

**BEFORE THE  
PUBLIC SERVICE COMMISSION OF WISCONSIN**

Application of Wisconsin Power and Light Company  
d.b.a. Alliant Energy for Authority to Construct a  
New Coal-fired Electric Generation Unit Known as  
the Nelson Dewey Generating Station in Cassville,  
Grant County, Wisconsin

Docket No. 6680-CE-170

**AFFIDAVIT OF KIRA E. LOEHR IN SUPPORT OF THE  
CITIZENS UTILITY BOARD'S MOTION TO COMPEL**

State of Wisconsin     )  
                                      ) ss.  
County of Dane         )

Kira E. Loehr, being first duly sworn on oath, states and affirms as follows:

1. I am an attorney licensed to practice law in the State of Wisconsin, and I am an associate at the law firm of Cullen Weston Pines & Bach LLP. I am one of the attorneys representing the Citizens Utility Board of Wisconsin (CUB) in the above-captioned proceeding, and I make this affidavit in support of the Motion to Compel.

2. Attached as Exhibit A to this affidavit is a true and correct copy of an e-mail dated March 10, 2008 from my former administrative assistant, Renae Schroeder, to (*inter alia*) attorneys for the Company, Thomas Pyper and Ritchie Sturgeon, enclosing CUB's first requests for production of documents.

3. Attached as Exhibit B to this affidavit is a true and correct copy of CUB's first requests for production of documents served by e-mail on March 10, 2008.

4. On or about April 8, 2008, Cindy Buchko, an attorney for WPL, contacted me seeking a three-week extension of time to respond to CUB's first requests for production.

5. Attached as Exhibit C to this affidavit is a true and correct copy of an e-mail I sent to Cindy Buchko on April 8, 2008.

6. Attached as Exhibit D to this affidavit is a true and correct copy of an e-mail I received from Cindy Buchko on April 14, 2008 containing WPL's objections and written responses to CUB's requests. WPL objected to all but four of CUB's requests. The requests to which WPL did not object were 1-CUB/RFP-7; 1-CUB/RFP-10; 1-CUB/RFP-27; and 1-CUB/RFP-28.

7. Attached as Exhibit E to this affidavit is a true and correct copy of WPL's objections to requests 1-CUB/RFP-11 through 1-CUB/RFP-16 and 1-CUB/RFP-18 through 1-CUB/RFP-20.

8. Beginning April 18 and continuing to April 23, 2008, CUB received CDs, DVDs, and an external hard drive containing documents from WPL labeled responsive to CUB's requests. Attached as Exhibit F is a true and correct copy of a letter I received from Cindy Buchko on April 23, 2008 enclosing the external hard drive containing documents responsive to 1-CUB/RFP-11 through 1-CUB/RFP-16. Attached as Exhibit G is a true and correct copy of a letter I received from Ms. Buchko on April 18, 2008 enclosing a DVD containing documents responsive to 1-CUB/RFP-18 through 1-CUB/RFP-20.

9. The external hard drive I received from WPL contained over 3,000 pages of documents labeled responsive to requests 1-CUB/RFP-11 through 1-CUB/RFP-16. My assistant and I reviewed the documents WPL produced that were responsive to these requests. Many of the documents were redacted. There were black squares over hundreds and hundreds of pages in these documents. Attached as Exhibit H (confidential) is a true and correct copy of a representative sampling of the confidential documents that were redacted. In some instances,

entire pages were completely blacked out. Exh. H, Bates No. WPL 68389 – WPL 68416. In other instances only certain lines were blacked out. Exh. H, Bates No. WPL 68943 – WPL 68956. In at least one document (103 pages), the title page and all identifying information was blacked out and the first readable page does not appear until page 43. Of the 103 pages in that document, only five were not redacted. Exh. H, Bates No. WPL 67838 – WPL 67926. The redacted documents are all labeled confidential and are subject to the confidentiality agreement CUB and WPL entered into on March 5, 2007.

10. The DVD I received from WPL containing responses to 1-CUB/RFP-18 through 1-CUB/RFP-20 contained one 89-page document with all but six pages completely redacted. The document was labeled confidential and is subject to the confidentiality agreement between CUB and WPL. Attached as Exhibit I (Confidential) is a true and correct copy of the redacted document responsive to these requests.

11. Attached as Exhibit J is a true and correct copy of the confidentiality agreement CUB and WPL entered into on March 5, 2007.

12. Attached as Exhibit K is a true and correct copy of an e-mail, with attachments, that I sent to Tom Pyper on May 7, 2008 regarding WPL's redacted responses.

13. Attached as Exhibit L is a true and correct copy of an e-mail I received from Mr. Pyper on May 15, 2008 responding to my e-mail of May 7, 2008.

Dated this 21<sup>st</sup> day of May 2008.

*/s/ Kira E. Loehr*

---

Kira E. Loehr

Subscribed and sworn to before me  
this 21<sup>st</sup> day of May 2008.

/s/ Heidi K. Buttchen

Notary Public, State of Wisconsin  
My Commission expires: 12/13/09

**From:** Renae Schroeder  
**To:** Pyper, Thomas; Sturgeon Ritchie  
**CC:** Dums, Dennis; Hill, Stephen (Steve); Loehr, Kira; Pawlisch, Curt; Sc...  
**Date:** 3/10/2008 5:01 PM  
**Subject:** 6680-CE-170 CUB's First Requests for Production of Documents to WPL  
**Attachments:** First RFP.doc

To: Tom Pyper  
Ritchie Sturgeon  
From: Curt F. Pawlisch  
Kira E. Loehr  
Date: March 10, 2008  
Re: Citizens Utility Board's First Requests for Production to WPL  
Docket No. 6680-CE-170

In recent proceedings, Administrative Law Judge Edward Marion has strongly encouraged parties to move away from data requests toward requests for production of documents and interrogatories. To that end, please find CUB's First Requests for Production of Documents to WPL in the above-referenced proceeding.

At the earliest possible date, please provide electronic responses to these requests to the following individuals:

Dennis Dums: [dums@wiscub.org](mailto:dums@wiscub.org)  
Curt Pawlisch: [pawlisch@cwpb.com](mailto:pawlisch@cwpb.com)  
Kira Loehr: [loehr@cwpb.com](mailto:loehr@cwpb.com)  
David Schlissel: [dschlissel@synapse-energy.com](mailto:dschlissel@synapse-energy.com)  
Stephen Hill: [hillassociates@gmail.com](mailto:hillassociates@gmail.com)

If certain responses to these requests cannot be provided electronically, please provide those responses in hard copy or CD format to the following individuals:

Mr. Dennis Dums  
Citizens Utility Board  
16 North Carroll Street, Suite 530  
Madison, WI 53703

Mr. Curt Pawlisch  
Ms. Kira Loehr  
Cullen Weston Pines & Bach LLP  
122 West Washington Avenue, Suite 900  
Madison, WI 53703

Mr. David Schlissel  
Synapse Energy Economics, Inc  
22 Pearl Street  
Cambridge, MA 02139

Mr. Stephen Hill (US Mail address)  
Hill Associates  
PO Box 587  
Hurricane, WV 25526

4000 Benedict Road (Overnight Delivery address)  
Hurricane, WV 25526

If you have questions regarding this request for production, please contact me at 608-251-0101, or by email at [loehr@cwpb.com](mailto:loehr@cwpb.com)

Thank you.

Kira E. Loehr

Renae Schroeder

Cullen Weston Pines & Bach LLP  
122 West Washington Ave., Suite 900  
Madison, WI 53703  
E-Mail- [schroeder@cwpb.com](mailto:schroeder@cwpb.com)  
Office- (608) 251-0101  
Fax- (608) 251-2883  
[www.cwpb.com](http://www.cwpb.com)

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**BEFORE THE  
PUBLIC SERVICE COMMISSION OF WISCONSIN**

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Application of Wisconsin Power and Light Company  
d.b.a. Alliant Energy for Authority to Construct a  
New Coal-fired Electric Generation Unit Known as  
the Nelson Dewey Generating Station in Cassville,  
Grant County, Wisconsin

Docket No. 6680-CE-170

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**THE CITIZENS UTILITY BOARD'S  
FIRST REQUESTS FOR PRODUCTION  
TO WISCONSIN POWER AND LIGHT COMPANY**

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To: Tom Pyper  
[TPYPER@whdlaw.com](mailto:TPYPER@whdlaw.com)

Ritchie Sturgeon  
[ritchiesturgeon@alliantenergy.com](mailto:ritchiesturgeon@alliantenergy.com)

PLEASE TAKE NOTICE that the Citizens Utility Board of Wisconsin ("CUB") requires Wisconsin Power and Light Company ("WPL") to produce the requested documents in accordance with Wis. Stat. § 804.09 and Wis. Admin. Code § PSC 2.24(1).

**DEFINITIONS AND INSTRUCTIONS**

1. These are general instructions. Please refer to the Wisconsin Rules of Civil Procedure and the cases construing them for further requirements.
2. "Documents" means any printed, written, recorded, typed, drawn, taped, electronic, electromagnetic, graphic, photographic, or any other tangible matter or documentary material from whatever source, however produced or reproduced, whether sent or received or neither, whether original, copies, drafts, translations or otherwise, including the original and any nonidentical copy (whether different from the original because of notes made on or attached to such copy or the presence of signatures indicating execution

or otherwise), including but not limited to any and all writings, correspondence, letters, e-mails, telegrams, telex communications, cables, advices, orders, opinions, notes, notations, papers, memoranda, interoffice communications, intraoffice communications, tapes, disks, brokerage account monthly statements, minutes of meetings, recordings or other memorials of any type of personal or business telephone conversations, powers of attorney, meetings or conferences, reports, studies, analyses, evaluations, estimates, projections, forecasts, ledgers, books of account, computer printouts, hard copy printouts, programs, manuals, diaries, calendars, desk pads, appointment books, transcripts, checks, canceled checks, check stubs, checkbooks and financial statements.

3. “Wisconsin Power and Light Company,” “the Company” or “WPL” means that corporation.
4. “PSCW” or “Commission” means the Public Service Commission of Wisconsin.
5. Please answer each request specifically, based upon reasonable inquiry and diligent search of relevant records and other documents and materials, without specific limit. “Reasonable inquiry” for purposes of these instructions includes seeking information in the possession of attorneys, accountants, advisers or other persons directly or indirectly employed by, connected with, under the control of, WPL.
6. Answer each request separately and fully, in writing, unless it is objected to, in which event the reasons for objection must be stated in lieu of an answer. Identify on each response the person who prepared the response and their job title with WPL.
7. In answering each request, please state the text of the request prior to providing the response. Each request and applicable response should be on a separate page. Each request is continuing in nature. Thus, if WPL acquires or discovers additional or



different information with respect to a request after the request has been initially answered, WPL is requested to supplement its response immediately following the receipt of such additional or different information, giving the additional or different information to the same extent as originally requested. Please do not withhold answers to some questions until all questions are answered; furnish them as they become available.

8. If a Microsoft Excel spreadsheet is responsive to a request, please provide an electronic copy of that spreadsheet.
9. Please respond to all CUB requests for production of documents using e-mail and attachments. All responses should be served on:

Curt Pawlisch: [pawlisch@cwpb.com](mailto:pawlisch@cwpb.com)

Kira Loehr: [loehr@cwpb.com](mailto:loehr@cwpb.com)

Dennis Dums: [dums@wiscub.org](mailto:dums@wiscub.org)

David Schlissel: [dschlissel@synapse-energy.com](mailto:dschlissel@synapse-energy.com)

Stephen Hill: [hillassociates@gmail.com](mailto:hillassociates@gmail.com)

If certain responses to these requests cannot be provided electronically, please provide those responses in hard copy or CD format to the following individuals:

Mr. Dennis Dums  
Citizens Utility Board  
16 North Carroll Street, Suite 720  
Madison, WI 53703

Mr. Curt Pawlisch & Ms. Kira Loehr  
Cullen Weston Pines & Bach LLP  
122 West Washington Avenue, Suite 900  
Madison, WI 53703

Mr. David Schlissel  
Synapse Energy Economics, Inc  
22 Pearl Street  
Cambridge, MA 02139

Mr. Stephen Hill (US Mail address)  
Hill Associates  
PO Box 587  
Hurricane, WV 25526

4000 Benedict Road (Overnight Delivery address)  
Hurricane, WV 25526

CUB may request that other individuals be served with responses in subsequent requests.

## **REQUESTS FOR PRODUCTION**

- |              |                                                                                                                                                                                                                                                                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1-CUB/RFP-1  | Provide in electronic ASCII or spreadsheet format the input and output files for each of the EGEAS base case and sensitivity modeling analyses that are discussed or presented in the most recent update of Appendix A Integrated Resource Plan (“IRP”) to the Company’s CPCN Application.                                                             |
| 1-CUB/RFP-2  | Provide in electronic ASCII or spreadsheet format the input and output files for any other modeling analyses that have been prepared by or for WPL since January 1, 2006 (other than those discussed in Appendix A to the CPCN Application) which analyzed, examined or quantified the economics of the NED 3 plant as compared to other alternatives. |
| 1-CUB/RFP-3  | Provide copies of any assessments prepared by or for WPL since January 1, 2000 which examined the potential for energy efficiency in the Company’s service territory.                                                                                                                                                                                  |
| 1-CUB/RFP-4  | Provide copies of any assessments prepared by or for WPL since January 1, 2000 which examined the potential for wind resources and/or other renewable resources in the Company’s service territory.                                                                                                                                                    |
| 1-CUB/RFP-5  | Provide the two most recent LOLP or LOLE studies prepared by or for WPL and/or Alliant Energy Company.                                                                                                                                                                                                                                                 |
| 1-CUB/RFP-6  | Provide the two most recent analyses or assessments of WPL’s required capacity reserve margin.                                                                                                                                                                                                                                                         |
| 1-CUB/RFP-7  | Provide the source documents and workpapers on which WPL has based the fuel costs, capital costs, fixed O&M, variable O&M and other appropriate costs used by WPL in each of the EGEAS base case and sensitivity analyses discussed or presented in the most recent update of Appendix A to the Company’s CPCN Application.                            |
| 1-CUB/RFP-8  | Provide any assessments of future CO2 emission allowance costs prepared by or for WPL and/or Alliant Energy Company.                                                                                                                                                                                                                                   |
| 1-CUB/RFP-9  | Provide copies of any assessments of the potential for federal regulation of greenhouse gas emissions that have been prepared by or for WPL and/or Alliant Energy Company.                                                                                                                                                                             |
| 1-CUB/RFP-10 | Provide copies of any WPL load and energy forecasts prepared since January 1, 2007.                                                                                                                                                                                                                                                                    |
| 1-CUB/RFP-11 | Provide the notes and minutes of any meeting(s) of the Alliant Energy or WPL Board(s) of Directors, and any committee(s) or subcommittee(s)                                                                                                                                                                                                            |

thereof, since January 1, 2005, at which any of the following subjects were discussed:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

1-CUB/RFP-12

Provide the materials used in presentations made at any meetings of the Alliant Energy and/or WPL Board(s) of Directors, and any committee(s) or subcommittee(s) therefore, since January 1, 2005, which addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

1-CUB/RFP-13

Provide copies of any documents provided to the members of the Board(s) of Directors of Alliant Energy or WPL since January 1, 2005, which have addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

1-CUB/RFP-14

Provide the notes and minutes of any meeting(s) of senior management of WPL (including any of the top 5 management personnel) since January 1, 2005, at which any of the following subjects were discussed:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

1-CUB/RFP-15

Provide the materials used in any presentations to senior management of WPL (including any of the top 5 management personnel) since January 1, 2005, which addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

1-CUB/RFP-16

Provide copies of any documents that were provided to senior management of WPL (including any of the top 5 management personnel) since January 1, 2005, that have addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

- 1-CUB/RFP-17 Provide copies of all assessments of the reliability or dependability of the proposed source of the coal for NED 3 that have been prepared by or on behalf of Alliant Energy or WPL since April 1, 2005.
- 1-CUB/RFP-18 Provide copies of any correspondence between WPL and/or Alliant Energy and securities rating agencies, analysts and/or others in the investment community since January 1, 2004 which addressed the company's plan or need to finance proposed new generating facilities.
- 1-CUB/RFP-19 Provide copies of any presentations given or provided to rating agencies, analysts and/or others in the investment community by or for WPL and/or Alliant Energy since January 1, 2004 which addressed the company's plan or need to finance proposed new generating facilities.
- 1-CUB/RFP-20 Provide the notes, minutes or records of any meetings or telephone conversations between Alliant Energy and/or WPL and rating agencies, analysts and others in the investment community which addressed the company's plan or need to finance proposed new generating facilities.
- 1-CUB/RFP-21 Please provide copies of any assessments of the potential to sequester, either at the plant site or any other location(s), the CO<sub>2</sub> that will be produced at the proposed NED 3 power plant.
- 1-CUB/RFP-22 Please provide copies of any assessments or estimates, prepared by or for WPL, of the potential costs of retrofitting the proposed NED 3 power plant for carbon capture and sequestration equipment.
- 1-CUB/RFP-23 Please provide copies of any assessments or estimates, prepared by or for WPL, which have addressed or examined the performance penalties that can be expected to be experienced as a result of the addition and use of carbon capture and sequestration equipment on the proposed NED 3 power plant.
- 1-CUB/RFP-24 Reference pages 3 and 4 of the CPCN Application. Please provide the studies, assessments and analyses which form the basis for the conclusion that the addition of the 300 MW of NED 3 will result in an increase in the simultaneous import capability into Wisconsin of 600 MW or more.
- 1-CUB/RFP-25 Provide copies of any projections, forecasts, analyses, assessments and/or comparisons of annual Alliant Energy or WPL CO<sub>2</sub> emissions with and without the proposed NED 3 plant.
- 1-CUB/RFP-26 Provide copies of any projections, forecasts, analyses or assessments of the likelihood of the extension of the wind production tax credit beyond December 31, 2008.

- 1-CUB/RFP-27      Reference page 7 of the CPCN Application. Provide copies of any projections, forecasts, analyses or assessments which support the assumption that the wind production tax credit will not be extended beyond December 31, 2010.
- 1-CUB/RFP-28      Provide the source documents and workpapers for Figure 2 on page 29 of the CPCN Application.
- 1-CUB/RFP-29      Provide the documents in which Alliant Energy or WPL's most recent natural gas price forecast has been presented to senior management.
- 1-CUB/RFP-30      Provide copies of any analyses or assessments prepared by or for Alliant Energy, WPL or any affiliated company of the impact that federal greenhouse gas regulations can be expected to have on natural gas prices.
- 1-CUB/RFP-31      Provide copies of any analyses or assessments prepared by or for Alliant Energy, WPL or any affiliated company of the impact that federal greenhouse gas regulations can be expected to have on the costs of energy efficiency measures and programs.
- 1-CUB/RFP-32      Provide copies of any analyses or assessments prepared by or for Alliant Energy, WPL or any affiliated company of the impact that federal greenhouse gas regulations can be expected to have on the capital costs of wind facilities.
- 1-CUB/RFP-33      Provide copies of any analyses or assessments prepared by or for Alliant Energy, WPL or any affiliated company of the impact that federal greenhouse gas regulations can be expected to have on the capital costs of natural gas or renewable energy (other than wind) facilities.
- 1-CUB/RFP-34      Provide copies of any notes, minutes, reports, correspondence or analyses related to Alliant Energy or WPL's participation in the Midwest Planning Reserve Sharing Group.



Dated this 10<sup>th</sup> day of March, 2008.

Respectfully submitted,

CULLEN WESTON PINES & BACH LLP

*/s/ Kira E. Loehr*

By: \_\_\_\_\_

Curt F. Pawlisch

Kira E. Loehr

Attorneys for Citizens Utility Board

122 West Washington Avenue, Suite 900

Madison, WI 53703

(608) 251-0101 phone

(608) 251-2883 fax

E-mail: [pawlisch@cwpb.com](mailto:pawlisch@cwpb.com)

[loehr@cwpb.com](mailto:loehr@cwpb.com)

**From:** Kira Loehr  
**To:** Buchko, Cindy CLB (7126)  
**CC:** Pawlisch, Curt  
**Date:** 4/8/2008 3:55 PM  
**Subject:** 6680-CE-170, Extension

Hi Cindy,

CUB is concerned that the December 12, 2008 deadline is looming and unchanging, thus CUB is extremely reluctant to grant any request for extension beyond the 30-day requirement. However, CUB proposes the following in response to WPL's request for a three week extension to respond to CUB's First RFPs:

- WPL will let us know tomorrow whether it is objecting to any of the requests and the basis for any such objection;
- WPL will produce responses to individual requests as they are completed, and not wait to serve the entire set of responses;
- WPL will agree, now and at the prehearing conference (whenever held), to respond to all future discovery requests within 15 calendar days of being served with the requests;
- WPL will agree, now and at the prehearing conference (whenever held), to notify parties of any objections to all future discovery requests within 10 calendar days of being served with the requests;
- Intervenor will have the opportunity for informal discovery conferences as needed; and
- WPL will file the supplemental fixed rate financing testimony, and withdraw any existing fixed rate financing testimony, on or before April 25, 2008.

In exchange for that, CUB will give WPL two additional weeks until April 23 to respond to the First Requests for Production.

As noted above, CUB is concerned that the clock is ticking in this case, thus it would be beneficial if all of the parties could agree to shorter timelines for responding to discovery requests. CUB is authorized to state that Clean Wisconsin supports these conditions as well.

Please let me know if you have any questions.

Thanks,  
Kira

Kira E. Loehr  
Cullen Weston Pines & Bach LLP  
122 West Washington Ave., Suite 900  
Madison, WI 53703  
loehr@cwpb.com  
(608) 251-0101  
(608) 251-2883 fax  
www.cwpb.com

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**From:** "Buchko, Cindy CLB (7126)" <CBUCHKO@whdlaw.com>  
**To:** "Kira Loehr" <loehr@cwpb.com>  
**CC:** "Curt Pawlisch" <pawlisch@cwpb.com>, "Dennis Dums" <dums@wiscub.org >, "...  
**Date:** 4/14/2008 4:54 PM  
**Subject:** WPL's Objections and Written Responses to CUB's First Set of Requests for Production  
**Attachments:** WPL General Objections to CUB's Requests for Production.pdf; 1-CUB\_RFP-1.pdf; 1-CUB\_RFP-2.pdf; 1-CUB\_RFP-3.pdf; 1-CUB\_RFP-4.pdf; 1-CUB\_RFP-5.pdf; 1-CUB\_RFP-6.pdf; 1-CUB\_RFP-7.pdf; 1-CUB\_RFP-8.pdf; 1-CUB\_RFP-9.pdf; 1-CUB\_RFP-10.pdf; 1-CUB\_RFP-11.pdf; 1-CUB\_RFP-12.pdf; 1-CUB\_RFP-13.pdf; 1-CUB\_RFP-14.pdf; 1-CUB\_RFP-15.pdf; 1-CUB\_RFP-16.pdf; 1-CUB\_RFP-17.pdf; 1-CUB\_RFP-18.pdf; 1-CUB\_RFP-19.pdf; 1-CUB\_RFP-20.pdf; 1-CUB\_RFP-21.pdf; 1-CUB\_RFP-22.pdf; 1-CUB\_RFP-23.pdf; 1-CUB\_RFP-25.pdf; 1-CUB\_RFP-26.pdf; 1-CUB\_RFP-27.pdf; 1-CUB\_RFP-28.pdf; 1-CUB\_RFP-29.pdf; 1-CUB\_RFP-30.pdf; 1-CUB\_RFP-31.pdf; 1-CUB\_RFP-32.pdf; 1-CUB\_RFP-33.pdf; 1-CUB\_RFP-34.pdf

Kira,

Attached are WPL's objections and written responses to CUB's First Set of Requests for Production. Per our previous agreement, WPL will provide any documents responsive to individual requests as they become available on or before 4/23. We may serve electronic documents via external hard drive. We delivered our external hard drive to you a couple of weeks ago. Please return it to us at your earliest convenience.

<<http://www.whdlaw.com/doublerule1px.jpg>>  
<<http://www.whdlaw.com/>> Cindy Buchko  
Attorney  
<<http://www.whdlaw.com/rule1px.jpg>>  
Whyte Hirschboeck Dudek S.C. <<http://www.whdlaw.com/>>  
33 East Main Street, Suite 300  
Madison, WI 53703-3300  
<<http://www.whdlaw.com/rule1px.jpg>>  
<<http://www.whdlaw.com/phone.gif>> : 608-258-7126  
<<http://www.whdlaw.com/mobile.gif>> : 608-576-2920  
<<http://www.whdlaw.com/fax.gif>> : (608) 258-7138  
<<http://www.whdlaw.com/email.gif>> : cbuchko@whdlaw.com  
<<http://www.whdlaw.com/doublerule1px.jpg>>

To ensure compliance with requirements imposed by the Internal Revenue Service, we inform you that, unless expressly stated otherwise, any U.S. federal tax advice contained in this e-mail, including any attachments, was not intended or written to be used, and cannot be used, by any person for the purpose of (i) avoiding any penalties that may be imposed by the Internal Revenue Service, or (ii) promoting, marketing or recommending to another person any tax-related matter addressed herein.

The information in this e-mail is confidential and may be protected by the attorney's work product doctrine or the attorney/client privilege. It is intended solely for the addressee(s); access to anyone else is unauthorized. If this message has been sent to you in error, do not review, disseminate, distribute or copy it. Please reply to the sender that you have received the message in error, then delete it. Thank you for your cooperation.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-11**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Jack Buri  
Author's Title: Corp Sec & Assist Gen Counsel  
Author's Telephone No.: (608) 458-5562  
Witness: (If other than Author)

---

**Request for Production No. 1-CUB/RFP-11:**

Provide the notes and minutes of any meeting(s) of the Alliant Energy or WPL Board(s) of Directors, and any committee(s) or subcommittee(s) thereof, since January 1, 2005, at which any of the following subjects were discussed:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents from Alliant Energy Corporation, an entity that is not a party to this PSC proceeding, that do not relate to WPL or WPL's proposed generation facilities, as those facilities are described in WPL's CPCN

Application. WPL further objects to this RFP to the extent it requests attorney-client privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request, with confidential material not responsive to the RFP redacted, will be produced.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-12**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Jack Buri  
Author's Title: Corp Sec & Assist Gen Counsel  
Author's Telephone No.: (608) 458-5562  
Witness: (If other than Author)

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**Request for Production No. 1-CUB/RFP-12:**

Provide the materials used in presentations made at any meetings of the Alliant Energy and/or WPL Board(s) of Directors, and any committee(s) or subcommittee(s) therefore, since January 1, 2005, which addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents from Alliant Energy Corporation, an entity that is not a party to this PSC proceeding, that do not relate to WPL or WPL's proposed generation facilities, as those facilities are described in WPL's CPCN

Application. WPL further objects to this RFP to the extent it requests attorney-client privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request, with confidential material not responsive to the RFP redacted, will be produced.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-13**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Jack Buri  
Author's Title: Corp Sec & Assist Gen Counsel  
Author's Telephone No.: (608) 458-5562  
Witness: (If other than Author)

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**Request for Production No. 1-CUB/RFP-13:**

Provide copies of any documents provided to the members of the Board(s) of Directors of Alliant Energy or WPL since January 1, 2005, which have addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents from Alliant Energy Corporation, an entity that is not a party to this PSC proceeding, that do not relate to WPL or WPL's proposed generation facilities, as those facilities are described in WPL's CPCN



Application. WPL further objects to this RFP to the extent it requests attorney-client privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request, with confidential material not responsive to the RFP redacted, will be produced.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-14**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Denise Faust  
Author's Title: Director, Strategy and Communications  
Author's Telephone No.: (608) 458-3454  
Witness: (If other than Author)

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**Request for Production No. 1-CUB/RFP-14:**

Provide the notes and minutes of any meeting(s) of senior management of WPL (including any of the top 5 management personnel) since January 1, 2005, at which any of the following subjects were discussed:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents that do not relate to WPL's proposed generation facilities, as those facilities are described in WPL's CPCN Application. WPL further objects to this RFP to the extent it requests attorney-client

privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request, with confidential material not responsive to the RFP redacted, will be produced. See *also* documents previously produced with Bates Nos. WPL038776-039038, WPL039039-039050, WPL039156-039160, WPL039151-039155, WPL060664-060685 and WPL060686-060707.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-15**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Denise Faust  
Author's Title: Director, Strategy and Communications  
Author's Telephone No.: (608) 458-3454  
Witness: (If other than Author)

---

**Request for Production 1-CUB/RFP-15:**

Provide the materials used in any presentations to senior management of WPL (including any of the top 5 management personnel) since January 1, 2005, which addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents that do not relate to WPL's proposed generation facilities, as those facilities are described in WPL's CPCN Application. WPL further objects to this RFP to the extent it requests attorney-client

privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request, with confidential material not responsive to the RFP redacted, will be produced. See *also* documents previously produced with Bates Nos. WPL038776-039038, WPL039039-039050, WPL039156-039160, WPL039151-039155, WPL060664-060685 and WPL060686-060707.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-16**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Denise Faust  
Author's Title: Director, Strategy and Communications  
Author's Telephone No.: (608) 458-3454  
Witness: (If other than Author)

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**Request for Production No. 1-CUB/RFP-16:**

Provide copies of any documents that were provided to senior management of WPL (including any of the top 5 management personnel) since January 1, 2005, that have addressed any of the following subjects:

- a. WPL's need for new generating capacity.
- b. The proposed NED 3 power plant.
- c. The potential for federal regulation of greenhouse gas emissions.
- d. Potential future carbon or CO2 emissions costs.
- e. WPL's most recent IRP.
- f. The potential for energy efficiency in WPL's service territory.
- g. The potential for wind or other renewable resources in WPL's service territory.
- h. WPL's 2007 electric load and/or energy forecasts.
- i. The cost and/or schedule for the construction of the proposed NED 3 power plant.
- j. The economic and financial risks associated with building and/or operating a new coal-fired power plant.
- k. The economics of pursuing a new coal-fired power plant given the potential for federal regulation of greenhouse gas emissions.
- l. The ability of Alliant and/or WPL to finance the construction of the proposed NED 3 coal-fired power plant.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents that do not relate to WPL's proposed generation facilities, as those facilities are described in WPL's CPCN Application. WPL further objects to this RFP to the extent it requests attorney-client

privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request, with confidential material not responsive to the RFP redacted, will be produced. See *also* documents previously produced with Bates Nos. WPL038776-039038, WPL039039-039050, WPL039156-039160, WPL039151-039155, WPL060664-060685 and WPL060686-060707.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-18**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Enrique Bacalao  
Author's Title: Assistant Treasurer  
Author's Telephone No.: (608) 458-3250  
Witness: (If other than Author)

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**Request for Production No. 1-CUB/RFP-18:**

Provide copies of any correspondence between WPL and/or Alliant Energy and securities rating agencies, analysts and/or others in the investment community since January 1, 2004 which addressed the company's plan or need to finance proposed new generating facilities.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents from Alliant Energy Corporation, an entity that is not a party to this PSC proceeding, that do not relate to WPL or WPL's proposed generation facilities, as those facilities are described in WPL's CPCN Application. WPL further objects to this RFP to the extent it requests attorney-client privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request will be produced.



**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-19**

Docket Number: 6680-CE-170  
Date of Request: March 11, 2008  
Response Due: April 14, 2008  
Information Requested By: Citizen's Utility Board  
Date Responded: April 14, 2008  
Author: Jamie Freeman  
Author's Title: Manager II, Investor Relations  
Author's Telephone No.: (608) 458-3274  
Witness: (If other than Author)

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**Request for Production No. 1-CUB/RFP-19:**

Provide copies of any presentations given or provided to rating agencies, analysts and/or others in the investment community by or for WPL and/or Alliant Energy since January 1, 2004 which addressed the company's plan or need to finance proposed new generating facilities.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents from Alliant Energy Corporation, an entity that is not a party to this PSC proceeding, that do not relate to WPL or WPL's proposed generation facilities, as those facilities are described in WPL's CPCN Application. WPL further objects to this RFP to the extent it requests attorney-client privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request will be produced.

**Response of  
Wisconsin Power and Light Company  
to  
Citizen's Utility Board (CUB)  
Request for Production No. 1-CUB/RFP-20**

Docket Number:	6680-CE-170
Date of Request:	March 11, 2008
Response Due:	April 14, 2008
Information Requested By:	Citizen's Utility Board
Date Responded:	April 14, 2008
Author:	Jamie Freeman
Author's Title:	Manager II, Investor Relations
Author's Telephone No.:	(608) 458-3274
Witness: (If other than Author)	

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**Request for Production No. 1-CUB/RFP-20:**

Provide the notes, minutes or records of any meetings or telephone conversations between Alliant Energy and/or WPL and rating agencies, analysts and others in the investment community which addressed the company's plan or need to finance proposed new generating facilities.

**Response:**

WPL objects to this RFP on the grounds that it is overly broad, unreasonably burdensome and not reasonably designed to lead to the discovery of admissible evidence in this docket because it requests documents from Alliant Energy Corporation, an entity that is not a party to this PSC proceeding, that do not relate to WPL or WPL's proposed generation facilities, as those facilities are described in WPL's CPCN Application. WPL further objects to this RFP to the extent it requests attorney-client privileged and/or attorney work product privileged documents. Subject to and without waiving the foregoing objections, and pursuant to Wis. Stat. § 804.09 and the parties' agreed upon Confidentiality Agreement, documents responsive to this request will be produced.



Whyte Hirschboeck Dudek S.C.

---

Cynthia L. Buchko  
608-258-7126  
cbuchko@whdlaw.com

April 23, 2008

**Via Hand Delivery**

Kira E. Loehr  
Curt F. Pawlisch  
Cullen Weston Pines & Bach LLP  
122 West Washington Avenue, Ste. 900  
Madison, WI 53703

**Re: Application of Wisconsin Power and  
Light Company for Issuance of a  
Certificate of Public Convenience and  
Necessity for Construction and Placement  
in Operation of an Approximately 300  
MW Coal-fired Baseload Facility and an  
Application for Approval of Fixed  
Financial Parameters and Capital Cost  
Rate-Making Principles for the Baseload  
Facility**

**Docket No. 6680-CE-170**

Dear Ms. Loehr and Mr. Pawlisch:

Enclosed please find three CDs containing Confidential EGEAS files responsive to 1-CUB/RFP-1 and 2. Also enclosed is an external hard drive containing two folders: CUBProduction3 containing documents responsive to 1-CUB/RFP-11 – 16; and CUBProduction4 containing documents responsive to 1-CUB/RFP-5, 6, 25 and 28. As we discussed earlier today, documents responsive to 1-CUB/RFP-7 will be provided within the next couple of days.

Below are instructions for accessing the documents on the hard drive.

1. Double click on CUBProduction3 folder;
2. Double click on index.htm icon, this will open your internet explorer;

**EXHIBIT F**  
**Page 1 of 2**

Kira E. Loehr  
Curt F. Pawlisch  
April 23, 2008  
Page 2

3. In Internet Explorer, you will see 3 columns labeled as follows: linked doc (see no. 4 below), Prodno (which is the bates stamp number), and Resp# (which identifies the request(s) for production of document to which document is responsive);
4. Click on the "linked doc" icons to view the documents; and
5. Follow steps 1-4 for the CUBProduction3 folder.

Confidential documents have been labeled "CONFIDENTIAL" at the bottom center of the documents. Please return the external hard drive to me once you have reviewed and/or copied the documents so that we may provide the hard drive to counsel for Clean Wisconsin.

By copy to Attorneys McGillivray and Bender, this letter also serves as a supplement to the Clean Wisconsin's Third (previously Second) Set of Discovery.

Feel free to contact me with any questions.

Very truly yours,



Cynthia L. Buchko

Enclosures

cc: Dennis Dums (w/ EGEAS CDs via U.S. Mail)  
David C. Bender (w/ EGEAS CDs via U.S. Mail)  
Pamela R. McGillivray (w/ EGEAS CDs via U.S. Mail)  
Katie Nekola (w/ EGEAS CDs via U.S. Mail)  
Ritchie J. Sturgeon (w/o encls.)  
Thomas M. Pyper, Esq. (w/o encls.)



Whyte Hirschboeck Dudek S.C.

---

Cynthia L. Buchko  
608-258-7126  
cbuchko@whdlaw.com

April 18, 2008

**Via Hand Delivery**

Kira E. Loehr  
Curt F. Pawlisch  
Cullen Weston Pines & Bach LLP  
122 West Washington Avenue, Ste. 900  
Madison, WI 53703

**Re: Application of Wisconsin Power and  
Light Company for Issuance of a  
Certificate of Public Convenience and  
Necessity for Construction and Placement  
in Operation of an Approximately 300  
MW Coal-fired Baseload Facility and an  
Application for Approval of Fixed  
Financial Parameters and Capital Cost  
Rate-Making Principles for the Baseload  
Facility**

**Docket No. 6680-CE-170**

Dear Ms. Loehr and Mr. Pawlisch:

Enclosed please find a DVD containing documents responsive to 1-CUB/RFP-3, 4, 8-9, 18-21, 22, 23 and 34. Below are instructions for accessing the documents on the DVD.

1. Double click on CUBProduction folder;
2. Double click on index.htm icon, this will open your internet explorer;
3. In Internet Explorer, you will see 3 columns labeled as follows: linked doc (see no. 4 below), Prodno (which is the bates stamp number), and Resp# (which identifies the request(s) for production of document to which document is responsive); and

**EXHIBIT G**  
**Page 1 of 2**

Kira E. Loehr  
Curt F. Pawlisch  
April 18, 2008  
Page 2

4. Click on the "linked doc" icons to view the documents.

Confidential documents have been labeled "CONFIDENTIAL" at the bottom center of the documents.

By copy to Attorneys McGillvray and Bender, this letter also serves as a supplement to the Clean Wisconsin's Third (previously Second) Set of Discovery.

Feel free to contact me with any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Cynthia L. Buchko". The signature is fluid and cursive, with the first name "Cynthia" and last name "Buchko" clearly distinguishable.

Cynthia L. Buchko

Enclosure

cc: Dennis Dums (w/ encl. via U.S. Mail)  
David C. Bender (w/ encl. via U.S. Mail)  
Pamela R. McGillivray (w/ encl. via U.S. Mail)  
Katie Nekola (w/ encl. via U.S. Mail)  
Ritchie J. Sturgeon (w/o encl.)  
Thomas M. Pyper, Esq. (w/o encl.)

**CONFIDENTIALITY AGREEMENT**  
**For Docket No. 6680-CE-170**

**THIS CONFIDENTIALITY AGREEMENT** is between **Wisconsin Power and Light Company** ("WPL"), with its principal offices located at 4902 North Biltmore Lane, Madison, WI 53718, and **Citizens Utility Board** ("CUB"), which is located at 16 North Carroll Street, Suite 720, Madison, WI 53703.

This Confidentiality Agreement is made to facilitate the production of information deemed to be confidential by WPL in connection with Docket No. 6680-CE-170 before the Public Service Commission of Wisconsin ("Proceeding").

In consideration of the mutual covenants and promises contained in this Confidentiality Agreement, the parties agree to the production of documents described below under the terms and conditions contained herein.

1. "Confidential Information," as used herein, means any and all information produced, filed or served by WPL and its legal representatives, employees, agents or witnesses in the Proceeding (e.g., in response to data requests, in testimony or otherwise), and which such information is identified or marked as CONFIDENTIAL or has been filed with the Commission pursuant to a confidentiality request. Confidential Information does not include any filing WPL made with the Commission pursuant to a confidentiality request if such filing was determined not to be confidential by the Commission.

2. CUB and anyone described below who is allowed to receive confidential information agree to use the Confidential Information only for purposes of the Proceeding and for no other purposes whatsoever.

3. CUB agrees that the Confidential Information shall not be disclosed to any person other than: (1) the legal representatives of CUB, which includes the legal representatives' employees (e.g., attorneys, paralegals, secretaries); and (2) any person who has been retained as a witness by CUB for the sole purpose of providing testimony on behalf of CUB in the Proceeding. Prior to any disclosure of the Confidential Information by CUB to any of the above-mentioned legal representatives or retained witnesses, said legal representatives and retained witnesses must be shown a copy of this Confidentiality Agreement and acknowledge, in writing, in the form attached as Exhibit A, that he or she has read and understands the terms of this Confidentiality Agreement and agrees to be bound by its terms. CUB is to send WPL a copy of each signature on Exhibit A immediately after the signature is obtained. CUB or CUB's legal representatives may disclose the Confidential Information only in the manner described in this paragraph and paragraph 4 (e.g., to a retained witness of CUB in the Proceeding who has signed Exhibit A). CUB's retained witnesses shall not disclose the above-mentioned Confidential Information to anyone. WPL may object to any or all of the persons to whom CUB or CUB's legal representatives desire to disclose the Confidential Information. In the event of a dispute with respect to such disclosure, the dispute will be presented to the Commission for resolution. CUB and its legal representatives (including the legal representatives' employees) and retained

witnesses agree to abide by the terms of this Confidentiality Agreement throughout and after ultimate disposition of such dispute by the Commission and, if judicial review is sought, by the courts.

4. In the event CUB or its legal representatives desire to present any of the Confidential Information as evidence at the hearing in the Proceeding, such disclosure of the Confidential Information at the hearing must be made pursuant to an in camera inspection and only in the presence of the Commission and its agents, WPL and, in addition, any other persons or entities that have received written or oral permission from WPL to review or hear any information concerning the Confidential Information.

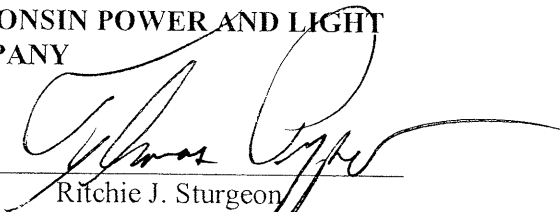
5. Within thirty (30) days following the conclusion of the Proceeding, CUB, CUB's legal representatives (which includes the legal representatives' employees) and CUB's retained witnesses shall return to WPL the Confidential Information and all copies thereof in their possession or control, or to destroy it. CUB and its legal representatives and retained witnesses shall verify, in writing, to WPL their compliance with this paragraph within forty-five (45) days following the conclusion of the Proceeding.

6. It is understood that CUB is not, by entering into this Confidentiality Agreement, waiving its right to claim that some or all of the Confidential Information is not entitled to confidential treatment. In the event that CUB makes such claim and the Commission rules in CUB's favor, CUB and its legal representatives (including the legal representatives' employees) and retained witnesses agree to provide WPL with an opportunity to seek reconsideration by the Commission and/or judicial review and agree that they shall abide by the terms of this Confidentiality Agreement pending ultimate disposition by the Commission and, if judicial review is sought, by the courts.

Dated: March 5, 2007.

**WISCONSIN POWER AND LIGHT  
COMPANY**


By:

  
Ritchie J. Sturgeon  
Thomas M. Pyper

Title: Attorney

**CITIZENS UTILITY BOARD**

By:

  
Curt F. Pawlisch

Title: Attorney



**EXHIBIT K**  
**Page 1 of 83**

**From:** Kira Loehr  
**To:** Pyper, Tom  
**CC:** Buchko, Cindy CLB (7126); Pawlisch, Curt; Sturgeon, Ritchie  
**Date:** 5/7/2008 8:32 AM  
**Subject:** 6680-CE-170, Responses to discovery  
**Attachments:** Schlissel Direct Testimony - Public.pdf

Tom,

I am writing regarding WPL's responses to the following requests for production: 1-CUB/RFP-11; 1-CUB/RFP-12; 1-CUB/RFP-13; 1-CUB/RFP-14; 1-CUB/RFP-15; 1-CUB/RFP-16; 1-CUB/RFP-18; 1-CUB/RFP-19; and 1-CUB/RFP-20.

Despite the fact that WPL and CUB have entered into a confidentiality agreement for this proceeding, most of the documents provided in response to requests 11 through 16 and some of the documents provided in response to requests 18 through 20 were redacted. In its objections to requests 11 through 16, the Company stated that it was providing documents in response to these requests "with confidential material not responsive to the RFP redacted." The responses and objections to requests 18 through 20 did not indicate that the documents provided would be redacted.

The requests for production at issue sought particular **documents**, not information contained in particular documents. Thus, there is no basis for WPL's statement that particular information within a document is not "responsive" to the request. Moreover, these requests are reasonably designed to lead to the discovery of admissible evidence. For example, in the recently concluded proceeding brought by IPL before the Iowa Utilities Board regarding the proposed plant in Marshalltown, public testimony indicated that documents of the type responsive to these requests were presented to the Board. Specifically, the public direct testimony of David Schlissel on behalf of the Office Of Consumer Advocate (attached) references documents of the type responsive to these requests (see pages 6, 7, 13, 20, etc.). IPL never objected to the introduction of this testimony. Thus, the type of information CUB has requested was in fact used as admissible evidence in a similar proceeding. CUB can discern no rational reason why the Iowa Utilities Board would be entitled to this type of information, but the Wisconsin Public Service Commission would not.

Therefore, CUB requests that the Company provide unredacted copies of all redacted responses to requests 11 through 16 and 18 through 20 immediately. If the Company continues to refuse to provide such responses, and if it files such responses in the future, CUB will file a Motion to Compel.

Finally, the Company objected to nearly every request for production. With respect to all but one request to which objections were made, the Company stated that "documents responsive to this request will be produced." Please confirm that the documents produced in response to these requests are a complete production as opposed to a partial production of responses.

If you have any questions, please give me a call.

Thanks,  
Kira

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**FILED WITH**  
**Executive Secretary**

OCT 22 2007

IOWA UTILITIES BOARD

**DOCKET NO. GCU-07-01**

**DIRECT TESTIMONY OF DAVID A. SCHLISSEL  
ON BEHALF OF  
THE OFFICE OF CONSUMER ADVOCATE**

**PUBLIC VERSION**

**OCTOBER 22, 2007**

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**List of Exhibits**

Appendix A:	Resume of David Schlissel
Schedule A:	IPL Responses to OCA Data Requests cited in Exhibit__DAS-1
Schedule B:	Summary of Senate Greenhouse Gas Cap-and-Trade Proposals in Current U.S. 110 <sup>th</sup> Congress
Schedule C:	Climate Change and Power: Carbon Dioxide Emissions Costs and Electricity Resource Planning
Schedule D:	New Mexico Public Regulation Commission June 2007 Order Adopting Standardized Carbon Emissions Cost for Integrated Resource Plans
Schedule E:	Scenarios and Carbon Dioxide Emissions Costs from the <i>Assessment of U.S. Cap-and-Trade Proposals</i> recently issued by the MIT Joint Program on the Science and Policy of Global Change
Schedule F:	Increasing Construction Costs Could Hamper U.S. Utilities' Plans to Build New Power Generation, Standard & Poor's Rating Services, June 2007.
Schedule G:	Rising Utility Construction Costs: Sources and Impacts, the Brattle Group, September 2007.

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1   **1.    Introduction**

2   **Q.    What is your name, position and business address?**

3   A.    My name is David A. Schlissel. I am a Senior Consultant at Synapse Energy  
4        Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

5   **Q.    Please describe Synapse Energy Economics.**

6   A.    Synapse Energy Economics ("Synapse") is a research and consulting firm  
7        specializing in energy and environmental issues, including electric generation,  
8        transmission and distribution system reliability, market power, electricity market  
9        prices, stranded costs, efficiency, renewable energy, environmental quality, and  
10       nuclear power.

11       Synapse's clients include state consumer advocates, public utilities commission  
12       staff, attorneys general, environmental organizations, federal government and  
13       utilities. A complete description of Synapse is available at our website,  
14       [www.synapse-energy.com](http://www.synapse-energy.com).

15   **Q.    Please summarize your educational background and recent work experience.**

16   A.    I graduated from the Massachusetts Institute of Technology in 1968 with a  
17        Bachelor of Science Degree in Engineering. In 1969, I received a Master of  
18        Science Degree in Engineering from Stanford University. In 1973, I received a  
19        Law Degree from Stanford University. In addition, I studied nuclear engineering  
20        at the Massachusetts Institute of Technology during the years 1983-1986.

21       Since 1983 I have been retained by governmental bodies, publicly-owned utilities,  
22       and private organizations in 28 states to prepare expert testimony and analyses on  
23       engineering and economic issues related to electric utilities. My recent clients  
24       have included the New Mexico Public Regulation Commission, the General Staff  
25       of the Arkansas Public Service Commission, the Staff of the Arizona Corporation  
26       Commission, the U.S. Department of Justice, the Commonwealth of  
27       Massachusetts, the Attorneys General of the States of Massachusetts, Michigan,

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1 New York, and Rhode Island, the General Electric Company, cities and towns in  
2 Connecticut, New York and Virginia, state consumer advocates, and national and  
3 local environmental organizations.

4 I have testified before state regulatory commissions in Arizona, New Jersey,  
5 Connecticut, Kansas, Texas, New Mexico, New York, Vermont, North Carolina,  
6 South Carolina, Maine, Illinois, Indiana, Ohio, Massachusetts, Missouri, Rhode  
7 Island, Wisconsin, Iowa, South Dakota, Georgia, Minnesota, Michigan, Florida  
8 and North Dakota and before an Atomic Safety & Licensing Board of the U.S.  
9 Nuclear Regulatory Commission.

10 A copy of my current resume is attached as Appendix A.

11 **Q. On whose behalf are you testifying in this case?**

12 A. I am testifying on behalf of the Office of Consumer Advocate. ("OCA")

13 **Q. Have you testified previously before this Commission?**

14 A. Yes. I testified in Docket No. SPU-05-15.

15 **Q. What is the purpose of your testimony?**

16 A. Synapse was retained by the OCA to assist in its evaluation of the Application of  
17 Interstate Power and Light Company's ("IPL" or "the Company") for authority to  
18 construct, maintain and operate Sutherland Generating Station Unit 4, a new  
19 baseload coal-fired generation plant. ("SGS Unit 4")

20 This testimony presents the results of our analyses.

21 **Q. Please identify the other Synapse witnesses who are presenting expert**  
22 **testimony in this proceeding on behalf of the OCA.**

23 A. In addition to myself, the following witnesses also are presenting expert testimony  
24 in this Docket on behalf of OCA.

25 Dr. Ezra Hausman is explaining the scientific understanding and risks of global  
26 climate change.

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1 Robert Fagan is addressing the potential for wind generation in IPL's service  
2 territory and the Company's use of an unreasonably high and unsupported 18  
3 percent reserve margin in its 2007 Resource Plan modeling.

4 Michael Drunsic is addressing a significant limitation that biases the Company's  
5 EGEAS modeling in favor of adding SGS Unit 4, a new coal-fired power plant, in  
6 2013.

7 Bill Powers from Powers Engineering is presenting a critique of Black &  
8 Veatch's assessments of IGCC technology and the suitability of employing air  
9 cooling at the SGS Unit 4 site.

10 Scudder Parker from Scudder Parker Consulting Services is evaluating the  
11 feasibility of deferring or avoiding the construction of SGS Unit 4 through  
12 increased investment in energy efficiency resources.

13 Larry Shi from the OCA staff is presenting the computer output from the OCA's  
14 EGEAS model runs.

15 **Q. Were there other members of the Synapse staff who also assisted in the**  
16 **analyses undertaken by Synapse as part of its evaluation of IPL's proposed**  
17 **Sutherland Generating Station Unit 4?**

18 A. Yes. Dr. David White, Bruce Biewald, Ben Warfield and Lucy Johnston from  
19 Synapse also were members of our project team. Copies of their resumes are  
20 available at [www.synapse-energy.com](http://www.synapse-energy.com).

21 **Q. Please summarize your conclusions.**

22 A. My conclusions are as follows:

23 1. IPL has not adequately considered the risks associated with building a new  
24 coal-fired power plant in its modeling analyses.

25 2. The most significant uncertainties and risks associated with the proposed  
26 Sutherland Generating Station Unit 4 project are the potential for future

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1 federal restrictions on CO<sub>2</sub> emissions and further increases in the project's  
2 capital cost.

3 3. In particular, it is important for IPL to justify its participation in the SGS  
4 Unit 4 project in light of coming federal regulation of greenhouse gas  
5 emissions. It would be imprudent for the Company to continue its  
6 participation in the Project by merely considering a narrow range of CO<sub>2</sub>  
7 prices in its modeling analyses. Instead, to reflect the uncertainties and  
8 risks, IPL should use a wider range of possible CO<sub>2</sub> prices such as the  
9 forecasts presented by Synapse in this Docket.

10 4. Contrary to IPL's claim, it has not shown that adding SGS Unit 4 is the  
11 lowest risk option for its ratepayers.

12 5. The EGEAS analyses prepared by IPL in its 2007 Resource Plan modeling  
13 are flawed and unreasonably limited. These flaws and limitations bias the  
14 results of the modeling analyses in favor of adding a new coal-fired power  
15 plant in 2013.

16 6. With our assistance, the OCA staff has rerun the EGEAS model to reflect  
17 more reasonable assumptions concerning wind availability, DSM  
18 availability, power plant construction costs and reduced reserve margins.

19 7. When IPL's higher CO<sub>2</sub> price forecast was used the EGEAS model did not  
20 select a coal plant as part of a lowest cost plan in any of the scenarios  
21 more reasonable input assumptions for wind availability, DSM  
22 availability, and power plant construction costs. The model only selected  
23 a new coal plant in one scenario in which natural gas prices were  
24 increased by ten percent and, in that scenario, the coal plant was not added  
25 until 2019, six years later than IPL proposes to install SGS Unit 4.

26 8. When Synapse's high CO<sub>2</sub> price forecast was used, the EGEAS model  
27 also did not select a coal plant as part of a lowest cost plan in any  
28 scenarios.

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1           9.     Even when IPL's low CO<sub>2</sub> price forecast was used, 2016 was the earliest  
2                 year in which the EGEAS added a new coal-fired power plant as part of a  
3                 lowest cost plan in any of the scenarios. In some scenarios a new coal  
4                 plant was not added until 2019. In two scenarios involved increased wind  
5                 and DSM availability, no new coal plant was added as part of a lowest  
6                 cost plan even with IPL's unreasonably low CO<sub>2</sub> price forecast.

7           10.    For these reasons, the Board should reject IPL's application for a  
8                 generating facility siting certificate.

9     **Q.     Please explain how you conducted your investigations in this proceeding.**

10    A.     We have reviewed the application, testimony and exhibits filed by IPL in this  
11             proceeding. In addition, we have participated in discovery. As part of that work,  
12             we have reviewed the information and documents provided by IPL in response to  
13             data requests submitted by the OCA. We also have reviewed public information  
14             related to the issues addressed in IPL's application, testimony and exhibits and in  
15             our testimony and exhibits.

16             We also have worked with Larry Shi from the OCA staff in rerunning the EGEAS  
17             model.

18    **2.     IPL Has Not Adequately Considered The Risks Associated With**  
19             **Building A New Coal-Fired Generating Unit**

20    **Q.     Why is it important that IPL consider risk when evaluating the economics of**  
21             **building SGS Unit 4?**

22    A.     Risk and uncertainty are inherent in all enterprises. But the risks associated with  
23             any options or plans need to be balanced against the expected benefits from each  
24             such option or plan.

25             In particular, parties seeking to build new generating facilities and the associated  
26             transmission face of a host of major uncertainties, including, for example, the  
27             expected cost of the facility, future restrictions on emissions of carbon dioxide,  
28             and future fuel prices. The risks and uncertainties associated with each of these



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factors needs to be considered as part of the economic evaluation of whether to pursue the proposed facility or other alternatives.

**Q. Has IPL identified any risks associated with its proposed SGS Unit 4?**

A. Yes. IPL has identified a number of risks associated with its proposed generation resource plan. For example, the following risks were identified at the June 24 and 25, 2007 Strategic Planning Conference of Alliant Energy's Board of Directors:

[REDACTED]

A March 2007 presentation for Alliant Energy's senior management as part of the Company's Strategic Planning Process 2008 summarized the risks and considerations related to the goal of building [REDACTED]

[REDACTED]

The same presentation also discussed the changing landscape for building new generation in more detail:

[REDACTED]

---

<sup>1</sup> IPL Confidential Response to OCA DR. No. 19, Attachment B, pages 10 and 11 of 15.  
<sup>2</sup> IPL's Confidential Response to OCA DR. No. 60, Attachment A, page 3 of 24.

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1 [REDACTED]  
2 [REDACTED]  
3 [REDACTED]  
4 [REDACTED]  
5 [REDACTED] 3

6 This same presentation also noted the following:

7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED] 4  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED] 5

21 **Q. Have you seen any evidence that IPL has adequately considered these risks**  
22 **and uncertainties in its evaluations of the proposed SGS Unit 4?**

23 **A. No. The Company has claimed that SGS Unit 4 provides lower risk to IPL and its**  
24 **ratepayers than other options:**

25 It is IPL's opinion that constructing SGS Unit 4 provides lower  
26 risk to IPL and its ratepayers than other options. The term "risk"  
27 includes both economic and environmental factors. IPL believes  
28 that construction of SGS Unit 4 will, among other things, provide  
29 the least possible environmental impact with a significant cost to

---

3 Id, at page 4 of 24.  
4 Id, at page 5 of 24.  
5 Id, at page 15 of 24.

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1 ratepayers, will provide the capacity needed to serve future load  
2 with the greatest reliability, and will benefit the economy of the  
3 Marshalltown area as well as the state of Iowa.<sup>6</sup>

4 However, we have not found any evidence in the Company's Application or  
5 supporting testimony and exhibits to support this claim that building SGS Unit 4  
6 represents a lower risk to IPL and its ratepayers than other options.

7 In fact, we have found that IPL has not adequately considered in its economic  
8 analyses the risks associated with building a new baseload coal-fired generating  
9 unit. For example, although the Company did prepare two CO<sub>2</sub> price sensitivity  
10 modeling runs, its base IRP plan, that includes SGS Unit 4, was developed  
11 through modeling that assumed no greenhouse gas regulation costs. As I will  
12 discuss below, this is an extremely unrealistic and imprudent assumption.  
13 Moreover, the two CO<sub>2</sub> price forecasts used in IPL's sensitivity analyses were  
14 based on old information and reflect an unreasonably low range of possible future  
15 CO<sub>2</sub> emissions allowances prices.

16 In addition, the IPL modeling analyses that we have examined do not include any  
17 assessment of the uncertainty or risks associated with higher capital costs.

18 **Q. Is it reasonable to expect that IPL could reflect uncertainty and risk in its**  
19 **economic analyses of whether to pursue SGS Unit 4 or alternatives?**

20 A. Yes. There are a number of ways that IPL could have considered uncertainty and  
21 risk. The most simple way would have been to perform sensitivity analyses  
22 reflecting engineering type bounding in which the key variables would be  
23 expected to vary by X% above or below their projected values. In my experience,  
24 utilities regularly consider risk in this way.

---

<sup>6</sup> IPL Response to OCA DR. No. 90.B.

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1    **Q.    Has IPL previously performed any such sensitivity analyses in its modeling**  
2           **of resource plans?**

3    A.    Yes. IPL's modeling for its 2005 Resource Plan presented expansion plans and  
4           costs for 18 scenarios:

- 5           ▪       Reference Case (Proposed Plan)
- 6           ▪       All Purchased Power
- 7           ▪       Higher Coal Capital Cost
- 8           ▪       High Reliability
- 9           ▪       Some Retirements
- 10          ▪       Higher Natural Gas Prices
- 11          ▪       Lower Natural Gas Prices
- 12          ▪       Higher Coal Fuel Prices
- 13          ▪       Higher Wind Prices
- 14          ▪       Lower Load Forecast
- 15          ▪       Higher Load Forecast
- 16          ▪       50% of New Resources are DSM and Renewables
- 17          ▪       75% of New Resources are DSM and Renewables
- 18          ▪       Minnesota DSM - base
- 19          ▪       Minnesota DSM – high
- 20          ▪       Minnesota DSM- medium
- 21          ▪       Minnesota DSM - low

22           Each of these scenarios was evaluated in developing the 2005 Resource Plan at  
23           zero externalities, at minimum externalities and at maximum externalities.

24           Unfortunately, the Company's 2007 Resource Plan that now forms the basis for  
25           the SGS Unit 4 project consists of only one base case and two CO<sub>2</sub> price  
26           sensitivities. IPL apparently has not completed any other modeling runs.

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1   **Q.     Should the Board rely on the analyses in IPL's 2005 Resource Plan when**  
2       **considering whether to approve the proposed SGS Unit 4 Project?**

3   A.    No. As I will discuss in detail later in this testimony, there are a number of  
4       significant flaws and out-of-date assumptions in IPL's 2005 Resource Plan  
5       modeling that render the results of that modeling unreasonable and unrealistic  
6       given current circumstances. In particular, the Company's projected coal plant  
7       capital costs are much higher than the figures that were used in the 2005 Resource  
8       Plan modeling and that modeling did not reflect any federal regulation of  
9       greenhouse gas emissions – in other words, it assumed no CO<sub>2</sub> emissions  
10      allowance prices.

11   **Q.     What are the most significant fossil plant-specific uncertainties and risks**  
12       **associated with building new coal-fired generating plants like SGS Unit 4?**

13   A.    The most significant uncertainties and risks associated with new coal-fired  
14       generating plants like the proposed SGS Unit 4 are the potential for future  
15       restrictions on CO<sub>2</sub> emissions and the potential for further increases in the  
16       project's capital cost. Other potential uncertainties and risks for new coal plants  
17       include the potential for fuel supply disruptions that could affect plant operating  
18       performance and fuel prices and the potential for increasing stringency of  
19       regulations of current criteria pollutants.

20   **Q.     Have any proposed coal-fired generating projects been cancelled as a result**  
21       **of concern over increasing construction costs or the potential for federal**  
22       **regulation of greenhouse gas emissions?**

23   A.    Yes. A number of coal-fired power plant projects have been cancelled within the  
24       past year, in part, because of concern over rising construction costs and climate  
25       change. For example:

- 26       ▪     Tenaska Energy cancelled plans to build a coal-fired power plant in  
27       Nebraska because of rising steel and construction prices. According to the  
28       company's general manager of business development:

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1 .. coal prices have gone up “dramatically” since Tenaska started  
2 planning the project more than a year ago.

3 And coal plants are largely built with steel, so there’s the cost of  
4 the unit that we would build has gone up a lot... At one point in  
5 our development, we had some of the steel and equipment at some  
6 very attractive prices and that equipment all of a sudden was not  
7 available.

8 We went immediately trying to buy additional equipment and the  
9 pricing was so high, we looked at the price of the power that would  
10 be produced because of those higher prices and equipment and it  
11 just wouldn’t be a prudent business decision to build it.<sup>7</sup>

12 ■ TXU cancelled 8 of 11 proposed coal-fired power plants, in large part  
13 because of concern over global warming and the potential for federal  
14 legislation restricting greenhouse gas emissions.<sup>8</sup>

15 ■ Westar Energy announced in December 2006 that it was deferring site  
16 selection for a new 600 MW coal-fired power plant due to significant  
17 increases in the facility’s estimated capital cost.

18 ■ Tampa Electric just cancelled a proposed integrated gasification combined  
19 cycle plant (“IGCC”) due to uncertainty related to CO2 regulations,  
20 particularly capture and sequestration issues, and the potential for related  
21 project cost increases. According to a press release, “Because of the  
22 economic risk of these factors to customers and investors, the company  
23 believes it should not proceed with an IGCC project at this time,” although  
24 it remains steadfast in its support of IGCC as a critical component of  
25 future fuel diversity in Florida and the nation.

26 ■ Four public power agencies suspended permitting activities for the coal-  
27 fired Taylor Energy Center because of growing concerns about  
28 greenhouse gas emissions.<sup>9</sup>

29 **Q. Have you seen any instance where a participant in a jointly-owned coal-fired**  
30 **power plant project has withdrawn because of concern over increasing**  
31 **construction costs or potential CO<sub>2</sub> emissions costs?**

32 **A. Yes. Great River Energy (“GRE”) just withdrew from the proposed Big Stone II**  
33 **coal-fired power plant project in South Dakota. According to GRE, four factors**

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7 Available at [www.swtimes.com/articles/2007/07/09/news/news02.prt](http://www.swtimes.com/articles/2007/07/09/news/news02.prt).

8 See [www.marketwatch.com/news/story/txu-reversal-coal-plant-emissions](http://www.marketwatch.com/news/story/txu-reversal-coal-plant-emissions).

9 See [www.taylorenergycenter.org/s\\_16asp?n=40](http://www.taylorenergycenter.org/s_16asp?n=40).

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1 contributed most prominently to the decision to withdraw, including uncertainty  
2 about changes in environmental requirements and new technology and that fact  
3 that "The cost of Big Stone II has increased due to inflation and project delays."<sup>10</sup>

4 **Q. Have any proposed coal-fired generating projects been rejected by state**  
5 **regulatory commissions due to concerns over increasing construction costs or**  
6 **the potential for federal regulation of greenhouse gas emissions?**

7 A. Yes. Just since last December, proposed coal-fired power plant projects have  
8 been rejected by the Oregon Public Utility Commission, , the Florida Public  
9 Service Commission, and the Oklahoma Corporation Commission. The North  
10 Carolina Utilities Commission rejected one of the two coal-fired plants proposed  
11 by Duke Energy Carolinas for is Cliffside Project.

12 The decision of the Florida Public Service Commission in denying approval for  
13 the 1,960 MW Glades Power Project was based on concern over the uncertainties  
14 over plant costs, coal and natural gas prices, and future environmental costs,  
15 including carbon allowance costs.<sup>11</sup> In addition, the Oklahoma Corporation  
16 Commission has just voted to reject Public Service Company of Oklahoma's  
17 application to build a new coal-fired power plant although the Commission has  
18 not yet issued a written order.

19 On October 18, 2007, the Kansas Department of Health and Environment rejected  
20 an application to build two 700 MW coal-fired units at an existing power plant  
21 site. In a prepared statement explaining the basis for this decision, Rod Bremby,  
22 Kansas's secretary of health and environment noted that "I believe it would be  
23 irresponsible to ignore emerging information about the contribution of carbon  
24 dioxide and other greenhouse gases to climate change and the potential harm to  
25 our environment and health if we do nothing."<sup>12</sup>

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<sup>10</sup> See [www.greatriverenergy.com/press/news/091707\\_big\\_stone\\_ii.html](http://www.greatriverenergy.com/press/news/091707_big_stone_ii.html).

<sup>11</sup> Order No. PSC-07-0557-FOF-EI, Docket No. 070098-EI, July 2, 2007.

<sup>12</sup> See [www.kansascity.com/105/story/323833.html](http://www.kansascity.com/105/story/323833.html).

**PUBLIC VERSION**

1 Q. Is IPL aware that coal-plant projects are under greater scrutiny by state  
2 regulatory commissions?

3 A. Yes. A March 2007 presentation for Alliant Energy's senior management  
4 reported that:

5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
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20 [REDACTED]  
21 [REDACTED]  
22 [REDACTED]  
23 [REDACTED]  
24 [REDACTED]  
25 [REDACTED]  
26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]  
29 [REDACTED]  
30 [REDACTED]

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<sup>13</sup> IPL's Confidential Response to OCA DR. No. 60, Attachment A, at page 4 of 24.  
<sup>14</sup> Id., at page 15 of 24.



**PUBLIC VERSION**

1   **Q.    Is it important to evaluate the uncertainties and risks associated with**  
2       **alternatives to the SGS Unit 4 Project as well?**

3    A.    Yes. The risks associated with building natural gas-fired alternatives include  
4       potential CO<sub>2</sub> emissions costs, possible capital cost escalation and fuel price  
5       uncertainty and volatility.

6       Renewable alternatives and DSM also have some uncertainties and risks. These  
7       include potential capital cost escalation, contract uncertainty and customer  
8       participation uncertainty.

9    **3.    IPL Has Not Adequately Considered The Risks Associated With**  
10   **Future Federally Mandated Greenhouse Gas Reductions**

11   **Q.    Is it prudent to expect that a policy to address climate change will be**  
12       **implemented in the U.S. in a way that should be of concern to coal-dependent**  
13       **utilities in the Midwest?**

14   A.    Yes. The prospect of global warming and the resultant widespread climate  
15       changes has spurred international efforts to work towards a sustainable level of  
16       greenhouse gas emissions. These international efforts are embodied in the United  
17       Nations Framework Convention on Climate Change (“UNFCCC”), a treaty that  
18       the U.S. ratified in 1992, along with almost every other country in the world. The  
19       Kyoto Protocol, a supplement to the UNFCCC, establishes legally binding limits  
20       on the greenhouse gas emissions of industrialized nations and economies in  
21       transition.

22       Despite being the single largest contributor to global emissions of greenhouse  
23       gases, the United States remains one of a very few industrialized nations that have  
24       not signed the Kyoto Protocol.<sup>15</sup> Nevertheless, individual states, regional groups

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<sup>15</sup> As I use the terms “carbon dioxide regulation” and “greenhouse gas regulation” throughout our testimony, there is no difference. While I believe that the future regulation we discuss here will govern emissions of all types of greenhouse gases, not just carbon dioxide (“CO<sub>2</sub>”), for the purposes of our discussion we are chiefly concerned with emissions of carbon dioxide. Therefore, we use the terms “carbon dioxide regulation” and “greenhouse gas regulation” interchangeably.

**PUBLIC VERSION**

1 of states, shareholders and corporations are making serious efforts and taking  
2 significant steps towards reducing greenhouse gas emissions in the United States.  
3 Efforts to pass federal legislation addressing carbon, though not yet successful,  
4 have gained ground in recent years. These developments, combined with the  
5 growing scientific understanding of, and evidence of, climate change as outlined  
6 in Dr. Hausman's testimony, mean that establishing federal policy requiring  
7 greenhouse gas emission reductions is just a matter of time. The question is not  
8 whether the United States will develop a national policy addressing climate  
9 change, but when and how. The electric sector will be a key component of any  
10 regulatory or legislative approach to reducing greenhouse gas emissions both  
11 because of this sector's contribution to national emissions and the comparative  
12 ease of regulating large point sources.

13 There are, of course, important uncertainties with regard to the timing, the  
14 emission limits, and many other details of what a carbon policy in the United  
15 States will look like.

16 **Q. If there are uncertainties with regard to such important details as timing,**  
17 **emission limits and other details, why should a utility engage in the exercise**  
18 **of forecasting greenhouse gas prices?**

19 A. First of all, utilities are implicitly assuming a value for carbon allowance prices  
20 whether they go to the effort of collecting all the relevant information and create a  
21 price forecast, or whether they simply ignore future carbon regulation. In other  
22 words, a utility that ignores future carbon regulations is implicitly assuming that  
23 the allowance value will be zero. The question is whether it's appropriate to  
24 assume zero or some other number. There is uncertainty in any type of utility  
25 forecasting and to write off the need to forecast carbon allowance prices because  
26 of the uncertainties is not prudent.

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Similarly, the terms "carbon dioxide price," "greenhouse gas price" and "carbon price" are interchangeable.

**PUBLIC VERSION**

1 For example, there are myriad uncertainties that utility planners have learned to  
2 address in planning. These include randomly occurring generating unit outages,  
3 load forecast error and demand fluctuations, and fuel price volatility and  
4 uncertainty. These various uncertainties can be addressed through techniques  
5 such as sensitivity and scenario analyses.

6 **Q. If SGS Unit 4 were to be built, is carbon regulation an issue that could be**  
7 **definitely could be addressed in the future, and at a reasonable cost, once the**  
8 **timing and stringency of the regulation is known?**

9 A. No. Unlike for other power plant air emissions like sulfur dioxide and oxides of  
10 nitrogen, there currently is no commercial or economical method for post-  
11 combustion removal of carbon dioxide from supercritical pulverized coal plants.  
12 IPL agrees on this point, noting that "Unlike with other criteria air emissions,  
13 commercially-available back-end CO2 emissions control technologies do not  
14 currently exist."<sup>16</sup> This conclusion is consistent with that of other coal utilities  
15 and with the general view in the electric industry.

16 Even if such technology were available, retrofitting an existing coal plant with the  
17 technology for carbon capture and sequestration is expected to be very expensive,  
18 increasing the cost of generating power at the plant by perhaps as much as 68  
19 percent to 80 percent, or higher.

20 **Q. Do other utilities have opinions about whether and when greenhouse gas**  
21 **regulation will come?**

22 A. Yes. A number of utility executives have argued that mandatory federal  
23 regulation of the emissions of greenhouse gases is inevitable.

24 For example, in April 2006, the Chairman of Duke Energy, Paul Anderson, stated:

25 From a business perspective, the need for mandatory federal policy  
26 in the United States to manage greenhouse gases is both urgent and

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<sup>16</sup> Response to OCA DR No. 19, Attachment A, page 46 of 55.

**PUBLIC VERSION**

1 real. In my view, voluntary actions will not get us where we need  
2 to be. Until business leaders know what the rules will be – which  
3 actions will be penalized and which will be rewarded – we will be  
4 unable to take the significant actions the issue requires.<sup>17</sup>

5 Similarly, James Rogers, who was the CEO of Cinergy and is currently CEO of  
6 Duke Energy, has publicly said “[I]n private, 80-85% of my peers think carbon  
7 regulation is coming within ten years, but most sure don’t want it now.”<sup>18</sup> Mr.  
8 Rogers also was quoted in a December 2005 *Business Week* article, as saying to  
9 his utility colleagues, “If we stonewall this thing [carbon dioxide regulation] to  
10 five years out, all of a sudden the cost to us and ultimately to our consumers can  
11 be gigantic.”<sup>19</sup>

12 Not wanting carbon regulation from a utility perspective is understandable  
13 because carbon price forecasting is not simple and easy, it makes resource  
14 planning more difficult and is likely to change “business as usual.” For many  
15 utilities, including IPL, that means that it is much more difficult to justify building  
16 a pulverized coal plant. Regardless, it is imprudent to ignore the risk.

17 Duke Energy is not alone in believing that carbon regulation is inevitable and,  
18 indeed, some utilities are advocating for mandatory greenhouse gas reductions. In  
19 a May 6, 2005, statement to the Climate Leaders Partners (a voluntary EPA-  
20 industry partnership), John Rowe, Chair and CEO of Exelon stated, “At Exelon,  
21 we accept that the science of global warming is overwhelming. We accept that  
22 limitations on greenhouse gases emissions [sic] will prove necessary. Until those  
23 limitations are adopted, we believe that business should take voluntary action to  
24 begin the transition to a lower carbon future.”

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<sup>17</sup> Paul Anderson, Chairman, Duke Energy, “Being (and Staying in Business): Sustainability from a Corporate Leadership Perspective,” April 6, 2006 speech to CERES Annual Conference, at: [http://www.duke-energy.com/news/mediainfo/viewpoint/PAnderson\\_CERES.pdf](http://www.duke-energy.com/news/mediainfo/viewpoint/PAnderson_CERES.pdf)

<sup>18</sup> “The Greening of General Electric: A Lean, Clean Electric Machine,” *The Economist*, December 10, 2005, at page 79.

<sup>19</sup> “The Race Against Climate Change,” *Business Week*, December 12, 2005, online at [http://businessweek.com/magazine/content/05\\_50/b3963401.htm](http://businessweek.com/magazine/content/05_50/b3963401.htm).

**PUBLIC VERSION**

1 In fact, several electric utilities and electric generation companies have  
2 incorporated assumptions about carbon regulation and costs into their long term  
3 planning, and have set specific agendas to mitigate shareholder risks associated  
4 with future U.S. carbon regulation policy. These utilities cite a variety of reasons  
5 for incorporating risk of future carbon regulation as a risk factor in their resource  
6 planning and evaluation, including scientific evidence of human-induced climate  
7 change, the U.S. electric sector's contribution to emissions, and the magnitude of  
8 the financial risk of future greenhouse gas regulation.

9 Duke Energy and FPL Group are participating in the high profile U.S. Climate  
10 Action Partnership ("USCAP") which advocates for federal, mandatory  
11 legislation of greenhouse gases. The six principles of this group are:

- 12 • Account for the global dimensions of climate change;
- 13 • Create incentives for technology innovation;
- 14 • Be environmentally effective;
- 15 • Create economic opportunity and advantage;
- 16 • Be fair to sectors disproportionately impacted; and
- 17 • Reward early action.<sup>20</sup>

18 Most significantly, USCAP has argued that CO<sub>2</sub> emissions should be reduced by  
19 60% to 80% by 2050. As I will discuss later, this is relatively the same goal as  
20 many of the climate change bills that have been introduced in the current U.S.  
21 Congress.<sup>21</sup>

22 Some of the companies believe that there is a high likelihood of federal regulation  
23 of greenhouse gas emissions within their planning period. For example,  
24 PacifiCorp states a 50% probability of a CO<sub>2</sub> limit starting in 2010 and a 75%

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<sup>20</sup> www.us-cap.org.

<sup>21</sup> *A Call for Action*, at page 7, available at www.us-cap.org.

**PUBLIC VERSION**

1 probability starting in 2011. The Northwest Power and Conservation Council  
2 models a 67% probability of federal regulation in the twenty-year planning period  
3 ending 2025 in its resource plan. Northwest Energy states that CO<sub>2</sub> taxes “are no  
4 longer a remote possibility.”<sup>22</sup>

5 Even those in the electric industry who oppose mandatory limits on greenhouse  
6 gas regulation believe that regulation is inevitable. David Ratcliffe, CEO of  
7 Southern Company, a predominantly coal-fired utility that opposes mandatory  
8 limits, said at a March 29, 2006, press briefing that “There certainly is enough  
9 public pressure and enough Congressional discussion that it is likely we will see  
10 some form of regulation, some sort of legislation around carbon.”<sup>23</sup>

11 **Q. Why would electric utilities, in particular, be concerned about future carbon**  
12 **regulation?**

13 A. Electricity generation is very carbon-intensive. Electric utilities are likely to be  
14 one of the first, if not the first, industries subject to carbon regulation because of  
15 the relative ease in regulating stationary sources as opposed to mobile sources  
16 (automobiles) and because electricity generation represents a significant portion  
17 of total U.S. greenhouse gas emissions. A new generating facility may have a  
18 book life of twenty to forty years, but in practice, the utility may expect that that  
19 asset will have an operating life of 50 years or more. By adding new plants,  
20 especially new coal plants, a utility is essentially locking-in a large quantity of  
21 carbon dioxide emissions for decades to come. In general, electric utilities are  
22 increasingly aware that the fact that we do not currently have federal greenhouse  
23 gas regulation is irrelevant to the issue of whether we will in the future, and that  
24 new plant investment decisions are extremely sensitive to the expected cost of  
25 greenhouse gas regulation throughout the life of the facility.

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<sup>22</sup> Northwest Energy 2005 Electric Default Supply Resource Procurement Plan, December 20, 2005;  
Volume 1, p. 4.

<sup>23</sup> Quoted in “U.S. Utilities Urge Congress to Establish CO<sub>2</sub> Limits,” Bloomberg.com,  
<http://www.bloomberg.com/apps/news?pid=10000103&sid=a75A1ADJv8cs&refer=us>

**PUBLIC VERSION**

1 Q. How does IPL view the prospects for carbon regulation?

2 A. IPL's parent, Alliant Energy, has said that "goals to achieve sustainable  
3 development and economic growth can be met while simultaneously reducing  
4 GHG emissions. While the scientific research is not complete on the rate and  
5 cause of climate change, Alliant Energy recognizes that public and political  
6 consensus indicates sufficient evidence exists to take action. Alliant Energy  
7 agrees the time for action is now."<sup>24</sup> Alliant also has concluded that

8 "Recent events indicate that mandatory requirements to stabilize  
9 and reduce greenhouse gas emissions are likely. What remains  
10 uncertain is the nature, extent and timing of such requirements.  
11 Alliant Energy's position on climate change embraces the need for  
12 action – while clearly articulating our preference for methods that  
13 will produce tangible and measurable outcomes."<sup>25</sup>

14 An April 2006 presentation on [REDACTED]  
15 [REDACTED]  
16 [REDACTED]<sup>26</sup> The same presentation  
17 reported that "[REDACTED]"<sup>27</sup>

18 A March 2007 presentation to Alliant Energy's senior management, part of its  
19 Strategic Planning Process for 2008, further reported that the [REDACTED]  
20 [REDACTED]<sup>28</sup> This same presentation  
21 also noted the [REDACTED] of federal regulation of greenhouse gas emissions:

22 [REDACTED]  
23 [REDACTED]  
24 [REDACTED]  
25 [REDACTED]  
26 [REDACTED]<sup>29</sup>

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<sup>24</sup> IPL Response to OCA DR. No. 19, Attachment A, page 29 of 55.

<sup>25</sup> Id., at page 19 of 55.

<sup>26</sup> IPL's Confidential Response to OCA DR. No. 31, Attachment D, at page 4 of 20.

<sup>27</sup> Id.

<sup>28</sup> IPL's Confidential Response to OCA DR. No. 60, Attachment A, page 4 of 24.

<sup>29</sup> Id., at page 5 of 24.

**PUBLIC VERSION**

1 **Q. Do you agree with IPL's assessment of the potential for federal regulation of**  
2 **greenhouse gas emissions?**

3 A. Yes. We at Synapse believe that it is not a question of "if" with regards to federal  
4 regulation of greenhouse gas emissions but rather a question of "when." However,  
5 we also agree with Alliant Energy that there are uncertainties as to the design,  
6 timing and details of the CO<sub>2</sub> regulations that ultimately will be adopted and  
7 implemented.

8 **Q. What mandatory greenhouse gas emissions reductions programs have begun**  
9 **to be examined in the U.S. federal government?**

10 A. To date, the U.S. government has not required greenhouse gas emission  
11 reductions. However, a number of legislative initiatives for mandatory emissions  
12 reduction proposals have been introduced in Congress. These proposals establish  
13 carbon dioxide emission trajectories below the projected business-as-usual  
14 emission trajectories, and they generally rely on market-based mechanisms (such  
15 as cap and trade programs) for achieving the targets. The proposals also include  
16 various provisions to spur technology innovation, as well as details pertaining to  
17 offsets, allowance allocation, restrictions on allowance prices and other issues.  
18 Some of the federal proposals that would require greenhouse gas emission  
19 reductions that had been submitted in Congress are summarized in Table 1  
20 below.<sup>30</sup>

21 **Table 1. Summary of Mandatory Emissions Targets in Proposals**  
22 **Discussed in Congress**<sup>31</sup>

Proposed National Policy	Title or Description	Year Proposed	Emission Targets	Sectors Covered
McCain Lieberman S.139	Climate Stewardship Act	2003	Cap at 2000 levels 2010-2015. Cap at 1990 levels beyond 2015.	Economy-wide, large emitting sources
McCain Lieberman SA 2028	Climate Stewardship Act	2003	Cap at 2000 levels	Economy-wide, large emitting sources

<sup>30</sup> Table 1 is an updated version of Table ES-1 on page 5 of Exhibit \_\_DAS-1, Schedule C.  
<sup>31</sup> More detailed summaries of the bills that have been introduced in the U.S. Senate in the 110<sup>th</sup> Congress are presented in Exhibit \_\_DAS-1, Schedule B.



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McCain Lieberman S 1151	Climate Stewardship and Innovation Act	2005	Cap at 2000 levels	Economy-wide, large emitting sources
National Commission on Energy Policy (basis for Bingaman- Domenici legislative work)	Greenhouse Gas Intensity Reduction Goals	2005	Reduce GHG intensity by 2.4%/yr 2010-2019 and by 2.8%/yr 2020- 2025. Safety-valve on allowance price	Economy-wide, large emitting sources
Jeffords S. 150	Multi-pollutant legislation	2005	2.050 billion tons beginning 2010	Existing and new fossil-fuel fired electric generating plants > 15 MW
Carper S. 843	Clean Air Planning Act	2005	2006 levels (2.655 billion tons CO <sub>2</sub> ) starting in 2009, 2001 levels (2.454 billion tons CO <sub>2</sub> ) starting in 2013.	Existing and new fossil-fuel fired, nuclear, and renewable electric generating plants > 25 MW
Feinstein	Strong Economy and Climate Protection Act	2006	Stabilize emissions through 2010; 0.5% cut per year from 2011-15; 1% cut per year from 2016-2020. Total goal would be 7.25% below current levels.	Economy-wide, large emitting sources
Rep. Udall - Rep. Petri	Keep America Competitive Global Warming Policy Act	2006	Establishes prospective baseline for greenhouse gas emissions, with safety valve.	Energy and energy- intensive industries
Carper S.2724	Clean Air Planning Act	2006	2006 levels by 2010, 2001 levels by 2015	Existing and new fossil-fuel fired, nuclear, and renewable electric generating plants > 25 MW
Kerry and Snowe S.4039	Global Warming Reduction Act	2006	No later than 2010, begin to reduce U.S. emissions to 65% below 2000 levels by 2050	Not specified
Waxman H.R. 5642	Safe Climate Act	2006	2010 -- not to exceed 2009 level, annual reduction of 2% per year until 2020, annual reduction of 5% thereafter	Not specified
Jeffords S. 3698	Global Warming Pollution Reduction Act	2006	1990 levels by 2020, 80% below 1990 levels by 2050	Economy-wide
Feinstein- Carper S.317	Electric Utility Cap & Trade Act	2007	2006 level by 2011, 2001 level by 2015, 1%/year reduction from 2016-2019, 1.5%/year reduction starting in 2020	Electricity sector

**PUBLIC VERSION**

Kerry-Snowe	Global Warming Reduction Act	2007	2010 level from 2010-2019, 1990 level from 2020-2029, 2.5%/year reductions from 2020-2029, 3.5%/year reduction from 2030-2050, 65% below 2000 level in 2050	Economy-wide
McCain-Lieberman S.280	Climate Stewardship and Innovation Act	2007	2004 level in 2012, 1990 level in 2020, 20% below 1990 level in 2030, 60% below 1990 level in 2050	Economy-wide
Sanders-Boxer S.309	Global Warming Pollution Reduction Act	2007	2%/year reduction from 2010 to 2020, 1990 level in 2020, 27% below 1990 level in 2030, 53% below 1990 level in 2040, 80% below 1990 level in 2050	Economy-wide
Olver, et al HR 620	Climate Stewardship Act	2007	Cap at 2006 level by 2012, 1%/year reduction from 2013-2020, 3%/year reduction from 2021-2030, 5%/year reduction from 2031-2050, equivalent to 70% below 1990 level by 2050	US national
Bingaman-Specter S.1766	Low Carbon Economy Act	2007	2012 levels in 2012, 2006 levels in 2020, 1990 levels by 2030. President may set further goals $\geq 60\%$ below 2006 levels by 2050 contingent upon international effort	Economy-wide

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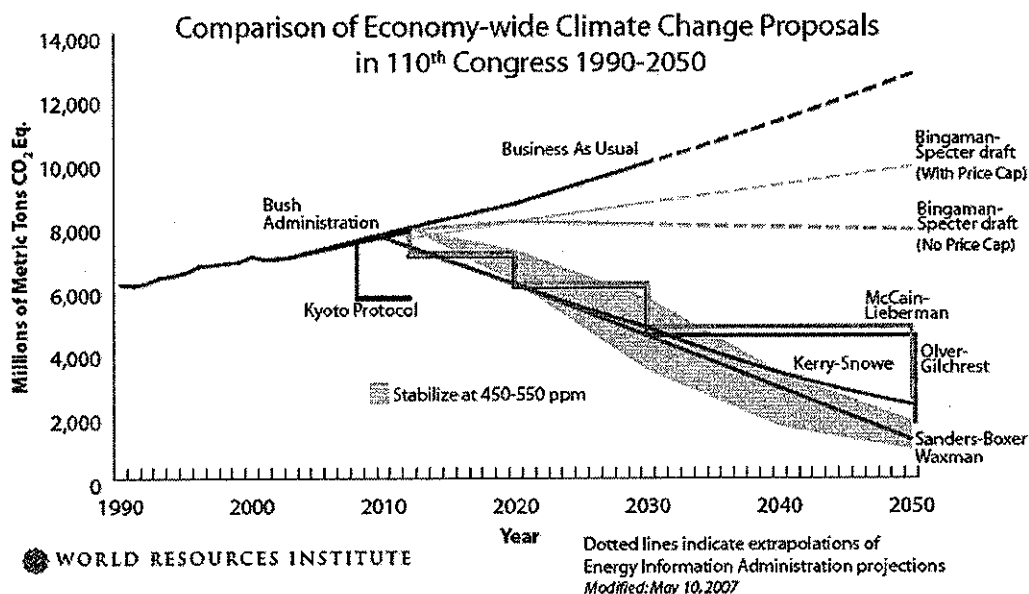
8

In addition, Senators Lieberman and Warner have issued a set of discussion principles for proposed greenhouse gas legislation. This legislation would mandate 2005 emission levels in 2012, 10% below 2005 levels by 2020, 30% below 2005 levels by 2030, 50% below 2005 levels by 2040, and 70% below 2005 levels by 2050.

The emissions levels that would be mandated by the bills that have been introduced in the current Congress are shown in Figure 1 below:

**PUBLIC VERSION**

**Figure 1: Emissions Reductions Required under Climate Change Bills in Current US Congress**



The shaded area in Figure 1 above represents the 60% to 80% range of emission reductions from current levels that many now believe will be necessary to stabilize atmospheric CO<sub>2</sub> concentrations by the middle of this century.

Many of the bills that have been introduced in the 110<sup>th</sup> Congress call for emissions reductions to levels that are far below the levels considered in the studies on which IPL has based its CO<sub>2</sub> price forecasts.

**Q. Is it reasonable to believe that the prospects for passage of federal legislation for the regulation of greenhouse gas emissions have improved as a result of last November's federal elections?**

**A.** Yes. As shown by the number of proposals being introduced in Congress and public statements of support for taking action, there certainly are an increasing numbers of legislators who are inclined to support passage of legislation to regulate the emissions of greenhouse gases.

**PUBLIC VERSION**

1           Nevertheless, my conclusion that significant greenhouse gas regulation in the U.S.  
2           is inevitable is not based on the results of any single election or on the fate of any  
3           single bill introduced in Congress.

4   **Q.    Are individual states also taking actions to reduce greenhouse gas emissions?**

5   A.    Yes. A number of states are taking significant actions to reduce greenhouse gas  
6           emissions. In fact, as Alliant Energy has noted, [REDACTED]

7           [REDACTED]<sup>32</sup>

8           For example, Table 2 below lists the emission reduction goals that have been  
9           adopted by states in the U.S. Regional action also has been taken in the Northeast  
10          and Western regions of the nation.

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<sup>32</sup> IPL's Confidential Response to OCA DR. No. 60, Attachment A, page 6 of 24.

**PUBLIC VERSION**

**Table 2: Announced State and Regional Greenhouse Gas Emission Reduction Goals**

State	GHG Reduction Goal	Western Climate Initiative member (15% below 2005 levels by 2020)	Regional Greenhouse Gas Initiative member (Cap at current levels 2009-2015, reduce this by 10% by 2019)
Arizona	2000 levels by 2020; 50% below 2000 levels by 2040	yes	
California	2000 levels by 2010; 1990 levels by 2020; 80% below 1990 levels by 2050	yes	
Connecticut	1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 2001 levels in the long term		yes
Delaware			yes
Florida	2000 levels by 2017, 1990 levels by 2025, and 80 percent below 1990 levels by 2050		
Hawaii	1990 levels by 2020		
Illinois	1990 levels by 2020; 60% below 1990 levels by 2050		
Maine	1990 levels by 2010; 10% below 1990 levels by 2020; 75-80% below 2003 levels in the long term		yes
Maryland			yes
Massachusetts	1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 1990 levels in the long term		yes
Minnesota	15% by 2015, 30% by 2025, 80% by 2050		
New Hampshire	1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 2001 levels in the long term		yes
New Jersey	1990 levels by 2020; 80% below 2006 levels by 2050		yes
New Mexico	2000 levels by 2012; 10% below 2000 levels by 2020; 75% below 2000 levels by 2050	yes	
New York	5% below 1990 levels by 2010; 10% below 1990 levels by 2020		yes
Oregon	Stabilize by 2010; 10% below 1990 levels by 2020; 75% below 1990 levels by 2050	yes	
Rhode Island	1990 levels by 2010; 10% below 1990 levels by 2020; 75-80% below 2001 levels in the long term		yes
Utah		yes	
Vermont	1990 levels by 2010; 10% below 1990 levels by 2020; 75-85% below 2001 levels in the long term		yes
Washington	1990 levels by 2020; 25% below 1990 levels by 2035; 50% below 1990 levels by 2050	yes	

**PUBLIC VERSION**

1 **Q. Have recent polls indicated that the American people are increasingly in**  
2 **favor of government action to address global warming concerns?**

3 A. Yes. A summer 2006 poll by Zogby International showed that an overwhelming  
4 majority of Americans are more convinced that global warming is happening than  
5 they were even two years ago. In addition, Americans also are connecting intense  
6 weather events like Hurricane Katrina and heat waves to global warming.<sup>33</sup>  
7 Indeed, the poll found that 74% of all respondents, including 87% of Democrats,  
8 56% of Republicans and 82% of Independents, believe that we are experiencing  
9 the effects of global warming.

10 The poll also indicated that there is strong support for measures to require major  
11 industries to reduce their greenhouse gas emissions to improve the environment  
12 without harming the economy – 72% of likely voters agreed such measures  
13 should be taken.<sup>34</sup>

14 Other recent polls reported similar results. For example, a recent Stanford  
15 University/Associated Press poll found that 84 percent of Americans believe that  
16 global warming is occurring, with 52 percent expecting the world's natural  
17 environment to be in worse shape in ten years than it is now.<sup>35</sup> Eighty-four  
18 percent of Americans want a great deal or a lot to be done to help the environment  
19 during the next year by President Bush, the Congress, American businesses and/or  
20 the American public. This represents ninety-two percent of Democrats and  
21 seventy-seven percent of Republicans.

22 At the same time, according to a recent public opinion survey for the  
23 Massachusetts Institute of Technology, Americans now rank climate change as  
24 the country's most pressing environmental problem—a dramatic shift from three

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<sup>33</sup> "Americans Link Hurricane Katrina and Heat Wave to Global Warming," Zogby International, August 21, 2006, available at [www.zogby.com/news](http://www.zogby.com/news).

<sup>34</sup> Id.

<sup>35</sup> *The Second Annual "America's Report Card on the Environment" Survey by the Woods Institute for the Environment at Stanford University in collaboration with The Associated Press*, September 25, 2007. [http://woods.stanford.edu/docs/surveys/2006\\_ClimatePoll.pdf](http://woods.stanford.edu/docs/surveys/2006_ClimatePoll.pdf).

**PUBLIC VERSION**

1 years ago, when they ranked climate change sixth out of 10 environmental  
2 concerns.<sup>36</sup> Almost three-quarters of the respondents felt the government should  
3 do more to deal with global warming, and individuals were willing to spend their  
4 own money to help.

5 **Q. What CO<sub>2</sub> prices has IPL used in its modeling of the proposed SGS Unit 4**  
6 **Project?**

7 A. IPL did not assume any annual carbon or CO<sub>2</sub> emissions cost for the base case of  
8 its 2007 Electric Resource Plan although it did prepare two sensitivity analyses  
9 assuming what it calls low CO<sub>2</sub> and high CO<sub>2</sub> emissions allowance prices.<sup>37</sup>

10 **Q. Is it prudent and reasonable to assume no CO<sub>2</sub> emissions allowance prices in**  
11 **the Reference Case Analysis?**

12 A. No. It is not prudent to project that there will be no regulation of greenhouse gas  
13 emissions at any point over the next thirty or more years. As I have discussed  
14 above and Alliant Energy has acknowledged, federal regulation of greenhouse gas  
15 emissions is highly likely in the near future. States also have started to take  
16 actions to reduce greenhouse gas emissions both on their own and as part of  
17 regional initiatives. Given all of its public statements and [REDACTED]  
18 about the likelihood, [REDACTED], of mandating requirements for  
19 reducing greenhouse gas emissions and that the time for action is now, I find it  
20 very hard to accept that IPL believes that this is a reasonable scenario on which to  
21 base decisions about future generation alternatives.

---

<sup>36</sup> MIT Carbon Sequestration Initiative, 2006 Survey,  
<http://sequestration.mit.edu/research/survey2006.html>

<sup>37</sup> IPL Response to OCA DR No. 16, IPL Response to OCA DR. No. 15 and IPL Response to OCA  
DR. No. 19, Attachment A, page 47 of 55.

**PUBLIC VERSION**

1   **Q.**    Does IPL discuss in its Application what its total greenhouse gas emissions  
2           will be if its adds SGS Unit 4 to its generation mix, as it proposes?

3   A.    Not really. All that IPL does is to compare the projected CO<sub>2</sub>, methane and  
4           Nitrous Oxide emissions from the proposed supercritical SGS Unit 4 against a  
5           hypothetical comparable sub critical unit.<sup>38</sup> However, this comparison does  
6           reveal that SGS Unit 4 would emit 5.935 million tons of CO<sub>2</sub> into the atmosphere  
7           each year.

8   **Q.**    Have you seen any projections of what IPL's future total annual CO<sub>2</sub>  
9           emissions would be under the Company's base case IRP which is based on  
10          the assumption that there will be no regulation of greenhouse gas emissions?

11 A.    Yes. As shown in Figures 2 and 3 below, IPL's annual CO<sub>2</sub> emissions would  
12        [REDACTED] percent 2008 and 2020 if the Company's completes  
13        it Resource Plan that includes the addition of SGS Unit 4 in 2013. Total Alliant  
14        Energy CO<sub>2</sub> emissions would [REDACTED] percent during the  
15        same period.

---

<sup>38</sup> Table 1.6.6-1, at page 37 of IPL's Application for A Generating Facility Siting Certificate.



**PUBLIC VERSION**

1           **Figure 2:     Future IPL CO2 Emissions Under Current IRP including SGS**  
2                    Unit 4<sup>39</sup> [CONFIDENTIAL]

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<sup>39</sup>           Source: IPL's Confidential Response to OCA DR. No. 76, Attachment A.

**PUBLIC VERSION**

1           **Figure 3:     Future Alliant Energy CO<sub>2</sub> Emissions Under Current IRP**  
2                           **including SGS Unit 4<sup>40</sup>**  
3                           **[CONFIDENTIAL]**

4  
5       **Q.     How do these future IPL and Alliant emissions levels compare to the**  
6                   **emissions target levels in the bills that have been introduced in the current**  
7                   **U.S. Congress?**

8       A.     Alliant Energy has compared its projected CO<sub>2</sub> emissions with the emissions  
9                   levels that would be mandated by six of the current bills in Congress. As shown  
10                  in Figure 4 below, Alliant's CO<sub>2</sub> emissions under its preferred Resource Plan that  
11                  includes SGS Unit 4 would be [REDACTED]

12               [REDACTED]  
13               [REDACTED]

---

<sup>40</sup>       Source: IPL's Confidential Response to OCA DR. No. 76, Attachment A.

**PUBLIC VERSION**

1           **Figure 4:     Future Alliant Energy CO<sub>2</sub> Emissions Versus National**  
2           **Proposals<sup>41</sup> [CONFIDENTIAL]**

3

4   **Q.     Is IPL aware that carbon costs are becoming a more significant factor in**  
5   **resource planning?**

6   A.     Yes. A March 2007 presentation for Alliant Energy's senior management as part  
7   of the Company's Strategic Planning Process 2008 summarized the risks and  
8   considerations related to the goal of building " [REDACTED]

9   This presentation contained the following observations:

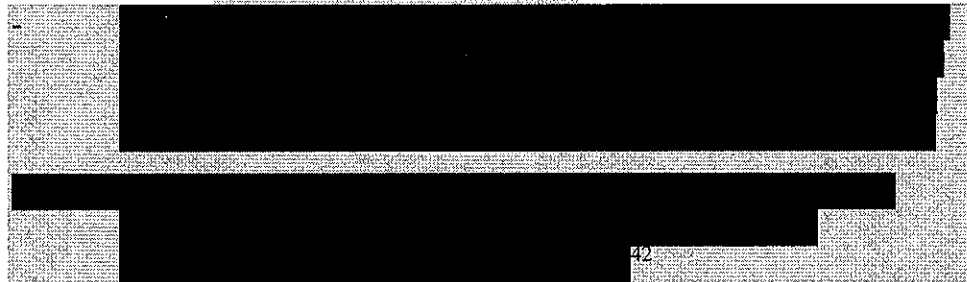
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]

---

<sup>41</sup> Source: *Climate Change Strategy*, presentation at Alliant Energy's Strategic Planning Committee Meeting, May 31, 2007. Provided in IPL's Confidential Response to OCA DR. No. 21, Attachment A, at page 157 of 212.

**PUBLIC VERSION**

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7



8 **Q. What CO<sub>2</sub> prices did IPL assume in its low and high CO<sub>2</sub> sensitivities?**

9 A. IPL's low and high CO<sub>2</sub> price forecasts are presented in Table 3 below:

10 **Table 3: IPL CO<sub>2</sub> Price Forecasts**

	IPL Low CO <sub>2</sub> Prices Nom\$	IPL Low CO <sub>2</sub> Prices 2005\$	IPL High CO <sub>2</sub> Prices Nom\$	IPL High CO <sub>2</sub> Prices 2005\$
2010	\$8.00	\$7.1	\$15.00	\$13.26
2011	\$8.46	\$7.3	\$16.28	\$14.03
2012	\$8.95	\$7.5	\$17.66	\$14.86
2013	\$9.47	\$7.8	\$19.16	\$15.72
2014	\$10.02	\$8.0	\$20.79	\$16.65
2015	\$10.61	\$8.3	\$22.55	\$17.62
2016	\$11.22	\$8.6	\$24.47	\$18.65
2017	\$11.87	\$8.8	\$26.55	\$19.74
2018	\$12.56	\$9.1	\$28.81	\$20.90
2019	\$13.29	\$9.4	\$31.26	\$22.12
2020	\$14.06	\$9.7	\$33.91	\$23.42
2021	\$14.87	\$10.0	\$36.80	\$24.79
2022	\$15.74	\$10.3	\$39.93	\$26.24
2023	\$16.65	\$10.7	\$43.32	\$27.77
2024	\$17.62	\$11.0	\$47.00	\$29.40
2025	\$18.64	\$11.4	\$51.00	\$31.12
2026	\$19.72	\$11.7	\$55.33	\$32.94
2027	\$20.86	\$12.1	\$60.03	\$34.87
2028	\$22.07	\$12.5	\$65.14	\$36.91
2029	\$23.35	\$12.9	\$70.67	\$39.07
2030	\$24.71	\$13.3	\$76.68	\$41.36

11

12 **Q. What happens to these price forecasts after 2030?**

13 A. The Company's low CO<sub>2</sub> forecast would continue to increase at 5.3 percent per  
14 year. IPL's high CO<sub>2</sub> price forecast would continue to increase at 8.5 percent per  
15 year.

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<sup>42</sup> Id., at page 12 of 24.

**PUBLIC VERSION**

1   **Q.    How did IPL develop its low and high CO<sub>2</sub> price forecasts?**

2    A.    IPL has said that its low CO<sub>2</sub> price forecast is based on a 2003 MIT analysis of  
3       Senate Bill 139, the original McCain-Lieberman climate change legislation.<sup>43</sup>  
4       The Company also has said that its high CO<sub>2</sub> price forecast is similarly based on a  
5       2003 analysis of the same legislation by the Energy Information Administration  
6       of the U.S. Department of Energy.<sup>44</sup>

7   **Q.    Is it reasonable and prudent to base current CO<sub>2</sub> price forecasts on just these**  
8       **two analyses of a single piece of proposed legislation that was introduced in**  
9       **Congress back in 2003?**

10   A.    No. As I will discuss below, we looked at the results of these same two analyses  
11       when we developed our Synapse CO<sub>2</sub> price forecasts in the spring of 2006.  
12       However, we also considered the results of another eight analyses of both the  
13       2003 McCain-Lieberman bill and of other proposed climate change legislation  
14       that had been introduced in Congress between 2003 and 2006.<sup>45</sup> Thus, we  
15       examined a much wider range of inputs when we developed our CO<sub>2</sub> price  
16       forecasts. We believe that it is necessary to do so because of the uncertainties  
17       associated with the design, timing and implementation of federal greenhouse gas  
18       regulations. IPL, in contrast, has based its projected CO<sub>2</sub> prices on optimistic  
19       scenarios involving a single bill.

20       As I also will discuss in detail below, we also have continued to re-evaluate the  
21       reasonableness of our CO<sub>2</sub> price forecasts in light of the proposed climate change  
22       legislation that is being considered in the current Congress.

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<sup>43</sup> IPL Response to OCA DR. No. 19, Attachment A, at page 47 of 55.

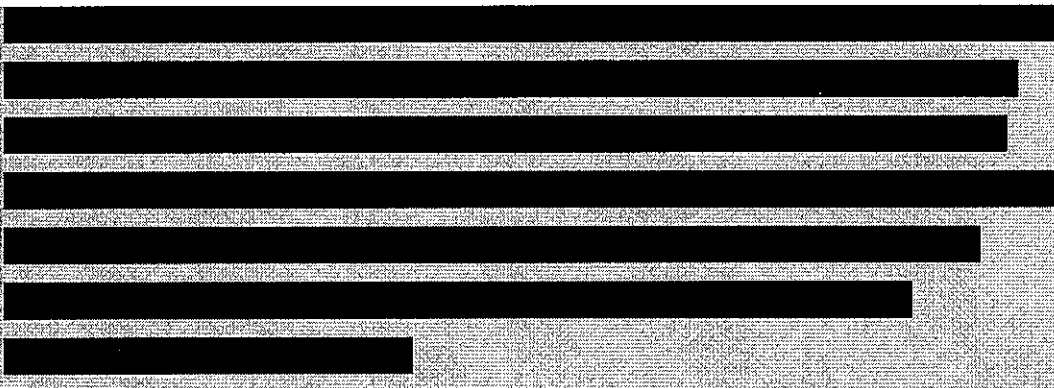
<sup>44</sup> Id.

<sup>45</sup> See the discussion in Exhibit \_\_DAS-1, Schedule C, beginning at page 41 of 63.

**PUBLIC VERSION**

1   **Q.**    How do the emissions targets assumed by IPL in its base CO<sub>2</sub> forecast  
2           compare to the emissions target levels in the bills that have been introduced  
3           in the current U.S. Congress?

4   **A.**    The emissions levels considered in the 2003 McCain-Lieberman legislation  
5           (Senate Bill S. 139), on which IPL bases its CO<sub>2</sub> price forecasts, are significantly  
6           less stringent (that is, higher) than would be required under the great majority of  
7           the bills currently under consideration in Congress.

8           A large rectangular area of the document is completely redacted with black ink, covering approximately six lines of text.

15           **Table 4:   Targets in Current National Climate Change<sup>46</sup>**  
16                           **[CONFIDENTIAL]**

17

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<sup>46</sup>       Source: IPL's Confidential Response to OCA DR. No. 21, Attachment A, page 116 of 212.

**PUBLIC VERSION**

1 Thus, IPL's projected range of CO<sub>2</sub> prices is not consistent with the full range of  
2 emissions reductions that Congress is currently considering.

3 **Q. By how much would IPL and Alliant Energy have to reduce their CO<sub>2</sub>**  
4 **emissions to reach 1990 levels by 2020?**

5 A. Alliant has estimated that IPL would have to reduce its projected base case CO<sub>2</sub>  
6 emissions [REDACTED].<sup>47</sup> Alliant  
7 Energy would have to [REDACTED]  
8 [REDACTED].<sup>48</sup>

9 **Q. Is IPL's "high" CO<sub>2</sub> price a reasonable high end of a range of CO<sub>2</sub> price**  
10 **forecasts?**

11 A. No. Although the forecast is far more reasonable than the Company's low CO<sub>2</sub>  
12 price forecast, it still is too low to be considered the high end of a reasonable  
13 range of possible future CO<sub>2</sub> emissions allowance prices. In particular, IPL's high  
14 CO<sub>2</sub> price forecast does not reflect the emissions allowance prices that could  
15 result from a number of the bills that have been introduced in Congress which  
16 propose very significant emissions reductions.

17 **Q. Has Synapse developed a carbon price forecast that would assist the Board in**  
18 **evaluating the proposed SGS Unit 4?**

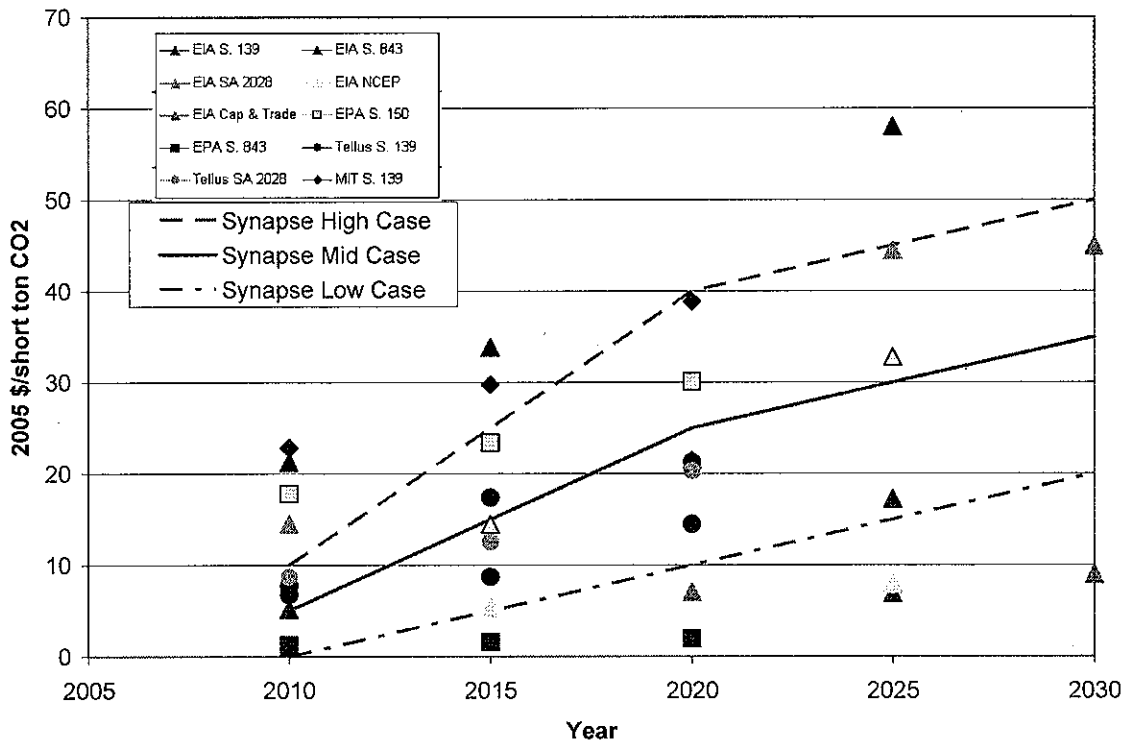
19 A. Yes. Synapse's forecast of future carbon dioxide emissions prices are presented in  
20 Figure 5 below.

---

<sup>47</sup> IPL Confidential Response to OCA DR. No. 21, Attachment A, at pages 58 and 65 of 212.  
<sup>48</sup> IPL Confidential Response to OCA DR. No. 21, Attachment A, at page 56 of 212.

**PUBLIC VERSION**

**Figure 5. Synapse Carbon Dioxide Prices**



**Q. What is Synapse's carbon price forecast on a levelized basis?**

A. Synapse's forecast, levelized<sup>49</sup> over 20 years, 2011 – 2030, is provided in Table 4 below.

**Table 5: Synapse's Levelized Carbon Price Forecast (2005\$/ton of CO<sub>2</sub>)**

Low Case	Mid Case	High Case
\$8.23	\$19.83	\$31.43

**Q. When were the Synapse CO<sub>2</sub> emission allowance price forecasts shown in Figure 5 developed?**

A. The Synapse CO<sub>2</sub> emission allowance price forecasts were developed in the Spring of 2006.



**PUBLIC VERSION**

1     **Q.     What have you assumed for the trajectory of CO<sub>2</sub> prices after 2030?**

2     A.     For the purposes of the OCA's EGEAS modeling in this case, we have  
3             conservatively assumed that CO<sub>2</sub> prices will increase at only the overall rate of  
4             inflation after 2030, that is, they will not increase in constant 2005 dollars.

5     **Q.     How were these CO<sub>2</sub> price forecasts developed?**

6     A.     The basis for the Synapse CO<sub>2</sub> price forecasts is described in detail in  
7             Exhibit\_\_\_DAS-1, Schedule C, starting on page 41 of 63.

8             In general, the price forecasts were based, in part, on the results of economic  
9             analyses of individual bills that had been submitted in the 108<sup>th</sup> and 109<sup>th</sup>  
10            Congresses. We also considered the likely impacts of state, regional and  
11            international actions, the potential for offsets and credits, and the likely future  
12            trajectories of both emissions constraints and technological programs.

13    **Q.     Are the Synapse CO<sub>2</sub> price forecasts shown in Figure 5 based on any**  
14            **independent modeling?**

15    A.     Yes. Although Synapse did not perform any new modeling to develop our CO<sub>2</sub>  
16             price forecasts, our CO<sub>2</sub> price forecasts were based on the results of independent  
17             modeling prepared at the Massachusetts Institute of Technology ("MIT"), the  
18             Energy Information Administration of the Department of Energy ("EIA"), Tellus,  
19             and the U.S. Environmental Protection Agency ("EPA").<sup>50</sup>

20             In fact, two of the studies on which we relied when we developed the Synapse  
21             CO<sub>2</sub> price forecasts are the same MIT and EPA assessments of the 2003 McCain  
22             Lieberman bill which IPL has taken its low and high CO<sub>2</sub> prices.

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<sup>49</sup>     A value that is "levelized" is the present value of the total cost converted to equal annual  
payments. Costs are levelized in real dollars (i.e., adjusted to remove the impact of inflation).  
<sup>50</sup>     See Table 6.2 on page 42 of 63 of Exhibit\_\_\_DAS-1, Schedule C.

**PUBLIC VERSION**

1 **Q. Do the triangles, squares, circles and diamond shapes in Figure 5 above**  
2 **reflect the results of all of the scenarios examined in the MIT, EIA, EPA and**  
3 **Tellus analyses upon which Synapse relied?**

4 A. As a general rule, Synapse focused our attention either on the modeler's primary  
5 scenario or on the presented high and low scenarios to bracket the range of  
6 results.

7 For example, the blue triangles in Figure 5 represent the results from EIA's  
8 modeling of the 2003 McCain Lieberman bill, S.139. Synapse used the results  
9 from EIA's primary case which reflected the bill's provisions that allowed: (a)  
10 allowance banking; (b) use of up to 15 percent offsets in Phase 1 (2010-2015) and  
11 up to 10 percent offsets in Phase II (2016 and later years). The S.139 case also  
12 assumed commercial availability of advanced nuclear plants and of geological  
13 carbon sequestration technologies in the electric power industry.

14 Similarly, the blue diamonds in Figure 5 represent the results from MIT's  
15 modeling of the same 2003 McCain Lieberman bill, S.139. MIT examined 14  
16 scenarios which considered the impact of factors such as the tightening of the cap  
17 in Phase II, allowance banking, availability of outside credits, and assumptions  
18 about GDP and emissions growth. Synapse included the results from Scenario 7  
19 which included allowance banking and zero-cost credits, which effectively  
20 relaxed the cap by 15% and 10% in Phase I and Phase II, respectively. Synapse  
21 selected this scenario as the closest to the S.139 legislative proposal since it  
22 assumed that the cap was tightened in a second phase, as in Senate Bill 139.

23 At the same time, some of the studies only included a single scenario representing  
24 the specific features of the legislative proposal being analyzed. For example, SA  
25 2028, the Amended McCain Lieberman bill set the emissions cap at constant 2000  
26 levels and allowed for 15 percent of the carbon emission reductions to be met  
27 through offsets from non-covered sectors, carbon sequestration and qualified  
28 international sources. EIA presented one scenario in its table for this policy. The  
29 results from this scenario are presented in the green triangles in Figure 5.

**PUBLIC VERSION**

1 **Q. Do you believe that technological improvements and policy designs will**  
2 **reduce the cost of CO<sub>2</sub> emissions?**

3 A. Yes. Exhibit \_\_DAS-1, Schedule C identifies a number of factors that will  
4 affect projected allowance prices. These factors include: the base case emissions  
5 forecast; whether there are complimentary policies such as aggressive investments  
6 in energy efficiency and renewable energy independent of the emissions  
7 allowance market; the policy implementation timeline; the reduction targets in a  
8 proposal; program flexibility involving the inclusion of offsets (perhaps  
9 international) and allowance banking; technological progress; and emissions co-  
10 benefits.<sup>51</sup> In particular, Synapse anticipates that technological innovation will  
11 temper allowance prices in the out years of our forecast.

12 **Q. Could carbon capture and sequestration be a technological innovation that**  
13 **might temper or even put a ceiling on CO<sub>2</sub> emissions allowance prices?**

14 A. Yes.

15 **Q. Does IPL see carbon capture technology as a currently commercially viable**  
16 **way to mitigate CO<sub>2</sub> emissions from pulverized coal plants like SGS Unit 4?**

17 A. No. As I noted earlier, IPL has concluded that “commercially-available back-end  
18 CO<sub>2</sub> emissions control technologies do not currently exist.”<sup>52</sup>

19 **Q. Do you agree with this assessment?**

20 A. Yes. I agree with this view of the current status of carbon capture and  
21 sequestration technology although I would note that there is some experience with  
22 the piping of CO<sub>2</sub> gas for enhanced oil recovery and industrial use in certain  
23 geographical areas.

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<sup>51</sup> Exhibit \_\_DAS-1, Schedule C, at pages 46 to 49 of 63.

<sup>52</sup> IPL Response to OCA DR. No. 44.

**PUBLIC VERSION**

1   **Q.    Is there any consensus when carbon capture and sequestration technology**  
2       **will become commercially viable for plants like SGS Unit 4?**

3    A.    No. I have seen estimates that carbon capture and sequestration technology may  
4       be proven and commercially viable from as early as 2015 to 2030 or later. For  
5       example, the February 2007 *Future of Coal* study from the Massachusetts  
6       Institute of Technology:

7               Many years of development and demonstration will be required to  
8               prepare for its successful, large scale adoption in the U.S. and  
9               elsewhere. A rushed attempt at CCS [carbon capture and  
10              sequestration] implementation in the face of urgent climate  
11              concerns could lead to excess cost and heightened local  
12              environmental concerns, potentially lead to long delays in  
13              implementation of this important option.<sup>53</sup>

14   **Q.    What are the currently estimated costs for carbon capture and sequestration**  
15       **at pulverized coal facilities?**

16    A.    Hope has been expressed concerning potential technological improvements and  
17       learning curve effects that might reduce the estimated cost of carbon capture and  
18       sequestration. However, I have seen recent studies by objective sources that  
19       estimate that the cost of carbon capture and sequestration could increase the cost  
20       of producing electricity at coal-fired power plants by 60-80 percent, on a \$/MWh  
21       basis. For example, a very recent study by the National Energy Technology  
22       Laboratory ("NETL") projects that the cost of carbon capture and sequestration  
23       would be \$68/ton of CO<sub>2</sub> avoided, in 2007 dollars, for pulverized coal plants.<sup>54</sup>  
24       This translates in to \$65/ton of CO<sub>2</sub> avoided, in 2005 dollars.

25       The March 2007 "Future of Coal Study" from the Massachusetts Institute of  
26       Technology estimated that the cost of carbon capture and sequestration would be

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<sup>53</sup>       *The Future of Coal, Options for a Carbon-Constrained World, an Interdisciplinary MIT Study*,  
February 2007, at page 15. Available at <http://web.mit.edu/coal/>.

<sup>54</sup>       *Cost and Performance Baseline for Fossil Energy Plants*, National Energy Technology  
Laboratory, Revised August 2007, at page 27. Available at [http://www.netl.doe.gov/energy-](http://www.netl.doe.gov/energy-analyses/pubs/Bituminous%20Baseline_Final%20Report.pdf)  
[analyses/pubs/Bituminous%20Baseline\\_Final%20Report.pdf](http://www.netl.doe.gov/energy-analyses/pubs/Bituminous%20Baseline_Final%20Report.pdf)

**PUBLIC VERSION**

1 about \$28/ton although it also acknowledged that there was uncertainty in that  
2 figure.<sup>55</sup> The tables in that study also indicated significantly higher costs for  
3 carbon capture for pulverized coal facilities, in the range of about \$40/ton and  
4 higher.<sup>56</sup>

5 However, even when the technology for CO<sub>2</sub> capture matures, there will always  
6 be significant regional variations in the cost of storage due to the proximity and  
7 quality of storage sites.

8 **Q. Have you seen any Company estimates of what it would cost to add carbon**  
9 **capture and sequestration technologies to the proposed SGS Unit 4?**

10 A. No. IPL has only provided some generic estimates of the cost of employing  
11 carbon capture and sequestration technologies to coal plants. For example, the  
12 Company has cited [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED].<sup>57</sup> Using data from the February 2007 MIT Future of  
16 Coal Study, the Company has estimated that [REDACTED]

17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]  
21 [REDACTED]

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<sup>55</sup> *The Future of Coal, Options for a Carbon-Constrained World*, Massachusetts Institute of Technology, March 2007, at page xi. Available at <http://web.mit.edu/coal/>.

<sup>56</sup> *Id.*, at page 19.

<sup>57</sup> IPL Response to OCA DR No. 97, Attachment A, at page 10.

<sup>58</sup> IPL Response to OCA DR No. 97, Attachment B, at page 1.

<sup>59</sup> IPL Response to OCA DR No. 97, Attachment C, at page 1.

**PUBLIC VERSION**

1 **Q. Does IPL reflect any costs associated with employing carbon capture and**  
2 **sequestration technologies in any of its economic analyses of SGS Unit 4?**

3 A. No.

4 **Q. Has IPL included any carbon capture and sequestration equipment or**  
5 **features in the current design or cost estimate for SGS Unit 4?**

6 A. No. The Company has said that at this time no specific equipment has been  
7 included in the design of SGS Unit 4 exclusively for the purpose of carbon  
8 capture and sequestration.<sup>60</sup> However, some design features have been made for  
9 other reasons that IPL contends will make carbon capture less expensive.<sup>61</sup>  
10 According to the Company, other design features may also be feasible. IPL has  
11 committed to developing a white paper to study this issue in more depth and to  
12 evaluate the options that are available.<sup>62</sup>

13 **Q. Has IPL reflected in its economic analyses any of the performance penalties**  
14 **that can be expected to be experienced as a result of the addition and use of**  
15 **carbon capture and sequestration technologies at SGS Unit 4?**

16 A. No. Recent studies, such as the 2007 study by the National Energy Technology  
17 Laboratory, project that the output of a coal plant could be reduced by between 10  
18 percent and 29 percent as a result of the addition of carbon capture and  
19 sequestration technologies. However, IPL has not included any such performance  
20 penalties in any of the economic analyses we have reviewed. In fact, IPL has not  
21 made any specific assessments of the performance penalties associated with the  
22 addition of carbon capture and sequestration equipment to the proposed unit.<sup>63</sup>  
23 All that IPL could do is to refer to a generic, and confidential, EPRI study of  
24 "Updated Cost and Performance Estimates for Clean Coal Technologies including  
25 CO<sub>2</sub> Capture – 2006." However, the Company has not used in its analyses any of

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<sup>60</sup> IPL Response to OCA DR. No. 180.

<sup>61</sup> IPL Responses to OCA DR. No. 180 and OCA DR. No. 181.

<sup>62</sup> IPL Response to OCA DR. No. 181.

**PUBLIC VERSION**

1 the available information from that study, or from any of the public studies that  
2 have been released in recent years on the costs and performance penalties  
3 associated with the addition of carbon capture and sequestration technologies.

4 **Q. Do the Synapse CO<sub>2</sub> price forecasts reflect the potential for the inclusion of**  
5 **domestic offsets and, perhaps, international offsets in U.S. carbon regulation**  
6 **policy?**

7 A. Yes. Even the Synapse high CO<sub>2</sub> price forecast is consistent with, and in some  
8 cases lower than, the results of studies that assume the use of some levels of  
9 offsets to meet mandated emission limits. For example, as shown in Figure 6 the  
10 highest price scenarios in the years 2015, 2020 and 2025 were taken from the EIA  
11 and MIT modeling of the original and the amended McCain-Lieberman proposals.  
12 Each of the prices for these scenarios shown in Figure 5 reflects the allowed use  
13 of offsets.

14 **Q. How do the Synapse CO<sub>2</sub> price forecasts compare to the CO<sub>2</sub> prices used by**  
15 **IPL in its recent analyses of the proposed SGS Unit 4?**

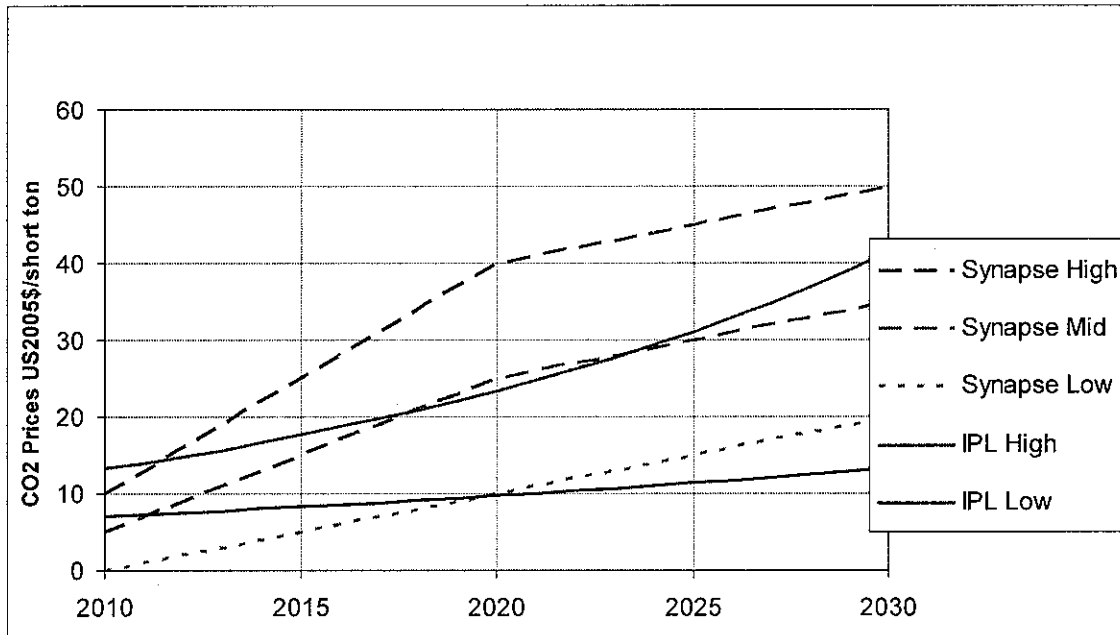
16 A. The Synapse and IPL CO<sub>2</sub> price forecasts are shown in Figure 6 below. As this  
17 Figure demonstrates, IPL's high CO<sub>2</sub> price forecast is similar to our mid-forecast.

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<sup>63</sup> IPL Response to OCA DR. No. 35.

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Figure 6: Synapse and IPL CO<sub>2</sub> Price Forecasts



**Q. Have you seen any recent independent forecasts of future CO<sub>2</sub> emissions prices that are similar to the Synapse forecast?**

**A.** Yes. The Synapse CO<sub>2</sub> emissions allowance price forecasts compare favorably to recent forecasts of future CO<sub>2</sub> prices used in resource planning analyses.

For example, last June the New Mexico Public Regulation Commission ordered that utilities should consider a range of CO<sub>2</sub> prices in their resource planning.<sup>64</sup>

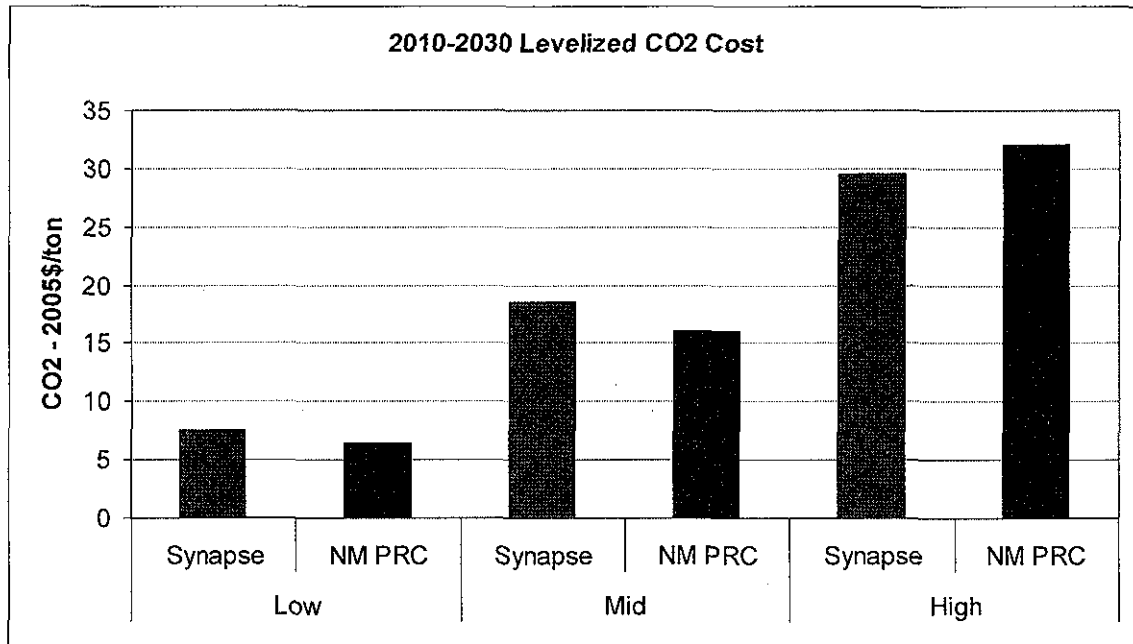
This range runs from \$8 to \$40 per metric ton, beginning in 2010 and increasing at the overall 2.5 percent rate of inflation. This range includes significantly higher CO<sub>2</sub> prices than the low and high CO<sub>2</sub> prices used by IPL in its analyses of SGS Unit 4. Figure 7 below shows that the New Mexico Commission's CO<sub>2</sub> prices are extremely close to the Synapse price forecasts on a levelized basis.

<sup>64</sup> A copy of this Order is included as Exhibit \_\_DAS-1, Schedule D.



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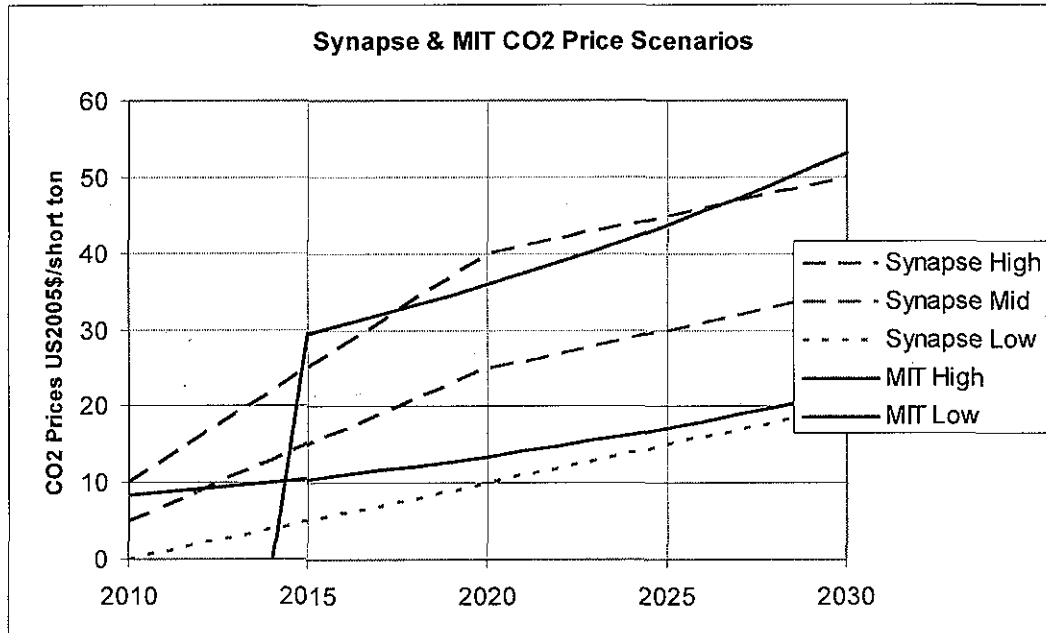
**Figure 7: CO<sub>2</sub> Price Scenarios – Synapse & 2007 NM Public Regulation Commission**



Similarly, the recent MIT study on *The Future of Coal* contained a set of assumptions about high and low future CO<sub>2</sub> emission allowance price. Figure 8 below shows that the CO<sub>2</sub> price trajectories in the MIT study are very close to the high and low Synapse forecasts.

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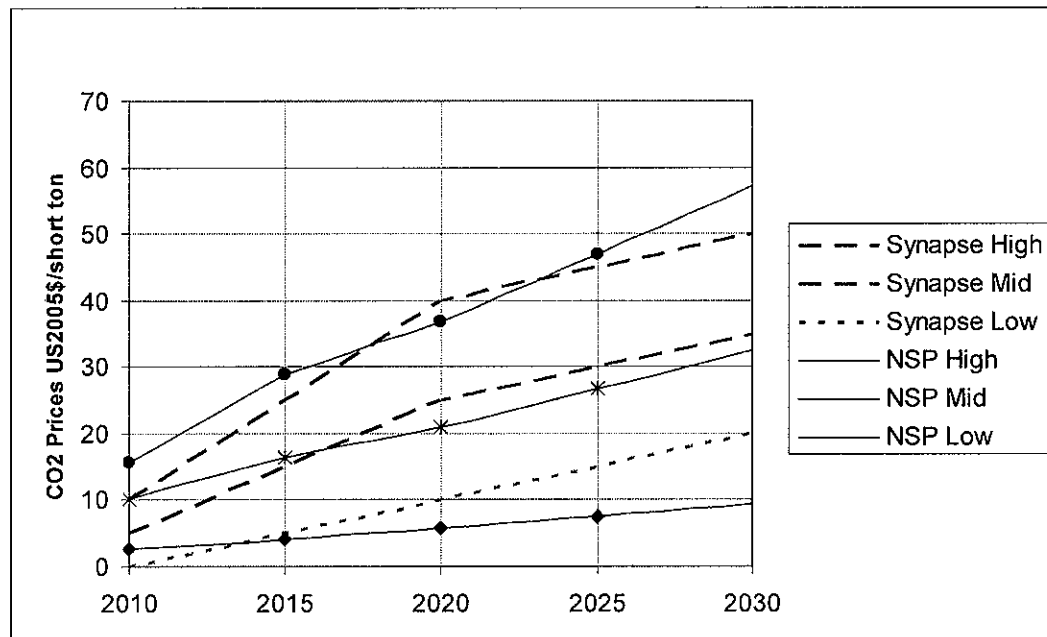
**Figure 8: CO<sub>2</sub> Price Scenarios – Synapse & MIT March 2007 Future of Coal Study**



At the same time, in its recently completed Integrated Resource Planning process, Nova Scotia Power used CO<sub>2</sub> prices that were developed by Natsource. Figure 9 below shows that the CO<sub>2</sub> prices used by Nova Scotia Power are very similar to the Synapse price forecasts.

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**Figure 9: CO<sub>2</sub> Price Scenarios – Synapse & Nova Scotia Power IRP**



**Q. Do you believe that the Synapse CO<sub>2</sub> price forecasts remain valid despite being based, in part, on analyses from 2003-2005 which examined legislation that was proposed in past Congresses?**

**A.** Yes. Synapse believes it is important for the Commission to rely on the most current information available about future CO<sub>2</sub> emission allowance prices, as long as that information is objective and credible. The analyses upon which Synapse relied when we developed our CO<sub>2</sub> price forecasts were the most recent analyses and technical information available when Synapse developed its CO<sub>2</sub> price forecasts in the Spring of 2006. However, new information shows that our CO<sub>2</sub> prices remain valid even though the original bills that comprised part of the basis for the forecasts expired at the end of the Congress in which they were introduced.

Most importantly, many of the new greenhouse gas regulation bills that have been introduced in Congress are significantly more stringent than the bills that were being considered prior to the spring of 2006. As I will discuss below, the increased stringency of current bills can be expected to lead to higher CO<sub>2</sub>

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1 emission allowance prices. The higher forecast natural gas prices that are being  
2 forecast today, as compared to the natural gas price forecasts from 2003 or 2004,  
3 also can be expected to lead to higher CO<sub>2</sub> emissions allowance prices.

4 **Q. Do the Synapse carbon price forecasts presented in Figures 5 through 9**  
5 **reflect the emission reduction targets in the bills that have been introduced in**  
6 **the current Congress?**

7 A. No. Synapse developed our price forecasts late last spring and relied upon bills  
8 that had been introduced in Congress through that time. The bills that have been  
9 introduced in the current US Congress generally would mandate much more  
10 substantial reductions in greenhouse gas emissions than the bills that we  
11 considered when we developed our carbon price forecasts. Consequently, we  
12 believe that our forecasts are conservative but consistent with the climate change  
13 legislation that has been introduced in the current Congress.

14 **Q. Have you seen any analyses of the CO<sub>2</sub> prices that would be required to**  
15 **achieve the much deeper reductions in CO<sub>2</sub> emissions that would be**  
16 **mandated under the bills currently under consideration in Congress?**

17 A. Yes. An *Assessment of U.S. Cap-and-Trade Proposals* was issued last spring by  
18 the MIT Joint Program on the Science and Policy of Global Change.<sup>65</sup> This  
19 *Assessment* evaluated the impact of the greenhouse gas regulation bills that are  
20 being considered in the current Congress.

21 Twenty nine scenarios were modeled in the *Assessment*. These scenarios reflected  
22 differences in such factors as emission reduction targets (that is, reduce CO<sub>2</sub>  
23 emissions 80% from 1990 levels by 2050, reduce CO<sub>2</sub> emissions 50% from 1990  
24 levels by 2050, or stabilize CO<sub>2</sub> emissions at 2008 levels), whether banking of  
25 allowances would be allowed, whether international trading of allowances would  
26 be allowed, whether only developed countries or the U.S. would pursue

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<sup>65</sup> Available at [http://web.mit.edu/globalchange/www/MITJPSPGC\\_Rpt146.pdf](http://web.mit.edu/globalchange/www/MITJPSPGC_Rpt146.pdf).

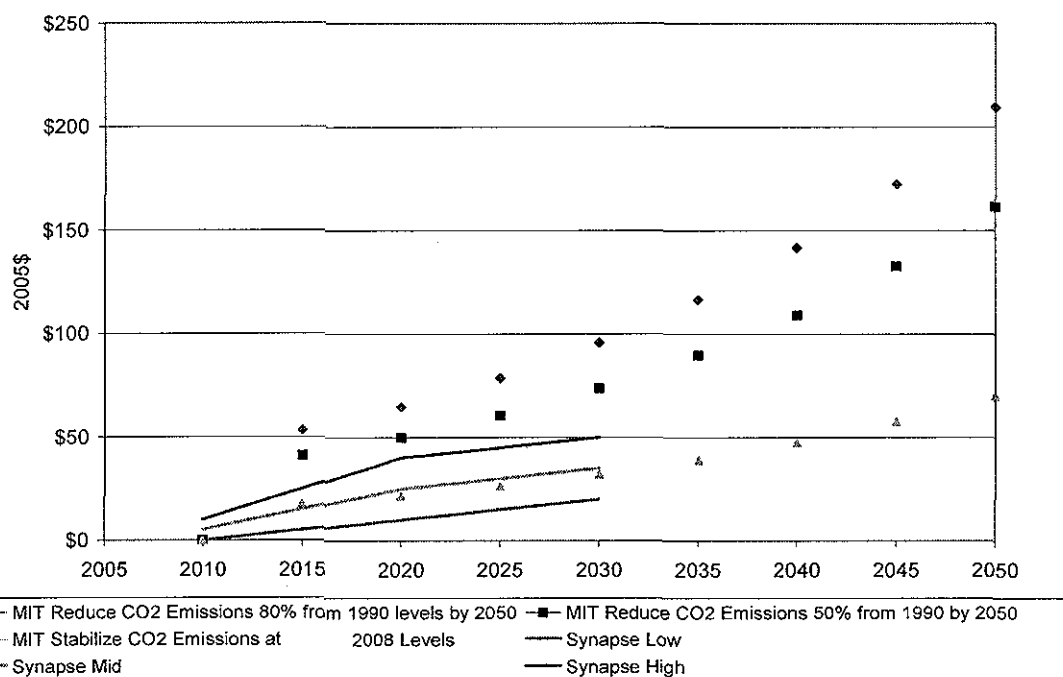
**PUBLIC VERSION**

greenhouse gas reductions, whether there would be safety valve prices adopted as part of greenhouse gas regulations, and other factors.<sup>66</sup>

In general, the ranges of the projected CO<sub>2</sub> prices in these scenarios were higher than the range of CO<sub>2</sub> prices in the Synapse forecast. For example, twelve of the 29 scenarios modeled by MIT projected higher CO<sub>2</sub> prices in 2020 than the high Synapse forecast. Fourteen of the 29 scenarios (almost half) projected higher CO<sub>2</sub> prices in 2030 than the high Synapse forecast.

Figure 10 below compares the three Core Scenarios in the MIT *Assessment* with the Synapse CO<sub>2</sub> price forecasts.

**Figure 10: CO<sub>2</sub> Price Scenarios – Synapse and Core Scenarios in April 2007 MIT *Assessment of U.S. Cap-and-Trade Proposals***



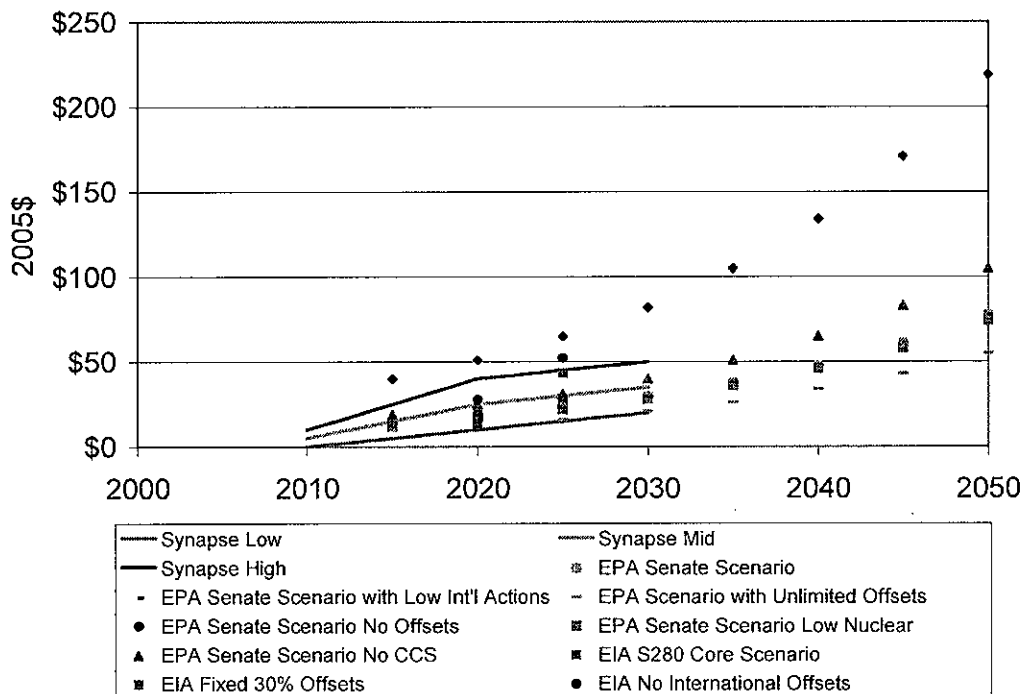
<sup>66</sup> The scenarios examined in the MIT *Assessment of U.S. Cap-and-Trade Proposals* are listed in Exhibit \_\_DAS-1, Schedule E.

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1 Q. Have you compared the Synapse CO<sub>2</sub> emissions allowance price forecasts to  
2 any other assessments of current bills in Congress?

3 A. Yes. Both EPA and the Energy Information Agency (EIA) of the Department of  
4 Energy have analyzed the impact of the current version of the McCain-Lieberman  
5 legislation (Senate Bill 280).<sup>67</sup> Figure 11 below shows that the Synapse CO<sub>2</sub> price  
6 forecasts are consistent with the range of scenarios examined in the EPA and EIA  
7 assessments:

8 **Figure 11: Synapse CO<sub>2</sub> Price Forecasts and Results of EPA and EIA**  
9 **Assessment of Current McCain Lieberman Legislation**



10

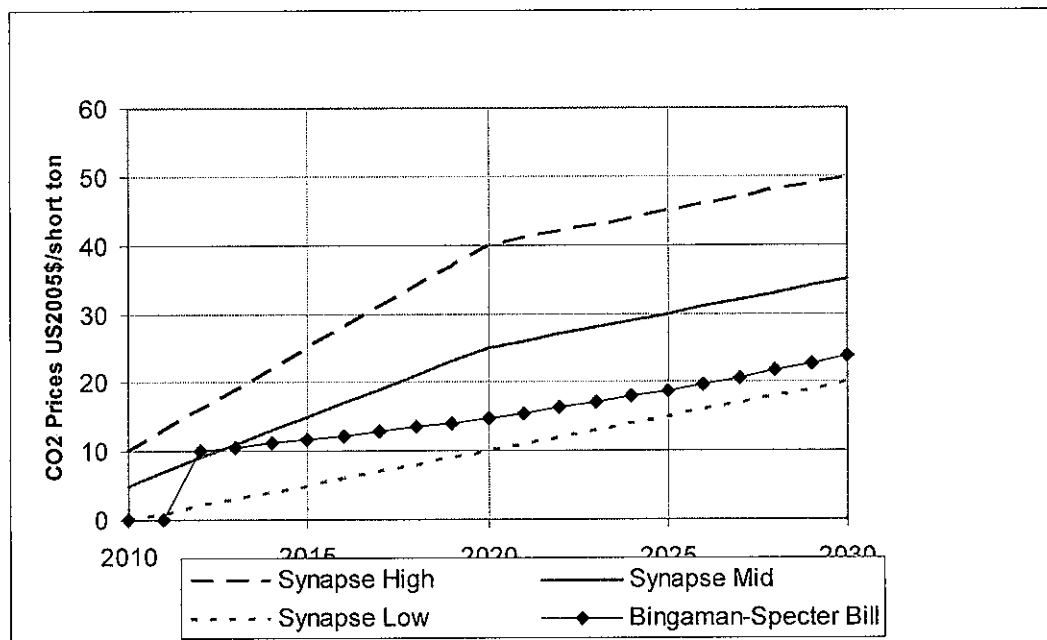
<sup>67</sup> *Energy Market and Economic Impacts of S. 280, the Climate Stewardship and Innovation Act of 2007*, Energy Information Administration, July 2007 and *EPA Analysis of the Climate Stewardship and Innovation Act of 2007, S. 280 in 110<sup>th</sup> Congress*, July 16, 2007. These reports are available at [http://tonto.eia.doe.gov/FTP/ROOT/service/sroiaf\(2007\)04.pdf](http://tonto.eia.doe.gov/FTP/ROOT/service/sroiaf(2007)04.pdf) and <http://www.eia.doe.gov/oiaf/service/rpt/csia/index.html>.

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1 **Q. How do the Synapse CO<sub>2</sub> forecasts compare to the safety valve prices in the**  
2 **bill introduced by Senators Bingaman and Specter?**

3 A. As shown in Figure 12 below, the safety valve prices in the legislation introduced  
4 by Senators Bingaman and Specter fall between the Synapse mid and low  
5 forecasts.

6 **Figure 12: Synapse CO<sub>2</sub> Price Forecasts and Safety Valve Prices in**  
7 **Bingaman-Specter Legislation in 110<sup>th</sup> Congress**



8  
9 **Q. Would it be reasonable to assume that a new supercritical coal-fired plant**  
10 **like SGS Unit 4 will be grandfathered under federal climate change**  
11 **legislation or will be favored with the provision of extra CO<sub>2</sub> emission**  
12 **allowance allocations that could mitigate or offset the impact of CO<sub>2</sub>**  
13 **regulations?**

14 A. No. It is unclear what provisions for grandfathering existing coal plants, if any,  
15 will be adopted as part of future greenhouse gas legislation. At the same time, it is  
16 unrealistic to expect that many or all of the new coal-fired plants currently being  
17 proposed will be grandfathered because of the substantial reductions in CO<sub>2</sub>

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1 emissions from current levels that have to be made by 2050 just to stabilize  
2 atmospheric concentrations of CO<sub>2</sub> at 450 ppm to 550 ppm.

3 Meeting these goals will require either a reduction in dependence on coal for  
4 electricity generation or a very large investment in conversion of the current coal  
5 generating fleet in the U.S. The only realistic way either of these is going to  
6 happen is with a large marginal cost on greenhouse gas emissions such as a CO<sub>2</sub>  
7 tax or higher emissions allowance prices. It is not reasonable to expect that a new  
8 supercritical coal plant, like SGS Unit 4, which will substantially increase the  
9 emissions of CO<sub>2</sub> into the atmosphere, will receive significant emission  
10 allowances under any U.S. carbon regulation plan.

11 For example, the National Commission on Energy Policy has recently  
12 recommended that “new coal plants built without [carbon capture and  
13 sequestration] not be “grandfathered” (i.e., awarded free allowances) in any future  
14 regulatory program to limit greenhouse gas emissions.”<sup>68</sup> A report of an  
15 interdisciplinary study at the Massachusetts Institute of Technology on *The*  
16 *Future of Coal* similarly noted that:

17 There is the possibility of a perverse incentive for increased early  
18 investment in coal-fired power plants without capture, whether  
19 SCPC or IGCC, in the expectation that the emissions from these  
20 plants would potentially be “grandfathered” by the grant of free  
21 CO<sub>2</sub> allowances as part of future carbon emissions regulations and  
22 that (in unregulated markets) they would also benefit from the  
23 increase in electricity prices that will accompany a carbon control  
24 regime. Congress should act to close this “grandfathering”  
25 loophole before it becomes a problem.<sup>69</sup>

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<sup>68</sup> *Energy Policy Recommendations to the President and the 110<sup>th</sup> Congress*, National Commission on Energy Policy, April 2007, at page 21. Available at [http://energycommission.org/files/contentFiles/NCEP\\_Recommendations\\_April\\_2007\\_4656f9759c345.pdf](http://energycommission.org/files/contentFiles/NCEP_Recommendations_April_2007_4656f9759c345.pdf).

<sup>69</sup> *The Future of Coal, Options for a Carbon-Constrained World, an Interdisciplinary MIT Study*, March 2007, at page (xiv). Available at <http://web.mit.edu/coal/>.



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1        Additionally, it has been proposed in Congress that new coal-fired plants would  
2        be required to actually have carbon capture and sequestration technology. For  
3        example, a bill by Massachusetts Senator Kerry's bill limit CO<sub>2</sub> emissions from  
4        new coal-fired facilities to 285 lbs/MWh. New coal-fired facilities would be  
5        defined as those that begin construction on or after April 26, 2007 and would  
6        certainly include the proposed Hempstead Project.

7        **Q.    What are your recommendations concerning the CO<sub>2</sub> prices that the**  
8        **Commission should use in evaluating IPL's proposed SGS Unit 4?**

9        A.    Given the uncertainty associated with the legislation that eventually will be  
10        passed by Congress, we believe that the Commission should use the wide range of  
11        forecasts of CO<sub>2</sub> prices shown in Figure 4 above to evaluate the relative  
12        economics of the proposed Repowering Project.

13       **Q.    How much additional CO<sub>2</sub> would SGS Unit 4 emit into the atmosphere?**

14       A.    SGS Unit 4 can be expected to emit approximately five million tons of CO<sub>2</sub>  
15       annually.<sup>70</sup>

16       **Q.    What would be the annual costs of greenhouse gas regulations to IPL and its**  
17       **ratepayers under the Synapse CO<sub>2</sub> price forecasts if the Company proceeds**  
18       **with its proposed SGS Unit 4?**

19       A.    The range of the incremental annual, levelized cost to the Company and its  
20       ratepayers from greenhouse gas regulations would be:

21       Synapse Low CO<sub>2</sub> Case: 2.75 million tons of CO<sub>2</sub> · \$8.23/ton = \$23 million

22       Synapse Mid CO<sub>2</sub> Case: 2.75 million tons of CO<sub>2</sub> · \$19.83/ton = \$55 million

23       Synapse High CO<sub>2</sub> Case: 2.75 million tons of CO<sub>2</sub> · \$31.43/ton = \$86 million

---

<sup>70</sup>       This reflects an 90 percent average annual capacity factor and projected CO<sub>2</sub> emissions of 1991  
lbs/MWh.

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1 **Q. Has IPL examined the impact that federal regulation of greenhouse gas**  
2 **emissions could have on its customers electric rates?**

3 A. An April 2007 presentation to the Company's senior management on *New*  
4 *Generation Support Strategy Update* did look at the impact that \$15 and \$29/ton  
5 CO<sub>2</sub> taxes would have on customers. This analysis [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]<sup>71</sup>

9 **4. IPL Has Not Adequately Considered The Risk Of Further Increases In**  
10 **The Estimated Cost Of The SGS Unit 4 Project**

11 **Q. What is the currently estimated cost for SGS Unit 4?**

12 A. The currently estimated cost of SGS Unit 4, without AFUCD or any other  
13 financing costs, is [REDACTED].<sup>72</sup>

14 **Q. Is it reasonable to expect that the actual cost of the project will be higher**  
15 **than IPL now estimates?**

16 A. Yes. The costs of building power plants have soared in recent years as a result of  
17 the worldwide demand for power plant design and construction resources and  
18 commodities. There is no reason to expect that plant costs will not continue to  
19 rise during the years when the detailed engineering, procurement and construction  
20 of SGS Unit 4 will be underway. This is especially true given the very early stage  
21 of the engineering and procurement for the project.

22 For example, Duke Energy Carolinas' originally estimated cost for the two unit  
23 coal-fired Cliffside Project was approximately \$2 billion. In the fall of 2006,  
24 Duke announced that the cost of the project had increased by approximately 47  
25 percent (\$1 billion). After the project had been downsized because the North

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<sup>71</sup> IPL's Confidential Response to OCA DR. No. 21, Attachment A, at page 69 of 212.  
<sup>72</sup> IPL Confidential Response to OCA DR. No. 183, Attachment A, page 1 of 1.

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1 Carolina Utilities Commission refused to granted a permit for two units, Duke  
2 announced that the cost of that single unit would be about \$1.53 billion, not  
3 including financing costs. In late May 2007, Duke announced that the cost of  
4 building that single unit had increased by about another 20 percent. As a result,  
5 the estimated cost of the one unit that Duke is building at Cliffside is now \$1.8  
6 billion exclusive of financing costs. Thus, the single Cliffside unit is now  
7 expected to cost almost as much as Duke originally estimated for a two unit plant.

8 **Q. Did Duke explain to the North Carolina Utilities Commission the reasons for**  
9 **the skyrocketing cost of the Cliffside Project?**

10 A. Yes. In testimony filed at the North Carolina Utilities Commission on November  
11 29, 2006, Duke Energy Carolinas emphasized that the competition for resources  
12 had had a significant impact on the costs of building new power plants. This  
13 testimony was presented to explain the approximate 47 percent (\$1 billion)  
14 increase in the estimated cost of Duke Energy Carolinas' proposed coal-fired  
15 Cliffside Project that the Company announced in October 2006.

16 For example, Duke Energy Carolinas explained that:

17 The costs of new power plants have escalated very rapidly. This  
18 effect appears to be broad based affecting many types of power  
19 plants to some degree. One key steel price index has doubled over  
20 the last twelve months alone. This reflects global trends as steel is  
21 traded internationally and there is international competition among  
22 power plant suppliers. Higher steel and other input prices broadly  
23 affects power plant capital costs. A key driving force is a very  
24 large boom in U.S. demand for coal power plants which in turn has  
25 resulted from unexpectedly strong U.S. electricity demand growth  
26 and high natural gas prices. Most integrated U.S. utilities have  
27 decided to pursue coal power plants as a key component of their  
28 capacity expansion plan. In addition, many foreign companies are  
29 also expected to add large amounts of new coal power plant  
30 capacity. This global boom is straining supply. Since coal power  
31 plant equipment suppliers and bidders also supply other types of

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plants, there is a spill over effect to other types of electric generating plants such as combined cycle plants.<sup>73</sup>

Duke further noted that the actual coal power plant capital costs as reported by plants already under construction exceed government estimates of capital costs by “a wide margin (i.e., 35 to 40 percent). Additionally, current announced power plants appear to face another increase in costs (i.e., approximately 40 percent addition.”<sup>74</sup> Thus, according to Duke, new coal-fired power plant capital costs had increased approximately 90 to 100 percent since 2002.

**Q. Have other coal-fired plant projects experienced similar cost increases?**

A. Yes. A large number of projects have announced significant construction cost increases over the past few years. For example, the cost of Westar’s proposed coal-fired plant in Kansas, originally estimated at \$1 billion, increased by 20 percent to 40 percent, over just 18 months. This prompted Westar’s Chief Executive to warn: “When equipment and construction cost estimates grow by \$200 million to \$400 million in 18 months, it’s necessary to proceed with caution.”<sup>75</sup> As a result, the company has suspended site selection for the coal-plant and is considering other options, including building a natural gas plant, to meet growing electricity demand.

The estimated cost of the now-cancelled Taylor Energy Center in Florida increased by 25 percent, \$400 million, in just 17 months between November 2005 and March 2007. The estimated cost of the Big Stone II coal-fired power plant project in South Dakota has increased by about 60 percent since the project was

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<sup>73</sup> Direct Testimony of Judah Rose for Duke Energy Carolinas, North Carolina Utilities Commission Docket No. E-7, SUB 790, at page 4, lines 2-14. Mr. Rose’s testimony is available on the North Carolina Utilities Commission website. Available at <http://ncuc.commerce.state.nc.us/cgi-bin/flrdocs.ndm/INPUT?compdesc=DUKE%20ENERGY%20CAROLINAS%2C%20LLC&docketdesc=&comptype=E&docknumb=7&Search=Search&suffix1=&subnumb=790&suffix2=&parm1=000123542&parm2=01/09/2007&parm3=WBAAA90070B>.

<sup>74</sup> *Ibid*, at page 6, lines 5-9, and page 12, lines 11-16.

<sup>75</sup> Available at [http://www.westarenergy.com/corp\\_com/corpcomm.nsf/F6BE1277A768F0E4862572690055581C/\\$file/122806%20coal%20plant%20final2.pdf](http://www.westarenergy.com/corp_com/corpcomm.nsf/F6BE1277A768F0E4862572690055581C/$file/122806%20coal%20plant%20final2.pdf)

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1 first announced. Finally, the estimated cost of the Little Gypsy Repowering  
2 Project (gas to coal) increased by 55 percent between announcement of the project  
3 in April 2007 and the filing of a request for a license to build in July 2007.

4 **Q. What are the sources of the worldwide competition for power plant design**  
5 **and construction resources, commodities and equipment?**

6 A. The worldwide competition is driven mainly by huge demands for power plants in  
7 China and India and by a rapidly increasing demand for power plants and power  
8 plant pollution control modifications in the United States required to meet SO<sub>2</sub>  
9 and NO<sub>x</sub> emissions standards. The demand for labor and resource to rebuild the  
10 Gulf Coast area after Hurricanes Katrina and Rita hit in 2005 also has contributed  
11 to rising costs for construction labor and materials.

12 **Q. Is it commonly accepted that domestic United States and worldwide**  
13 **competition for power plant design and construction resources, commodities**  
14 **and manufacturing have led to these significant increases in power plant**  
15 **construction costs in recent years?**

16 A. Yes. A wide range of energy, construction and financial industry studies have  
17 identified the worldwide competition for power plant resources as the driving  
18 force for the skyrocketing construction costs.

19 For example, a June 2007 report by Standard & Poor's, *Increasing Construction*  
20 *Costs Could Hamper U.S. Utilities' Plan to Build New Power Generation*, has  
21 noted that:

22 As a result of declining reserve margins in some U.S. regions ...  
23 brought about by a sustained growth of the economy, the domestic  
24 power industry is in the midst of an expansion. Standing in the way  
25 are capital costs of new generation that have risen substantially  
26 over the past three years. Cost pressures have been caused by  
27 demands of global infrastructure expansion. In the domestic power  
28 industry, cost pressures have arisen from higher demand for  
29 pollution control equipment, expansion of the transmission grid,  
30 and new generation. While the industry has experienced buildout  
31 cycles in the past, what makes the current environment different is

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the supply-side resource challenges faced by the construction industry. A confluence of resource limitations have contributed, which Standard & Poors' Rating Services broadly classifies under the following categories

- Global demand for commodities
- Material and equipment supply
- Relative inexperience of new labor force, and
- Contractor availability

The power industry has seen capital costs for new generation climb by more than 50% in the past three years; with more than 70% of this increase resulting from engineering, procurement and construction (EPC) costs. Continuing demand, both domestic and international, for EPC services will likely keep costs at elevated levels. As a result, it is possible that with declining reserve margins, utilities could end up building generation at a time when labor and materials shortages cause capital costs to rise, well north of \$2,500 per kW for supercritical coal plants and approaching \$1,000 per kW for combined-cycle gas turbines (CCGT). In a separate yet key point, as capital costs rise, energy efficiency and demand side management already important from a climate change perspective, become even more crucial as any reduction in demand will mean lower requirements for new capacity.<sup>76</sup>

More recently, the president of the Siemens Power Generation Group told the New York Times that "There's real sticker shock out there."<sup>77</sup> He also estimated that in the last 18 months, the price of a coal-fired power plant has risen 25 to 30 percent.

A September 2007 report on *Rising Utility Construction Costs* prepared by the Brattle Group for the EDISON Foundation similarly concluded that:

Construction costs for electric utility investments have risen sharply over the past several years, due to factors beyond the industry's control. Increased prices for material and manufactured components, rising wages, and a tighter market for construction

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<sup>76</sup> *Increasing Construction Costs Could Hamper U.S. Utilities' Plans to Build New Power Generation*, Standard & Poor's Rating Services, June 12, 2007, at page 1. A copy of this report is included in Exhibit DAS-1, Schedule F.

<sup>77</sup> "Costs Surge for Building Power Plants, *New York Times*, July 10, 2007.

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1 project management services have contributed to an across-the-  
2 board increase in the costs of investing in utility infrastructure.  
3 These higher costs show no immediate signs of abating.<sup>78</sup>

4 The report further found that:

- 5       ▪ Dramatically increased raw materials prices (e.g., steel, cement) have  
6 increased construction cost directly and indirectly through the higher cost  
7 of manufactured components common in utility infrastructure projects.  
8 These cost increases have primarily been due to high global demand for  
9 commodities and manufactured goods, higher production and  
10 transportation costs (in part owing to high fuel prices), and a weakening  
11 U.S. dollar.
- 12       ▪ Increased labor costs are a smaller contributor to increased utility  
13 construction costs, although that contribution may rise in the future as  
14 large construction projects across the country raise the demand for  
15 specialized and skilled labor over current or project supply. There also is a  
16 growing backlog of project contracts at large engineering, procurement  
17 and construction (EPC) firms, and construction management bids have  
18 begun to rise as a result. Although it is not possible to quantify the impact  
19 on future project bids by EPC, it is reasonable to assume that bids will  
20 become less cost-competitive as new construction projects are added to the  
21 queue.
- 22       ▪ The price increases experienced over the past several years have affected  
23 all electric sector investment costs. In the generation sector, all  
24 technologies have experienced substantial cost increases in the past three  
25 years, from coal plants to windpower projects.... As a result of these cost  
26 increases, the levelized capital cost component of baseload coal and  
27 nuclear plants has risen by \$20/MWh or more – substantially narrowing  
28 coal's overall cost advantages over natural gas-fired combined-cycle  
29 plants – and thus limiting some of the cost-reduction benefits expected  
30 from expanding the solid-fuel fleet.
- 31       ▪ The rapid increases experienced in utility construction costs have raised  
32 the price of recently completed infrastructure projects, but the impact has  
33 been mitigated somewhat to the extent that construction or materials  
34 acquisition preceded the most recent price increases. The impact of rising  
35 costs has a more dramatic impact on the estimated cost of proposed utility  
36 infrastructure projects, which fully incorporates recent price trends. This  
37 has raised significant concerns that the next wave of utility investments

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<sup>78</sup>

*Rising Utility Construction Costs: Sources and Impacts*, prepared by The Brattle Group for the EDISON Foundation, September 2007, at page 31. A copy of this report is attached as Exhibit \_\_ DAS-1, Schedule G.

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1                   may be imperiled by the high cost environment. These rising construction  
2                   costs have also motivated utilities and regulators to more actively pursue  
3                   energy efficiency and demand response initiatives to reduce the future rate  
4                   impacts on consumers.<sup>79</sup>

5   **Q.    Is it reasonable to expect that these same factors will lead to construction**  
6           **delays as well as rising costs?**

7   A.    Yes.

8   **Q.    Does the current SGS Unit 4 cost estimate include a contingency to reflect**  
9           **possible future cost increases?**

10 A.    Yes. It appears that the current SGS Unit 4 construction cost estimate includes a  
11        [REDACTED] contingency which would be about [REDACTED] percent of the estimate, far  
12        below the double digit annual escalation experienced by other coal-fired power  
13        plant construction projects in recent years.

14 **Q.    What is the current status of contracting and procurement for SGS Unit 4?**

15 A.    Basically, it appears that none of the major contracts for SGS Unit 4 have been  
16        finalized. IPL has indicated that it does not expect to give even a limited notice to  
17        proceed to its Engineering, Procurement and Construction ("EPC") contractor  
18        until December 2007, with a full notice to proceed not expected until July 2008.  
19        Similarly, the full notices to proceed with procurement of the steam turbine  
20        generator, steam generator and air quality control system are not expected to be  
21        issued until July 2008. The current estimated start for construction is October  
22        2008.<sup>80</sup>

23        The extremely early status of contracting and procurement render the project very  
24        susceptible to cost increases and construction delays.

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<sup>79</sup>        Id. at pages 1-3.

<sup>80</sup>        IPL Response to OCA DR No. 24.



**PUBLIC VERSION**

1 **Q. Has the Company recognized the risks associated with rising power plant**  
2 **construction costs?**

3 A. Yes. Internal Alliant Energy presentations reflect the risks associated with  
4 building new power plants in the current environment. For example, a February  
5 2, 2007 presentation to Alliant Energy's Board of Directors concerning the  
6 proposed Nelson Dewey #3 coal plant noted that the U.S. Department of Energy  
7 current forecasts the "largest coal generation capacity installation in 40 years."<sup>81</sup>  
8 The same presentation also listed the risks associated with pursuing that project:

9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]

15 **Q. Did IPL reflect the potential for higher capital costs in its recent 2007**  
16 **Resource Plan modeling for SGS Unit 4?**

17 A. No. The Company used the same plant capital cost in its base case modeling and  
18 the two CO<sub>2</sub> price sensitivity scenarios.

19 **Q. Did IPL reflect the potential for a schedule delay as a result of the increased**  
20 **competition for power plant design and construction resources, commodities**  
21 **and manufacturing capacity?**

22 A. No.

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<sup>81</sup> IPL's Confidential Response to OCA DR. No. 60, Attachment B, at page 6 of 12.  
<sup>82</sup> Id., at page 8 of 12.

**PUBLIC VERSION**

1   **Q.    Is it your testimony that IPL should change its current cost estimate for SGS**  
2       **Unit 4?**

3    A.    Not necessarily. However, in order to evaluate the risks of continuing with the  
4           proposed project, IPL should have prepared sensitivity studies that examined the  
5           relative economics of SGS Unit 4 against alternatives assuming that the capital  
6           cost of the project is substantially higher than the Company now estimates. For  
7           example, IPL should have prepared sensitivity analyses that reflected capital costs  
8           20 percent and 40 percent higher than its current estimated cost for SGS Unit 4. It  
9           is not unreasonable to expect such additional cost increases at SGS Unit 4 in light  
10          of the industry-wide experience and the expectation that worldwide demand will  
11          continue to be a driving force for rising prices.

12   **Q.    Have you seen any such capital cost sensitivity analyses that have been**  
13       **prepared by IPL?**

14   A.    Not in this proceeding. However, IPL did prepare a higher capital cost sensitivity  
15          analysis as part of its 2005 Resource Plan modeling. In that sensitivity, IPL  
16          assumed a capital cost for a coal-fired power plant that was approximately 32  
17          percent higher than the base case capital cost.

18   **Q.    Is it reasonable to expect that these same current market conditions also will**  
19       **lead to increases in the estimated costs of other supply-side alternatives such**  
20       **as natural gas-fired or wind facilities?**

21   A.    Yes.

22   **Q.    What impact would higher coal-plant capital costs have on the relative**  
23       **economics of energy efficiency as compared to SGS Unit 4?**

24   A.    I have seen no evidence that the same worldwide demand for power plant  
25          resources has led to significant increase in the costs of energy efficiency  
26          measures. Therefore, it is reasonable to expect that higher coal-plant capital costs  
27          increase the relative economics and attractiveness of energy efficiency.

**PUBLIC VERSION**

1 **Q. Have you seen any evidence that potential participants in SGS Unit 4 are**  
2 **very concerned about the potential for increasing plant construction costs?**

3 **A.** [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]<sup>83</sup>

9 **Q. What was IPL's response to this demand?**

10 **A.** [REDACTED]  
11 [REDACTED]<sup>84</sup>

12 **Q. Have you seen any subsequent correspondence between IPL and CIPCO or**  
13 **Corn Belt, or any other potential co-owners of SGS Unit 4, that addresses**  
14 **this issue?**

15 **A.** No. IPL has said that there is no additional correspondence that is related to this  
16 provision.

17 **5. Adding SGS Unit 4 Would Reduce, Not Increase, the Diversity in**  
18 **IPL's Generation Supply**

19 **Q. Is supply diversity an issue that the Commission should consider as it**  
20 **evaluates IPL's proposed SGS Unit 4?**

21 **A.** Yes. I think supply diversity is a very important consideration. Reducing the  
22 Company's current heavy dependence on fossil-fired generation, especially coal-  
23 fired power, and moving towards greater use of renewable resources and energy  
24 efficiency, should be a major goal given the threat posed by global climate change

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<sup>83</sup> IPL Confidential Response to OCA DR. No. 7, Attachment A, page 128 of 579.  
<sup>84</sup> IPL Confidential Response to OCA DR. No. 51A.

**PUBLIC VERSION**

1 and the inevitability of federal regulation of greenhouse gas emissions in the near  
2 future. Building SGS Unit 4 would be a major step in the wrong direction.

3 **Q. What would be the Company's energy supply mix under its proposed**  
4 **Resource Plan that includes SGS Unit 4?**

5 A. As shown in Figures 13 and 14 below, IPL's generation supply which is already  
6 very heavily dependent on coal and other CO<sub>2</sub> emitting fossil fuels [REDACTED]  
7 [REDACTED] with the Company's base  
8 resource plan that includes SGS Unit 4. In fact, [REDACTED] of the energy supplied  
9 by IPL in the year 2022 would be generated at coal-fired facilities. The data for  
10 this figure were taken from IPL's base case EGEAS model for the year 2022.

**PUBLIC VERSION**

1           **Figure 13:   IPL Energy Supply Mix in 2007 [CONFIDENTIAL]**

2

3           **Figure 14:   IPL Energy Supply Mix in 2022 [CONFIDENTIAL]**

4

**PUBLIC VERSION**

1 Thus, under its base case 2007 Resource Plan, IPL's dependence on coal-fired  
2 generation would [REDACTED] percent in 2007 [REDACTED] percent in  
3 2022.

4 **Q. Why is considering a company's generation mix the appropriate way to**  
5 **evaluate its fuel diversity?**

6 A. Because the issue of fuel diversity is a matter of the amount of each type of fuel  
7 that the company burns, and the cost consequences of burning that fuel. Simply  
8 looking at its capacity mix does not offer any information about the utilization of  
9 that capacity.

10 **Q. Is fuel diversity a broader issue than merely deciding whether to build a coal-**  
11 **or gas-fired generating unit?**

12 A. Yes, it should be. Implementing demand side management and energy efficiency  
13 programs and building or buying power from non- or low-carbon emitting  
14 renewable resource facilities also would increase a company's supply diversity.  
15 Investments in demand side management and renewable resources would provide  
16 real benefits in terms of supply diversity by reducing IPL's dependency on coal,  
17 oil and gas.

18 **6. IPL's Modeling Analyses Do Not Show that SGS Unit 4 Would Be the**  
19 **Lowest Cost and the Lowest Risk Option for the Company's**  
20 **Ratepayers**

21 **Q. Is it IPL's position that the construction of SGS Unit 4 will provide greater**  
22 **economic benefits than any other options available to the Company?**

23 A. No. The Company has said that the language of Code Section 476.53 does not  
24 require that a utility choose the option that provides the "greatest economic  
25 benefits."<sup>85</sup> The Company goes on to state that "An option that provides the  
26 "greatest economic benefits" would not necessarily also adequately balance

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<sup>85</sup> IPL Response to OCA DR. No. 90.a.

**PUBLIC VERSION**

1 environmental concerns. That said, IPL believes that it has chosen a prudent  
2 option that will balance economic with environmental benefits, as supported by its  
3 Application.”<sup>86</sup>

4 **Q. Does the Company provide any evidence of a balancing the economic and**  
5 **environmental benefits of available options that shows that SGS Unit 4 is a**  
6 **prudent option?**

7 A. No. The Company’s Application and supporting testimony and exhibits do not  
8 provide any comparative balancing of the environmental and economic benefits  
9 and costs of SGS Unit 4 and other available options. Instead, IPL merely makes a  
10 number of claims about the environmental benefits of the SGS Unit 4 project,  
11 while completely ignoring the plain fact that the plant, if built, will be emitting  
12 approximately 5 million tons of additional CO<sub>2</sub> into the atmosphere each year for  
13 a 40 to 60 year operating life. The Company does not compare the relative  
14 environmental benefits of building SGS Unit 4 as a supercritical coal-fired power  
15 plant to the benefits of undertaking non-carbon emitting options such as energy  
16 efficiency and wind resources, in conjunction with the addition of some new gas  
17 capacity, if needed.

18 **Q. What evidence does IPL provide to show the relative economic benefits of**  
19 **SGS Unit 4 as compared to other available options?**

20 A. The only evidence that IPL provides in its Application and supporting testimony  
21 and exhibits in support of the economic benefits of SGS Unit 4 is to say that the  
22 EGEAS model picked the plant in the Company’s most recent 2007 resource  
23 planning analyses.<sup>87</sup> It does not show the amount by which the cost of the  
24 resource plan with SGS Unit 4 is lower than the costs of other reasonable resource  
25 plans without the plant. Indeed, IPL witness Kitchen does not even state that SGS  
26 Unit 4 is the most economic option for meeting IPL’s capacity and energy needs.

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<sup>86</sup>

Id.

<sup>87</sup>

See the Direct Testimony of Brent R. Kitchen.

**PUBLIC VERSION**

1 Instead, his testimony is limited to saying that "In its evaluation, IPL concluded a  
2 coal-fired generating unit met the overall economic flexibility to meet IPL's  
3 demand and energy requirements in the 2013 timeframe."

4 **Q. Mr. Kitchen testifies that IPL considers a wide of future resource**  
5 **alternatives in its resource planning using the EGEAS model:**

6 IPL evaluates its customers' capacity and energy needs using  
7 the Electric Generation Expansion Analysis System (EGEAS).  
8 By using EGEAS, all combinations of existing resources and  
9 future resource alternatives are considered when determining  
10 the most reasonable expansion plan. IPL evaluates many  
11 different resource alternative, both traditional and  
12 nontraditional, including purchased power agreements  
13 (market, short- and long-term), simple cycle gas turbines,  
14 combined cycle gas turbines, coal technologies, renewable  
15 resources (wind, biomass, biogas and ethanol-fueled  
16 generation) and demand-side management (load management  
17 and conservation) resources.<sup>88</sup>

18 **Have you seen any evidence that IPL considered such a wide range of**  
19 **alternatives in the 2007 Resource Plan modeling that it cites in support of**  
20 **SGS Unit 4?**

21 **A.** No. The Company only prepared three EGEAS scenarios in its 2007 Resource  
22 Plan modeling. These were a base case scenario in which IPL determined that  
23 SGS Unit 4 was the preferred generation resource to add in 2013 and the two CO<sub>2</sub>  
24 price sensitivities. In all three of these scenarios, the Company only allowed the  
25 model to select from a limited range of [REDACTED] possible alternatives: [REDACTED]  
26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]. No load management  
29 programs or energy efficiency investments were made available to the model.  
30 Nor do we see where the model had the option of selecting biomass or ethanol-  
31 fueled generation. Thus, there was no way that the EGEAS model could select



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1       these alternatives even if they were, in fact, lower cost options. In addition, as Mr.  
2       Drunsic and Mr. Fagan explain, IPL limited the amount of wind generation that  
3       the model could select, even if adding more wind beyond that needed to meet its  
4       reserve margin requirement would provide an economic advantage.

5       **Q.     Are there any other flaws or limitations in the 2007 Resource Plan modeling**  
6       **that the Company uses to justify the selection of SGS Unit 4?**

7       Yes. There are a number of flaws that bias the analysis in favor of the coal-fired  
8       SGS Unit 4 project:

- 9       ▪     As OCA witness Parker explains, IPL failed to allow the model to select  
10       any additional energy efficiency to meet its projected capacity and energy  
11       needs.
- 12       ▪     As I explain in Section 4 above, IPL did not use a reasonable range of CO<sub>2</sub>  
13       emissions allowance prices in its 2007 Resource Plan modeling.
- 14       ▪     As OCA witness Drunsic explains, IPL set the maximum number of so-  
15       called “superfluous units” that the model could select at two (that is, the  
16       model was set at SU=2). This unreasonably limited the amount of wind  
17       capacity that the model could add in early years beyond that needed to  
18       meet the chosen system reserve margin, even if adding more wind  
19       resources would result in lower cost plans.
- 20       ▪     As OCA witness Fagan explains, IPL assumed an unnecessarily high, and  
21       unsupported, 18 percent reserve margin.
- 22       ▪     As OCA witness Fagan explains, IPL unreasonably limited the total  
23       amount of new wind that IPL can add through the year 2022.
- 24       ▪     As I explain in Section 5 above, IPL failed to reflect the very real risk that  
25       power plant capital costs could increase significantly above the figures  
26       assumed in its 2007 EGEAS modeling.
- 27       ▪     IPL assumed that its new coal unit could operate at an extremely high  
28       capacity for all of the years of the study period.

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<sup>88</sup>     Id., at page 3, line 21, to page 4, line 6.

**PUBLIC VERSION**

1 **Q. At what capacity factor(s) does SGS Unit 4 operate in IPL's 2007 Resource**  
2 **Plan modeling?**

3 A. The coal-fired power plant added in 2013 in IPL's base case, that is, SGS Unit 4,  
4 operates at a [REDACTED] percent average annual capacity factor.

5 **Q. Is it reasonable to expect that SGS Unit 4 will be able to operate at this**  
6 **average annual capacity factor over a projected 40 to 60 year service life?**

7 A. No. It is very optimistic to assume that a plant that has not yet started commercial  
8 operations or, indeed, is not even under construction, will achieve such a high  
9 capacity factor in every year of an expected 40 to 60 year service life, especially  
10 during the plant's early immature "breaking-in" years of operation.

11 **Q. What has been the recent operating performance of supercritical coal-fired**  
12 **power plants of the same size as SGS Unit 4?**

13 A. According to data provided by IPL, coal-fired power plants sized between 600-  
14 799 MW, achieved an average 75.75 percent net capacity factor during the years  
15 2001-2005.<sup>89</sup> These same units achieved an 87 percent availability factor and an  
16 84.44 percent equivalent availability factor (which reflects deratings) during the  
17 same five year period.

18 **Q. Isn't it reasonable to expect that a new supercritical unit like SGS Unit 4 will**  
19 **be able to perform better than the older units operating today?**

20 A. Yes. It is reasonable to expect some improvement in performance from a new  
21 power plant after it completes an initial breaking-in period. However, expecting  
22 SGS Unit 4 to operate at an average annual [REDACTED] percent capacity factor for its  
23 entire 40 to 60 year service life still is not reasonable.

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<sup>89</sup> IPL Response to OCA DR. No.114, Attachment A.

**PUBLIC VERSION**

1   **Q.     What capacity factors does Black & Veatch assume for 600 MW**  
2       **supercritical coal-fired power plants in its 2007 Power Station**  
3       **Characterization Study for Alliant Energy?**

4   A.   Black & Veatch assumes that the average net generation of a 600 MW  
5       supercritical coal-fired unit would be 4,470,000 MWh.<sup>90</sup> This translates into an  
6       85 percent average annual capacity factor. This is slightly lower than the average  
7       87.8 percent annual capacity factors that Black & Veatch projects for 500 MW  
8       and 750 MW coal-fired supercritical power plants in the 2003 and 2005 Power  
9       Station Characterization Studies it prepared for Alliant Energy.<sup>91</sup>

10       Black & Veatch also assumes an ■ percent average annual capacity factor for a  
11       600 MW supercritical coal-fired power plant in its March 2007 Site Evaluation  
12       Study – Coal Technology, prepared for Alliant Energy.<sup>92</sup>

13   **Q.     What capacity factors do other companies assume for their proposed coal-**  
14       **fired power plants?**

15   A.   Much of the projected operating performance information we have seen for other  
16       coal-fired power plants is confidential. However, the owners of the proposed Big  
17       Stone II coal-fired power plant in South Dakota have publicly assumed an 88  
18       percent average annual capacity factor for that unit. Entergy Louisiana has  
19       publicly assumed an 85 percent capacity in its reference case analyses for its  
20       proposed repowering of its natural-gas fired Little Gypsy Unit 3 as a coal-fired  
21       power plant.

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<sup>90</sup> IPL's Response to OCA DR. No. 12, Attachment C, at page 97 of 212.

<sup>91</sup> IPL's Response to OCA DR. No. 12, Attachment A, at page 71 of 117, and Attachment B, at page 75 of 157.

<sup>92</sup> IPL's Confidential Response to OCA DR. No. 1, Attachment A, page 48 of 56.

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- 1   **Q.**    Are there any factors, besides imprudent management or normal  
2           maintenance, that could result in the plant's failing to achieve an assumed  
3           ████ percent capacity factor?
- 4   **A.**    Yes. The primary source of fuel for SGS Unit 4 is planned to be Wyoming's  
5           Power River Basin. ("PRB") New coal-fired facilities, like SGS Unit 4, may be  
6           subject to some of the same production and coal-deliverability problems that  
7           occurred in 2005 and 2006 and that plagued existing coal-fired units throughout  
8           the Midwest that depend on coal supplies from the Powder River Basin. Such  
9           problems could adversely affect the reliability of SGS Unit 4 and its ability to  
10          operate at a consistently high average annual capacity factor.
- 11   **Q.**    Could such production and deliverability problems also affect the prices of  
12          the coal that would be burned at SGS Unit 4?
- 13   **A.**    Yes.
- 14   **Q.**    Hasn't IPL effectively mitigated the risks associated with supply disruptions  
15          by requiring that the plant be designed to burn a range of fuel supplies?
- 16   **A.**    IPL has mitigated the risk in part, but not fully. There still is a risk of being  
17          primarily dependent upon PRB coal because of the rising demand for PRB low  
18          sulfur sub-bituminous coal, the substantial investments that will be required to  
19          increase the amount of coal that can be transported from the PRB to power plants  
20          in the Midwest, and the market power that can be exercised by the small number  
21          of railroads that control the rail lines out of the PRB. In addition, there is a risk  
22          that the alternative fuel supplies that SGS Unit 4 would burn in place of PRB  
23          would, themselves, be unavailable when required or would be more expensive.

**PUBLIC VERSION**

1   **Q.    Has IPL prepared any sensitivity analyses as part of their recent modeling to**  
2       **determine whether higher than expected coal prices and/or less than optimal**  
3       **plant performance due to coal deliverability problems would affect the**  
4       **overall economics of SGS Unit 4?**

5   **A.    No. IPL has not prepared any such sensitivity analyses as part of its 2007**  
6       **Resource Plan modeling that we have seen.**

7   **Q.    Is it prudent to not even consider the potential for coal supply disruptions or**  
8       **price increases as a risk associated with developing SGS Unit 4?**

9   **A.    No. Given the serious deliverability problems that have been experienced with**  
10       **coal from the Powder River Basin in 2005 and 2006 and the disputes that have**  
11       **arisen between coal shippers, utilities and the railroads that deliver coal from the**  
12       **Powder River Basin, it is not prudent to ignore this risk when evaluating the**  
13       **economics of proposed coal-fired facilities like SGS Unit 4. Due to disruptions in**  
14       **supplies from the Powder River Basin, some utilities were forced to import coal**  
15       **from Columbia in South America or as far away as Indonesia.**

16   **Q.    Did you undertake any modeling to correct for the flaws and limitations in**  
17       **IPL's 2007 Resource Planning modeling?**

18   **A.    Yes. With our input, and that of OCA witness Parker, OCA staff has rerun the**  
19       **Company EGEAS modeling to reflect more reasonable assumptions.**

20   **Q.    What scenarios has the OCA run to examine whether the lowest cost**  
21       **expansion plans selected by the EGEAS model include the proposed SGS**  
22       **Unit 4?**

23   **A.    The scenarios that OCA witness Shi ran with our inputs are presented in Table 6**  
24       **below:**

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1 **Table 6: OCA EGEAS Scenarios**

Scenario <sup>93</sup>	OCA Input Changes
IPL Inputs plus Superfluous Units = 10	Increased the maximum number of superfluous units that the model could select in any one year from 2 to 10
IPL Inputs with Increased Wind Availability	Increased the Amount of Available New Wind from a Max. of 800 MW to 1400 MW by 2022
IPL Inputs with Increased Wind Availability and Increased Wind Capacity Credit	(1) Increased Amount of Available New Wind from a Max. of 800 MW to 1400 MW by 2022, and (2) Increased New Wind Capacity Credit from 10% to 15%
IPL Inputs with Low DSM	Allowed the Model to Select up to 286 MW of Load Reductions from Energy Efficiency
IPL Inputs with Low and Mid DSM	Allowed the Model to Select up to 458 MW of Load Reductions from Energy Efficiency
IPL Inputs with Low, Mid, and High DSM	Allowed the Model to Select Up to 608 MW of Load Reduction from Energy Efficiency
IPL Inputs with 20% Higher Power Plant Capital Costs	Increased IPL Capital Costs for all Resources by 20%
IPL Inputs with 40% Higher Power Plant Capital Costs	Increased IPL Capital Costs for all Resources by 40%
IPL Inputs with a 17% Minimum Reserve Margin	Reduced the Minimum Reserve Margin from 18% to 17%
IPL Inputs with a 16% Minimum Reserve Margin	Reduced the Minimum Reserve Margin from 18% to 16%
IPL Inputs with a 15% Minimum Reserve Margin	Reduced the Minimum Reserve Margin from 18% to 15%
IPL Inputs with a 14% Minimum Reserve Margin	Reduced the Minimum Reserve Margin from 18% to 14%

<sup>93</sup> The maximum number of superfluous units that the model could select in any one year was increased from two to ten in each of the OCA's EGEAS scenarios, as explained in the Testimony of Michael Drunsic.

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IPL Inputs but with Natural Gas Prices Increased by 10%	Increased IPL's Natural Gas Prices by 10% starting in 2010
IPL Inputs with Increased Wind and Low, Mid and High DSM	(1) Increased Amt. of Available New Wind from a Max. of 800 MW to 1400 MW by 2022, and (2) Allowed Up to 608 MW of Load Reduction from Energy Efficiency
IPL Inputs with (1) Increased Wind, (2) Low, Mid and High DSM, (2) 20% Higher Capital Costs %, and (4) 88% New Coal Capacity Factor	(1) Increased Amt. of Available New Wind from a Max. of 800 MW to 1400 MW by 2022; (2) Allowed Up to 608 MW of Load Reduction from Energy Efficiency; (3) Increased Capital Costs for all Resources by 20%; and (4) Increased the Forced Outage Rate for New Coal from 4% to 8.5%

1

2 Q. What were the results of the OCA's modeling?

3 A. The results of our EGEAS modeling, in terms of when a new coal plant is  
4 selected, are presented in Table 7 below.

**PUBLIC VERSION**

**Table 7: Results of OCA EGEAS Scenarios – Year in Which SGS Unit 4 is selected as part of the lowest cost expansion plan**

Scenario	CO <sub>2</sub> Price			
	None	IPL Low	IPL High	Synapse High
IPL Base Case Inputs	2013	2013	2013	Not Selected
IPL Inputs except for the maximum number of "superfluous units" increased from two to ten	2013	2019	Not Selected	Not Selected
IPL Inputs with Increased Wind Availability	2013	2019	Not Selected	Not Selected
IPL Inputs with Increased Wind Availability and Increased Wind Capacity Credit	2013	2017	Not Selected	Not Selected
IPL Inputs with Low DSM	2013	2019	Not Selected	Not Selected
IPL Inputs with Low and Mid DSM	2018	2019	Not Selected	Not Selected
IPL Inputs with Low, Mid and High DSM	2018	2019	Not Selected	Not Selected
IPL Inputs with 20% higher Power Plant Capital Costs	2015	2017	Not Selected	Not Selected
IPL Inputs with 40% higher Power Plant Capital Costs	2015	2017	Not Selected	Not Selected
IPL Inputs except for a 17% Minimum Reserve Margin	2013	2018	Not Selected	Not Selected
IPL Inputs except for a 16% Minimum Reserve Margin	2014	2016	Not Selected	Not Selected
IPL Inputs except for a 15% Minimum Reserve Margin	2015	2019	Not Selected	Not Selected
IPL Inputs except for a 14% Minimum Reserve Margin	2015	2018	Not Selected	Not Selected
IPL Inputs plus Natural Gas Prices Increased by 10%	N/A	N/A	2019	Not Selected
IPL Inputs with Increased Wind and Low, Mid and High DSM	2018	Not Selected	Not Selected	Not Selected
IPL Inputs with (1) Increased Wind Availability, (2) Low, Mid and High DSM, (3) 20% higher Capital Costs and (4) An 88% New Coal Capacity Factor	2018	Not Selected	Not Selected	Not Selected



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1 Thus, when IPL's high CO<sub>2</sub> prices was included, the EGEAS model added a new  
2 coal plant only as part of the lowest cost plan in one of the scenarios, other than in  
3 the Company's flawed base case model run. Even in that case, which assumed ten  
4 percent higher natural gas prices, the new coal plant still was not added until  
5 2019, or six years later than IPL proposes to add SGS Unit 4.

6 As shown in Table 7, when IPL's low CO<sub>2</sub> prices were used, the installation date  
7 for the new coal plant in the lowest cost plan was delayed a minimum of between  
8 three and six years (that is, 2016 to 2019). These delays occurred in the scenarios  
9 which included increased wind availability or increased DSM availability or  
10 higher capital costs or the target reserve margins were reduced from 18 percent.  
11 When combined sensitivities reflecting increased wind and increased DSM were  
12 run, the new coal plant was not selected as part of the lowest cost plan even with  
13 the Company's low CO<sub>2</sub> prices.

14 A new coal plant was not selected in any of the lowest cost plans with the  
15 Synapse high CO<sub>2</sub> prices.

16 **Q. Is it possible that natural gas demand could be higher due to CO<sub>2</sub> emission**  
17 **regulations and, as a result, natural gas prices can be expected to be higher**  
18 **than otherwise would be the case?**

19 **A.** Yes. However, the effect is very complicated and will depend on a number of  
20 factors such as how much new natural gas capacity is built as a result of the  
21 higher coal-plant operating costs due to the CO<sub>2</sub> emission allowance prices, how  
22 much additional DSM and renewable alternatives become economic and are  
23 added to the U.S. system, the levels and prices of any incremental natural gas  
24 imports, and changes in the dispatching of the electric system. Thus, it is very  
25 difficult to determine, at this time, the degree to which natural gas prices might be  
26 affected due to CO<sub>2</sub> emission regulations.

**PUBLIC VERSION**

1   **Q.    Did you ask the OCA to rerun the EGEAS model to reflect some increases in**  
2       **natural gas prices as a result of federal regulation of greenhouse gas**  
3       **emissions?**

4    A.    Yes. To illustrate the possible impact of higher natural gas prices as a result of  
5       federal regulation of greenhouse gas emissions, the OCA reran the EGEAS model  
6       to reflect a ten percent increase in natural gas prices in scenarios with the IPL  
7       high CO<sub>2</sub> and the Synapse high CO<sub>2</sub> price forecasts. As shown in Table 7 above,  
8       the model still did not add SGS Unit 4 in 2013 even with the increased natural gas  
9       prices. In the scenario with IPL's high CO<sub>2</sub> prices, the model added a 350 MW  
10       coal unit in 2019. No coal plant was selected in the scenario with Synapse's high  
11       CO<sub>2</sub> price forecast and the 10 percent higher natural gas prices.

12   **Q.    Did IPL explore whether the need for SGS Unit 4 could be eliminated or**  
13       **deferred if it engaged in joint and integrated planning with WPL?**

14   A.    No. Alliant Energy IPL has not conducted joint and integrated planning for both  
15       IPL and WPL. Each of Alliant Energy's wholly owned utility subsidiaries  
16       conducts integrated planning on an individual utility basis.<sup>94</sup> Therefore, IPL is  
17       unable to say that both companies would need to build their proposed coal-fired  
18       power plants in Wisconsin and Iowa.<sup>95</sup>

19   **Q.    Has Alliant Energy conducted any analysis to determine if significant**  
20       **efficiencies are achievable through joint and integrated electric resource**  
21       **planning between its wholly owned utility subsidiaries?**

22   A.    No.<sup>96</sup>

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<sup>94</sup> IPL Response to OCA DR. No. 173.

<sup>95</sup> IPL Confidential Response to OCA DR. No. 174.

<sup>96</sup> IPL Response to OCA DR. No. 175.

**PUBLIC VERSION**

1   **Q.   Has IPL previously claimed that joint and integrated resource planning**  
2       **between Alliant Energy's wholly owned utility subsidiaries would produce**  
3       **significant efficiencies and benefits for Iowa ratepayers?**

4   **A.   Yes. The Company made those claims in Board Docket No. 96-6.<sup>97</sup>**

5   **Q.   IPL has claimed that its 2003 and 2005 Electric Resource Plans also**  
6       **supported the need for a coal-fired resource in the same timeframe as the**  
7       **proposed Sutherland Generating Unit 4. Should the Board rely on the**  
8       **results of these Electric Resource Plans when considering whether to approve**  
9       **the Company's request for permission to build SGS Unit 4?**

10   **A.   No. Circumstances have changed significantly since the Company prepared its**  
11       **2003 and 2005 Electric Resource Plans. In particular, IPL's 2005 IRP modeling**  
12       **did not reflect any CO<sub>2</sub> prices and much lower capital costs for the generating**  
13       **alternatives it considered. For example, the coal plant and wind facility capital**  
14       **costs that IPL has used in its [REDACTED]**  
15       **[REDACTED]. For**  
16       **these reasons, the results of the 2005 are obsolete and should not be relied upon.**

17   **Q.   Does this conclude your testimony?**

18   **A.   Yes.**

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<sup>97</sup> For example, see the Direct Testimony of Glen E. Jablonka in Iowa Utilities Board Docket No. SPU-96-6, at pages 16-22. See also, *IES Industries Inc, Interstate Power Co., and WPL Holdings, Inc*, Docket No. SPU-96-6, IUB Order, dated September 16, 1997, at pages 4 and 8.

# EXHIBIT L

## Page 1 of 2

**From:** "Pyper, Thomas TMP (7122)" <TPYPER@whdlaw.com>  
**To:** "Kira Loehr" <loehr@cwpb.com>  
**CC:** "Ritchie Sturgeon" <ritchiesturgeon@alliantenergy.com>, "Curt Pawlisch" ...  
**Date:** 5/15/2008 11:08 AM  
**Subject:** FW: 6680-CE-170, Responses to discovery

Kira,

Regarding WPL's redaction of portions of documents produced in response to 1-CUB/RFP-11-16, pursuant to Wis. Stat. § 804.01(2)(a), CUB is entitled to discovery of "matter, not privileged, which is relevant to the subject matter involved in the pending action." CUB is not entitled to the discovery of irrelevant matter or matter that does not fall within CUB's discovery requests. As set forth in WPL's responses to 1-CUB/RFP-11-16, many of the documents requested by CUB contain information concerning, Alliant Energy Corporation ("AEC"), Interstate Power and Light Company ("IPL"), Alliant Energy Resources ("AER") or other affiliates not parties to the PSC proceedings. Similarly, many documents contain information not requested by CUB and which is wholly irrelevant to WPL's CPCN application. For example, CUB is not entitled to PowerPoint Slides presented to the AEC's board of directors relating to strategic planning for IPL or AER. Such information is entirely irrelevant to the PSC proceeding and was not requested by CUB in 1-CUB/RFP-11-16. Redacting documents to remove irrelevant material is permissible. See, e.g., *Concepcion v. City of New York*, 2006 WL 2254987, \*3 (S.D. N.Y. Aug. 4, 2006) ("Furthermore, the fact that some portions of the agreements may contain discoverable information does not mean that the complete documents must be produced. As long as the relevant portions are disclosed together with such contextual information as necessary for the sections produced to be comprehensible, the defendants have met their obligations."); *Talarigo v. Precision Airmotive Corp.*, 2007 WL 3132818, \*3 (E.D. Pa. Oct. 25, 2007) (allowing the defendant to redact irrelevant portions of correspondence prior to production to the plaintiff).

In your email below, you reference IPL's production of documents to the Office of Consumer Advocate and Mr. Schlissel's testimony in the Iowa baseload proceeding as support for your argument that CUB is entitled to unredacted documents. Mr. Schlissel's testimony does not indicate that the OCA was provided unredacted documents. We have contacted counsel for IPL, Ms. Paula Johnson. Ms. Johnson has informed us that IPL did not produce unredacted corporate documents to the OCA. The documents referenced in Mr. Schlissel's testimony were, just like WPL's documents, redacted to remove information concerning entities other than IPL and information concerning matters other than what was requested and/or relevant to the IUB proceeding. WPL has followed the same practice as IPL. Redaction of information not requested or that is not reasonably designed to lead to the discovery of admissible evidence before production of documents is certainly standard practice under the Wisconsin discovery rules.

Regarding 1-CUB/RFP-18-20, WPL did redact one of the PowerPoint slides produced in response to those requests. You are correct that WPL inadvertently failed to note the redaction in its written response. However, WPL did object to the scope of the request, including CUB's request for documents relating to entities other than WPL or for facilities other than NED 3 or COL 3, i.e., irrelevant matter. The one document that was redacted was redacted consistent with WPL's objections, and, for the reasons set forth above, the redaction of irrelevant material was appropriate.

You have asked whether, despite WPL's objections, "documents produced in response to these requests are a complete production as opposed to a partial production of responses." WPL produced documents responsive to the requests subject to its objections. For example, WPL has not produced privileged documents, documents outside the time objections noted in the responses, documents concerning AEC, IPL or other WPL affiliates (unless the document relate to NED 3 or COL 3), etc.

Feel free to contact me with any questions.

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-----Original Message-----

From: Kira Loehr [mailto:loehr@cwpb.com]  
 Sent: Wednesday, May 07, 2008 8:33 AM  
 To: Pyper, Thomas TMP (7122)  
 Cc: Ritchie Sturgeon; Curt Pawlisch; Buchko, Cindy CLB (7126)  
 Subject: 6680-CE-170, Responses to discovery

Tom,

I am writing regarding WPL's responses to the following requests for production: 1-CUB/RFP-11; 1-CUB/RFP-12; 1-CUB/RFP-13; 1-CUB/RFP-14; 1-CUB/RFP-15; 1-CUB/RFP-16; 1-CUB/RFP-18; 1-CUB/RFP-19; and 1-CUB/RFP-20.

Despite the fact that WPL and CUB have entered into a confidentiality agreement for this proceeding, most of the documents provided in response to requests 11 through 16 and some of the documents provided in response to requests 18 through 20 were redacted. In its objections to requests 11 through 16, the Company stated that it was providing documents in response to these

**EXHIBIT L**  
**Page 2 of 2**

requests "with confidential material not responsive to the RFP redacted." The responses and objections to requests 18 through 20 did not indicate that the documents provided would be redacted.

The requests for production at issue sought particular documents, not information contained in particular documents. Thus, there is no basis for WPL's statement that particular information within a document is not "responsive" to the request. Moreover, these requests are reasonably designed to lead to the discovery of admissible evidence. For example, in the recently concluded proceeding brought by IPL before the Iowa Utilities Board regarding the proposed plant in Marshalltown, public testimony indicated that documents of the type responsive to these requests were presented to the Board. Specifically, the public direct testimony of David Schlissel on behalf of the Office Of Consumer Advocate (attached) references documents of the type responsive to these requests (see pages 6, 7, 13, 20, etc.). IPL never objected to the introduction of this testimony. Thus, the type of information CUB has requested was in fact used as admissible evidence in a similar proceeding. CUB can discern no rational reason why the Iowa Utilities Board would be entitled to this type of information, but the Wisconsin Public Service Commission would not.

Therefore, CUB requests that the Company provide unredacted copies of all redacted responses to requests 11 through 16 and 18 through 20 immediately. If the Company continues to refuse to provide such responses, and if it files such responses in the future, CUB will file a Motion to Compel.

Finally, the Company objected to nearly every request for production. With respect to all but one request to which objections were made, the Company stated that "documents responsive to this request will be produced." Please confirm that the documents produced in response to these requests are a complete production as opposed to a partial production of responses.

If you have any questions, please give me a call.

Thanks,  
Kira

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