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Kent M. Ragsdale  
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March 31, 2008

Judi Cooper, Executive Secretary  
Iowa Utilities Board  
350 Maple Street  
Des Moines, IA 50319-0069

RE: Application of Interstate Power and Light Company for Determination of  
Ratemaking Principles for IPL's proposed coal-fired generation facility (SGS  
Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa.  
Confidential Application and Affidavit.  
Docket No. RPU-08-\_\_\_\_\_

Dear Secretary Cooper:

Enclosed for filing with the Iowa Utilities Board (Board), please find an original and ten (10) copies of Interstate Power and Light Company's (IPL) four-volume Application of Interstate Power and Light Company for a Determination of Ratemaking Principles (Application), pertaining to IPL's proposed coal-fired generation facility (SGS Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa, as more fully described in the attached Application. The ratemaking principles would apply for up to 432.5 MW of SGS Unit 4, which is assumed operational no later than December 31, 2013.

Also enclosed are an original and ten (10) copies of IPL's Application for Confidential Treatment and Affidavit in Support of Request for Confidentiality. An additional copy of the letter is included for file-stamping and return in the self-addressed stamped envelope.

The Application is organized as follows:

- Volume I: Transmittal Letter; Request for Approval of Ratemaking Principles; Application
- Volume II: Testimony and Exhibits Supporting the Ratemaking Principles; Book 1 of 4, Book 2 of 4, Book 3 of 4 and Book 4 of 4

Interstate Power and Light Co.  
An Alliant Energy Company

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Cedar Rapids, IA 52406-0351

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Secretary Judi Cooper  
March 31, 2008  
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Volume III: Work Papers; Book 1 of 2 and Book 2 of 2; electronic files

Volume IV: Confidential Materials

IPL's Application demonstrates that IPL meets the two requirements established in Iowa Code § 476.53(4) "c" for a determination of ratemaking principles by the Board. First, IPL has in effect a Board-approved energy efficiency plan as required by Iowa Code § 476.6(19). Second, IPL has evaluated the costs of SGS Unit 4 and as demonstrated in the Application, the proposed SGS Unit 4 is a reasonable supply alternative compared to other feasible alternative sources of supply. IPL's evidence demonstrates the reasonableness of the proposed SGS Unit 4 by first supporting the need for the facility and the role this facility will play in providing reliable service to IPL's customers.

IPL has demonstrated that it has an effective and Board-approved Energy Efficiency Plan in place, and has further demonstrated the reasonableness of the proposed construction of SGS Unit 4. The Board is therefore authorized to establish the five ratemaking principles enumerated in Section 3 of the Application to govern IPL's recovery of its costs over the life of SGS Unit 4. IPL's SGS Unit 4 is reasonable because it: (1) meets customer requirements for additional energy, and will not degrade the adequacy, reliability, or operating flexibility of the existing transmission system from a regional or local perspective; (2) improves IPL's emissions portfolio; (3) can be constructed and operated at a reasonable cost due; (4) is environmentally sound; and (5) provides benefits to Iowa's economy.

Having demonstrated the reasonableness of constructing SGS Unit 4, IPL is requesting that the Board establish five ratemaking principles that would apply when the costs of the proposed SGS Unit 4 are included in regulated electric rates. These ratemaking principles would be fixed for the life of the plant.

Interstate Power and Light Company respectfully requests the Board issue a procedural schedule in this docket in order to facilitate the orderly progress of the examination of these proposed ratemaking principles.

Very truly yours,



Kent M. Ragsdale  
Managing Attorney - Regulatory  
KMR/kjf  
Enclosures


cc: Service List

**CERTIFICATE OF SERVICE**  
**DOCKET NO. RPU-08-**

I hereby certify that I have this day served the foregoing document on the following persons and parties as required by the rules of the Iowa Utilities Board:

Office of Consumer Advocate (3)  
Department of Justice  
Consumer Advocate Division  
310 Maple Street  
Des Moines, Iowa 50319

Dated in Cedar Rapids, Iowa on March 31, 2008.

  
\_\_\_\_\_  
Kent M. Ragsdale  
Managing Attorney - Regulatory

**STATE OF IOWA**  
**BEFORE THE IOWA UTILITIES BOARD**

<b>IN RE:</b>  <b>APPLICATION OF INTERSTATE POWER AND LIGHT COMPANY FOR A DETERMINATION OF RATEMAKING PRINCIPLES</b>	<b>DOCKET NO. RPU-08-</b>
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**APPLICATION FOR CONFIDENTIAL TREATMENT**

**COMES NOW**, Interstate Power and Light Company (IPL), and for its request for confidential treatment pursuant Iowa Code § 22.7(6) 2007, states as follows:

**DISCUSSION**

1. IPL is submitting its Application for Determination of Ratemaking Principles, which includes references to confidential information in the Request for Approval of Ratemaking Principles, the body of the Application itself, the testimony of IPL's supporting witnesses, and exhibits attached to witness testimony.

2. IPL categorizes the above-information in the following general categories: references IPL's proposed cost cap to be included in rates for IPL's proposed coal-fired generation facility (SGS Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa; substantial financial information related to SGS Unit 4 costs, including specific design information; documents regarding ownership arrangements with SGS Unit 4 partners; Electric Generation Expansion Analysis System (EGEAS) results used in the determination of viable generation options, including IPL's load and market

price forecasts; continuing negotiations for purchase power agreements or ownership agreements with third parties associated with SGS Unit 4; and disclosure of existing and proposed facility locations. Because of the volume of information for which IPL requests confidential treatment, IPL discusses the justification of the confidential treatment of these categories of information below, and includes immediately after that discussion a reference to the specific information for that falls under the applicable category.

### **Cost Cap**

3. There are several references to IPL's proposed cost cap in the documentation filed with this Application. This information, if released, could allow interested parties to back into a calculation of various project costs, including construction, coal generation component pricing, and various other expenses. IPL secures competitive bids for the various components in its planned construction of generation facilities. Because IPL has not completed the various competitive bidding processes involved in the construction of the proposed SGS Unit 4, if the estimated project cost cap was disclosed, it would provide an advantage in knowing what estimated costs were projected. Any potential bidders may skew their bids or contract terms in direct relation to those costs. Public disclosure would discourage a potential contractor from furnishing a low bid which it may be willing to submit, or may cause currently ongoing negotiations to be skewed to the detriment of IPL. The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated. Additionally, release of this information could allow competitors in the coal generation facility market to ascertain IPL's maximum bidding ability for coal

maximum bidding ability for coal generation components, and outbid IPL for necessary equipment. IPL would lose market viability, and ultimately have to pay higher prices to remain competitive.

4. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose. Such release of the data would disadvantage IPL competitively and adversely affect its customers.

5. Release of the data would disadvantage IPL competitively and adversely affect its customers. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose, pursuant to the requirements of Iowa Code § 22.7(6).

### **Various Project Costs**

6. The Application generally contains substantial financial information related to the anticipated project costs. This information, if released, could allow interested parties access to various project costs, including construction, coal generation component pricing, and various other expenses. As described above, regarding the requested confidentiality of the cost cap information, IPL secures competitive bids for the various components in its planned construction of generation facilities. Because IPL has not completed the various competitive bidding processes involved in the construction of the proposed SGS Unit 4, if the estimated project costs were disclosed, it would provide an advantage in knowing what estimated costs were projected. Any potential bidders may skew their bids or contract terms in direct relation to those costs. Public disclosure would discourage a potential contractor from furnishing a low bid which it may be willing to

submit, or may cause currently ongoing negotiations to be skewed to the detriment of IPL.

The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated.

Additionally, release of this information could allow competitors in the various coal generation facility market access to IPL's maximum bidding ability for coal generation components, and outbid IPL for necessary equipment. IPL would lose market viability, and ultimately have to pay higher prices to remain competitive.

7. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose.

8. Release of the data would disadvantage IPL competitively and adversely affect its customers. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose, pursuant to the requirements of Iowa Code § 22.7(6).

## **EGEAS**

9. Electric Generation Expansion Analysis System (EGEAS) results were used in the determination of viable generation options, and as such, have been included with the Application. IPL prepares its EGEAS analysis, in part, to aid in forecasting and planning so that IPL can determine the most economical use of energy, whether generated or purchased, for its customers. IPL secures competitive bids for additional capacity and purchases it procures. If the information contained in the referenced documentation were disclosed to competitors, it would provide them with an undue advantage in negotiations. Further, certain information contained in the accompanying

filing contains information that could affect ongoing negotiations with other parties. Public disclosure would discourage a supplier from furnishing a low bid which it may be willing to submit. The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated.

10. Consequently, public disclosure could influence bidder's decisions to bid and the terms of their bids. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose, pursuant to the requirements of Iowa Code § 22.7(6).

#### **Negotiations with Third Parties**

11. IPL has included in its Application, information regarding certain discussions with third parties regarding negotiations for purchase power agreements or ownership agreements associated with SGS Unit 4. IPL has also included information regarding ownership arrangements with SGS Unit 4 partners. If the information contained in the Application, including the identity of potential counterparties to purchase power or ownership agreements, were disclosed to competitors, it would provide them with an undue advantage in negotiations. Further, certain information contained in the accompanying filing contains information that could affect ongoing negotiations with other parties. Public disclosure would discourage potential counterparties from furnishing a suitable bid. The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be

received or below which terms will not be negotiated. Consequently, public disclosure could influence potential counterparties' decisions to bid and the terms of their bids.

12. Consequently, public disclosure could influence bidders' decisions to bid and the terms of their bids. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose, pursuant to the requirements of Iowa Code § 22.7(6).

### **Maps Demonstrating Existing and Proposed Facility Locations**

13. Public disclosure of the maps demonstrating the existing and proposed facility locations would create a security risk for those facilities. The ability of criminals, vandals, terrorists or others with ill intent to obtain and use the foregoing information in order to disrupt electric service or otherwise damage utility infrastructure will create an unnecessary security risk to those facilities, as well as security and financial risks to IPL's customers, shareholders, and those generally living in close proximity to the facilities.

14. The specific information IPL deemed confidential has been clearly marked as such, and can be found at the following locations in the referenced documents:

#### **Request for Approval of Ratemaking Principles**

- Page 8 – Cost cap

#### **Application**

- Page 27 – Cost cap

#### **Testimony of Jeffery J. Beer**

- Page 16 – Cost Cap
- Page 17 – Cost Cap
- Exhibit \_\_\_ (JJB-1) which includes:
  - Confidential Schedule A: Joint Operating Agreement (included as Confidential Figure 1.1-1 of the Ratemaking Application)

- Confidential Schedule B: Purchase Power Agreement (PPA) and ownership letters of interest (included as Figure 1.1-2 of the Ratemaking Application)
- Confidential Schedule C: Cost of Construction (included as Confidential Figure 4.9-1 of the Ratemaking Application)

**Testimony of Brent R. Kitchen**

- Exhibit\_\_\_(BRK-1) which includes:
  - Confidential Schedule E: IPL's March 2008 EGEAS Orthog input data
  - Confidential Schedule F: IPL's March 2008 EGEAS Edit input data
  - Confidential Schedule G: IPL's March 2008 EGEAS Canal input data
  - Confidential Schedule H: IPL's March 2008 EGEAS Report input data

**Testimony of Joseph M. Hillberry**

- Exhibit\_\_\_(JMH-1) which includes:
  - Confidential Schedule A: IPL's May 14, 2007, 199 IAC 35.11 filing

**Testimony of Kevin D Vesperman**

- Exhibit\_\_\_(KDV-1) which includes:
  - Confidential Schedule G: Bechtel Power "*Study of CO<sub>2</sub> Capture Capable Design Concepts for Sutherland Generating Station Unit 4*"
  - Confidential Schedule I: Sutherland Generating Station: Unit 4 – Board Data Request

**Testimony of Richard E. Friedman**

- Page 6 – Forecasting methodology
- Pages 8 to 9 – Information regarding recent PPA, including pricing
- Page 13 – Price forecasts
- Page 17 – Price forecasts
- Exhibit\_\_\_(REF-1) which includes:
  - Confidential Schedule A: IPL's 2008-2033 Electric Energy and Natural Gas Market Price Forecast Summary

**Testimony of Christopher A. Hampsher**

- Page 9 – Cost cap

**Testimony of Larry C. Harder**

- Exhibit\_\_\_(LCH-1), which includes:
  - Confidential Schedule A: Site Layout Map (included as Figure 4.1-1 of the Principles Application)
  - Confidential Schedule F: Site General Arrangement (included as Figure 4.4.1-1 of the Principles Application)

## CONCLUSION

15. The material subject to this request has been marked as "Confidential," in conspicuous and numerous locations upon the material.

16. The confidential treatment of the information is required in order to preserve the confidential nature of that material to meet the exemption requirements of Iowa Code § 22.7(6).

17. IPL is submitting an Affidavit in support of its Request for Confidentiality from the person responsible for overseeing electric operations for the Company.

**WHEREFORE**, Interstate Power and Light Company respectfully requests that the Iowa Utilities Board (Board) grant its Request for Confidentiality, and that the Board hold confidential the portions of IPL's filing so marked.

Dated this 31<sup>st</sup> day of March, 2008.

Respectfully submitted,

Interstate Power and Light Company

By   
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STATE OF IOWA

BEFORE THE IOWA UTILITIES BOARD

<p><b>IN RE:</b></p> <p><b>APPLICATION OF INTERSTATE POWER AND LIGHT COMPANY FOR A DETERMINATION OF RATEMAKING PRINCIPLES</b></p>	<p><b>DOCKET NO. RPU-08-</b></p>
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**AFFIDAVIT IN SUPPORT OF REQUEST FOR CONFIDENTIALITY**

I, Thomas L. Aller, under oath depose and state that I am President of Interstate Power and Light Company (IPL), and as such, an Officer. In this capacity I am responsible for overseeing power plant operations.

Further, in the foregoing employment capacity, I am personally knowledgeable of the adverse impact to the public which would result from the disclosure of the confidential information included in IPL's application for determination of ratemaking principles filed with the Iowa Utilities Board (Board), as well as the attached figures, testimony, and exhibits (throughout this Affidavit, I will refer to these documents generally as "the Application" so as not to repeat all involved documents numerous times). Specifically, this confidential information includes references to IPL's proposed cost cap to be included in rates for IPL's proposed coal-fired generation facility (SGS Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa; substantial financial information related to SGS Unit 4 costs, including specific design information; documents regarding ownership arrangements with SGS Unit 4 partners; Electric Generation Expansion

Analysis System (EGEAS) results used in the determination of viable generation options, including IPL's load and market price forecasts; continuing negotiations for purchase power agreements or ownership agreements with third parties associated with SGS Unit 4; and disclosure of existing and proposed facility locations.

### **Cost Cap**

There are several references to IPL's proposed cost cap in the documentation filed with this Application. This information, if released, could allow interested parties to back into a calculation of various project costs, including construction, coal generation component pricing, and various other expenses. IPL secures competitive bids for the various components in its planned construction of generation facilities. Because IPL has not completed the various competitive bidding processes involved in the construction of the proposed SGS Unit 4, if the estimated project cost cap was disclosed, it would provide an advantage in knowing what estimated costs were projected. Any potential bidders may skew their bids or contract terms in direct relation to those costs. Public disclosure would discourage a potential contractor from furnishing a low bid which it may be willing to submit, or may cause currently ongoing negotiations to be skewed to the detriment of IPL.

The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated.

Additionally, release of this information could allow competitors in the coal generation facility market to ascertain IPL's maximum bidding ability for coal generation components, and outbid IPL for necessary equipment. IPL would lose market viability, and ultimately have to pay higher prices to remain competitive.

The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose. Such release of the data would disadvantage IPL competitively and adversely affect its customers.

### **Various Project Costs**

The Application generally contains substantial financial information related to the anticipated project costs. This information, if released, could allow interested parties access to various project costs, including construction, coal generation component pricing, and various other expenses. As described above regarding the requested confidentiality of the cost cap information, IPL secures competitive bids for the various components in its planned construction of generation facilities. Because IPL has not completed the various competitive bidding processes involved in the construction of the proposed SGS Unit 4, if the estimated project costs were disclosed, it would provide an advantage in knowing what estimated costs were projected. Any potential bidders may skew their bids or contract terms in direct relation to those costs. Public disclosure would discourage a potential contractor from furnishing a low bid which it may be willing to submit, or may cause currently ongoing negotiations to be skewed to the detriment of IPL. The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated. Additionally, release of this information could allow competitors in the various coal generation facility market access to IPL's maximum bidding ability for coal generation components, and outbid IPL for necessary equipment. IPL would lose market viability, and ultimately have to pay higher prices to remain competitive.

The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose. Such release of the data would disadvantage IPL competitively and adversely affect its customers.

## **EGEAS**

Electric Generation Expansion Analysis System (EGEAS) results were used in the determination of viable generation options, and as such, have been included with the Application. IPL prepares its EGEAS analysis, in part, to aid in forecasting and planning so that IPL can determine the most economical use of energy, whether generated or purchased, for its customers. IPL secures competitive bids for additional capacity and purchases it procures. If the information contained in the referenced documentation were disclosed to competitors, it would provide them with an undue advantage in negotiations. Further, certain information contained in the accompanying filing contains information that could affect ongoing negotiations with other parties. Public disclosure would discourage a supplier from furnishing a low bid which it may be willing to submit. The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated.

Consequently, public disclosure could influence bidder's decisions to bid and the terms of their bids. The end result will be higher bids, perhaps fewer bidders and eventually higher costs to the customer which furthers no public purpose. Information on IPL's planning and forecasting processes, if revealed, would disadvantage IPL competitively and adversely affect its customers.

### **Negotiations with Third Parties**

IPL has included in its Application, information regarding certain discussions with third parties regarding negotiations for purchase power agreements or ownership agreements associated with SGS Unit 4. IPL has also included information regarding ownership arrangements with SGS Unit 4 partners. If the information contained in the Application, including the identity of potential counterparties to purchase power or ownership agreements were disclosed to competitors, it would provide them with an undue advantage in negotiations. Further, certain information contained in the accompanying filing contains information that could affect ongoing negotiations with other parties. Public disclosure would discourage potential counterparties from furnishing a suitable bid. The ability of others to obtain and use the foregoing information will tend to set a base amount below which bids will not be received or below which terms will not be negotiated. Consequently, public disclosure could influence potential counterparties' decisions to bid and the terms of their bids.

### **Maps Demonstrating Existing and Proposed Facility Locations**

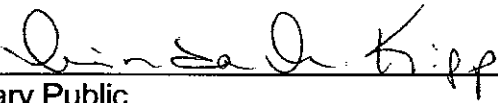
Public disclosure of the maps demonstrating the existing and proposed facility locations would create a security risk for those facilities. The ability of criminals, vandals, terrorists or others with ill intent to obtain and use the foregoing information in order to disrupt electric service or otherwise damage utility infrastructure will create an unnecessary security risk for those facilities, as well as security and financial risks to IPL's customers, shareholders, and those generally living in close proximity to the facilities.

The foregoing information is provided in support of IPL Request for Confidentiality under the provisions of Iowa Code § 22.7(6) 2007.

  
\_\_\_\_\_  
Thomas L. Aller  
President

Subscribed and sworn before me this 28<sup>th</sup> day of March, 2008.



  
\_\_\_\_\_  
Notary Public

**STATE OF IOWA**  
**BEFORE THE IOWA UTILITIES BOARD**

<b>IN RE:</b>  <b>APPLICATION OF INTERSTATE POWER AND LIGHT COMPANY FOR A DETERMINATION OF RATEMAKING PRINCIPLES</b>	<b>DOCKET NO. RPU-08-</b>
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**REQUEST FOR APPROVAL OF RATEMAKING PRINCIPLES**

**COMES NOW**, Interstate Power and Light Company (IPL) and, pursuant to Iowa Code Chapter 476.53 (2007), requests that the Iowa Utilities Board (Board) specify in advance the ratemaking principles that will apply when the costs of IPL's proposed coal-fired generation facility (SGS Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa are included in its regulated electric rates. The ratemaking principles would apply for up to 432.5 MW of SGS Unit 4, which is assumed operational no later than December 31, 2013. This Ratemaking Principles Application (Application) consists of four volumes and one CD containing electronic information. With regard to the four volumes, the first volume contains IPL's Application requesting and providing support for five specific ratemaking principles. The second volume, which consists of Book 1 of 4, Book 2 of 4, Book 3 of 4 and Book 4 of 4, contains the supportive testimony and exhibits of thirteen witnesses. The third volume, which consists of Book 1 of 2 and Book 2 of 2, contains workpapers relevant to the witnesses' testimony and exhibits. The fourth and final volume contains separately and distinctly marked confidential information. *Due to certain time constraints set forth in paragraph 15 below, IPL is seeking expedited*

*treatment of its Application in this proceeding.* In support of this request for approval of ratemaking principles, IPL submits as follows:

1. Iowa Code § 476.53 allows rate-regulated public utilities planning to construct or lease generating plants that meet certain criteria to request the Board specify in advance the ratemaking principles that will apply when the costs of the facility are included in regulated rates.

2. IPL is a rate-regulated public utility as defined in Iowa Code § 476.1, and is therefore subject to the Board's jurisdiction.

3. Iowa Code § 476.53(4)"c" states, in determining ratemaking principles for a utility, the Board must make two specific determinations:

(1) The rate-regulated public utility has in effect a board-approved energy efficiency plan as required under section 476.6, subsection 16.

(2) The rate-regulated public utility has demonstrated to the board that the public utility has considered other sources for long-term electric supply and that the facility, lease or cogeneration pilot project facility is reasonable when compared to other feasible alternative sources of supply....

4. As explained in the Application at Section 2.1 and in the Direct Testimony of IPL Witness Dr. Robert R. Holmes, IPL has a Board-approved energy efficiency plan in effect. IPL received initial Board approval of its current Energy Efficiency Plan, filed in Docket No. EEP-02-38, on June 3, 2003. Subsequent modifications to the Plan were approved on November 30, 2005, and October 10, 2006. As indicated in Figure 2.1-1 in the Application, through this Energy Efficiency Plan IPL has achieved its Board-approved energy savings goals in each of the last five years, and IPL's spending has exceeded its spending targets in each of those five years. Moreover, the amount by which IPL has exceeded the budget and still

passed its goals is diminishing. IPL is exceeding its savings goals -- exceeding by over 50 percent in the last three years -- and is holding down its costs.

5. As demonstrated in Section 2.2 and its subsequent subsections in the Application, as well as in the Direct Testimonies of IPL Witnesses Mr. Jeffrey Beer, Mr. Brent Kitchen, Mr. Joseph Hillberry, Mr. Eric Guelker, Mr. Kevin Vesperman, Mr. Randy Bauer and Mr. Richard Friedman demonstrate, IPL has evaluated the costs of IPL's proposed SGS Unit 4 by comparing the customer cost of other sources of supply included in IPL's 2007 Resource Plan.

6. In particular, the proposed SGS Unit 4 is a reasonable supply alternative compared to other feasible alternative sources of supply. IPL's evidence demonstrates the reasonableness of the proposed SGS Unit 4 by first supporting the need for the facility and the role this facility will play in providing reliable service to IPL's customers.

7. Second, IPL uses its base case Electric Generation Expansion Analysis System (EGEAS) modeling to show that its revised expansion plan, which includes 350 MW of SGS Unit 4 on-line no later than December 31, 2013, 200 MW of additional wind generation on-line by 2013, the retirement of Lansing Units 2 and 3 in 2013, and the fuel switching of the Dubuque Units 2, 3 and 4 (hereinafter "Dubuque Units") from coal to natural gas in 2013 is reasonable in comparison to other feasible supply options available to IPL. Further, IPL shows that its revised expansion plan decreases IPL's carbon footprint in 2013 by lowering the CO<sub>2</sub> emissions needed to serve IPL's load below what those emissions would be if IPL's base case expansion plan is not executed.

8. Third, IPL demonstrates through its EGEAS sensitivity analyses, that its revised expansion plan is reasonable in comparison to other feasible supply options even when a range of CO<sub>2</sub> prices are reflected in the modeling. Finally, the Application and supporting testimony and exhibits demonstrates that SGS Unit 4 is a reasonable supply option when seeking to address a potentially carbon-constrained world by providing the flexibility for IPL to retire older, less efficient, coal-fired units, or fuel-switch these units. IPL's belief in this approach is demonstrated by IPL's commitment as part of its revised expansion plan to retire Lansing Units 2 and 3 and fuel-switch the Dubuque Units when SGS Unit 4 is fully operational in 2013.

9. In addition to the previously identified witnesses, IPL also sponsors testimony from Mr. Christopher A. Hampsher, Mr. Frank J. Hanley, Mr. Larry C. Harder, Mr. Alan J. Arnold and Dr. Daniel M. Otto in support of SGS Unit 4. The testimony of all IPL witnesses is contained in Volume II of IPL's Application. The information sponsored by each IPL witness, either in whole or in part, can be generally described as follows:

**Jeffrey Beer**

- Subsection 1.1 – Ownership
- Section 3 – Proposed Ratemaking Principles
- Subsection 4.8 – Financial/Contractual Commitments
- Subsection 4.8.1 – Long-Term Procurement Contracts
- Subsection 4.8.2 – Coal Delivery Contracts
- Subsection 4.8.3 – Architectural, Engineering and Construction Management
- Subsection 4.8.4 - Construction Contracts
- Subsection 4.9 – Total Cost of Construction

- Subsection 6.1 – Economic Impact to State and Community

**Robert Holmes**

- Subsection 2.1

**Brent R. Kitchen**

- Subsection 2.2 – Reasonableness Criteria
- Subsection 2.2.1 – Need for SGS Unit 4
- Subsection 2.2.2 – EGEAS Modeling
- Subsection 2.2.3 – Impacts of Potential Carbon Regulation (Sensitivity Analyses)
- Subsection 2.2.4 – Meeting Future Carbon Constraints

**Joseph Hillberry**

- Subsection 2.2 – Reasonableness Criteria
- Subsection 2.2.1 – Need for SGS Unit 4
- Subsection 2.2.2 – EGEAS Modeling

**Eric Guelker**

- Subsection 2.2 – Reasonableness Criteria
- Subsection 2.2.2 – EGEAS Modeling
- Subsection 2.2.3 – Impacts of Potential Carbon Regulation (Sensitivity Analyses)

**Kevin Vesperman**

- Subsection 2.2.3 – Impacts of Potential Carbon Regulation (Sensitivity Analyses)
- Subsection 2.2.4 – Meeting Future Carbon Constraints
- Subsection 4.7.6 – Unregulated Greenhouse Gases

**Randy D. Bauer**

- Subsection 2.2

- Subsection 4.3 - Site Location
- Subsection 4.9.1 - Cost of Transmission Facilities.

**Richard Friedman**

- Subsection 2.2 – Reasonableness Criteria
- Subsection 2.2.1 – Need for SGS Unit 4
- Subsection 2.2.2 – EGEAS Modeling
- Subsection 2.2.3 – Impacts of Potential Carbon Regulation (Sensitivity Analyses)

**Christopher Hampsher**

- Section 3 - Proposed Ratemaking Principles

**Frank Hanley**

- Section 3 - Proposed Ratemaking Principles

**Larry C. Harder**

- Subsection 4.1 – Site Description
- Subsection 4.2 – Legal Description
- Subsection 4.3 – Site Location
- Subsection 4.4.1 – General Facility Description
- Subsection 4.6 – Facility Performance
- Subsection 4.7 – Raw Material Requirements
- Subsection 4.7.1 – Fuel Supply
- Subsection 4.7.2 – Water
- Subsection 4.7.7 – Transportation Facilities

**Alan J. Arnold**

- Subsection 4.3 – Site Location
- Subsection 4.4.1 – General Facility Description
- Subsection 4.7 – Raw Material Requirements
- Subsection 4.7.2 – Water
- Subsection 4.7.3 – Wastes
- Subsection 4.7.4 – Regulated Combustion Gases
- Subsection 4.7.5 – Plan for Addressing Regulated Combustion Gases
- Subsection 4.7.6 – Unregulated Greenhouse Gases
- Subsection 4.7.8 – Chemicals and Lubricants
- Subsection 5.2 – Environmental Impact to State and Community

**Daniel Otto**

- Subsection 5.1 - Economic Impact to State and Community

10. As explained in Subsections 2.2, 2.3 and 2.4 of the Application and in SGS Unit 4 will aid IPL in meeting the growing demands of its customers for power and energy and provide a reasonable supply option when seeking to address a potentially carbon-constrained world by providing the flexibility for IPL to retire older, less efficient, coal-fired units, or fuel-switch these units.

11. The direct testimonies of IPL witnesses Mr. Beer and Dr. Otto address the economic development benefits to the state through the construction and operation of SGS Unit 4. One readily apparent legislative goal enumerated in Iowa Code § 476.53(1) is fostering economic benefits to the state. The construction and operation of SGS Unit 4 will provide temporary and long-term economic benefits, not just on a local level, but on a state-wide basis due to IPL's increased ability to handle residential and industrial load growth.

12. IPL proposes for Board approval the following ratemaking principles which, under Iowa Code § 476.53, would apply in any future proceeding in which IPL proposes to include the costs of SGS Unit 4. The ratemaking principles would apply for up to 432.5 MW of SGS Unit 4, which is assumed operational no later than December 31, 2013. Having demonstrated that it has a Board-approved and highly effective Energy Efficiency Plan in place, and having demonstrated that SGS Unit 4 is reasonable when compared to other energy resource alternatives, IPL qualifies for a Board determination of the ratemaking principles it will apply to SGS Unit 4 once its costs are included in electric rates. Below is a brief description of the five ratemaking principles requested by IPL. These ratemaking principles are explained in more detail in Section 3 of the Application.

	<u>Ratemaking Principle</u>
<u>Principle No. 1</u>	<u>Rate of Return on Equity (ROE).</u> The rate of return on common equity capital for ratemaking purposes shall be fixed for the life of the Sutherland Generating Station Unit 4 (SGS Unit 4) and shall be 12.55%.
<u>Principle No. 2</u>	<u>Mitigation of Regulatory Lag.</u> IPL's prudently incurred annualized net investment in the proposed SGS Unit 4 (including transmission upgrades needed to support the Plant) shall be included in rate base and IPL's prudently incurred annualized depreciation expenses, related operations and maintenance costs, property and miscellaneous taxes shall be included in operating expenses used to calculate the revenue requirement when determining IPL's first interim rates and first final rates which become effective after the date SGS Unit 4 is placed in service, provided, however, that the prudence of the cost above the threshold defined under Principle 3 may be disputed by any party and shall be subject to determination by the Iowa Utilities Board.
<u>Principle No. 3</u>	<u>Cost Cap.</u> IPL shall be permitted to include in rates the actual costs of SGS Unit 4 and associated transmission, up to the Iowa jurisdictional portion of \$ [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.
<u>Principle No. 4</u>	<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.
<u>Principle No. 5</u>	<u>Treatment of Allowance for Funds Used During Construction (AFUDC).</u> Interest costs incurred on SGS Unit 4 will be capitalized using the appropriate AFUDC rates in effect during the construction period. The ROE established under these ratemaking principles will be used in calculating the AFUDC rate for SGS Unit 4.

13. In conclusion, IPL has demonstrated that it has an effective and Board-approved Energy Efficiency Plan in place, and has further demonstrated the reasonableness of the proposed construction of SGS Unit 4. The Board is therefore authorized to establish the ratemaking principles enumerated in paragraph 13 above to govern IPL's recovery of its costs over the life of SGS Unit 4. IPL's SGS Unit 4 is reasonable because it: (1) meets customer requirements for additional energy, and will not degrade the adequacy, reliability, or operating flexibility of the existing transmission system from a regional or local perspective; (2) improves IPL's emissions portfolio; (3) can be constructed and operated at a reasonable cost due; (4) is environmentally sound; and (5) provides benefits to Iowa's economy.

14. *Expedited Review is Requested.* IPL respectfully requests the Board's expedited review and ruling on its Application due to the following circumstances: (1) a significant investment of time and funds will be required yet this year in order to keep SGS Unit 4 on schedule for full installation and operation no later than December 31,

2013; (2) IPL needs to know whether the ratemaking principles will meet with approval from the Board before it undertakes the significant expenditures required by the project; and; most importantly, (3) costs of materials and construction costs for the installation of generation facilities continue to rise. Because IPL cannot prudently make certain investments in the Project without approval of the ratemaking principles, the longer such a decision takes, the higher the overall cost of the project will rise. Time is of the essence in the approval of this application in order to mitigate the effects of continued electric generation industry inflation upon IPL and its customers.

**WHEREFORE**, IPL requests the Board grant, on an expedited basis, its Ratemaking Principles Application, thereby approving the five ratemaking principles IPL has proposed for IPL's proposed coal-fired generation facility (SGS Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa as described herein and more fully described in the Application, including supporting testimony, exhibits, and work papers. If SGS Unit 4 is to be completed in time to become operational no later than December 31, 2013, preliminary construction should begin in the fourth quarter of 2009.

Dated this 31<sup>st</sup> day of March, 2008.

Respectfully submitted,

**INTERSTATE POWER AND LIGHT  
COMPANY**

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**SUTHERLAND GENERATING STATION UNIT 4**

**IOWA UTILITIES BOARD**

**APPLICATION FOR**

**RATEMAKING PRINCIPLES**

**DOCKET NO. RPU-08-\_\_\_\_\_**

**INTERSTATE POWER AND LIGHT COMPANY**

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## **1 GENERAL INFORMATION**

The Applicant for a ratemaking principles determination for the proposed coal-fired generation facility (SGS Unit 4) at the Sutherland Generation Station (SGS) in Marshalltown, Iowa, is Interstate Power and Light Company (IPL), an electric and gas utility operating in Iowa and Minnesota. IPL's address is 200 First Street SE, PO Box 351, Cedar Rapids, Iowa 52406-0351. IPL's telephone number is 319-786-4411.

Persons to whom service of pleadings, documents and communications should be made with regard to this proceeding are:

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Mr. Ragsdale is designated for the official service. However, it is requested that copies of all filings be served upon Mr. Beer as well.

## 1.1 OWNERSHIP

The proposed SGS Unit 4 will be jointly owned by IPL, Central Iowa Power Cooperative (CIPCO), Corn Belt Power Cooperative (Corn Belt), and various municipal electric utilities represented by North Iowa Municipal Electric Cooperative Association (NIMECA) as tenants in common and are referred to herein as "Owners". The Owners have entered into an agreement entitled, "Sutherland Generation Station Unit 4 Facility and Common Facilities Joint Ownership Agreement" (JOA), which is attached to this Application as **Confidential** Figure 1.1-1. CIPCO, Corn Belt and NIMECA do not join in this application.<sup>1</sup>

The Owners will possess undivided ownership interest in the facility. The Owners' respective ownership shares are as follows:

**Table 1.1-1  
Ownership Shares in SGS Unit 4**

<u>Owner</u>	<u>Ownership Interest</u>
Interstate Power and Light Company (350 MW)	53.93% <sup>2</sup>
Central Iowa Power Cooperative (100 MW)	15.41%
Corn Belt Power Cooperative (100 MW)	15.41%
North Iowa Municipal Electric Association	
Spencer (8 MW)	1.23%
New Hampton (2 MW)	.31%
Milford (2 MW)	.31%
Laurens (1.5 MW)	.23%
Bancroft (1 MW)	.15%
Grundy Center (1 MW)	.15%
West Bend (1 MW)	.15%

<sup>1</sup> IPL is authorized to provide the information regarding CIPCO and Corn Belt contained in this Application.

<sup>2</sup> Percentages are rounded to the nearest one hundredth of a point.

Purchased Power Agreement (82.5 MW)	12.71%
<b>Total</b>	<b>100.00%</b>

The proposed SGS Unit 4 will be located southwest of the existing SGS units. Additional land has been procured around the existing units to accommodate SGS Unit 4's facilities.

While IPL is in the process of negotiating purchased power agreements (PPA) for the remaining 82.5 MW, IPL has not committed to any PPA at the time of filing this Application. Several parties have submitted letters of interest to obtain an ownership interest in SGS Unit 4 or enter into long-term PPAs for capacity and energy from SGS Unit 4. These letters are included in **Confidential** Figure 1.1-2. These potential PPA's are discussed in more detail in IPL witness Mr. Jeffery Beer's direct testimony.

IPL is seeking approval of the proposed ratemaking principles for up to 432.5 MW of SGS Unit 4, with the commitment that the revenues from a PPA will be sufficient to offset increased revenue requirements resulting from the ratebasing of the additional 82.5 MW of SGS Unit 4 that supports the PPA. The request for ratemaking principles is made for up to 432.5 MW, because IPL may take on additional partners prior to or during the construction phase of the project. IPL does not anticipate that its ownership share in SGS Unit 4 will fall below 350 MW unless a major and unanticipated decline in its load occurs.

**CONFIDENTIAL**

**CONFIDENTIAL**

## 2 CONDITIONS PRECEDENT

In accordance with the Iowa Code, in order to authorize appropriate ratemaking principles, the Board must first determine that IPL has met the two conditions precedent.<sup>3</sup> First, the Board must determine that IPL has in effect a Board-approved energy efficiency plan. Second, the Board must determine that IPL has considered other sources for long-term supply, and that the proposed SGS Unit 4 is reasonable when compared to other feasible alternative sources of supply.

The remainder of Section 2 of this Application, together with the direct testimonies and supporting exhibits of IPL witnesses Dr. Robert Holmes, Mr. Brent Kitchen, Mr. Joseph Hillberry, Mr. Eric Guelker, Mr. Kevin Vesperman, Mr. Randy Bauer and Mr. Richard Friedman demonstrate that IPL meets the conditions precedent and, as such, it is appropriate to consider the ratemaking principles proffered by IPL for approval.

---

<sup>3</sup> See Iowa Code § 476.53(4)"c".

## **2.1 BOARD-APPROVED ENERGY EFFICIENCY PLAN**

IPL has a Board-approved energy efficiency plan in effect. IPL received initial Board approval of its current Energy Efficiency Plan, filed in Docket No. EEP-02-38, on June 3, 2003. Subsequent modifications to the Efficiency Plan were approved on November 30, 2005, and October 10, 2006. All three Board orders can be found at the Board's web site by searching by each order date and then by Docket No. EEP-02-38 at the following internet address:

[www.state.ia.us/government/com/util/board\\_activity/orders.html](http://www.state.ia.us/government/com/util/board_activity/orders.html).

The comparison of actual to budgeted Energy Efficiency Plan expenditures for calendar year 2007 and the four preceding years is provided in Figure 2.1-1. Figure 2.1-1 also includes the projected and actual energy savings for each of the same five years. IPL witness Holmes sponsors Figure 2.1-1.

Figure 2.1-1 clearly demonstrates that IPL has achieved its Board-approved energy savings goals in each of the last five years, and IPL's spending has exceeded its spending targets in each of those five years. Moreover, the amount by which IPL has exceeded the budget and still passed its goals is diminishing. IPL is exceeding its savings goals -- exceeding by over 50 percent in the last three years -- and is holding down its costs.

## 2.2 REASONABLENESS CRITERIA

The proposed SGS Unit 4 is a reasonable supply alternative compared to other feasible alternative sources of supply. IPL's evidence demonstrates the reasonableness of the proposed SGS Unit 4 by first supporting the need for the facility and the role this facility will play in providing reliable service to IPL's customers.

Second, IPL uses its base case Electric Generation Expansion Analysis System (EGEAS) modeling to show that its revised expansion plan, which includes 350 MW of SGS Unit 4 on-line in 2013, 200 MW of additional wind generation on-line by 2013, the retirement of Lansing Units 2 and 3 in 2013, and the fuel switching of the Dubuque Units 2, 3 and 4 (hereinafter "Dubuque Units") from coal to natural gas in 2013 is reasonable in comparison to other feasible supply options available to IPL. Further, IPL shows that its revised expansion plan decreases IPL's carbon footprint in 2013 by lowering the CO<sub>2</sub> emissions needed to serve IPL's load below what those emissions would be if IPL's base case expansion plan is not executed.

Third, IPL demonstrates through its EGEAS sensitivity analyses, that its revised expansion plan is reasonable in comparison to other feasible supply options even when a range of CO<sub>2</sub> prices are reflected in the modeling. Finally, the Application and supporting testimony and exhibits demonstrates that SGS Unit 4 is a reasonable supply option when seeking to address a potentially carbon-constrained world by providing the flexibility for IPL to retire older, less efficient, coal-fired units, or fuel-switch these units. IPL's belief in this approach

is demonstrated by IPL's commitment as part of its revised expansion plan to retire Lansing Units 2 and 3 and fuel-switch the Dubuque Units when SGS Unit 4 is fully operational in 2013.

## 2.2.1 NEED FOR SGS UNIT 4

### A. IPL'S NEED FOR THE UNIT

The load and capability summary shown in Table 2.2.1-1 below indicates that IPL will be capacity deficient for regulated load beginning in 2012 and that the deficit will continue to grow every year thereafter. This load and capability takes into account all IPL owned generation added to date, as well as all purchased power contracts with accredited capacity that are currently utilized by IPL. These contracts include eight wind contracts, as well as a contract for the output from the Duane Arnold Energy Center (DAEC). IPL's net internal demand continues to grow on average, under normal weather conditions, approximately 40 MW per year, from IPL's current projected load of approximately 2916 MW in 2007, increasing to a net system peak load of 3256 MW in 2016.

**Table 2.2.1-1**  
Interstate Power and Light Company  
Load and Capability – March 21, 2008  
(All values in MW unless otherwise note)

Last updated 3/21/2008	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Summer	Summer
	Jul 2007	Jul 2008	Jul 2009	Jul 2010	Jul 2011	Jul 2012	Jul 2013	Jul 2014	Jul 2015	Jul 2016
Peak demands are simple sum of FES & IPW Demand Diversity is Reflected in Line 4										
01 Internal Demand	3,325.8	3,356.3	3,337.6	3,398.4	3,452.9	3,505.3	3,559.9	3,617.4	3,676.4	3,734.2
02 Scarcity Demand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03 Total Internal Demand (01 + 02)	3,325.8	3,356.3	3,337.6	3,398.4	3,452.9	3,505.3	3,559.9	3,617.4	3,676.4	3,734.2
04 Total Direct Control Load Management	154.7	158.9	161.5	167.6	170.3	172.8	175.6	178.5	181.4	184.3
05 Interruptible Demand	254.5	258.5	262.7	266.9	271.2	275.6	280.0	284.5	289.1	293.8
06 Net Internal Demand (03-04-05) [-Firm Demand]	2,916.6	2,938.9	2,913.4	2,963.8	3,011.4	3,056.9	3,104.3	3,154.6	3,206.0	3,256.2
07a Total Monthly Firm Capacity Purchase	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
07b Total Monthly Firm Capacity Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08 Adjusted Net Internal Demand (06-07a+07b)	2,916.6	2,938.9	2,913.4	2,963.8	3,011.4	3,056.9	3,104.3	3,154.6	3,206.0	3,256.2
09 Net Generating Capability	3,026.1	3,026.1	3,026.1	3,026.1	3,026.1	3,026.1	3,026.1	3,026.1	3,026.1	3,026.1
10 Net Generating Capability Increase Adjustments	22.373	22.373	22.373	22.373	22.373	22.373	22.373	22.373	22.373	22.373
11a Total Participation Capacity Purchases	442.4	442.4	442.4	442.4	442.4	442.4	441.4	33.6	33.6	33.6
11b Total Participation Capacity Sales	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
12 Adjusted Net Capability (09+10+11a-11b)	3,490.7	3,490.7	3,490.7	3,490.7	3,490.7	3,490.7	3,489.7	3,081.9	3,081.9	3,081.9
13 Reserve % [(12-08)/08]	19.68%	18.78%	19.82%	17.78%	15.92%	14.19%	12.41%	2.31%	13.57%	5.35%
14b Long(Short) Relative to 15% Reserves	136.6	111.0	140.3	82.3	27.6	(24.8)	(60.3)	(546.0)	(605.0)	(662.8)

The last base load plant built in Iowa, of which IPL owns a share, was the Louisa Generating Station (LGS), which was placed in service in 1983. IPL's share of LGS is only 28 MW. Thus, IPL has gone more than 25 years without

adding a significant amount of owned base load generation. In the intervening period, IPL's customer load increased an estimated 750 MW (35%), and is projected to grow approximately another 190 MW by 2013. IPL added approximately 315 MW of gas- and oil-fired peaking generation and approximately 550 MW of gas-fired intermediate generation Emery Generating Station (Emery). In addition, IPL added approximately 250 MW of wind purchases. Due to their intermittent operating characteristic, these wind purchases only yield an approximate reserve capacity of 35 MW.

Given that since 1983 the only significant long-term generation additions to IPL's system were peaking, intermediate, and intermittent (e.g., wind) supplies of capacity and energy, SGS Unit 4 is a very reasonable addition to IPL's generation resource mix. Additionally, SGS Unit 4 does not materially alter IPL's current generation mix, which has provided reliable, reasonably priced energy to IPL's customers over the years. Currently, coal-fired capacity accounts for about 64% of IPL's owned generation. SGS Unit 4, assuming IPL's share is approximately 350 MW, increases the coal portion to 67%. Before the addition of Emery in 2004, IPL's percentage of coal ownership was approximately 67%. The addition of SGS Unit 4 maintains a good balance within IPL's resource mix.

#### **B. CIPCO's Need for the Unit**

The load and capability summary shown in Table 2.2.1-2 below indicates that CIPCO will be capacity deficient for its load serving obligations beginning in 2008, and that deficit will continue to grow every year thereafter. This load and capability takes into account all owned generation added to date, as well as all

purchased power contracts with accredited capacity that are currently performing. These contracts include current bilateral purchases, wind generation as well as ongoing purchases from the Western Area Power Administration (WAPA). CIPCO's net firm demand continues to grow, under normal weather conditions, approximately 20 MW per year. This rate of growth will increase the current 2007 projected load of approximately 490 MW to a net system peak load of 673 MW in 2016.

**Table 2.2.1-2 Central Iowa Power Cooperative  
Load and Capability – October 4, 2007  
(All values in MWs unless otherwise note)**

	Summer Jul 2007	Summer Jul 2008	Summer Jul 2009	Summer Jul 2010	Summer Jul 2011	Summer Jul 2012	Summer Jul 2013	Summer Jul 2014	Summer Jul 2015	Summer Jul 2016
01 Internal Demand	523.4	573.6	624.0	637.0	649.8	666.4	672.5	685.4	698.6	712.2
02 Standby Demand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
03 Total Internal Demand (01 + 02)	523.4	573.6	624.0	637.0	649.8	666.4	672.5	685.4	698.6	712.2
04 Total Direct Control Load Management	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
05 Interruptible Demand	21.5	22.0	27.1	27.2	27.3	- 27.4	27.6	27.6	27.7	27.8
06 Net Internal Demand (03-04-05) [-Firm Demand]	501.9	551.6	596.9	609.8	622.5	639.0	644.9	657.8	670.9	684.4
07a Total Monthly Firm Capacity Purchase	12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
07b Total Monthly Firm Capacity Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
08 Adjusted Net Internal Demand (06-07a+07b)	489.9	540.6	585.9	598.8	611.5	628.0	633.9	646.8	659.9	673.4
09 Net Generating Capability	535.9	536.9	539.3	539.3	539.3	539.3	539.3	539.3	539.3	539.3
10 Net Generating Capability Increase Adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11a Total Participation Capacity Purchases	80.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
11b Total Participation Capacity Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 Adjusted Net Capability (09+10+11a-11b)	616.1	537.1	539.5	539.5	539.5	539.5	539.5	539.3	539.5	539.5
13 Reserve % [(12-08)/08]	25.7%	-8.7%	-7.9%	-9.9%	-11.8%	-14.1%	-14.8%	-16.6%	-18.3%	-19.9%
14b Long/(Short) Relative to 17% Reserves (MW)	42.8	(95.5)	(146.0)	(161.1)	(176.0)	(195.3)	(202.2)	(217.3)	(232.7)	(248.4)

CIPCO's most recent addition to its generation resources is represented by a 9.01% share (71 MW) in the Walter Scott Jr. Energy Center Unit 4 (f.k.a. Council Bluffs Generating Station #4)(CB#4)), which was placed in service in June 2007. Even though CIPCO has added this base load resource, a deficit is still projected for the years prior to 2013 and beyond. In the intervening period, CIPCO's customer load growth will outpace the recent 71 MW base load addition, thus necessitating the additional resource represented by SGS Unit 4.

Currently, CIPCO is meeting its needs through a base load generation mix of nuclear-fueled and coal-fired resources, supplemented by natural gas and more intermittent sources such as renewable and short-term contract purchases. Involvement in the proposed SGS Unit 4 enables CIPCO to reliably meet its future base load requirements while reducing the exposure to potential market risk.

**C. Corn Belt's Need for the Unit**

The load and capability summary (Table 2.2.1-3 below) shows that Corn Belt will be capacity deficient beginning in 2008 and that deficit will continue to grow every year thereafter. The load and capability summary includes the addition of Corn Belt's share of CB#4. The growing renewable fuels industries have been and are continuing to be one of the main contributors to the high load factor load growth Corn Belt is experiencing. An engineering firm retained by Corn Belt is in the process of completing a Long Range Resource Planning Study and the results of the study indicate that up to 100 MW of additional base load resource in the 2013 time frame such as SGS Unit 4 is needed to assist Corn Belt to meet its members' power supply needs.

**Table 2.2.1-3**  
**Corn Belt Power Cooperative**  
**Load and Capability**  
 (All values in MW unless otherwise note)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Peak Demand Forecast	347	377	409	420	427	435	441	448	455	462
Reserve Margin	42	46	50	52	54	54	56	57	57	58
Peak Demand Obligation	389	423	459	472	481	489	497	505	512	520
Total Capacity	408	408	408	408	408	408	408	408	408	408
Capacity Surplus/(Deficit)	19	-15	-51	-64	-73	-81	-89	-97	-104	-112
1) The 2007 Total Capacity includes CB# 4 with 42 MW of Corn Belt's share.										
2) Pool Reserves are based on MAPP requirement of 15% over peak load. The power received from Basin Electric Power Cooperative and WAPA is not included in the pool reserves requirement because these utilities provide their own reserves.										

### **2.2.2 EGEAS Modeling**

The decision to move forward with building SGS Unit 4 to serve IPL's increasing load and to reduce the Company's reliance on purchased power was made, in part, based on the extensive work and numerous EGEAS runs conducted as part of IPL's 2005 Resource Plan. The EGEAS runs conducted as part of IPL's 2007 Resource Plan, included with IPL witness Kitchen's schedules in this proceeding, confirm the validity of this decision. Furthermore, IPL's 2001, 2003, and 2005 Electric Resource Plans all contained numerous scenarios which supported the need for additional coal-fired generation to serve IPL load.

In developing its biennial resource plan, IPL uses an integrated resource planning process to determine which resources will most effectively serve its customers needs, considering factors including, but not limited to, cost, availability, and reliability. IPL's resource planning begins with the load forecast. The load forecast plus a reserve requirement is matched against IPL's existing capacity to determine future resource capacity needs, which yields IPL's load and capability. Capacity, however, is only part of the equation. IPL's customers' energy needs must also be considered. IPL evaluates its customers' capacity and energy needs using EGEAS. By using EGEAS, all combinations of existing resources and future resource alternatives are considered when determining the most reasonable expansion plan. IPL evaluates many different resource alternatives, both traditional and nontraditional, including purchased power agreements (market, short- and long-term), simple cycle gas turbines, combined cycle gas turbines, coal technologies, renewable resources (wind, biomass,

biogas and ethanol-fueled generation) and demand-side management (load management and conservation) resources. Annual revenue requirements are calculated considering all appropriate costs including, but not limited to, capital costs, fixed operation and maintenance costs (O&M), variable O&M and fuel costs. The objective function within EGEAS minimizes the cumulative present value of the revenue requirements. From this analysis, an expansion plan is determined which meets the objective function and meets IPL's system capacity and energy requirements.

IPL's expansion plan, presented in Board Docket No. GCU-07-1<sup>4</sup>, was the most optimal expansion plan from a customer perspective assuming IPL's base case. This expansion plan reflected 350 MW of SGS Unit 4 and 200 MW of new wind generation in-service prior to 2013. In Docket No. GCU-07-1, IPL demonstrated that, with the new units, not only are IPL's costs to customers on a net present value basis over the 15 year study period lower than would be the case absent any new supply additions, but that IPL's CO<sub>2</sub> and criteria pollutants are less than they would be absent these additions. Table 2.2.2-1 shows the results of the EGEAS base case modeling as reflected in the rebuttal testimony of IPL witness Kitchen in Docket No. GCU-07-1.

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<sup>4</sup> Board Docket No. GCU-07-1 is the Plant Certification Docket for SGS Unit 4.

**Table 2.2.2-1****IPL's 2007 Base Case vs. No Additions**

	Total	2013	2013	2013
	Cost	SO <sub>2</sub>	NO <sub>x</sub>	CO <sub>2</sub>
	<u>M \$</u>	<u>tons</u>	<u>tons</u>	<u>Tons</u>
No Additions	9,886	52,854	25,706	17,196,526
IPL's 2007 Base Case	9,135	46,189	21,239	16,709,008
Difference	(751)	(6,665)	(4,468)	(487,518)

In this proceeding, IPL is supporting a revised expansion plan which reflects the retirement of Lansing Units 2 and 3 in 2013, the fuel switching of the Dubuque Units from coal to natural gas in 2013, 350 MW of SGS Unit 4 in 2013, and 200 MW of new wind generation in 2013. Table 2.2.2-2 reflects IPL's base case EGEAS modeling results with this revised expansion plan.

**Table 2.2.2-2****IPL's March 2008 Base Case vs. No Additions**

	Total	2013	2013	2013
	Cost	SO <sub>2</sub>	NO <sub>x</sub>	CO <sub>2</sub>
	<u>M \$</u>	<u>tons</u>	<u>tons</u>	<u>tons</u>
No Additions	10,666	52,921	25,728	17,118,776
IPL's 2008 Base Case	10,024	45,140	20,128	16,477,806
Difference	(642)	(7,781)	(5,600)	(640,970)

IPL's revised expansion plan serves to reduce IPL's CO<sub>2</sub> emissions from what those levels are estimated to be absent these resource additions. When compared to no new supply-side resource additions in 2013, IPL's revised expansion plan reduces customer costs by \$642 million on a net present value

basis over the study period and reduces IPL's system-wide CO<sub>2</sub> emissions by 640,970 tons in 2013. One reason this reduction occurs is because SGS Unit 4, an advanced design coal fired electric generating unit, will be one of the most efficient units in the Midwest, and displace energy that would have otherwise been produced from older, less efficient units. On a unit of energy produced basis, the differential in the CO<sub>2</sub> emissions from the SGS Unit 4 will be 20 percent to 30 percent less than some older, less efficient existing coal units in the Midwest Independent Transmission System Operator, Inc. (MISO) footprint (Midwest).

The EGEAS runs reflected in Table 2.2.2-2 also update some of the key inputs to the EGEAS Model related to market energy prices, fuel prices and the estimated capital costs of SGS Unit 4 and other alternative supply options. The assumption changes are detailed in the direct testimony of Mr. Kitchen in this proceeding.

### **2.2.3 Impacts of Potential Carbon Regulation (Sensitivity Analyses)**

To ensure internal consistency of the assumptions used in IPL's Base Case, generally it has been IPL's consistent practice to develop its Base Case resource plan using assumptions consistent with regulations that exist at the time the plan is developed. Because there currently are no CO<sub>2</sub> regulations applicable to IPL's operations, these potential CO<sub>2</sub> regulations were considered in sensitivity runs and not included in the EGEAS Base Case. IPL conducted sensitivity runs based on its revised expansion plan assuming low and high carbon price forecasts. These sensitivity runs confirm IPL's decision to move forward now with the construction of SGS Unit 4.

The following table summarizes the results of IPL's sensitivity runs reflecting IPL's revised expansion plan. In summary, 350 MW of SGS Unit 4 continues to be selected as the most optimal resource for IPL's customers under all scenarios and the CO<sub>2</sub> emissions needed to serve IPL's customers are reduced to levels below where these emissions would be absent the revised expansion plan under all scenarios.