements beyond applicable local zoning requirements?

IEA answered: "No. * * * [L]ocal zoning authorities are on top of this situation and are exercising their extensive power. * * * [T]he State does not know and should not attempt to tell local zoning authorities what is best for their respective communities in the form of new state siting requirements."

If the Board determines that peaker plants should be more strictly regulated or restricted, should additional regulations or restrictions apply to currently permitted facilities or only to new facilities and expansions?

IEA answered:

> It would be patently unfair to apply any new, stricter rules or regulations to those facilities that have already been approved through the existing permitting process. To change those rules after the fact could have a tremendous chilling

effect on possible new investment to meet the state's growing demand for electricity. Such actions could also be perceived by potential investors in other similar industries as a sign of uncertainty in Illinois public policy.

How do other states regulate or restrict peaker plants?

IEA responded that "[n]o patterns have emerged in other states in this regard . . . . [W]hile we certainly should not ignore how other states deal with the peaker plant construction issue, we should not place too much emphasis on those states because they are not similarly situated in this regard."

General Comments

IEA said that "peaker plants cannot and should not be viewed only in the context of the environmental issues that are the crux of this inquiry," but instead should be viewed in light of "the broader public policy issue of how to supply safe, reliable, and affordable energy for the citizens of our state."

IEA continued: "Reliable electricity and affordable electricity are inextricably linked in our new deregulated power supply industry." Illinois must "make sure that the lights stay on even at times of peak demand" and provide for "affordable electricity prices . . . . [T]he only way to meet these twin goals in the near future is through the additional electricity capacity supplied by peaker plants."

Conclusion

IEA believes that "the record in this inquiry shows that there is no necessity for more strict regulation of peaker plants in our state."

PC 169—Mr. Evan L. Craig, Group Chair, Sierra Club Woods & Wetland Group (SCW&WG), Vernon Hills

These comments supplement those that Mr. Jack Darin submitted on behalf of the Sierra Club, Illinois Chapter. SCW&WG claimed that the "present reliance on local citizens to be experts is extremely taxing. * * * We need more help protecting our environment, and we expect more from our IEPA."

SCW&WG is bothered by "[f]rivolous applications. They're all the same. They are usually incomplete. They are all recommended by IEPA for approval." SCW&WG stated: "We've suffered from Grandfathered Coal. And then the NO_x Waiver. Those should stop. They should not be replaced by a new loophole: synthetic minors."

SCW&WG said that peaker plants "are compared to coal as cleaner, but we're being asked to accept peakers AND coal plants. Neither should be justified by comparison to the other unless one truly replaces the other." SCW&WG claimed that "[n]ew plants are not

needed until other measures have been exploited: Conserve, then Cogeneration on existing plants, then Renewable Energy, then, last of all fossil plants."

SCW&WG asserted that "[w]e need more comprehensive regulations of energy sources that considers the aggregate and various environmental burdens of each."

PC 170—Mr. Stephen Brick, Director, External Relations and Environmental Affairs, PG&E

PG&E stated that "the sheer number of plants being simultaneously permitted creates an unprecedented situation. * * * It is critical that a balance be struck between the pressing need for new sources of electricity and the desire to maintain and improve environmental quality."

Need for the Plants

PG&E commented:

> The testimony in the record supports the need for additional sources of generation to serve need in Illinois and elsewhere. * * * By the passage of the state's restructuring law, Illinois determined that the best way to encourage additional plant development is through market mechanisms. * * * [A] regulatory process would hamper the newly created competitive market.

Local Land Use Control

PG&E said that "[d]ecisions concerning the suitability of a proposed project should ultimately be left to the affected jurisdiction. * * * [T]he local zoning boards can share information and experiences, and we encourage the state to develop a process to facilitate this sort of exchange."

State Environmental Review

PG&E stated: "IEPA issues air permits for power projects. This is generally the most significant state level regulatory approval needed for a power plant." PG&E noted that "[m]ost of the power projects permitted thus far in Illinois have been permitted as synthetic minor sources. * * * [S]ynthetic minors are exempted from the air quality modeling requirements of the . . . PSD program."

PG&E stated:

> Most of the proposed projects . . . have submitted applications that request permits allowing them to emit just up to the major source threshold. * * * [N]umerous developers have requested permits to emit NO_x in the range of 245 to 249 [TPY]. * * * Because Illinois was granted a waiver under Section 182(f) of the [CAA], the major source threshold for NO_x emissions is 250 [TPY]. If

> this waiver were revoked, the threshold would drop to 25 [TPY]. * * * The 182(f) waiver was granted on the presumption that NO_x emission reductions were counter-productive to attaining the ozone standard in certain regions. This has since proven to be untrue, and states are in the process of implementing the SIP call on the assumption that broad, regional reductions of NO_x are needed to attain the ozone standard.
>
> PG&E suggested:
>
> The state could revise its permitting policy, and lower the major source threshold to 25 [TPY] for NO_x. This would greatly increase the credibility of air permits issued for peaking projects. This would provide more information to local communities and regulators on the impacts of proposed projects on local air quality. [IEPA] could also take care to insure that [USEPA] policies are followed in estimating emissions from start-up and shut-down, and to make sure that potential emissions estimates and worst case modeling includes these emissions, when appropriate. Finally, [IEPA] could insure that particulate emissions from proposed projects are being estimated using the required EPA methods that include both front-half and back-half emissions.

Need for a State Administered Siting Process

PG&E stated that a siting process like SB 172 "could have benefits" but "could also pose significant costs and delays that could threaten reliability." PG&E stated that in most states with "comprehensive power facility siting processes, the decisions of the state run boards overrule local jurisdictional authority." This is the situation in "Wisconsin, New York, Massachusetts, Connecticut, California, and Florida, among others. This type of process has cause[d] delays in facilities siting in a number of these states, with delays in California being the most significant."

PG&E stated that siting boards offer power plant developers a "venue in which local concerns can be balanced against other issues. In some cases, siting boards decide to certify a project over the objections of local citizens, deeming a proposed site the best alternative." PG&E added that, "[f]rom the perspective of home political authorities and citizens, . . . such boards have the ability to run roughshod over local preferences."

PG&E made a recommendation:

> A process could be adopted to allow individuals or organizations with standing in a local proceeding to appeal to a state run board for assistance. This could occur if local authorities lack adequate resources to review project proposals, or if citizens or developers feel that a local process has produced an inappropriate result. The board could promulgate siting criteria in advance that would be applied to cases brought before the board. We believe the [Board] would be the appropriate agency in which to locate such authority.

PC 171—Ms. Freddi Greenberg, Executive Director and General Counsel, MWIPS

MWIPS is "an organization of leading competitive power suppliers with a common interest in promoting full and fair competition in the electric industry in the Midwest." MWIPS claimed that the "record in this proceeding strongly supports the conclusion that the present regulatory framework functions well and that peaker plants do not pose a unique threat to the environment."

Should peaker plants be more strictly regulated regarding air quality?

MWIPS stated that IEPA "testified that peaker plants comply with existing requirements and do not threaten air quality."

Are peaker plants unique with respect to pollution?

MWIPS claimed "[t]hey are not. Other industries emit NO_x, use water, discharge waste water and produce noise." Peaker plants' "impact on the environment is minimal."

Should peaker plants be subject to siting requirements beyond local zoning?

According to MWIPS:

> The answer to that question is "no." * * * The local process allows consideration of the issues that are unique to each situation. * * * [L]ocal zoning boards have the ability to address the issues raised with respect to a proposed plant. * * * To the extent that a community might desire assistance with respect to the siting of peakers, mechanisms to provide that assistance can be fashioned without creating mandatory statewide siting. An example would be the establishment of a statewide clearinghouse for studies and data developed through local siting processes.

Should any new regulations be applied retroactively to existing plants?

MWIPS maintained that "[t]he answer must be a resounding 'no.' A contrary result would be inherently unfair, not only to owners of peakers, but to owners of other existing industrial installations that also would be affected by a retroactive rule."

How do other states regulate peaker plants?

MWIPS claimed that "various approaches are employed with no clear pattern. * * * [D]elays in California's process for permitting electric generation have held up the construction of $10 billion worth of new generation."

Air Quality

MWIPS stated:

> The record in this proceeding overwhelmingly demonstrates that concerns over the impact of peaker plants on air quality are adequately addressed through existing regulation. [IEPA] requires each peaker applicant to conduct an air quality analysis of ambient impacts associated with the construction and operation of the peaker. * * * [T]hey assess whether emissions from a proposed source in conjunction with existing sources will not contribute to a violation of applicable NAAQS or PSD. * * * [IEPA] testified that modeling demonstrated that the impact of permitted and proposed peaker plants will not interfere with the ability to attain the ozone NAAQS.

MWIPS noted that IEPA also indicated that revoking the NO_x waiver "would have broad ramifications and that the waiver should not be revoked."

Water

MWIPS said that peaker plants "have two possible impacts on water resources: water usage and discharge of wastewater. The record has not demonstrated the need for further regulation in either regard."

MWIPS claimed that peaker plants "generally don't place as much pressure on local water supply as many other industries or activities" and that the WRAC "is in the process of analyzing the need for new laws or regulations to govern water usage in Illinois." MWIPS referred to Chairman Manning's October 25, 2000 letter to the WRAC (see Appendix G of the Report).

Noise

According to MWIPS, IEPA's Mr. Zak testified that "Illinois regulates noise more strictly than other states" and that IEPA "has received no complaints regarding noise from existing peaker plants." MWIPS stated that "the reasonable conclusion is that no further regulation is needed with respect to noise."

Peaker Plants Are Needed to Protect Reserve Margins

MWIPS claimed that "[p]rojected reserve margins for the years 2001, 2002 and 2003, taking into account capacity from existing peaker plants, but excluding capacity from proposed peakers are estimated at 13%, 11% and 10%, respectively, [are] substantially below the minimum industry standard."

Peaker Plants Will Benefit the State and Local Communities

MWIPS stated that "utilities have not built new capacity for a number of years during which there has been significant economic growth." MWIPS continued:

> [A] peaker plant is most profitable when its output is sold within the local electric grid. * * * [T]he most reliable manner of assuring adequate electric supply is to locate the plant within the utility transmission system where the electricity will be consumed. There may be times, however, when the output of a peaker plant is sold other than to meet local electric needs. * * * [A] developer who desires to meet capacity needs in another state has every incentive to build generation in the state where the plant's output will be consumed.

Conversion from Simple Cycle to Combined Cycle Involves an Additional Process

MWIPS stated that "such a conversion would increase the air emissions from the facility to the extent of requiring a new permitting process. This process would provide an opportunity for public participation."

Conclusion

MWIPS concluded that the "[t]estimony before the Board establishes that the present regulatory framework functions effectively."

PC 172—Sierra Club, Illinois Chapter

Sierra Club is concerned about the effects the proposed plants will have on air and water. Specifically, Sierra Club noted that the plants will consume large amounts of water, and argued that Illinois needs to take an active role in managing water use. It proposed that State approval should be required for any new withdrawal from surface or groundwater sources exceeding 10,000 gallons per day.

Sierra Club is concerned that the discharges from the plants could significantly degrade the habitat of a smaller stream by changing the flow regime. It argued that strong antidegradation rules should be adopted to protect the streams against the discharges.

Sierra Club urged Illinois to reconsider the current exemption of new pollution sources in the Chicago [NAA] from RACT requirements. It also recommended adopting more protective emission standards for the plants.

Sierra Club supports a moratorium on permitting and constructing new plants, to allow time to examine the policies that are drawing peaker plants to this State.

PC 173—Mr. Gerald Erjavec, Manager, Business Development, Indeck

Indeck argued that peaker plants do not need to be regulated more strictly than Illinois' current air quality statutes and regulations provide. It noted that State and federal programs tightly regulate air emissions from the plants. Indeck also argued that NO_x emissions from the plants are the lowest emitters of NO_x per kWh produced, when compared to other means of electrical production. Additionally, Indeck argued that the technologies mentioned at the hearings, that have the potential to reduce the minimal amounts of NO_x, have not been adequately proven on a commercial-sized scale. Most developers will not risk committing to a permit that relies on these technologies to comply.

Regarding water concerns, Indeck argued that the record shows that technology exists to reduce the amount of fresh water the plants require. Indeck commended the Board for referring deliberations on water use impacts to the WRAC.

Indeck argued that no further noise regulation is necessary. It relied on IEPA's report that it has not received a complaint regarding noise from the peaker plants that have existed since 1965.

Indeck asserted that little to no testimony was offered that compares the impacts of other State-regulated facilities to peaking facilities. It argued that peaker plants have impacts that are equal to or less than many other facilities that have no additional regulatory requirements. It believes that if additional regulation of peaker plants is considered, the State should also increase its oversight of most other industries.

Indeck argued that peaker plants should not be subject to siting requirements beyond applicable zoning requirements. It noted that most local zoning codes allow for uses that are more intensive than a peaking plant in one or more zoning classifications. It asked that if any alternate process is considered, it should be one that restricts the decision-making to facts in the record.

Indeck argued that a period of regulatory certainty is necessary to allow the industry to move forward. If there is any change in regulations and restrictions, those should be evenly applied to all other industries in the State.

Indeck commented that the process of regulating peaker plants in other states varies. It noted that other states have a process like Illinois' process—one or two local agencies handle the local issues and the State handles the state and federal issues.

In closing, Indeck asserted that the majority of the testimony did not address Governor Ryan's questions for the inquiry hearings, but instead addressed the "evils" of peaker plants.

PC 186—Mr. Ersel C. Schuster, McHenry County Board

Mr. Schuster stated that he supports the concepts and suggestions offered by Mr. Zak,

Mr. Urbaszewski, Dr. Winstanley, Ms. Turnball, Mr. Romaine, Ms. Zingle, Dr. Overbye, and others. His comment focused on enforcement. He argued that his board does not have the authority, technical expertise, or financial ability to ensure that the operator of a peaker plant is complying with the regulations. He argued that local officials must have a means to effectively enforce against these operations.

PC 187—Ms. Katherine Hodge and Ms. Karen Bernoteit, Hodge & Dwyer/IERG

IERG argued that the need for additional regulations, or lack thereof, depends on whether the goals of air pollution control are, or are not, being achieved. To determine whether the goals are being achieved, it contended one must look at the potential effect of peaker plants on ambient air quality standards and PSD increments. Citing the testimony of IEPA's Mr. Kaleel, IERG argued that the results of IEPA modeling shows that the natural gas-fired peaker plants permitted thus far will not threaten the NAAQS or PSD for NO_2, PM 10, SO_2 and CO. Based on this testimony, and absent evidence to the contrary, IERG declared that there is no need for additional controls.

IERG argued that the record shows that peaker plants do not pose a unique or greater threat than other regulated facilities, regarding air pollution. It noted that Mr. Zak, noise advisor for IEPA, testified that IEPA had not received any noise complaints regarding existing peaker plants. IERG supports providing the WRAC with a summary of all water-related issues; and believes that it would be inappropriate for the Board to make any recommendations regarding water issues at this time. IERG referred to Chairman Manning's October 25, 2000 letter to the WRAC (see Appendix G of the Report).

IERG believes that siting is the crux of the matter. It argued that local zoning should, and can, do the job of siting peaker plants.

IERG argued that there is no need to regulate peaker plants more stringently, and the plants do not pose a unique or greater threat than other regulated facilities.

IERG also stressed that the Board's informational order should precisely define the types of facilities that are the focus of any recommendations to the Governor. IERG noted that during the course of testimony, the scope of the hearings became blurred with discussion regarding combined cycle, co-generation, and base-load facilities. IERG argued that the focus of the hearings was supposed to be natural gas-fired peaker plants, not all power generation facilities. It wants the definition of peaker plants to be clear so that there are no potentially severe and unnecessary impacts on the business community.

IERG further stated that there should not be a concern that there are too many facilities being planned, or permitted, or constructed, relative to the demand for peak power. IERG argued that if too many peaker plants are built, only those willing to produce the needed power at the lowest possible cost will operate. The competitive marketplace will address the situation.

PC 189—CCLC and Liberty Prairie Conservancy

This comment offered a list of suggestions for IEPA to follow when a peaker plant seeks a permit, including:

- IEPA should maintain, both on the Web and hard copy, data regarding existing capacity, projected need, and detailed projected capacity throughout MAIN;
- Create an additional information form to be completed by each applicant;
- Post all permit applications on the Web; and
- Develop new air modeling parameters based on the proposed months during which the facilities will operate, not on annual averages.

PC 190—Mr. LaBelle, Ms. Cole, Ms. Carter, Lake County Board Members

This comment provided a number of recommendations for siting requirements, including:

- A moratorium on all pending peaker plant air quality permits until all outstanding peaker plant permitting issues are resolved;
- After current IEPA peaker permits expire, no "un-built" plants will be grandfathered;
- Emissions generated during equipment start-up and shut-down must be regulated differently to optimize emission control;
- The Board or another appropriate agency should govern the regional siting process;
- The impact analysis should not allow pollution outputs to be considered over a 12-month period, but rather a three month period when plants are likely to operate;
- More stringent permitting regulations if the power that the plants generate is sold outside of Illinois;
- The Board should recognize that water supply issues are a major concern and need to be addressed in the permitting process; and
- The Board should require the approved siting agency to work with the Midwest Independent System Operator on locating generation.

PC 191—Ms. Marsha B. Winter of Zion

This comment is in the form of a letter that Ms. Winter sent to Zion Mayor Lane Harrison and members of the Zion City Council. Ms. Winter was angry that neither the Mayor nor members of the Zion City Council attended a peaker plant forum on November 4, 2000. Ms. Winter is also unhappy that citizens who attend Zion City Council Meetings are not given the opportunity to address the peaker plant issue.

Ms. Winter claimed that Zion residents do not want the proposed peaker plants because they pollute and generate noise. She also claimed that Zion does not have the capacity to supply the proposed peaker plants with the water that they need (2 million gallons per day). Ms. Winter stated that proposed peaker plants would violate Zion zoning codes as well.

Ms. Winter alleged that the proposed peaker plants are "hideous eyesores" that will decrease property values. She also alleged that they will negatively impact public health.

PC 192—Mr. Ken Bentsen of Sugar Grove

Do peaker plants need to be more strictly regulated than Illinois' current air quality statutes and regulations provide?

Mr. Bentsen stated that peaker plants need to be more strictly regulated than current Illinois air quality statutes and regulations provide. He said that the State must examine all of the peaker plant applications together to determine the impact on air quality, especially air quality in the Chicago NAA.

Mr. Bensten asserted that peaker plants pose a unique threat or a greater threat than other State-regulated facilities with respect to groundwater. Mr. Bentsen is concerned that a peaker plant proposed for Big Rock would use groundwater that citizens currently use. He stated that the permitting process should be conducted with great caution and information on the proposed peaker should be made publicly available.

Mr. Bentsen asserted that peaker plants should be subject to siting requirements beyond local zoning: "The [p]eaker [p]lant proposed for Big Rock Township would be located right in the middle of agricultural land and is inconsistent with the Kane County 2020 plan." The State should have a policy for siting peaker plants on brownfields as opposed to farmland, according to Mr. Bentsen.

Mr. Bentsen also wants the State to impose a moratorium on granting air permits until the NO_x SIP call is completed.

PC 194—Mr. Ralph N. Schleifer of Kaneville

Mr. Schleifer maintained that peaker plants need to be more strictly regulated than Illinois' current air quality statutes and regulations provide. The cumulative effects of all of the peaker plant proposals need to be considered on the Chicago ozone NAA.

Mr. Schleifer asserted that the proposed Big Rock peaker plant would compete with residents there for use of groundwater. Mr. Schleifer asked the State to impose a moratorium on granting air permits until the NO_x SIP call is completed.

PC 195—Ms. Marci Rose of Big Rock

Ms. Rose recently moved to Big Rock from Wheaton, and did not find out about the proposed peaker plant for Big Rock until after she and her family moved. Several of her children have respiratory diseases (asthma, allergies, bronchitis) and they moved to Big Rock for its clean air. Ms. Rose is "sure there is somewhere else this power plant can be put." Ms. Rose also attached a copy of a form letter that others filed in these proceedings.