

STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
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SUPPLEMENTAL DIRECT TESTIMONY OF ERIK C. MADSEN

1 **Q. Please state your name and your business address.**

2 **A. My name is Erik C. Madsen and my business address is 200 First Street**
3 **S.E., Cedar Rapids, Iowa 52406.**

4 **Q. Are you the same Erik C. Madsen who previously filed rebuttal**
5 **testimony on behalf of Interstate Power and Light Company (IPL) in**
6 **this proceeding?**

7 **A. Yes.**

8 **Q. What is the purpose of your supplemental direct testimony?**

9 **A. I will be introducing IPL's supplemental direct testimony witnesses, and**
10 **will be providing a broad description of IPL's position at this stage in this**
11 **proceeding.**

12 **In summary, in my supplemental direct testimony I will:**

- 13 • **introduce the IPL's supplemental direct witnesses and the**
14 **purpose of their testimony; and**
- 15 • **address the new cost cap for Sutherland Generating Station**
16 **Unit 4 (SGS Unit 4) proposed at this time.**

1 I will also support the position that, when viewed in the context of
2 previous Board orders in other ratemaking principles dockets as well as
3 the other generation and capacity decisions IPL has made, Sutherland
4 Generating Station Unit 4 (SGS Unit 4) continues to be a very reasonable
5 alternative for IPL's customers.

6 **Q. Are you sponsoring an exhibit as part of your supplemental direct**
7 **testimony?**

8 A. Yes. I am sponsoring Exhibit____(ECM-2) which includes the following
9 schedules:

- 10 • Confidential Schedule A: Revisions to Ratemaking Application

11 **Filing Overview**

12 **Q. Please explain the Company's filing in general.**

13 A. Today IPL is making two concurrent filings. First, IPL is responding to
14 data requests issued by the Board on August 26, 2008, in this docket. At
15 the same time, due to updated cost estimates for SGS Unit 4, IPL is
16 proposing to change its cost cap rate principle. Testimony is being filed
17 today to reflect the new cost cap number, but some of the testimony is
18 also indirectly responsive to the Board's August 26, 2008, order requiring
19 additional information (August 26 Order).

20 **Q. Did IPL prepare its responses to the August 26 Order exactly as**
21 **directed by the Board?**

22 A. Technically not, but I believe IPL's responses are consistent with the
23 Board's intent.

1 In its questions 12, 13, 14 and 15, the Board requests updates to
2 the IPL's July 2008 Base Case scenario. These particular requests are an
3 attempt, it appears, to understand the sensitivity of some assumptions as
4 applied to IPL's July 2008 Base Case scenario. However, IPL did not
5 update the July 2008 Base Case scenario using the original cost cap
6 number for SGS Unit 4. Based on IPL's supplemental direct testimony
7 that cost cap is no longer consistent with IPL's proposal. Instead, IPL
8 inserted an updated cost cap number, and then completed the sensitivity
9 analysis as requested by the Board. This is explained in more detail in the
10 response to the data requests and in the testimony of IPL witness Brent
11 Kitchen.

12 IPL used this approach because it believed it is more efficient for
13 the Board, in reaching a conclusion in this docket, to have as much
14 updated information as possible. Certainly, if the Board wishes IPL to
15 complete the data requests exactly as originally requested, IPL will
16 promptly supply that information.

17 Introduction of IPL Supplemental Direct Witnesses

18 **Q. Please introduce the other witnesses providing supplemental direct**
19 **testimony and the purpose of their testimonies.**

20 **A. The witnesses providing supplemental direct testimony discuss two**
21 **revisions to IPL's previously-filed testimony. First, based on new**
22 **information with the engineering, procure and construct (EPC) contract**
23 **that has been negotiated, IPL is proposing to modify its cost cap principle**

1 in this proceeding. Second, as explained above, in the August 26 Order,
2 the Board requested the submission of additional information in this
3 docket regarding load forecasts, cost data and other information. In this
4 filing, IPL is addressing both of these simultaneously to create the best
5 possible record for consideration by the parties and by the Board.

6 With that backdrop, our supplemental direct witnesses are as
7 follows:

- 8 • Jeffery Beer will provide information on a number of topics,
9 including:
 - 10 ○ A further description of the negotiated EPC contract;
 - 11 ○ Support for IPL's new cost cap information as well as
12 explanations of the changes from our previous cost cap
13 data; and
 - 14 ○ Background information about the development of the
15 biomass market, in light of the Board's order in GCU-07-1 as
16 well as its August 26 Order on this topic in this docket.
- 17 • Chris Hampsher will support IPL's calculation of allowance for
18 funds used during construction (AFUDC), using the new plant cost
19 information, as support for the new cost cap.
- 20 • Brent Kitchen will sponsor and explain the Electric Generation
21 Expansion Analysis System (EGEAS) runs using the updated
22 information on forecasted demands and energy as well as new
23 capital costs. I note that, as demonstrated by Mr. Kitchen, IPL's
24 analysis continues to select SGS Unit 4 as a reasonable alternative
25 for our customers.
- 26 • Joseph Hillberry will explain the updates to the load forecast of both
27 demand and energy to reflect 2007 data as directed by the Board in

1 **Q. How does this increased cost impact the reasonableness of the**
2 **plant?**

3 A. In many ways, the case for the plant is stronger now than it was
4 previously. As Mr. Kitchen explains, IPL's EGEAS modeling demonstrates
5 that SGS Unit 4 continues to be an appropriate and reasonable resource
6 for IPL's customers. Further, in Docket No. GCU-07-1, the Board created
7 a renewable portfolio standard for IPL. On page 63 of the Board's August
8 25, 2008, Order in that docket, the board states, ". . . SGS4 will fill an
9 important role in the company's overall generation portfolio, and will
10 effectively support the company's renewable resources, particularly wind-
11 driven generation." The Board appears to be stating that the base load
12 coal plant (SGS Unit 4) enables IPL to continue to install wind generation -
13 - which by definition is not dispatchable -- that otherwise would not be
14 possible.

15 The previous positive factors concerning diversity of supply,
16 reliability, and managing IPL's carbon footprint continue to be as valid
17 today as they were prior to the August 25, 2008, Order in Docket No.
18 GCU-07-1.

19 **Q. What other assumptions has IPL changed in this filing?**

20 A. IPL's assumption changes were driven by three factors.

21 First, IPL needed to reflect the new capital cost of building SGS
22 Unit 4. With these updated capital cost numbers, IPL needed to re-run
23 EGEAS to analyze the impacts of the higher capital cost for SGS Unit 4.

1 Given that, and the fact that construction cost changes would affect other
2 types of generation as well, IPL updated capital cost assumptions for
3 combined cycle units and combustion turbines in our EGEAS modeling, as
4 described by Mr. Kitchen and Mr. Beer.

5 Second, since the Board asked for updated load and energy
6 forecasts, IPL used these updated forecasts in its modeling, as described
7 by Mr. Hillberry. I would note however, that many of the forecast results
8 are not materially different than the forecasts that IPL had previously used
9 in this docket.

10 Third, we tried to limit the changes to those that we felt were
11 required, in order to simplify the analysis required from the other parties,
12 while at the same time still providing results that could be used to
13 determine the reasonableness of the plant. IPL wants to continue to
14 reinforce that prompt resolution of this docket – and thereby providing the
15 needed inputs prior to construction – is of paramount importance.

16 Finally, the Board's August 25, 2008, Order in Docket No. GCU-07-
17 1, included operating conditions for SGS Unit 4. These plant operating
18 conditions were included in some of IPL's updated EGEAS runs that were
19 provided in IPL's response to the Board's August 26 Order filed
20 concurrently with IPL's supplemental direct testimony. Mr. Kitchen is
21 available to respond to questions regarding those EGEAS runs.

1 Q, You previously indicated that the new [REDACTED]
2 [REDACTED]; have you prepared a cost cap number that does
3 not include AFUDC?

4 A. Yes. As I stated in my rebuttal testimony, IPL does not object to the
5 Office of Consumer Advocate's position that any cost cap granted to IPL
6 should not include AFUDC. In my rebuttal testimony, I stated that IPL's
7 initial cost cap without AFUDC would have been approximately [REDACTED]
8 [REDACTED]. IPL's willingness to accept a cost cap without AFUDC remains
9 unchanged. If AFUDC is removed from IPL's new [REDACTED] cost
10 cap, the cost cap would be [REDACTED].

11 Q. Please describe Exhibit ___(ECM-2), Confidential Schedule A?

12 A. This schedule contains the pages of IPL's March 31, 2008, Application
13 that have been modified to reflect the negotiation of the EPC contract and
14 IPL's new cost cap.

15 Q. Does this conclude your prepared supplemental direct testimony?

16 A. Yes.

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**AFFIDAVIT OF
ERIK C. MADSEN**

STATE OF IOWA)
) ss.
COUNTY OF LINN)

I, Erik C. Madsen, being first duly sworn on oath, depose and state that I am the same Erik C. Madsen identified in the Supplemental Direct Testimony; that I have caused the Supplemental Direct Testimony, including any Exhibits, to be prepared and am familiar with the contents thereof; and that the Supplemental Direct Testimony, including any Exhibits, are true and correct to the best of my knowledge and belief as of the date of this Affidavit.

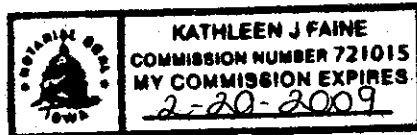
Erik C. Madsen

Erik C. Madsen

Subscribed and sworn to before me,
a Notary Public in and for said County
and State, this 10th day of September, 2008.

Kathleen J Faine

Notary Public



<p>No. 3</p>	<p>associated transmission, up to the Iowa jurisdictional portion of [REDACTED] [REDACTED] cost projection, without the need to establish prudence or reasonableness. IPL shall be required to establish the prudence and reasonableness of any investment and transmission costs related by the SGS Unit 4 in excess of the foregoing calculated amount before the Iowa jurisdictional portion of such excess can be included in rates.</p>	<p>principles that have been approved by the Board in the following dockets:</p> <p>RPU-01-9: MidAmerican Energy Company (MEC) Greater Des Moines Energy Center</p> <p>RPU-02-10: MEC Council Bluffs Energy Center Unit 4</p> <p>RPU-03-1: MEC 310 MW Wind-Powered Generating Project</p> <p>RPU-04-3: MEC Wind Expansion Project</p> <p>RPU-05-4: MEC 545 MW Wind Project</p> <p>The level of the cost cap proposed for SGS Unit 4 is supported in the direct testimonies of IPL witnesses Mr. Beer and Mr. Hampsher.</p>
<p>Principle No. 4</p>	<p><u>Cancellation Cost Recovery.</u> If IPL cancels construction of the proposed SGS Unit 4 for good cause, IPL's prudently incurred costs shall be amortized over a period of no more than five years no later than six months after the cancellation. The annual amortization shall be included in the calculation of IPL's revenue requirement, but the unamortized balance shall not be included in rate base in any determination of interim and final rates thereafter during the period of the amortization, provided however, that the prudence of the costs and the good cause for cancellation may be disputed by any party and shall be subject to determination by the Board.</p>	<p>This principle is very similar and has the same intent as the cancellation cost recovery principle approved by the Board for the Emery Generation Station in Docket No. RPU-02-6. This principle is supported by the direct testimony of IPL witness Mr. Hampsher.</p>

4.8 FINANCIAL/CONTRACTUAL COMMITMENTS

The plant construction was bid as an Engineer, Procure and Construction Management (EPCM) project. The Request for Proposals (RFP) was sent out to prospective bidders on December 20, 2007. The RFP responses were received on January 8, 2008 and were conformed to the EPCM RFP. During negotiations with the selected vendor -- KBV Sutherland Power Constructors (KBV), a joint venture of Kiewit Power Constructors Co. (Kiewit) and Black & Veatch Construction, Inc. (Black & Veatch) -- it was determined, based on the specific experience of the vendor, that the EPC approach was a more appropriate contracting approach. An Engineering Services Agreement (ESA) and Letter of Intent (LOI) have been completed with the selected contractor. The final negotiation of the EPC relationship was completed on August 29, 2008.

Discussions are ongoing regarding fuel procurement for facility start-ups and coal procurement for base load operations. The proposed SGS Unit 4 has been specifically designed to operate primarily on PRB coal while also accommodating up to 10% heat input on eastern coal. This ensures flexibility of coal sources and, therefore, increases the opportunities for both continuous supply and reliability. Additionally, transportation arrangements for the shipment of these fuels are also subject to ongoing discussions. It is premature to know whether transportation will be accomplished subject to tariffs or negotiated contracts.

The proposed SGS Unit 4 will be jointly owned as described in Section 1.1 of this Application. Each of the joint owners will be responsible for their proportionate share of capital and operational costs.

4.8.1 Long-Term Procurement Contracts

As stated in Section 4.8, respective bidders on this EPC project submitted their bids by January 8, 2008, and final negotiation of the EPC relationship was concluded on August 29, 2008.

To achieve the 2013 planned commercial operating date the EPC contractor, on behalf of IPL, should enter into limited release purchase contracts for long lead time items such as the steam turbine generator, the boiler, and the air quality control systems by November 1, 2008, and full release for these contracts by March 1, 2009. The limited release is to cover costs of early engineering and other early work. As the major equipment suppliers are identified and the design further develops, a more structured plan will be developed to identify scope and content of construction contracts.

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SUPPLEMENTAL DIRECT TESTIMONY OF JEFFERY J. BEER

1 **Q. Please state your name and your business address.**

2 **A. My name is Jeffery J. Beer and my business address is 200 First Street**
3 **S.E., Cedar Rapids, Iowa 52406.**

4 **Q. Are you the same Jeffery J. Beer who previously filed direct and**
5 **rebuttal testimony on behalf of Interstate Power and Light Company**
6 **(IPL) in this proceeding?**

7 **A. Yes.**

8 **Q. What is the purpose of your supplemental direct testimony?**

9 **A. My supplemental direct testimony is to advise the Iowa Utilities Board**
10 **(Board), and the parties, that IPL has negotiated an Engineer, Procure**
11 **and Construction Management contract (EPC Contract) with KBV**
12 **Sutherland Power Constructors (KBV), a joint venture of Kiewit Power**
13 **Constructors Co. (Kiewit) and Black & Veatch Construction, Inc. (Black &**
14 **Veatch), for the construction of Sutherland Generating Station Unit 4 (SGS**
15 **Unit 4). In addition, my supplemental direct testimony will discuss the**
16 **process that IPL used in evaluating the EPC Contract, the specific terms**

1 of the EPC Contract, and the impact of the EPC Contract on IPL's March
2 31, 2008, ratemaking principles application. My supplemental direct
3 testimony is also responsive to the Board's "Order Requiring Additional
4 Information" issued on August 26, 2008. I will also be providing an
5 overview of the plant's biomass commercial capability in light of the
6 Board's August 25, 2008 Order in Docket No. GCU-07-1.

7 **Q. Are you sponsoring an exhibit as part of your supplemental direct**
8 **testimony?**

9 A. Yes. I am sponsoring Exhibit ____ (JJB-2) which includes the following
10 schedules:

- 11 • Confidential Schedule A: Response to OCA Data Request No. 48
- 12 • Confidential Schedule B: Estimated Construction Costs – SGS Unit 4
- 13 • Confidential Schedule C: KBV's "Project Summary Totals" for SGS
14 Unit 4
- 15 • Confidential Schedule D: Reconciliation of Cost of Construction
16 Estimates
- 17 • Confidential Schedule E: Updated Capital Cost Estimates For
18 Combined Cycle And Simple Cycle Alternatives

19 **Current Status of the EPC Contract**

20 **Q. Did your initial direct testimony discuss whether you anticipated that**
21 **IPL and KBV would enter into an EPC contract?**

22 A. Yes. On page 12 of my March 31, 2008, direct testimony, I stated that I
23 expected that the final negotiation of the EPC contract with KBV would be
24 completed by August 1, 2008. However, KBV was not able to present an
25 EPC contract proposal to IPL until August 1, 2008.

1 **Q. Did KBV prepare any preliminary design work in order to prepare its**
2 **EPC contract proposal?**

3 A. Yes. As stated on page 12 of my direct testimony, prior to March 31,
4 2008, IPL had entered into an Engineering Services Agreement (ESA) and
5 Letter of Intent (LOI) with KBV. Under those arrangements, KBV was
6 authorized to begin preliminary design work for SGS Unit 4. The
7 preliminary design work included the preparation of detailed engineering
8 specifications that would enable vendors to prepare binding quotes for the
9 major components of SGS Unit 4. Additional information regarding the
10 experience and expertise of KBV, Kiewit and Black & Veatch is provided in
11 Mr. Richard J. Ott's rebuttal testimony filed on August 1, 2008, in this
12 docket.

13 **Q. Could you please identify the major components of SGS Unit 4 and**
14 **some of the vendors that KBV contacted?**

15 A. Yes. The supplier for the Owner Furnished Equipment (OFE), i.e., the
16 steam generator, the steam turbine generator (STG), and the air quality
17 control system (AQCS) was selected using an Indicative Proposal
18 process. The total cost of these three major equipment systems was
19 approximately 60% of the total estimated equipment/material/subcontract
20 cost. Forty additional packages, totaling approximately 35% of the total
21 estimated equipment/material/subcontract cost, were selected to be sent
22 out for competitive bid. A total of 95% of the estimated cost for
23 engineered equipment, purchased material, and furnish and erect

1 subcontracts was supported by this bidding process. Additional
2 information is provided in IPL's September 12, 2008, response to the
3 Board's "Order Requiring Additional Information" issued on August 26, 2008.

4 **Q. Are the detailed engineering specifications that KBV has prepared**
5 **sufficient for the actual construction of SGS Unit 4?**

6 A. No. The detailed design work needed for the actual construction of the
7 project will be prepared over the next twelve months and will require the
8 preparation of thousands of design drawings. Additionally, thousands of
9 additional design drawings will be prepared during the course of SGS Unit
10 4's construction. However, the preliminary design work and detailed
11 engineering specifications, that KBV prepared this summer, allowed KBV
12 to prepare, for IPL's consideration, a formal engineering, procurement and
13 construction target price proposal (the KBV Proposal) for SGS Unit 4.

14 **Q. When did KBV formally present the KBV Proposal?**

15 A. IPL and KBV representatives met on July 31, 2008, to discuss the current
16 status of KBV's preliminary design work and the preparation of the KBV
17 Proposal. By cover letter dated, August 1, 2008, KBV formally submitted
18 the KBV Proposal to IPL. The presentation of the KBV Proposal is a
19 continuation of the process I described in my initial direct testimony. A
20 copy of the KBV Proposal has been included in my Confidential
21 Workpaper 1.

22 **Q. What steps did IPL take after it received the KBV Proposal?**

1 A. During the week of August 4, 2008, IPL and KBV representatives held a
2 number of meetings to assist IPL's understanding regarding the scope of
3 the KBV Proposal. As can be expected, IPL and KBV legal
4 representatives devoted effort on negotiating the final draft of the EPC
5 Contract. During the week of August 18, 2008, IPL also meet with
6 representatives of Central Iowa Power Cooperative (CIPCO), Corn Belt
7 Power Cooperative (Corn Belt) and the North Iowa Municipal Electric
8 Association (NIMECA) (collectively, "Joint Partners") and discussed the
9 KBV Proposal. The negotiations for the EPC Contract were concluded on
10 August 29, 2008.

11 **Q. Has IPL provided a copy of the EPC Contract?**

12 A. Yes. Confidential Attachment A, included in IPL's September 12, 2008,
13 response to the Board's "Order Requiring Additional Information" issued on
14 August 26, 2008, is a copy of the EPC Contract.

15 **Q. After the conclusion of negotiations for the EPC Contract, was there**
16 **any other review and approval needed before IPL could execute that**
17 **contract?**

18 A. Yes. Because of the dollar value of the EPC Contract, IPL's management
19 is required to submit this agreement to the capital approval committee of
20 IPL's Board of Directors (Capital Approval Committee). The Capital
21 Approval Committee is currently scheduled to meet on September 26,
22 2008, to consider the EPC Contract.

1 Specific terms of the EPC contract

2 **Q. Can you please describe the major terms of the EPC Contract?**

3 A. Yes. The KBV Proposal can be described as a "target price cost
4 reimbursable" agreement. Under the basic structure of the EPC Contract
5 KBV will design, engineer, procure equipment, construct, commission,
6 start-up and test SGS Unit 4. The EPC Contract is a reimbursable cost
7 agreement based on a Target Price and a sharing of excess costs or cost
8 savings. Additionally, KBV will be entitled to a fee and reimbursement of
9 its general and administrative (G&A) costs. KBV's fee is applied to the
10 underlying cost and their G&A reimbursement. KBV's fee is ■■■ and its
11 G&A reimbursement is calculated at ■■■ of the underlying cost.

12 **Q. How was the Target Price in the EPC Contract established?**

13 A. KBV prepared an estimate of all Reimbursable Costs (in July 1, 2008
14 dollars, without escalation). Additionally, KBV prepared separate
15 estimates of Target Contingency and Target Escalation. As part of
16 developing the Target Price, KBV worked with IPL to develop the value of
17 the Target Contingency which represents the uncertainty in executing the
18 scope of work defined in the EPC Contract, and to develop Target
19 Escalation. Finally, KBV and IPL agreed upon a Target Price, which will
20 include: ((estimate of all Reimbursable Costs ■■■■■■■■■■ + Target
21 Contingency + Target Escalation.

22 **Q. Please explain how the EPC Contract provides for the sharing of**
23 **excess costs or cost savings?**

1 A. KBV's maximum liability under the EPC Contract (whether for cost overrun
2 or liquidated damages) will be capped at an amount equal to [REDACTED] of
3 the total dollar value of the Fee (the "Fee At Risk"), subject to customary
4 exceptions for negligence, willful misconduct and fraud. IPL and KBV will
5 share [REDACTED] of all excess costs and all excess savings of the difference
6 between total installed cost (as defined in the EPC Contract) and the
7 Target Price as adjusted for changes in scope, from "\$1", up to an amount
8 equal to the amount of the Fee At Risk. Additionally, liquidated damages
9 for schedule delays and performance shortfalls, to be assessed on a
10 prorated basis, up to an amount equal to the amount of the Fee At Risk, to
11 be added into the total installed cost (as defined in the EPC Contract).

12 **Q. Are these provisions of the executed EPC Contract, related to the**
13 **sharing of excess costs or cost savings, consistent with IPL's**
14 **expectations?**

15 A. Yes. During the course of the discovery in this docket, IPL responded to a
16 data request from the Office of Consumer Advocate (OCA) regarding IPL's
17 expectations for the key terms of a "target price cost reimbursable"
18 agreement. IPL's response to this OCA data request is provided in
19 Exhibit____(JJB-2), Confidential Schedule A. The schedule also
20 describes other material terms and conditions that IPL expected to be
21 included in the final EPC Contract.

1 Q. Did the EPC Contract that IPL and KBV executed include the other
2 material terms and conditions identified in Exhibit____(JJB-2),
3 Confidential Schedule A?

4 A. Yes. In all material respects, the EPC Contract is consistent with the other
5 material terms and conditions identified in Exhibit____(JJB-2), Confidential
6 Schedule A.

7 Q. Will IPL enter into any other equipment contracts related to the
8 purchase of equipment for SGS Unit 4?

9 A. Yes. KBV is responsible for procurement of all equipment with the exception
10 of materials specific to the boiler, turbine and AQCS. Equipment specific to
11 the boiler, turbine and AQCS is valued at approximately \$████ million, will be
12 procured by IPL from Hitachi Power Systems America, Ltd. (Hitachi). In
13 exchange for procuring the boiler, turbine and AQCS system directly IPL will
14 receive a reduction in the KBV's fee and A&G reimbursements. KBV's
15 commercial and technical support has assisted IPL in its negotiations with
16 Hitachi. KBV's fee and A&G reimbursements will be a combined █████ that will
17 be applied to the costs for the Hitachi supplied equipment.

18 Q. What is the Target Price that IPL and KBV have negotiated for SGS
19 Unit 4?

20 A. IPL and KBV have negotiated a Target Price of █████ for SGS
21 Unit 4. The Target Price can be found in Exhibit C-1 of the EPC Contract.

1 **Impact of the EPC Contract on IPL's Requested Ratemaking Principles**

2 **Q. Does this Target Price have an impact on the estimated cost of the**
3 **proposed SGS Unit 4?**

4 A. Yes. Based on this Target Price, IPL has prepared a new estimated cost
5 for SGS Unit 4. This estimate is provided in Exhibit____(JJB-2),
6 Confidential Schedule B. As shown by this schedule IPL's estimated
7 costs, on a per KW basis for the categories of electric supply lines (within
8 and outside of the plant boundary), owner's cost, right of way and land
9 costs and sales tax remain unchanged from the estimate that IPL
10 submitted with its March 31, 2008, Application.

11 **Q. Please highlight those cost categories, as displayed on**
12 **Exhibit____(JJB-2), Confidential Schedule B that have increased**
13 **from IPL's March 31, 2008, Application.**

14 A. The estimated costs for the generating unit, buildings and engineering and
15 development have increased from the estimate that IPL submitted with its
16 March 31, 2008, Application. Since KBV's August 1, 2008, estimate
17 represented an increase, as a consequence, the estimate for allowance
18 for funds used during construction also increased.

19 **Q. Did KBV provide any summaries of how the estimated costs for the**
20 **generating unit, buildings and engineering and development were**
21 **calculated?**

22 A. Yes. KBV prepared a "Project Summary Totals" for SGS Unit 4.
23 Exhibit____(JJB-2), Confidential Schedule C, is a copy of this document.

1 The categories and amounts displayed in this schedule can be reconciled
2 with the cost categories shown on Exhibit____(JJB-2), Confidential
3 Schedule B. KBV has also provided IPL the files that were used to
4 prepare the "Project Summary Totals" for SGS Unit 4. These files are
5 included in my Confidential Workpaper 2.

6 **Q. Please identify Exhibit____(JJB-2), Confidential Schedule D.**

7 A. This schedule provides a more detailed reconciliation between the March
8 31, 2008, cost estimate and the current cost estimate that is based upon
9 the Target Price established between IPL and KBV.

10 **Q. According to KBV, what are the main drivers that were responsible**
11 **for the increase in the estimated costs for SGS Unit 4?**

12 A. There are three primary drivers.

13 First, IPL now has a much more detailed understanding of this
14 plant, based on work that has been on-going with KBV. IPL's previous
15 estimate was based on a "reference plant." The new cost estimate is
16 based on "our plant."

17 Second, through the design optimization process IPL has more
18 specific cost estimates from vendors and these reflect increase cost of
19 materials that has been occurring throughout the construction industry.

20 Third, there have been some scope changes – specifically the
21 addition of a dry electrostatic precipitator that I describe below.

22 **Q. Can you quantify some of these changes?**

1 A. Yes. The dry electrostatic precipitator will cost approximately [REDACTED]
2 [REDACTED]. The other changes I have listed below represent a sample of
3 other key cost changes for the plant. These cost changes reflect both the
4 "our plant cost" estimates, as well as the material cost increases I
5 described above:

- 6 • Balance Of Plant equip. size, layout, design and price (~\$100M)
- 7 • Hitachi equip. size, layout, design and price (~\$82M)
- 8 • Structural design items (primarily qty and pricing of steel) (~\$30M)
- 9 • Insurance (~\$30M)
- 10 • Site soil/transportation - geogrid, roads, flyash, fuel (~\$25M)
- 11 • Site arrangement - rail quantity, water & air loop (~\$10M)

12 These dollar amounts do not include allowance for funds used during
13 construction (AFUDC).

14 **Q. What is a dry electrostatic precipitator and its benefits?**

15 A. The electrostatic precipitator is designed to collect a high percentage of
16 the ash stream from the process. The electrostatic precipitator is
17 expected to capture approximately 80% of the fly ash equating to an
18 estimated 105,000 tons a year. This fly ash, saleable in today's market at
19 \$ 38/ton, is highly marketable as an additive in the cement market while
20 providing a dual benefit of not requiring landfill to dispose of the ash. Over
21 a forty year life this process will result in 4.2 million tons of ash being
22 diverted from landfills into a value-added product.

23 **Q. Please explain the general market conditions that have affected**
24 **costs.**

1 A. The power generation industry is currently being subjected to intense cost
2 pressures. Power plant equipment costs are rising due to global
3 competition for all types of power generation equipment, including
4 equipment for coal fired generation plants. Commodity costs are
5 extremely volatile, again driven by global demand for raw materials used
6 in manufacturing both equipment and construction materials used in many
7 industries in addition to the power generation sector. Labor costs are
8 also being driven upward. An aging work force and shortfall on new
9 replacements is resulting in a shortage of skilled craft and reduced
10 productivity. Significant premiums are required to attract and retain
11 sufficient numbers of skilled workers required to construct a power plant.

12 — This upward price trend, coupled with the ongoing market volatility,
13 has increased the uncertainty of final project costs for large power
14 generation projects. In order to minimize project costs, the contracting
15 approach to large generation projects has shifted from firm price, lump
16 sum EPC contracts to target price EPC contracts. In the firm price
17 contract model, the EPC contractor assumes all costs risk by
18 guaranteeing a fixed price. However, to accept this risk, the contractor
19 includes margin in its estimated amounts for escalation and contingency.
20 In the target price contract model, the Owner controls the escalation and
21 contingency amounts and the contractor does not include its risk margin.

22 **Q. Have these cost trends affected other types of generating plants?**

1 A. Yes. In the course of preparing additional EGEAS runs to weigh the
2 impact of the increase in SGS Unit 4's estimated costs IPL asked Kiewit
3 Power Constructors to provide updated overnight capital cost estimates
4 for the combined cycle and simple cycle alternatives. The information that
5 IPL received is provided in Exhibit____(JJB-2), Confidential Schedule E.

6 **Q. Did IPL use capital cost estimates as high as Kiewit Power
7 Constructors thought were reasonable?**

8 A. No. IPL used more conservative estimates for the capital costs of
9 combined and simple cycle alternatives than what Kiewit Power
10 Constructors defined as reasonable capital cost estimates for combined
11 and simple cycle alternatives and SGS Unit 4 is still economically selected
12 in IPL's September 2008 EGEAS analysis. Therefore, higher capital cost
13 estimates for combined cycle and simple cycle alternatives will only further
14 support the economic selection of SGS Unit 4.

15 **Q. Has there been any change in IPL's expected in-service date for SGS
16 Unit 4?**

17 A. Yes. At the time IPL initially filed its application in this docket, IPL planned
18 on an in-service date of April 1, 2013. This in-service date was based on
19 IPL issuing a full notice to proceed (FNTP) to vendors no later than July 1,
20 2008. However, due to issues relating to the Iowa Department of Natural
21 Resources (IDNR) review of IPL's air permit application, IPL was not able
22 to issue the FNTP on September 1, 2008. IPL is currently planning to
23 issue the FNTP by March 1, 2009 and IPL is planning on a 4th quarter

1 2013 in-service date for SGS Unit 4. IPL witness Chris Hampsher has
2 accounted for this delay in his calculation of allowance for funds used
3 during construction.

4 **Q. Does IPL continue to believe that the proposed SGS Unit 4 is needed**
5 **to reliably serve IPL's customers?**

6 A. Yes. As I stated on page 14 of my initial direct testimony, construction of
7 SGS Unit 4 will materially contribute to the Company's ability to provide
8 reliable electric service to IPL's electric consumers. The supplemental
9 direct testimony by Mr. Kitchen sponsors updated EGEAS runs
10 demonstrating that SGS Unit 4 continues to be a reasonable alternative to
11 meet IPL's customers' needs. The supplemental direct testimony of IPL
12 witness Erik Madsen provides further support for IPL's conclusion that
13 SGS Unit 4 continues to be a reasonable alternative for IPL's customers.
14 In addition, the direct testimonies of IPL's other witnesses, as described
15 on pages 4 through 7 of my initial direct testimony, remain unchanged.

16 **Biomass Requirement**

17 **Q. Does the biomass requirement, as ordered by the Board's August 25,**
18 **2008, Order in Docket No. GCU-07-1, change IPL's proposed**
19 **Ratemaking Principles?**

20 A. No. The Board's August 25, 2008, Order in Docket No. GCU-07-1
21 indicated that these issues would be addressed further in this docket. I
22 am adding this information as background for that analysis, and as

1 support for the inputs IPL used in the EGEAS runs filed in response to the
2 Board's August 26, 2008, Order in this docket.

3 **Q. Please summarize the original intent of the biomass capability of the**
4 **plant.**

5 A. In our original application, IPL indicated that the plant would be designed
6 to burn biomass. IPL also used a 5% burn assumption as part of its air
7 permitting application with the IDNR. This approach gave IPL, and our
8 customers, flexibility to burn alternative fuels, should environmental or cost
9 factors suggest that to be a viable option in the future.

10 IPL did not, in its original GCU application, assume specific
11 biomass burn quantities as part of its EGEAS analysis. This was omitted,
12 in part, due to lack of studies that proved biomass to be a viable and cost
13 effective fuel from a commercial perspective.

14 Lastly, while IPL did indicate that the plant is capable of burning
15 10% biomass, this was a design criterion, such that the plant, for short
16 periods, could burn that amount, not that a 10% continuous burn plan was
17 desirable from a commercial point of view.

18 **Q. Has anything changed IPL's approach to biomass at the plant?**

19 A. Yes, the Board's August 25, 2008, Order, in Docket No. GCU-07-1,
20 identified biomass burn requirements as well as financial penalties for
21 failure to meet these objectives. Also included were expectations that
22 biomass burns could be done at "reasonable cost." This created an

1 immediate sense of urgency to define many requirements, cost impacts
2 and commercial viability for a continuous burn amount.

3 **Q. Briefly describe the work that has been done to date.**

4 A. An internal team at IPL has been working on the related issues since the
5 Board's oral decision in the GCU docket. To greatly oversimplify things,
6 there are four key issues the IPL team has been focused on:

- 7 1. Capital required to allow SGS 4 boilers to burn biomass;
- 8 2. Operational changes to facilities needed to store and handle the
9 material, as well as O & M costs;
- 10 3. Potential costs for biomass material, including transportation and off-
11 site storage; and
- 12 4. Commercial issues for developing systems for biomass purchase,
13 transportation and storage.

14 **Q. Briefly describe the biomass market.**

15 A. For SGS Unit 4, located in the Iowa cornbelt, IPL has focused on the
16 potential biomass market within a fifty mile radius of the plant. The
17 biomass input, corn stover, is the residue left in the field after corn harvest.
18 Stover includes stalks, leaves, cob, and the husk of the corn plant but
19 does not include the crown or surface roots. The stover is approximately
20 50% stalks, 22% leaves, 15% cob, and 13% husk.

21 **Q. What issues has the team identified that need to be address to allow
22 commercial operation?**

23 A. The issues involve development of markets, storage and transportation
24 systems prior to getting the fuel to SGS Unit 4. IPL also has identified

1 potential operations and maintenance (O&M) issues related to handling
2 the material once it is in our possession. Lastly, IPL needs to ensure the
3 material is in a form that works well in its boiler. Given that this is a new
4 market, I am sure there will be other issues that arise that we cannot yet
5 foresee.

6 For example, biomass and coal have two very different
7 characteristics when it comes to storage. With coal, mining and
8 transportation is almost a year-round activity. With corn stover, the
9 harvest is seasonal and no storage and transportation systems exist.

10 **Q. Please describe the material and handling needs at the plant.**

11 **A.** The material handling system included in the design of the SGS Unit 4
12 plant is based on the biomass fuel handling system utilized at the
13 Ottumwa Generating Station (OGS). A unique difference between the
14 OGS operating profile and SGS Unit 4 is the Board's August 25, 2008,
15 Order in Docket No. GCU-07-1 requiring the input of biomass at a 10%
16 rate on a continuous basis year-round. The fall harvest season is
17 expected to provide the majority of the local biomass production and
18 inventory to achieve the year-round burn plan. Achieving an annual burn
19 plan within a seasonal market will require the development of unique
20 storage and transportations plans. A continuous input of biomass will
21 require approximately 380,000 tons (assuming 6,000 btu per pound) of
22 biomass to be collected, delivered and burned on an annual basis. The
23 year-round requirement will require approximately 1,000 tons each day,

1 every day to be delivered to the plant and introduced into the boiler.
 2 During the design phase of the SGS Unit 4 biomass system IPL will make
 3 any required modifications to the material handling system to recognize
 4 the year round operational requirements that do not currently exist with the
 5 OGS plant.

6 **Q. What are the estimated costs?**

7 A. Based on a heat value of 6,000 btu per pound, IPL is estimating costs for
 8 the raw material in the range of \$ 7.50 to \$11.67 per mmbtu. This is
 9 reflected in the following table which estimated the incremental cost of
 10 burning 10% biomass in the boilers, per the Board's August 25, 2008,
 11 Order in Docket No. GCU-07-1. The incremental cost to customers is for
 12 the entire plant output.

Ratepayer Impact of Biomass						
Cost Per Ton	\$ 90.00	\$ 100.00	\$ 110.00	\$ 120.00	\$ 130.00	\$ 140.00
Annual Tons	387,449	387,449	387,449	387,449	387,449	387,449
10% Biomass Input (mmbtu)	4,649,389	4,649,389	4,649,389	4,649,389	4,649,389	4,649,389
Biomass Cost (mmbtu)	\$ 7.50	\$ 8.33	\$ 9.17	\$ 10.00	\$ 10.83	\$ 11.67
Biomass O&M (mmbtu)	\$ 0.46	\$ 0.46	\$ 0.46	\$ 0.46	\$ 0.46	\$ 0.46
Cost of Coal / mmbtu	\$ (1.50)	\$ (1.50)	\$ (1.50)	\$ (1.50)	\$ (1.50)	\$ (1.50)
Incremental Cost (Biomass/Coal)	\$ 6.46	\$ 7.30	\$ 8.13	\$ 8.96	\$ 9.80	\$ 10.63
Incremental Cost to Customers	\$ 30,046,336	\$ 33,920,827	\$ 37,795,318	\$ 41,669,809	\$ 45,544,300	\$ 49,418,791
Biomass Equivalent MWh	494,616	494,616	494,616	494,616	494,616	494,616
Incremental Cost per MWh	\$ 60.75	\$ 68.58	\$ 76.41	\$ 84.25	\$ 92.08	\$ 99.91
100% Biomass \$ / mwh	\$ 74.85	\$ 82.68	\$ 90.51	\$ 98.35	\$ 106.18	\$ 114.01

13
 14 I would also note that a number of issues may still result in increased
 15 costs, as described above.

1 Q. Was IPL able to model the costs in the EGEAS runs requested by the
2 Board?

3 A. To some degree. IPL used a fuel cost estimate for biomass at the lower
4 end of its projections, at about \$8 per mmbtu. This is roughly five to six
5 times the base cost of coal.

6 Obviously, IPL also does not yet know the costs for the biomass
7 material. IPL's EGEAS modeling did not include the incremental O&M
8 costs associated with the biomass handling at SGS Unit 4. IPL is still
9 working to understand those requirements, but it is known that handling
10 raw material of this quantity will require costs not yet reflected in any of
11 IPL's EGEAS cost analyses.

12 Q. Based on what you know today, do you subscribe to the Board's
13 hypothesis that the plant could burn 10% biomass at reasonable
14 cost?

15 A. I do not know what reasonableness standard will be used to judge the
16 biomass requirements, but the incremental costs are not insignificant.
17 Uncertainties with the biomass market, its costs and affects on
18 commercial operation still exist and IPL will need further analysis to
19 estimate those impacts.

20 Q. Does this conclude your prepared supplemental direct testimony?

21 A. Yes.

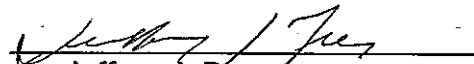
STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
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**AFFIDAVIT OF
JEFFERY J. BEER**

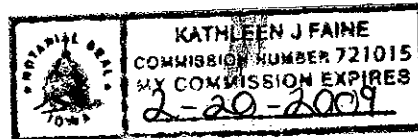
STATE OF IOWA)
) ss.
COUNTY OF LINN)

I, Jeffery J. Beer, being first duly sworn on oath, depose and state that I am the same Jeffery J. Beer identified in the Supplemental Direct Testimony; that I have caused the Supplemental Direct Testimony, including any Exhibits, to be prepared and am familiar with the contents thereof; and that the Supplemental Direct Testimony, including any Exhibits, are true and correct to the best of my knowledge and belief as of the date of this Affidavit.


Jeffery J. Beer

Subscribed and sworn to before me,
a Notary Public in and for said County
and State, this 1st day of September, 2008.


Notary Public



Confidential/Trade Secret

**Response of
Interstate Power and Light Company
to
OFFICE OF CONSUMER ADVOCATE
Data Request No. 48**

Docket Number: RPU-08-1
Date of Request: June 6, 2008
Response Due: June 13, 2008
Information Requested By: Ronald Polle
Date Responded:
Author: Jeff Beer
Author's Title: Proj Dir New Utility Gen II
Author's Telephone No.: (319) 786-4138
Subject: SGS #4 RFP
Reference: May 22, 2008 Response to OCA data request number 32

Data Request No. 48

The "Overview" section on page 2 of 5 of the above referenced response to OCA data request number 32 states: This RFP recognizes that the current marketplace is embracing the "target price plus cost reimbursable" contract approach.

- (a) Please provide a detailed narrative explanation describing the structure of the "target price plus cost reimbursable" contract that IPL intends use and to enter into with KBV for the construction of SGS #4 and how the minimum and maximum potential cost of SGS #4 would be determined under such a contract.
- (b) Identify and discuss all the risks and incentives for both IPL and the EPC KBV under a "target price plus cost reimbursable" contract approach.
- (c) To the extent a draft contract has been prepared and is being finalized in the negotiations presently taking place with KBV, please provide a copy of the most recent draft available.

Response

Confidential information has been omitted.

CONFIDENTIAL

CONFIDENTIAL

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STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
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SUPPLEMENTAL DIRECT TESTIMONY OF CHRISTOPHER A. HAMPSHER

1 **Q. Please state your name and business address.**

2 A. My name is Christopher A. Hampsher. My business address is 200 First
3 Street, S.E., P.O. Box 351, Cedar Rapids, Iowa 52406.

4 **Q. Are you the same Christopher Hampsher who previously filed direct**
5 **testimony on behalf of Interstate Power and Light Company (IPL) in**
6 **this proceeding?**

7 A. Yes.

8 **Q. What is the purpose of your supplemental direct testimony?**

9 A. The purpose of my supplemental direct testimony is to explain revisions I
10 have made to the calculation of AFUDC.

11 **Q. Are you sponsoring an exhibit as part of your supplemental direct**
12 **testimony?**

13 A. Yes. I am sponsoring Exhibit___(CAH-2) which includes the following
14 schedules:

15 Revised Schedule A: Support for Calculation of AFUDC

16 Revised Schedule A(a) Accumulation of AFUDC for

1 Compounding Purposes
2 Revised Schedule A(b) Calculation of AFUDC With No
3 Compounding
4 Revised Schedule A-1 Estimation of Future Balance in DAEC
5 Regulatory Liability Account

6 **Q. Why was it necessary to make revisions to the AFUDC calculation?**

7 A. As discussed in the supplemental direct testimony of Jeffery Beer, the
8 underlying cost of SGS Unit 4 has changed. Accordingly, the calculation
9 of AFUDC must change as well.

10 **Q. What exactly did you change with respect to the AFUDC calculation?**

11 A. I changed the cost and timing of SGS Unit 4 expenditures to be consistent
12 with the information provided to me by Mr. Beer. Mr. Beer explains the
13 reasons for the changes in his supplemental direct testimony. Everything
14 else was held constant in the AFUDC calculation.

15 **Q. To be clear, did you change the AFUDC rate?**

16 A. No.

17 **Q. What is the effect of the increased cost of SGS Unit 4 on the AFUDC
18 calculation before considering the DAEC Regulatory Liability offset?**

19 A. AFUDC increased from \$370.9 million in the original filing to \$453.2
20 million. The \$453.2 million is shown on Exhibit___(CAH-2), Revised
21 Schedule A, page 2, line 58.

22 **Q. Why did you change the estimated balance of the DAEC Regulatory
23 Liability Account?**

1 A. I changed the calculation in order to be consistent with the updated in-
2 service date as provided by Mr. Beer. Because IPL is now expecting to
3 begin construction later than what was originally envisioned, it also
4 expects the in-service date to be later as well. In other words, IPL still
5 expects the construction period of SGS Unit 4 to take approximately 57
6 months. Accordingly, by SGS Unit 4 being placed in-service eight months
7 later than anticipated in the original filing, the DAEC Regulatory Liability
8 Account has that much longer to accrue interest before it is used to offset
9 the AFUDC associated with the SGS Unit 4.

10 **Q. What is the result of pushing back the in-service date of SGG Unit 4**
11 **on the DAEC Regulatory Liability Account?**

12 A. The additional eight months increases the DAEC Regulatory Liability
13 Account that is available to offset the AFUDC on the SGS Unit 4 by \$2.8
14 million. The \$2.8 million is the difference between the \$73.7 million as
15 shown on Exhibit____(CAH-2), Revised Schedule A, page 2, line 59, and
16 the \$70.9 million shown in the original filing.

17 **Q. Does this conclude your prepared supplemental direct testimony?**

18 A. Yes...

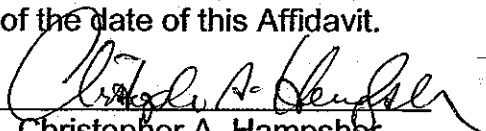
STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
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AFFIDAVIT OF
CHRISTOPHER A. HAMPSHER

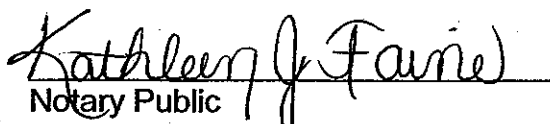
STATE OF IOWA)
) ss.
COUNTY OF LINN)

I, Christopher A. Hampsher, being first duly sworn on oath, depose and state that I am the same Christopher A. Hampsher identified in the Supplemental Direct Testimony; that I have caused the Supplemental Direct Testimony, including any Exhibits, to be prepared and am familiar with the contents thereof; and that the Supplemental Direct Testimony, including any Exhibits, are true and correct to the best of my knowledge and belief as of the date of this Affidavit.



Christopher A. Hampsher

Subscribed and sworn to before me,
a Notary Public in and for said County
and State, this 10th day of September, 2008.



Notary Public



Interstate Power and Light Company
Sutherland Generating Station Unit 4
Support for Calculation of AFUDC
For the Years 2008 - 2013

Line No.	(a)	(b)		(c)		(d)		(e)	
		Cap Ratio	Cost Rate*	WACC	Monthly Rate	Cap Ratio	Cost Rate*	WACC	Monthly Rate
1	Long-term debt	50.0%	9.04%	4.52%	0.377%				
2	Common & Preferred Stock equity	50.0%	9.04%	4.52%	0.377%				
3		100.0%		9.04%*					

*From Exhibit (CAH-1), Schedule A(c). Consistent with 2008 IPL Corporate Modeling Assumption, except for adjusting ROE to 12.5%.

	Loaded Dollars Before AFUDC			
	2,008	2,009	2,010	2,011
Capital Expenditures:				
4 Prior year Cap x	\$ -	\$ -	\$ 322,791,072	\$ 828,049,879
5 January			33,614,416	46,078,808
6 February			32,318,502	36,094,878
7 March			37,502,158	38,590,860
8 April			42,685,813	33,598,894
9 May			55,644,951	32,350,903
10 June			45,277,640	29,854,921
11 July			18,114,078	43,981,727
12 August			30,840,086	34,910,331
13 September			76,970,405	47,326,800
14 October			23,247,105	47,326,800
15 November			32,318,502	39,838,852
16 December			45,277,640	44,830,817
17 Current year Cap X			505,258,807	371,085,424
18 Project to date Cap X	\$ -	\$ 322,791,072	\$ 828,049,879	\$ 1,199,135,303

	2012		2013	
	2,010	2,011	2,012	2,013
24,944,188	24,944,188	24,944,188	24,944,188	24,944,188
28,655,867	28,655,867	28,655,867	28,655,867	28,655,867
21,232,511	21,232,511	21,232,511	21,232,511	21,232,511
6,740,799	6,740,799	6,740,799	6,740,799	6,740,799
5,396,242	5,396,242	5,396,242	5,396,242	5,396,242
5,396,242	5,396,242	5,396,242	5,396,242	5,396,242
4,051,684	4,051,684	4,051,684	4,051,684	4,051,684
2,087,505	2,087,505	2,087,505	2,087,505	2,087,505
2,087,505	2,087,505	2,087,505	2,087,505	2,087,505
604,552	604,552	604,552	604,552	604,552
5,440,968	5,440,968	5,440,968	5,440,968	5,440,968
65,491,484	65,491,484	65,491,484	65,491,484	65,491,484
\$ 1,441,244,223	\$ 1,441,244,223	\$ 1,441,244,223	\$ 1,441,244,223	\$ 1,441,244,223

I-S date
After I-S Date

	2012		2013	
	2,010	2,011	2,012	2,013
AFUDC-Debt:				
19 January	\$ -	\$ -	\$ 1,312,241	\$ 3,418,348
20 February			1,436,470	3,573,177
21 March		81,603	1,568,024	3,713,898
22 April		197,335	1,719,112	3,849,916
23 May		269,165	1,971,526	4,128,751
24 June		334,356	2,161,681	4,245,957
25 July		400,078	2,329,861	4,356,110
26 August		492,316	2,478,507	4,463,910
27 September		695,449	2,633,456	4,562,478
28 October		884,276	2,811,799	4,654,145
29 November		1,017,391	3,087,527	4,932,979
30 December		1,163,595	3,247,059	5,024,646
31	\$ -	\$ 5,535,565	\$ 26,757,264	\$ 50,924,316

	2012		2013	
	2,010	2,011	2,012	2,013
5,118,644	5,118,644	5,118,644	5,118,644	5,118,644
6,484,214	6,484,214	6,484,214	6,484,214	6,484,214
6,519,749	6,519,749	6,519,749	6,519,749	6,519,749
6,550,217	6,550,217	6,550,217	6,550,217	6,550,217
6,821,703	6,821,703	6,821,703	6,821,703	6,821,703
6,842,038	6,842,038	6,842,038	6,842,038	6,842,038
6,862,373	6,862,373	6,862,373	6,862,373	6,862,373
6,880,175	6,880,175	6,880,175	6,880,175	6,880,175
6,891,742	6,891,742	6,891,742	6,891,742	6,891,742
6,899,608	6,899,608	6,899,608	6,899,608	6,899,608
7,159,345	7,159,345	7,159,345	7,159,345	7,159,345
69,043,164	69,043,164	69,043,164	69,043,164	69,043,164
\$ 1,506,735,707	\$ 1,506,735,707	\$ 1,506,735,707	\$ 1,506,735,707	\$ 1,506,735,707

AFUDC-Equity:	2,008	2,009	2,010	2,011	2012	2013
32 January	\$ -	\$ -	\$ 1,312,241	\$ 3,418,348	\$ 5,118,644	\$ 6,448,679
33 February	-	-	1,436,470	3,573,177	5,219,636	6,484,214
34 March	-	81,603	1,568,024	3,713,898	5,313,634	6,519,749
35 April	-	197,335	1,719,112	3,849,916	5,393,645	6,550,217
36 May	-	269,165	1,971,526	4,128,751	5,688,739	6,821,703
37 June	-	334,356	2,161,681	4,245,957	5,771,082	6,842,038
38 July	-	400,078	2,329,861	4,356,110	5,844,099	6,862,373
39 August	-	492,316	2,478,507	4,463,910	5,910,124	6,880,175
40 September	-	695,449	2,633,456	4,562,478	5,973,571	6,891,742
41 October	-	884,276	2,811,799	4,654,145	6,044,573	6,899,608
42 November	-	1,017,391	3,087,527	4,932,979	6,354,808	7,159,345
43 December	-	1,163,595	3,247,059	5,024,646	6,410,610	-
44	\$ -	\$ 5,535,565	\$ 26,757,264	\$ 50,924,316	\$ 69,043,164	\$ 74,359,844

AFUDC-Total (Debt + Equity):	2,008	2,009	2,010	2,011	2012	2013
45 January	\$ -	\$ -	\$ 2,624,483	\$ 6,836,697	\$ 10,237,288	\$ 12,897,358
46 February	-	-	2,872,940	7,146,355	10,439,271	12,968,428
47 March	-	163,205	3,136,048	7,427,796	10,627,267	13,039,498
48 April	-	394,670	3,438,224	7,699,832	10,787,290	13,100,435
49 May	-	538,329	3,943,052	8,257,502	11,377,478	13,643,407
50 June	-	668,712	4,323,362	8,491,915	11,542,163	13,684,076
51 July	-	800,156	4,659,722	8,712,219	11,688,199	13,724,746
52 August	-	984,632	4,957,014	8,927,820	11,820,248	13,760,349
53 September	-	1,390,899	5,266,912	9,124,957	11,947,141	13,783,484
54 October	-	1,768,553	5,623,599	9,308,291	12,089,146	13,799,216
55 November	-	2,034,782	6,175,054	9,865,957	12,709,616	14,318,690
56 December	-	2,327,191	6,494,118	10,049,291	12,821,221	-
57	\$ -	\$ 11,071,130	\$ 53,514,529	\$ 101,848,633	\$ 138,086,328	\$ 148,719,688

58 Total Capitalized AFUDC Before Regulatory Liability Offset \$ 453,240,307

59 Remaining Balance of DAEC Regulatory Liability to Fund AFUDC (73,670,978)

60 Capitalized AFUDC, Net of Remaining Balance of DAEC Regulatory Liability \$ 379,569,329

Source:
Line 3: From Exhibit (CAH-1), Schedule A(c), line 29.
Lines 5-16: Provided by generation personnel.
Lines 19-57: AFUDC is compounded on a semiannual basis in May and November.
Line 58: Sum of totals shown on line 57.
Line 59: From Exhibit (CAH-2), Revised Schedule A-1.

Interstate Power and Light Company
Sutherland Baseload Plant
Support for Calculation of AFUDC With No Compounding
For the Years 2008 - 2013

Line No.	(a)	(b) Cap Ratio					(c) Cost Rate*					(d) WACC					(e) Monthly Rate				
		2,008	2,009	2,010	2,011	2,012	2,013	50.0%	50.0%	100.0%	9.04%	9.04%	9.04%*	4.52%	4.52%	9.04%*	0.377%	0.377%	0.377%		
1	Long-term debt																				
2	Common & Preferred Stock equity																				
3																					
*From Exhibit (CAH-1), Schedule A(c). Consistent with 2008 IPL Corporate Modeling Assumption, except for adjusting ROE to 12.59%.																					
Capital Expenditures:																					
4	Prior year Cap x																				
5	January																				
6	February																				
7	March																				
8	April																				
9	May																				
10	June																				
11	July																				
12	August																				
13	September																				
14	October																				
15	November																				
16	December																				
17	Current year Cap X																				
18	Project to date Cap X																				
19																					

Line No.	(a)	(b) Cap Ratio					(c) Cost Rate*					(d) WACC					(e) Monthly Rate				
		2,008	2,009	2,010	2,011	2,012	2,013	50.0%	50.0%	100.0%	9.04%	9.04%	9.04%*	4.52%	4.52%	9.04%*	0.377%	0.377%	0.377%		
Loaded Dollars Before AFUDC																					
20	AFUDC-Debt:																				
21	January																				
22	February																				
23	March																				
24	April																				
25	May																				
26	June																				
27	July																				
28	August																				
29	September																				
30	October																				
31	November																				
32	December																				

Interstate Power and Light Company
Sutherland Baseload Plant
Support for Calculation of AFUDC With No Compounding
For the Years 2008 - 2013

Line No.	(a)	(b)	(c)	(d)	(e)	2012	2013
	AFUDC-Equity:						
33	January	-	-	1,279,722	3,207,194	4,565,748	5,448,866
34	February	-	-	1,403,951	3,362,023	4,666,740	5,484,401
35	March	-	81,603	1,535,505	3,502,743	4,760,738	5,519,936
36	April	-	197,335	1,686,592	3,638,761	4,840,750	5,550,404
37	May	-	265,065	1,871,864	3,763,022	4,923,092	5,573,273
38	June	-	330,256	2,062,019	3,880,228	5,005,435	5,593,607
39	July	-	395,978	2,230,199	3,990,380	5,078,452	5,613,942
40	August	-	488,216	2,378,845	4,098,181	5,144,477	5,631,744
41	September	-	691,350	2,533,794	4,196,749	5,207,924	5,643,311
42	October	-	880,176	2,712,138	4,288,416	5,278,926	5,631,177
43	November	-	984,871	2,876,372	4,380,083	5,354,995	5,656,250
44	December	-	1,131,076	3,035,905	4,471,750	5,410,797	
45		\$ -	\$ 5,445,926	\$ 25,606,906	\$ 46,779,532	\$ 60,238,074	\$ 61,366,911

Line No.	(a)	(b)	(c)	(d)	(e)	2012	2013
	AFUDC-Total (Debt + Equity):						
46	January	-	-	2,559,443	6,414,387	9,131,497	10,897,731
47	February	-	-	2,807,901	6,724,046	9,333,480	10,968,802
48	March	-	163,205	3,071,009	7,005,487	9,521,477	11,039,872
49	April	-	394,670	3,373,185	7,277,523	9,681,499	11,100,809
50	May	-	530,129	3,743,728	7,526,044	9,846,184	11,146,545
51	June	-	660,512	4,124,039	7,760,456	10,010,869	11,187,215
52	July	-	791,957	4,460,399	7,980,761	10,156,905	11,227,885
53	August	-	976,432	4,757,691	8,196,362	10,288,954	11,263,488
54	September	-	1,382,699	5,067,588	8,393,498	10,415,847	11,286,622
55	October	-	1,760,353	5,424,275	8,576,832	10,557,852	11,302,355
56	November	-	1,969,743	5,752,745	8,760,167	10,709,990	11,312,500
57	December	-	2,262,151	6,071,809	8,943,501	10,821,594	
58		\$ -	\$ 10,891,851	\$ 51,213,812	\$ 93,559,063	\$ 120,476,147	\$ 122,733,822
59	Total AFUDC Before Compound Interest						\$ 398,874,696

Source:
Line 3: From Exhibit (CAH-1), Schedule A(c), line 29.
Lines 5-16: Provided by generation personnel.
Line 59: Sum of totals shown on line 58.

Interstate Power and Light Company
Estimation of Future Balance in DAEC Regulatory Liability Account
At Time Sutherland Unit 4 Goes In Service
In Thousands

Regulatory Liability Account						
Line No.		Days in Month	Monthly Interest*	Accumulated interest	Offset to AFUDC**	Ending Balance
1	Beginning Balance - January 31, 2008					\$ 63,927
2			\$ -	\$ -		63,927
3	February	29	305	305		64,232
4	March	31	326	631		64,558
5	April	30	315	946		64,873
6	May	31	326	1,272		65,199
7	June	30	315	1,587		65,514
8	July	31	326	1,913		65,840
9	August	31	326	2,238		66,165
10	September	30	315	2,554		66,481
11	October	31	326	2,879		66,806
12	November	30	315	3,195		67,122
13	December	31	326	3,520		67,447
14	January 2009	31	344	344		67,791
15	February	28	310	654		68,102
16	March	31	344	998		68,445
17	April	30	333	1,330		68,778
18	May	31	344	1,674		69,122
19	June	30	333	2,007		69,454
20	July	31	344	2,350		69,798
21	August	31	344	2,694		70,142
22	September	30	333	3,027	-	70,474
23	October	31	344	3,371	-	70,818
24	November	30	333	3,703	-	71,151
25	December	31	344	4,047	(12,858)	58,636
26	January 2010	31	299	299		58,935
27	February	28	270	569		59,205
28	March	31	299	867		59,504
29	April	30	289	1,157		59,793
30	May	31	299	1,455		60,092
31	June	30	289	1,745		60,381
32	July	31	299	2,043		60,680
33	August	31	299	2,342		60,978
34	September	30	289	2,631		61,268
35	October	31	299	2,930	-	61,566
36	November	30	289	3,219	-	61,856
37	December	31	299	3,518	-	62,154

File Name: AFUDC Support_Final Revised_9-10-08.xls

Sheet Name: DAEC Reg Liab

Path: V:\Reg Affairs\Reg Relations\Rate Cases - CMP\Iowa\RPU-08-1 Baseload Ratemaking

Principles\Testimony\IPLASupplemental Direct\Hampsher\AFUDC Support_Final Revised_9-10-08.xls

Line No.			Days in Month	Monthly Interest*	Accumulated interest	Offset to AFUDC**	Ending Balance
38	January	2011	31	317	317		62,471
39	February		28	286	603		62,757
40	March		31	317	920		63,074
41	April		30	307	1,226		63,380
42	May		31	317	1,543		63,697
43	June		30	307	1,849		64,004
44	July		31	317	2,166		64,320
45	August		31	317	2,483		64,637
46	September		30	307	2,789		64,944
47	October		31	317	3,106	-	65,260
48	November		30	307	3,413	-	65,567
49	December		31	317	3,729	-	65,884
50	January	2012	31	336	336		66,219
51	February		28	303	639		66,523
52	March		31	336	975		66,858
53	April		30	325	1,300		67,183
54	May		31	336	1,635		67,519
55	June		30	325	1,960		67,844
56	July		31	336	2,296		68,180
57	August		31	336	2,632		68,515
58	September		30	325	2,957		68,840
59	October		31	336	3,292	-	69,176
60	November		30	325	3,617	-	69,501
61	December		31	336	3,953	-	69,837
62	January	2013	31	356	356		70,193
63	February		28	321	677		70,514
64	March		31	356	1,033		70,870
65	April		30	344	1,378		71,214
66	May		31	356	1,733		71,570
67	June		30	344	2,078		71,915
68	July		31	356	2,434		72,270
69	August		31	356	2,790		72,626
70	September		30	344	3,134		72,971
71	October		31	356	3,490		73,327
72	November		30	344	3,834	-	73,671

Assumptions:

*Interest rate: 6.00% per year
0.0164% per day

Annual compounding.

**IA Wind Project which has accrued \$12 million of AFUDC is completed and placed in-service in December, 2009.

File Name: AFUDC Support_Final Revised_9-10-08.xls

Sheet Name: DAEC Reg Liab

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Principles\Testimony\IPLASupplemental Direct\Hampsher\AFUDC Support_Final Revised_9-10-08.xl

STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY,	DOCKET NO. RPU-08-1
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SUPPLEMENTAL DIRECT TESTIMONY OF BRENT R. KITCHEN

1 **Q. Please state your name and your business address.**

2 **A. My name is Brent R. Kitchen. My business address is 1000 Main Street,**
3 **Dubuque, Iowa 52001.**

4 **Q. Are you the same Brent R. Kitchen who previously provided**
5 **testimony on behalf of Interstate Power and Light Company (IPL) in**
6 **this proceeding?**

7 **A. Yes, I am.**

8 **Q. What is the purpose of your supplemental direct testimony?**

9 **A. The purpose of my supplemental direct testimony is to sponsor certain**
10 **updates, to the extent possible, to IPL's Electric Generation Expansion**
11 **Analysis System (EGEAS) analysis regarding Sutherland Generating**
12 **Station Unit 4 (SGS Unit 4).**

13 **Q. Please describe these updates.**

1 A. First of all, these EGEAS updates reflect IPL's September 2008 updated
2 peak load and energy forecasts that were prepared in response to the
3 Iowa Utilities Board's (Board) "Order Requiring Additional Information"
4 issued on August 26, 2008. Additionally, as explained by IPL witness Mr.
5 Beer, IPL's September 2008 capital cost estimate for SGS Unit 4 is higher
6 than the March 2008, estimate. IPL's updated EGEAS analysis reflects a
7 higher capital cost for SGS Unit 4 than the March 2008, estimate. Finally,
8 IPL received capital cost updates for the combined cycle and simple cycle
9 alternatives and that information was used in the EGEAS updates I am
10 sponsoring.

11 **Q. What overall conclusion does your supplemental direct testimony**
12 **present?**

13 A. As I explain and show in more detail, SGS Unit 4 continues to be an
14 appropriate and reasonable resource for IPL's customers.

15 **Q. Are you sponsoring any exhibits or supporting schedules in your**
16 **supplemental direct testimony?**

17 A. Yes. I am sponsoring Exhibit___(BRK-3), which includes the following
18 schedules:

- 19 Schedule A: IPL's September 2008 Load and Capability;
- 20 Schedule B: IPL's September 2008 EGEAS Base Case optimized
- 21 with Superfluous Units = 10 expansion plan results;
- 22 Schedule C: IPL's September 2008 EGEAS Low Carbon Dioxide
- 23 (CO₂) price scenario optimized with Superfluous Units = 10
- 24 expansion plan results;

- 1 Schedule D: IPL's September 2008 EGEAS High CO₂ price
2 scenario optimized with Superfluous Units = 10 expansion plan
3 results;
- 4 Schedule E: IPL's September 2008 EGEAS Base Case SGS Unit
5 4 (432.5 megawatt (MW) forced) in 2013 with Superfluous Units
6 = 10 expansion plan results;
- 7 Schedule F: IPL's September 2008 EGEAS Low CO₂ price
8 scenario SGS Unit 4 (432.5 MW forced) in 2013 with
9 Superfluous Units = 10 expansion plan results;
- 10 Schedule G: IPL's September 2008 EGEAS High CO₂ price
11 scenario SGS Unit 4 (432.5 MW forced) in 2013 with
12 Superfluous Units = 10 expansion plan results;
- 13 Schedule H: IPL's September 2008 EGEAS Base Case optimized
14 with Superfluous Units = 10 SO₂, NOx and CO₂ emission totals;
- 15 Schedule I: IPL's September 2008 No Additions scenario
16 expansion plan results; and
- 17 Schedule J: IPL's September 2008 No Additions scenario SO₂,
18 NOx and CO₂ emission totals.

19 **Q. What specific changes were made to IPL's July 2008 EGEAS input**
20 **data?**

21 A. Specifically, IPL made the following four changes to IPL's July 2008
22 EGEAS input data:

- 23 • IPL's load forecast (peak and energy) was updated to include IPL's
24 2007 actual load data as well as other updated 2007 data – as
25 requested by the Board's "Order Requiring Additional Information"
26 issued on August 26, 2008;
- 27 • SGS Unit 4 capital cost was updated to \$ [REDACTED] per kilowatt (kW) for
28 a 2013 in-service date up from \$ [REDACTED] per kW;
- 29 • Combined Cycle (CC-300J or CC-350J) capital cost was updated
30 to \$ [REDACTED] per kW for a 2013 in-service date up from \$ [REDACTED] per kW;
- 31 • Simple Cycle (CT-150) capital cost was updated to \$ [REDACTED] per kW
32 for a 2013 in-service date up from \$ [REDACTED] per kW.

33 IPL witness Mr. Hillberry further supports IPL's September 2008 peak and
34 energy forecasts. An updated Load and Capability is shown in

1 Exhibit (BRK-3), Schedule A. IPL witness Mr. Beer further supports the
2 updated capital cost estimate for SGS Unit 4. IPL's construction group
3 provided new overnight capital cost estimates, excluding Allowance for
4 Funds Used During Construction (AFUDC) and Owner's Costs, for
5 combined cycle and simple cycle alternatives to be installed in 2013 of
6 \$■■■■ and \$■■■■ per kW, respectively. Again, IPL witness Mr. Beer further
7 supports the updated overnight capital cost estimates for the combined
8 cycle and simple cycle alternatives via information received from Kiewit
9 Power Constructors. To calculate the updated total capital cost for a
10 combined cycle alternative to be installed in 2013, the same adder of
11 ■■■%, that IPL previously used in this proceeding for that technology to
12 account for Owner's costs, including but not limited to AFUDC, was
13 applied to the overnight cost of \$■■■■ per kW. The result of \$■■■■ per
14 kW times ■■■ is \$■■■■ per kW. To calculate the updated total capital
15 cost for a simple cycle alternative to be installed in 2013, the same adder
16 of ■■■%, that IPL previously used in this proceeding for that technology to
17 account for Owner's costs, including but not limited to AFUDC, was
18 applied to the overnight cost of \$■■■■ per kW. The result of \$■■■■ per kW
19 times ■■■ is \$■■■■ per kW.

20 **Q. Why does the capital cost estimate for SGS Unit 4 used in EGEAS**
21 **differ from the SGS Unit 4 capital cost cited by IPL witnesses Mr.**
22 **Hampsher and Mr. Madsen?**

1 A. As explained in more detail in Mr. Beer's testimony, IPL recently
2 completed negotiations of the KBV contract, and a target-price has been
3 established. However, when I began my EGEAS analysis to determine
4 the continued viability of SGS Unit 4 as a reasonable resource option,
5 only the preliminary estimated figure cited above was available for
6 analysis. Because of the nature of their testimonies, the other IPL
7 witnesses had the advantage of being able to work with a more updated
8 capital cost for SGS Unit 4.

9 **Q. Do you believe that SGS Unit 4 would still be chosen as a reasonable**
10 **option in the resource mix if you updated to the more current capital**
11 **cost estimate?**

12 A. While I did not have sufficient time to run an analysis using the updated
13 capital cost estimate, I do not believe there would be a substantive impact
14 on the reasonableness of SGS Unit 4 as a viable resource. Because the
15 updated capital cost is actually lower than the capital cost I utilized in the
16 EGEAS analysis, it is reasonable to assume that SGS Unit 4 would
17 continue to be picked as a reasonable resource.

18 **Q. Did IPL use capital cost estimates for combined cycle and simple**
19 **cycle alternatives as high as Kiewit Power Constructors thought**
20 **were reasonable?**

21 A. No. As explained in detail and sponsored in the supplemental direct
22 testimony of Mr. Beer, IPL used more conservative estimates for the
23 capital costs of combined and simple cycle alternatives than what Kiewit

1 Power Constructors defined as reasonable capital cost estimates for
2 combined and simple cycle alternatives. Even with the more conservative
3 cost estimates, SGS Unit 4 is still economically selected in IPL's
4 September 2008 EGEAS analysis. Therefore, higher capital cost
5 estimates for combined cycle and simple cycle alternatives will only further
6 support the economic selection of SGS Unit 4.

7 **Q. Did IPL update the capital cost data for the wind resource**
8 **alternative?**

9 A. No. IPL would not be surprised if the current cost projections in the model
10 for wind will turn out to be low; however, SGS Unit 4 is still economically
11 selected in the EGEAS analysis even with what may turn out to be low
12 wind cost. Thus, a higher cost for wind will only further support the
13 economic selection of SGS Unit 4.

14 **Q. Please describe IPL's September 2008 EGEAS runs presented by IPL**
15 **in this supplemental direct testimony.**

16 A. IPL again modeled three scenarios: a Base Case, a Low CO₂ price
17 scenario and a High CO₂ price scenario. All of these scenarios assumed
18 10 superfluous units, similar to what was presented in Exhibit__(BRK-2),
19 Schedules F, G and H respectively, with the above-referenced updates:
20 (i) the load forecast (peak demand and energy); (ii) the capital cost for
21 SGS Unit 4; (iii) the capital cost for combined cycle; and (iiii) the capital
22 cost for simple cycle. SGS Unit 4 is economically selected in each of
23 these three optimized scenario runs. The results of the optimized

1 September 2008 Base Case, Low CO₂ price scenario and High CO₂ price
2 scenario are shown in Exhibit__(BRK-3), Schedules B, C and D,
3 respectively. IPL then did a variation on each of these three new
4 September 2008 EGEAS runs where SGS Unit 4 at 432.5 MW was fixed
5 in 2013. The results of the Base Case, Low CO₂ price scenario and High
6 CO₂ price scenario where SGS Unit 4 at 432.5 MW is fixed in 2013 are
7 shown in Exhibit__(BRK-3), Schedules E, F and G, respectively.

8 **Q. Please summarize the results of IPL's September 2008 EGEAS runs**
9 **presented by IPL in this supplemental direct testimony.**

10 A. SGS Unit 4 is economically selected in 2013 in each of the three
11 optimized scenario runs. In each of the three scenarios, the total overall
12 cost of each of the three runs where SGS Unit 4 at 432.5 MW is fixed in
13 2013 is within approximately 0.5% or less of the respective optimized run
14 where SGS Unit 4 at 350 MW is economically selected. The results of
15 IPL's September 2008 EGEAS runs described above are summarized in
16 Table 1 below.

1
2

Table 1
IPL's September 2008 EGEAS Runs

				Cost
		First	First	Difference
	Total	Coal-Fired	Year	from
September 2008	Cost 1)	Unit	Coal	Optimized
Case	M 2006\$	Installed	Installed	(%)
Base (optimized)	10,730	SGS Unit 4 (350MW)	2013	-
Base (SGS 4 fixed)	10,780	SGS Unit 4 (432.5MW)	2013	0.5%
IPL's Low CO ₂ (optimized)	13,488	SGS Unit 4 (350MW)	2013	-
IPL's Low CO ₂ (SGS 4 fixed)	13,527	SGS Unit 4 (432.5MW)	2013	0.3%
IPL's High CO ₂ (optimized)	18,417	SGS Unit 4 (350MW)	2013	-
IPL's High CO ₂ (SGS 4 fixed)	18,459	SGS Unit 4 (432.5MW)	2013	0.2%

1) 15-year study period plus 35-year extension period.
2) All runs assumed 10 superfluous units.

3 SGS Unit 4 in 2013 continues to be a reasonable and reliable alternative
4 for meeting the needs of IPL's customers.

5 **Q. Do all of the EGEAS runs presented in Table 1 above assume 10**
6 **superfluous units?**

7 **A. Yes. However, IPL does not agree that assuming 10 superfluous units is**
8 **more correct than assuming two superfluous units. However, even**
9 **assuming the less constraining 10 superfluous units, SGS Unit 4 is**
10 **economically selected.**

11 **Q. Has IPL updated any comparison of the cost, in dollars and**
12 **emissions, between moving forward with SGS Unit 4 (350 MW) in**
13 **2013 and simply maintaining the status quo?**

1 A. Yes, and maintaining the status quo in IPL's existing owned-generation
 2 portfolio would be less desirable, in both economics and emissions, when
 3 compared to IPL's September 2008 EGEAS Base Case where SGS Unit
 4 4 (350 MW) is installed in 2013.

5 Q. Please explain.

6 A. The scenario anticipating no new owned and installed additions is higher
 7 in dollars and emissions than IPL's September 2008 EGEAS Base Case
 8 where SGS Unit 4 is installed in 2013. This is illustrated in Table 2 below.
 9 IPL's September 2008 EGEAS Base Case, where SGS Unit 4 is installed
 10 in 2013, is lower in cost and lower in SO₂, NO_x and CO₂ emissions than
 11 the scenario where there are no new additions. The SO₂ and NO_x
 12 emissions reflected in the table assume no new controls on existing
 13 generating plants.

14 **Table 2**

15 **IPL's September 2008 Base Case vs. IPL's No Additions**

	Total	2013	2013	2013
	Cost	SO ₂	NO _x	CO ₂
	M \$	tons	tons	tons
IPL's September 2008 No Additions	10,995	53,023	25,909	17,276,064
IPL's September 2008 Base Case	10,730	45,607	20,378	16,655,083
Difference	(265)	(7,416)	(5,531)	(620,981)

16 Exhibit (BRK-3), Schedules B, H, I and J, all support Table 2. Through
 17 a diverse portfolio, IPL is mitigating emission risks and uncertainties while
 18 maintaining reasonable costs for its ratepayers.

1 Q. Does this conclude your prepared supplemental direct testimony?

2 A. Yes, it does.

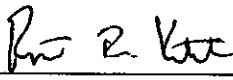
STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
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**AFFIDAVIT OF
BRENT R. KITCHEN**

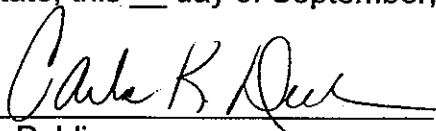
STATE OF IOWA)
) ss.
COUNTY OF DUBUQUE)

I, Brent R. Kitchen, being first duly sworn on oath, depose and state that I am the same Brent R. Kitchen identified in the Supplemental Direct Testimony; that I have caused the Supplemental Direct Testimony, including any Exhibits, to be prepared and am familiar with the contents thereof; and that the Supplemental Direct Testimony, including any Exhibits, are true and correct to the best of my knowledge and belief as of the date of this Affidavit.



Brent R. Kitchen

Subscribed and sworn to before me,
a Notary Public in and for said County
and State, this 9th day of September, 2008.



Notary Public



11/9/2010

ELECTRIC POWER RESEARCH INSTITUTE
 EGEAS REPORT VERSION 9.02

IPL Low CO2 Wind@3%/yr Super=10
 EXPANSION PLAN DIRECTORY

9/ 4/ 8

11:26:18

PAGE 6

YEAR	PLAN 1 NEW UNITS ADDED									
	1	2	3	4	5	6	7	8	9	10
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0
2011	1	0	0	0	0	0	0	0	0	0
2012	2+	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	1	0	0	0	0	0	0	0	0	0
2017	2+	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	2+	0	0	0	0	0	0	0	0	0

TOTAL COST, \$M
 --W/O EXT 7624.400
 --WITH EXT 13487.597

UNIT TYPES

1 PA 26	PPCT 1YR 50	50.000 MW	2 PA 2	CT-75	75.000 MW	3 PA 4	CT-150	150.000 MW
4 PA 8	CC-300J	300.000 MW	5 PA 31	CC-350J	350.000 MW	6 PA 22	PC300J	300.000 MW
7 PA 30	PC350J	350.000 MW	8 PA 19	WIND 100	100.000 MW			

NOTES: ALL COSTS ARE IN MILLIONS OF DOLLARS DISCOUNTED TO THE BEGINNING OF 2006.
 W/O EXT = COST FOR STUDY PERIOD ONLY.
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 - MEANS CUMULATIVE NUMBER OF UNITS IS AT A LOWER BOUND.
 + MEANS CUMULATIVE NUMBER OF UNITS IS AT AN UPPER BOUND.
 . MEANS LOWER AND UPPER BOUNDS ARE EQUAL.

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YEAR	PLAN 1 NEW UNITS ADDED									
	1	2	3	4	5	6	7	8	9	10
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	2	0	0
2011	1	0	0	0	0	0	0	0	0	0
2012	2+	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	1+	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	1	0	0	0	0	0	0	0	0	0
2017	2+	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	1	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	2+	0	0	0	0	0	0	0	0	0

TOTAL COST, M\$
 --W/O EXT 9057.679
 --WITH EXT 18417.145

UNIT TYPES

1 PA 26	PPCT 1YR 50	50.000 MW	2 PA 2	CT-75	75.000 MW	3 PA 4	CT-150	150.000 MW
4 PA 8	CC-300J	300.000 MW	5 PA 31	CC-350J	350.000 MW	6 PA 22	PC300J	300.000 MW
7 PA 30	PC350J	350.000 MW	8 PA 19	WIND 100	100.000 MW			

NOTES: ALL COSTS ARE IN MILLIONS OF DOLLARS DISCOUNTED TO THE BEGINNING OF 2006.
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YEAR	PLAN 1 NEW UNITS ADDED									
	1	2	3	4	5	6	7	8	9	10
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0
2011	1	0	0	0	0	0	0	0	0	0
2012	2+	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	1	0	0	0	0	0	0	0	0	0
2019	2+	0	0	0	0	0	0	0	0	0
2020	0	0	1	0	0	0	0	0	0	0
2021	1	0	0	0	0	0	0	0	0	0
2022	2+	0	0	0	0	0	0	0	0	0

TOTAL COST, M\$
 --W/O EXT 6465.101
 --WITH EXT 10780.463

UNIT TYPES

1 PA 26	PPCT 1YR 50	50.000 MW	2 PA 2	CT-75	75.000 MW	3 PA 4	CT-150	150.000 MW
4 PA 8	CC-300J	300.000 MW	5 PA 31	CC-350J	350.000 MW	6 PA 22	PC300J	300.000 MW
7 PA 30	PC432.5J	432.500 MW	8 PA 19	WIND 100	100.000 MW			

NOTES: ALL COSTS ARE IN MILLIONS OF DOLLARS DISCOUNTED TO THE BEGINNING OF 2006.

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YEAR	PLAN 1 NEW UNITS ADDED									
	1	2	3	4	5	6	7	8	9	10
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	2	0	0
2011	1	0	0	0	0	0	0	0	0	0
2012	2+	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	1	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	1	0	0	0	0	0	0	0	0	0
2019	2+	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	1	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0

TOTAL COST, M\$
 --W/O EXT 7657.756
 --WITH EXT 13527.300

UNIT TYPES

1 PA 26	PPCT 1YR 50	50.000 MW	2 PA 2	CT-75	75.000 MW	3 PA 4	CT-150	150.000 MW
4 PA 8	CC-300J	300.000 MW	5 PA 31	CC-350J	350.000 MW	6 PA 22	PC300J	300.000 MW
7 PA 30	PC432.5J	432.500 MW	8 PA 19	WIND 100	100.000 MW			

NOTES: ALL COSTS ARE IN MILLIONS OF DOLLARS DISCOUNTED TO THE BEGINNING OF 2006.
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YEAR	PLAN 1 NEW UNITS ADDED									
	1	2	3	4	5	6	7	8	9	10
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0
2011	1	0	0	0	0	0	0	0	0	0
2012	2+	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	1	0	0	0	0	0	0	0	0	0
2019	2+	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0

TOTAL COST, M\$
 --W/O EXT 9089.048
 --WITH EXT 18459.227

UNIT TYPES	1 PA 26	PPCT 1YR 50	2 PA 2	CT-75	3 PA 4	CT-150	4	5 PA 31	CC-350J	6 PA 22	PC300J	7 PA 30	PC432.5J	8 PA 19	WIND 100	9 PA 22	PC300J	10	150.000 MW	300.000 MW
1 PA 26	50.000 MW																			
4 PA 8	300.000 MW																			
7 PA 30	432.500 MW																			

NOTES: ALL COSTS ARE IN MILLIONS OF DOLLARS DISCOUNTED TO THE BEGINNING OF 2006.
 W/O EXT = COST FOR STUDY PERIOD ONLY.
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SYSTEM EMISSIONS ANNUAL REPORT

EMIS. TYPE	YEAR	SYSTEM LIMIT TONS	BANKED EMISSION TONS	EMISSIONS TONS	OVER/UNDER TONS	UNIT-BASED ALLOWANCE COST K\$
SO2	2007	0.0		50373.3	50373.3	0.
	2008	0.0		50579.3	50579.3	0.
	2009	0.0		50527.1	50527.1	0.
	2010	0.0		50730.0	50730.0	0.
	2011	0.0		50518.4	50518.4	0.
	2012	0.0		51899.9	51899.9	0.
	2013	0.0		45606.8	45606.8	0.
	2014	0.0		46642.4	46642.4	0.
	2015	0.0		47421.0	47421.0	0.
	2016	0.0		48166.5	48166.5	0.
	2017	0.0		47668.8	47668.8	0.
	2018	0.0		44722.8	44722.8	0.
	2019	0.0		45202.2	45202.2	0.
	2020	0.0		46295.1	46295.1	0.
	2021	0.0		47564.2	47564.2	0.
	2022	0.0		47525.0	47525.0	0.
	EXT.	0.0		47525.3	47525.3	0.

NOTE: ALLOWANCE COSTS/CREDITS ARE BASED ON LIMITS FOR INDIVIDUAL UNITS. SEE UNIT EMISSIONS REPORT FOR DETAILS.

EMIS. TYPE	YEAR	SYSTEM LIMIT TONS	BANKED EMISSION TONS	EMISSIONS TONS	OVER/UNDER TONS	UNIT-BASED ALLOWANCE COST K\$
NOX	2007	0.0		23543.0	23543.0	0.
	2008	0.0		24194.2	24194.2	0.
	2009	0.0		23597.7	23597.7	0.
	2010	0.0		24007.5	24007.5	0.
	2011	0.0		24027.4	24027.4	0.
	2012	0.0		24552.6	24552.6	0.
	2013	0.0		20377.9	20377.9	0.
	2014	0.0		21077.1	21077.1	0.
	2015	0.0		21283.0	21283.0	0.
	2016	0.0		21838.6	21838.6	0.
	2017	0.0		21608.4	21608.4	0.
	2018	0.0		20083.1	20083.1	0.
	2019	0.0		20219.6	20219.6	0.
	2020	0.0		21014.3	21014.3	0.
	2021	0.0		21484.7	21484.7	0.
	2022	0.0		21479.6	21479.6	0.
	EXT.	0.0		21512.8	21512.8	0.

NOTE: ALLOWANCE COSTS/CREDITS ARE BASED ON LIMITS FOR INDIVIDUAL UNITS. SEE UNIT EMISSIONS REPORT FOR DETAILS.

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EMIS. TYPE	YEAR	SYSTEM LIMIT TONS	BANKED EMISSION TONS	EMISSIONS TONS	OVER/UNDER TONS	UNIT-BASED ALLOWANCE COST K\$
CO2	2007	0.0		15709288.0	15709288.0	0.
	2008	0.0		16083881.0	16083881.0	0.
	2009	0.0		15773769.0	15773769.0	0.
	2010	0.0		15923090.0	15923090.0	0.
	2011	0.0		16036514.0	16036514.0	0.
	2012	0.0		16434914.0	16434914.0	0.
	2013	0.0		16655083.0	16655083.0	0.
	2014	0.0		16913356.0	16913356.0	0.
	2015	0.0		17266522.0	17266522.0	0.
	2016	0.0		17487876.0	17487876.0	0.
	2017	0.0		17667320.0	17667320.0	0.
	2018	0.0		18188836.0	18188836.0	0.
	2019	0.0		18522130.0	18522130.0	0.
	2020	0.0		18924214.0	18924214.0	0.
	2021	0.0		19356194.0	19356194.0	0.
	2022	0.0		19349270.0	19349270.0	0.
	EXT.	0.0		19359536.0	19359536.0	0.

NOTE: ALLOWANCE COSTS/CREDITS ARE BASED ON LIMITS FOR INDIVIDUAL UNITS. SEE UNIT EMISSIONS REPORT FOR DETAILS.

ELECTRIC POWER RESEARCH INSTITUTE
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YEAR	PLAN 1									
	1	2	3	4	5	6	7	8	9	10
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0

TOTAL COST, M\$
 --W/O EXT 6087.437
 --WITH EXT 10995.323

UNIT TYPES	1 PA 26	PPCT 1YR 50	50.000 MW	2 PA 2	CT-75	75.000 MW	3 PA 4	CT-150	150.000 MW
4 PA 8	CC-300J	300.000 MW	5 PA 31	CC-350J	350.000 MW	6 PA 22	PC300J	300.000 MW	
7 PA 30	PC350J	350.000 MW	8 PA 19	WIND 100	100.000 MW				

NOTES: ALL COSTS ARE IN MILLIONS OF DOLLARS DISCOUNTED TO THE BEGINNING OF 2006.
 W/O EXT = COST FOR STUDY PERIOD ONLY.
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PLAN 1

EMIS. TYPE	YEAR	SYSTEM LIMIT TONS	BANKED EMISSION TONS	EMISSIONS TONS	OVER/UNDER TONS	UNIT-BASED ALLOWANCE COST K\$
SO2	2007	0.0		50373.3	50373.3	0.
	2008	0.0		50579.3	50579.3	0.
	2009	0.0		50527.1	50527.1	0.
	2010	0.0		51850.3	51850.3	0.
	2011	0.0		51393.0	51393.0	0.
	2012	0.0		52856.9	52856.9	0.
	2013	0.0		53022.8	53022.8	0.
	2014	0.0		52414.2	52414.2	0.
	2015	0.0		53490.9	53490.9	0.
	2016	0.0		53228.8	53228.8	0.
	2017	0.0		52053.5	52053.5	0.
	2018	0.0		53680.7	53680.7	0.
	2019	0.0		53651.2	53651.2	0.
	2020	0.0		53711.9	53711.9	0.
	2021	0.0		54703.5	54703.5	0.
	2022	0.0		55040.4	55040.4	0.
	EXT.	0.0		55179.6	55179.6	0.

NOTE: ALLOWANCE COSTS/CREDITS ARE BASED ON LIMITS FOR INDIVIDUAL UNITS. SEE UNIT EMISSIONS REPORT FOR DETAILS.

EMIS. TYPE	YEAR	SYSTEM LIMIT TONS	BANKED EMISSION TONS	EMISSIONS TONS	OVER/UNDER TONS	UNIT-BASED ALLOWANCE COST K\$
NOX	2007	0.0		23543.0	23543.0	0.
	2008	0.0		24194.2	24194.2	0.
	2009	0.0		23597.7	23597.7	0.
	2010	0.0		24767.0	24767.0	0.
	2011	0.0		24748.5	24748.5	0.
	2012	0.0		25377.5	25377.5	0.
	2013	0.0		25908.7	25908.7	0.
	2014	0.0		25809.5	25809.5	0.
	2015	0.0		26208.3	26208.3	0.
	2016	0.0		26546.0	26546.0	0.
	2017	0.0		26535.9	26535.9	0.
	2018	0.0		27311.8	27311.8	0.
	2019	0.0		27507.3	27507.3	0.
	2020	0.0		28315.2	28315.2	0.
	2021	0.0		28846.3	28846.3	0.
	2022	0.0		29571.0	29571.0	0.
	EXT.	0.0		29637.9	29637.9	0.

NOTE: ALLOWANCE COSTS/CREDITS ARE BASED ON LIMITS FOR INDIVIDUAL UNITS. SEE UNIT EMISSIONS REPORT FOR DETAILS.

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 SYSTEM EMISSIONS ANNUAL REPORT

EMIS. TYPE	YEAR	SYSTEM LIMIT TONS	BANKED EMISSION TONS	EMISSIONS TONS	OVER/UNDER TONS	UNIT-BASED ALLOWANCE COST K\$
CO2	2007	0.0		15709288.0	15709288.0	0.
	2008	0.0		16083881.0	16083881.0	0.
	2009	0.0		15773769.0	15773769.0	0.
	2010	0.0		16484765.0	16484765.0	0.
	2011	0.0		16564214.0	16564214.0	0.
	2012	0.0		16979486.0	16979486.0	0.
	2013	0.0		17276064.0	17276064.0	0.
	2014	0.0		17299382.0	17299382.0	0.
	2015	0.0		17639202.0	17639202.0	0.
	2016	0.0		17801512.0	17801512.0	0.
	2017	0.0		17916100.0	17916100.0	0.
	2018	0.0		18330368.0	18330368.0	0.
	2019	0.0		18537992.0	18537992.0	0.
	2020	0.0		18911570.0	18911570.0	0.
	2021	0.0		19322186.0	19322186.0	0.
	2022	0.0		19673584.0	19673584.0	0.
	EXT.	0.0		19685530.0	19685530.0	0.

NOTE: ALLOWANCE COSTS/CREDITS ARE BASED ON LIMITS FOR INDIVIDUAL UNITS. SEE UNIT EMISSIONS REPORT FOR DETAILS.

STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
--	----------------------------

SUPPLEMENTAL DIRECT TESTIMONY OF JOSEPH M. HILLBERRY

1 **Q. Please state your name and your business address.**

2 **A. My name is Joseph Hillberry and my business address is 200 1st ST. SE.**
3 **Cedar Rapids, IA, 52406.**

4 **Q. Are you the same Joseph Hillberry who previously filed direct and**
5 **rebuttal testimony on behalf of Interstate Power and Light Company**
6 **(IPL) in this proceeding?**

7 **A. Yes.**

8 **Q. What is the purpose of your supplemental direct testimony?**

9 **A. My testimony provides additional information regarding the forecast**
10 **revisions requested by the Iowa Utilities Board (Board) in its Order**
11 **Requiring Additional Information issued August 26, 2008.**

12 **Q. What did you find after you incorporated the updated data?**

13 **A. While inputs may have been updated pursuant to the Board Order, as**
14 **explained below, the updates ultimately had only a nominal effect on my**
15 **forecasting. At the end of the day, the net impact of the requested**

1 updates does not affect IPL's forecasting to any extent that would require
2 revisiting IPL's projected resource requirements.

3 **Q. Are you sponsoring an exhibit as part of your supplemental direct**
4 **testimony?**

5 A. Yes. I am sponsoring Exhibit____(JMH-3) which includes the following
6 schedules:

7 • **Confidential** Schedule A: Adjustments to Peak and Energy
8 Forecasts

9 **Q. What part of the order required an update to the forecast?**

10 A. In Item 13, the Board requested "...an updated peak load forecast that
11 includes IPL's 2007 firm peak load and other updated 2007 data."

12 **Q. Did you only change the peak forecast?**

13 A. No. Both the peak and energy forecasts were updated with 2007 data and
14 assumptions to provide consistent models for the EGEAS runs.

15 **Q. Please describe the changes in these forecasts.**

16 A. The forecasts include the following changes:

- 17 • Inclusion of 2007 data in peak and energy forecasts;
- 18 • Inclusion of Jo Carroll Energy load;
- 19 • Updated large customer forecast;
- 20 • Updated customer forecasts;
- 21 • Updated price forecasts;
- 22 • Updated economic forecasts;
- 23 • Updated loss factors;

1
2
3
4

**Table 2:
Comparison of Forecasted
Native Requirements**

	Prior forecast	Revised forecast	Difference	Percent Difference
2007	17,573,967	17,051,159	(522,808)	-3%
2008	17,680,470	17,643,692	(36,779)	0%
2009	17,806,831	17,225,431	(581,400)	-3%
2010	17,916,975	18,146,208	229,233	1%
2011	18,218,609	18,448,356	229,747	1%
2012	18,518,938	18,745,815	226,877	1%
2013	18,832,526	19,050,088	217,562	1%
2014	19,158,816	19,361,364	202,548	1%
2015	19,501,256	19,679,835	178,579	1%
2016	19,851,003	20,005,702	154,698	1%
2017	20,200,023	20,339,168	139,146	1%
2018	20,558,164	20,680,446	122,282	1%
2019	20,929,144	21,029,752	100,608	0%
2020	21,294,109	21,387,312	93,203	0%
2021	21,672,886	21,753,357	80,471	0%
2022	22,060,295	22,128,125	67,830	0%

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Q. What adjustments were made for Jo Carroll Energy in this update?

A. The Illinois-based Jo Carroll Energy load is included as a large customer adjustment, based on the Jo Carroll Energy load at the time of the 2007 IPL peak. Previously, in order to account for the sale of IPL's Illinois assets, the Illinois load was included in the statistical model and an estimate of the Illinois load was subtracted for 2009 and beyond. The impact of including Jo Carroll Energy, holding everything else equal, is an increase to the peak and energy forecasts.

Q. What adjustments were made for large customers in this update?

A. The adjustments to the statistical models for large customer changes in the peak and energy forecasts are shown in Exhibit_(JMH-3) Confidential

1 Schedule A. The net adjustments are smaller than in the prior forecast.
2 This lowers the forecast, if all else is held equal.

3 **Q. How did the customer forecast change?**

4 A. As explained above, the prior statistical peak model included the Illinois
5 customers and then subtracted out an estimate of the Illinois load. In the
6 current forecast, the Illinois customers are not included in the customer
7 forecast beyond 2006, and the Jo Carroll Energy load is forecasted
8 individually. Thus, the reduction in the customer count is offset by
9 inclusion of a forecast for Jo Carroll Energy load. The forecasted growth
10 rate in the number of customers is about 0.1% lower than in the prior
11 forecast. Holding everything else constant, the new customer forecast,
12 minimally lowers forecasted peaks and energy.

13 **Q. Was the price forecast updated?**

14 A. Yes, the 2007 real price declined from the prior forecast. The assumed
15 growth rate in real electric prices did not change. Therefore, forecasted
16 real prices are slightly lower than the previous forecast. By itself, this
17 change raises the peak forecast.

18 **Q. How did the economic forecast change?**

19 A. The personal income and gross domestic product forecasts are lower than
20 in the original forecast. This lowers the forecasted peaks and energy,
21 holding everything else equal. Global Insight's upward revisions to the
22 gross state product data from 2004 to 2006, combined with using the

1 historical average growth rate, results in an increase in the energy
2 forecast of no more than 0.1% per year, holding everything else equal.

3 **Q. Were loss factors updated?**

4 A. Yes, the assumed loss factor is the average loss factor from the prior
5 twelve months. The new loss factor is 0.21% higher than in the prior
6 forecast, raising the energy forecast, all else equal.

7 **Q. Why was the IES/IPC diversity removed?**

8 A. On June 1, 2008, after the last forecast was performed, Alliant Energy
9 Corporation implemented the Midwest Independent Transmission System
10 Operator, Inc. (MISO) settlement process for its energy market
11 allocations.¹ This meant, in part, that IPL began to operate as IPL rather
12 than continuing to operate as its two predecessor utilities, IES and IPC.
13 This allows IPL to now report peaks as one entity. This change does not
14 impact the peak forecast. It only simplifies the calculation.

15 **Q. Why was the IPL/WPL diversity removed?**

16 A. In this forecast, IPL assumes that MISO will measure reserve
17 requirements by using the control area data. Therefore, diversity with
18 CIPCO is retained while diversity with WPL is no longer assumed. This
19 raised the forecasted peak, assuming everything else is equal.

20 **Q. Why did the month of peak change?**

¹ IPL obtained Board approval of Alliant Energy Corporation's revised System Coordination and Operating Agreement which integrated IES and IPC into one entity (IPL) in the February 6, 2008, Order issued in Docket Nos. RPU-07-5/SPU-00-10.

1 A. The 2007 peak occurred in August, for the third time in five years.
2 Therefore, the monthly distribution of peaks changed when future peaks
3 are assumed to occur. This did not change the forecasted peak.

4 **Q. Was the interruptible load and direct load control forecast updated?**

5 A. Yes, the forecast of interruptible load was updated based on the current
6 energy efficiency plan. This update does not impact the firm peak, as
7 interruptible load is added to forecasted firm peak and subtracted in the
8 calculation of adjusted net internal demand.

9 **Q. How was the weather variable changed in the energy models?**

10 A. The prior IPL forecast had non-standard definitions of weather that even
11 differed between the short and long term energy models. In the updated
12 energy models, the weather variables are Heating Degree Days (HDD)
13 and Cooling Degree Days (CDD) measured with a base of 65 degrees and
14 with the average temperature calculated as the average of the daily high
15 and low temperature, consistent with the most common definitions of HDD
16 and CDD. Furthermore, the value used to predict future weather, from
17 2009 on, is defined as the average of the most recent 20 years.
18 Everything else equal, this change lowered the energy forecasts.

19 **Q. Please summarize the impact of updating the peak and energy**
20 **forecasts for the 2007 data and updated assumptions.**

21 A. Updating the forecasts for the 2007 data and assumptions included
22 changes that both increased and decreased the forecast, when considered

1 on their own. The net effect of the updates demonstrates increased the
2 peak and energy forecast in most years of the analysis.

3 **Q. Does this conclude your prepared supplemental direct testimony?**

4 **A. Yes.**


STATE OF IOWA
BEFORE THE IOWA UTILITIES BOARD

IN RE: INTERSTATE POWER AND LIGHT COMPANY	DOCKET NO. RPU-08-1
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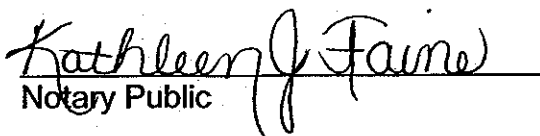
**AFFIDAVIT OF
JOSEPH M. HILLBERRY**

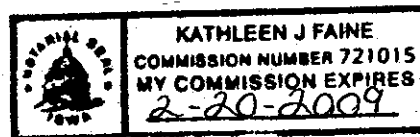
STATE OF IOWA)
) ss.
COUNTY OF LINN)

I, Joseph M. Hillberry, being first duly sworn on oath, depose and state that I am the same Joseph M. Hillberry identified in the Supplemental Direct Testimony; that I have caused the Supplemental Direct Testimony, including any Exhibits, to be prepared and am familiar with the contents thereof; and that the Supplemental Direct Testimony, including any Exhibits, are true and correct to the best of my knowledge and belief as of the date of this Affidavit.


Joseph M. Hillberry

Subscribed and sworn to before me,
a Notary Public in and for said County
and State, this 10th day of September, 2008.


Notary Public



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