

**PUBLIC VERSION**

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

2 A. My name is Thomas Sanzillo. My business address is 150 East 49<sup>th</sup> Street, New York,  
3 New York, 10017

4 **Q. By whom are you employed and in what capacity?**

5 A. I am currently a Senior Associate at TR Rose Associates. In this position, I spend most  
6 of my time providing policy and financial advice to clients.

7 **Q. What is your experience and educational background?**

8 A. For the past twenty-five years I have served in a number of government finance  
9 positions in the City and State of New York. Most recently, I completed four years as the  
10 First Deputy Comptroller for the State of New York. The State Comptroller is the  
11 equivalent of the chief financial officer, and the first deputy is a constitutional officer  
12 charged with all operational responsibilities of the Comptroller's office. The staff of the  
13 Comptroller's Office is 2400 employees, mostly accountants, auditors, investment and  
14 budget analysts, attorneys, claims administrators, procurement experts and support  
15 personnel.

16 In this capacity, I supervised the New York State Common Retirement Fund. The Fund is  
17 a \$150 billion global fund with investments across a broad set of asset classes. The Fund  
18 has considerable holdings in the energy industry.

19 The Comptroller also serves as the Chief Procurement Officer reviewing and approving  
20 44,000 contracts worth \$85 billion annually. These contracts cover all aspects of  
21 government operations including master service agreements between public utilities and  
22 private energy companies, power plants, debt instruments for public utilities and other  
23 contracts for the operation of energy functions of the state and its public authorities.

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24 The Comptroller supervises the design, fieldwork, report preparation and  
25 recommendations for some 400 audits annually of state and local government and public  
26 authorities. Audits and reviews during my tenure have been conducted on power plant  
27 construction cost controls, management and operation of the New York Power Authority  
28 in a changing deregulated market, the rate setting mechanism used by the Long Island  
29 Power Authority, the budget and procurement practices of public utilities, demand side  
30 efficiency programs and internal controls and contracting processes of state research and  
31 development agencies.

32 In addition to these reviews, other policy work resulted in a published report on New  
33 York's deregulation effort: restructuring of the industry, new challenges for the Public  
34 Service Commission, creation of a statewide power pool and the impact on local property  
35 tax assessments and collections.

36 The job also requires review and approval of a debt portfolio for local and state  
37 governments of over \$200 billion – including approximately \$20 billion in energy related  
38 authority debt. This includes the review, approval and monitoring of the largest public  
39 plant and the purchase of it by the publicly owned Long Island Power Authority. I hold a  
40 Bachelor of Arts degree in Politics from the University of California at Santa Cruz.

41 **Q. Have you testified in prior Iowa Utilities Board (IUB) regulatory proceedings or**  
42 **other state or federal utility regulatory proceedings?**

43 A. I testified before the IUB in Docket No. GCU-07-1.

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

45 A. I am testifying on behalf of Community Energy Solutions, Iowa Environmental  
46 Council, Iowa Farmers Union, Iowa Renewable Energy Association, and Physicians for

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47 Social Responsibility Iowa Chapter (intervenors). Intervenors as a group represent  
48 thousands of Iowa residents, farmers, renewable energy producers, healthcare providers,  
49 and electricity consumers who will be directly affected by construction of a new dirty  
50 coal plant at a time when coal is an increasingly risky and expensive fuel source and  
51 better alternatives are readily available. Damages they may suffer include diminution of  
52 the value of the state's existing renewable energy generation facilities, diminished  
53 investment in energy efficiency, damage to the development of new renewable energy  
54 generation facilities, displacement of renewable energy from the grid, increase in retail  
55 electricity rates, damage to air and water quality, increased fuel costs due to inefficient  
56 ethanol refining processes, civil rights violations of minority communities targeted by the  
57 highly polluting coal industry, damage to Iowa's ecosystem and agricultural economy  
58 from the increasing impacts of global warming, violation of state energy policy, and  
59 future damage to electricity consumers who will pay the eventual cost of carbon  
60 regulation.

61 **Q. Has IPL established that the SGS Unit 4 plant is the best alternative to meet the**  
62 **service needs of its customers?**

63 A. No. The load forecast presentation submitted with this rate request demonstrates that  
64 the coal plant is an inappropriate alternative. Mr. Hillberry describes IPL's forecast  
65 model: "The peak and energy models are developed based on regressions of historical per  
66 customer data with weather, economic and indicator variables. Then forecasted values are  
67 inserted into the model to predict future values. Finally any large known adjustments are  
68 made to the data."

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69 Mr. Hillberry's model is not based on historical per customer data. The critical  
70 assumption that IPL's load growth will be upwards of 40 MW per year over the long run  
71 is unsubstantiated. According to the Application, Section 2.2.1 Need for SGS Unit 4:

72 The last base load plant built in Iowa, of which IPL owns a share, was the Louisa  
73 Generating Station (LGS), which was placed in service in 1983. IPL's share of  
74 LGS is only 28 MW. Thus, IPL has gone more than 25 years without adding a  
75 significant amount of owned base load generation. In the intervening period,  
76 IPL's customer load increased an estimated 750 MW, and is expected to grow  
77 approximately another 190 MW by 2013.<sup>1</sup>

78 Based on this statement, IPL's twenty-five year historical performance average is 30 MW  
79 load growth per year. There is no substantiation for the aggressive modeling used by IPL  
80 to justify this plant. Evidence presented to the board shows that Iowa's population  
81 remains flat and even declines in the out-years of the load forecast that serves as the core  
82 justification for this plant.

83 According to the U.S. Census Bureau's Population Division, Iowa's population is  
84 projected to grow a total of only 1 percent annually between 2000 and 2030,  
85 placing Iowa 48<sup>th</sup> in the nation in projected population growth and well below the  
86 29.2 percent population increase projected for the national as a whole over that  
87 period. From 2010 to 2030, the out-year of the Census Bureau projection, Iowa's  
88 population is actually projected to experience a net decline of 1.8 percent, or  
89 approximately 55,000 residents.<sup>2</sup>

90 A careful reading of IPL's Table 2.2.1-1 shows the following.<sup>3</sup> The model forecasts slow  
91 growth through 2009.<sup>4</sup> IPL anticipates growth in Internal Demand of only 12 MW for the  
92 two-year period 2007-2009. This is approximately 2/10 ths of one percent of growth on  
93 an annual basis. These projections actually reflect the relatively flat economic projections  
94 for the State through 2009.

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<sup>1</sup> Interstate Power and Light, *Application RPU-08-1*, Section 2.2.1 Need for SGS Unit 4, March 31, 2008 p. 12.

<sup>2</sup> Sanzillo, Rebuttal Testimony, Docket No. GCU-07-1 (attached as Exhibit TS-2).

<sup>3</sup> IPL Application, *Op Cit.*

<sup>4</sup> Kitchen Testimony, Exhibit\_(BRK-1), Schedule A (March 13, 2008).

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95 The IPL model then shows aggressive growth thereafter – a 61 MW increase in 2010; 54  
96 MW increase in 2011; 53 MW increase in 2012 and 54 MW in 2013. The average  
97 increase through 2022 is 45 MW annually. These aggressive demand assumptions are  
98 made by IPL during a period when Iowa’s population is projected to decline.

99 Another way to view IPL’s presentation is look at the last decade of “Firm Peak”. Mr.

100 Hillberry states: “Firm peak is what IPL is required to serve.”<sup>5</sup> [REDACTED]

101 [REDACTED]

102 [REDACTED]<sup>6</sup>

103 [REDACTED]

104 [REDACTED]

105 [REDACTED]

106 [REDACTED]<sup>7</sup> Had either a one decade scenario looking backward been used, or a  
107 two decade scenario looking backward been used, neither justifies the 40 MW annual  
108 growth projected by IPL.

109 Furthermore, there are clearly large, known losses of industrial customers from the IPL  
110 base. These adjustments are not in the current plan.

111 In its most recent Annual Report, “Building on Our Commitment” IPL makes the  
112 following disclosure<sup>8</sup>:

113 **Ethanol and BioFuel Production** – A number of previously announced plants in  
114 Alliant Energy’s service territory have not begun construction, which is reflective  
115 of a national slowdown in the construction of ethanol production facilities...  
116 Alliant Energy is currently unable to estimate the impacts new ethanol and

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<sup>5</sup> Hillberry Direct Testimony at 3.

<sup>6</sup> Hillberry Response to OCA Data Request 49, Attachment A (attached as Exhibit TS-3).

<sup>7</sup> Kitchen Testimony (March 13,2008) at 5-6.

<sup>8</sup> Alliant Energy Services, *2007 Annual Report: Building on Our Commitment*, at F-37 (attached as Exhibit TS-4).

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117 biodiesel production facilities in its service territory will have on its future  
118 financial condition or results of operations.

119 Professor Daniel M. Otto in his testimony and appended report: “Economic Importance  
120 of Securing Reliable Electric Energy for Iowa” stresses the importance of a new baseload  
121 generation for the expansion of ethanol and industrial production<sup>9</sup>. My testimony and Dr.  
122 Harl’s in the earlier proceeding point out weaknesses in this area of the State’s economy.  
123 From my rebuttal testimony (Docket GCU-07-01):

124 Second, when addressing the contribution that wind and ethanol are making to the  
125 economy of Iowa, he does not explain why the manufacturing sector as a whole  
126 has remained flat and is expected to decline in 2008, or what impact this will have  
127 on projected energy demand. Because IPL’s largest customer base is the  
128 manufacturing sector, Dr. Otto’s failure to put wind and ethanol into this broader  
129 context weakens his case. If Dr. Otto is correct, and wind and ethanol are indeed  
130 the critical building blocks for Iowa’s manufacturing future, then it is only fair to  
131 ask for **quantifiable evidence showing that ethanol and wind development**  
132 **create a demand for electricity that both offsets projected losses in the**  
133 **traditional manufacturing base and uses electricity in a manner that**  
134 **simulates the need for new capacity.** (emphasis added).<sup>10</sup>

135 In the short term, IPL’s data shows a weakening of demand. In the longer term, the data  
136 shows a strengthening of demand, but there are known losses that are not quantified.

137 Mr. Hillberry’s statements that (1) the need for the plant is derived from historical per  
138 customer usage and (2) large known adjustments are reflected in the data, are not  
139 confirmed by a review of the record.

140 **Q. Besides there being a weakening in demand, are there other factors that should**  
141 **be considered when reviewing the justification for the plant?**

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<sup>9</sup> Otto, Daniel, *Economic Importance of Securing Reliable Electric Energy for Iowa*, March 2008 (Exhibit DMO-1, Schedule B).

<sup>10</sup> Sanzillo Rebuttal Testimony, *Op Cit*, at 14-15 (see Exhibit TS-2).

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142 A. Yes, IPL's Internal Demand figure for 2007 of 3,326 MW is without foundation. Its  
143 derivation is artificial. An appropriate, independently verifiable figure is 3,085 MW,  
144 which represents the booked peak amount for 2007.<sup>11</sup>

145 IPL's usage of this inflated base number for Internal Demand is wrongly carried forward  
146 throughout their analysis.

147 If the base is 3,085 MW and then combined with IPL's own short-term assumption of 30  
148 MW growth per year for the period 2007-2013, the "Net Internal Demand" for 2013 is  
149 (3,235 MW – 455 Interruptible Demand and Control Management), or 2,780 MW.

150 This gives the IPL system a surplus of 293 MW (2,780MW x 15% Reserve – 3,489 MW  
151 Capacity) in 2013, not a deficit of 80MW.

152 Even if one concedes that IPL's "deficit" is 80 MW, it is first a shortfall in IPL's  
153 electricity reserve. The reserve is a supplemental supply resource used in the event of  
154 disruptions in the existing system. The deficit is not one that poses an imminent threat to  
155 the reliability of the supply of electricity to Iowans.

156 Second, why has IPL applied for 432 MW's of additional capacity if the need is only 80  
157 MW?

158 **Q. Would you be more specific about the methodological problem with IPL's**  
159 **approach?**

160 A. Yes. Mr. Hillberry states:

161           The IPL firm peak shown in the filing is adjusted upward based on 2.19%  
162           diversity between the former IES Utilities and Interstate Power Company (IPC)

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<sup>11</sup> Mr. Hilberry's Direct Testimony of March 27, 2008 demonstrates quite clearly that 'firm peak' is a contrived number. He explains how he gets from this "Firm Peak" to "Internal Demand" and then to "Net Internal Demand". My method follows the same course, however the base, or firm peak is 3085 MW for 2007, not the estimated 3,326 contained n the IPL presentation.

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163 territories and the interruptible load is added to arrive at Internal Demand listed  
164 on Line 1 of Mr. Kitchen's Exhibit \_\_\_(BRK-1) Schedule A.<sup>12</sup>

165 In order for Internal Demand to rise by 40 MW per year as projected by IPL --- firm peak  
166 (which is derived from book peak) must rise by that amount or more. The other  
167 methodological adjustments described by Mr. Hillberry only confuse this fact. (Nothing  
168 in the data or Mr. Hillberry's presentation implies that changes in the "Interruptible" load  
169 are the source of the projected growth). There is no historical basis for either the "book  
170 peak" or the "firm peak" to rise by 40 MW over a period of years. Therefore, the only  
171 other way this is achieved is through statistical contrivance.

172 **Q. Has IPL demonstrated that this plant is reasonable in comparison to other**  
173 **feasible alternatives?**

174 A. No. The need for the plant has dwindled since IPL made its initial application in  
175 Docket GCU-07-01. In addition, IPL's record of achievement in energy efficiency makes  
176 it a far superior investment to meet the purported 80 MW need identified in the rate  
177 proposal.

178 The original plan estimated that IPL's demand would increase by 50 MW annually<sup>13</sup>.  
179 Then, IPL adjusted this downward to 40 MW annually. IPL has still not explained why  
180 this adjustment was necessary. Because IPL has not explained what changed, --- in the  
181 underlying needs of IPL's customers or in the forecasting model --- it is difficult to  
182 understand the decision.

183 IPL has submitted information that establishes a 25-year average load growth of 30 MW  
184 per year. IPL's long-term forecast assumes that demand will grow by an annual average

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<sup>12</sup> Hillberry Direct Testimony at 5.

<sup>13</sup> See Sanzillo, *Op Cit*, at 9 (see Exhibit TS-2).

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185 of 40 MW's. This assumption drives IPL to project unrealistically large annual increases  
186 in electricity use in the out-years.

187 IPL is showing very slow growth in the short term, and potential losses in its industrial  
188 customer base.

189 IPL has lowered its reserve margin from 18% to 15% from its earlier filing.<sup>14</sup> This  
190 reduces the capacity requirement by approximately 100 MW.

191 IPL's analysis of the situation cites a deficit in the reserve margin of 80 MW by 2013.

192 We project a surplus. Even IPL now acknowledges that the need for the plant has  
193 diminished since the filing of Docket- GCU-07-01 only last year.

194 At the same time the need for the plant has diminished for other reasons, IPL has been  
195 pursuing a program of energy efficiency. According to IPL:

196           Figure 2.1-1 clearly demonstrates that IPL has achieved its Board-approved  
197           energy savings goals in each of the last five years. Moreover, the amount by  
198           which IPL has exceeded the budget and still passed its goals is diminishing<sup>15</sup>.

199 Accordingly, IPL has saved approximately 509 MW of electricity over the last five years.

200 The preliminary figures for 2007 alone were 118 MW.

201 Other companies that have demonstrated success in the energy efficiency area see it as a  
202 beginning from which even greater achievement is possible.

203 For example, the most recent annual report from Pacific Gas and Electric states:

204           Equally important, we are taking actions in the meantime to prepare our company  
205           and our customers for the future. This includes continuing to aggressively drive  
206           advances in energy efficiency and extending our renewable energy commitments.  
207

208           This leadership has put PG&E in a strong position. Last year, Innovest Strategic  
209           Value Advisors, a top evaluator of investor risk and value related to sustainability

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<sup>14</sup> IPL Application, *Op Cit*, Table 2.2.1-1, Line 14b.

<sup>15</sup> IPL, Application, *Op Cit*, at 9.

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210 issues, issued a report that ranked PG&E environmental leadership (EcoValue  
211 index) is the top 25 percent of all utilities in its peer group.

212

213 Through energy efficiency, we plan to meet 50 percent or more of the growth in  
214 energy demand in our service area over the next ten years.

215 A recent investor presentation by Melissa Lavinson, PGE Director of Federal

216 Environmental Affairs and Corporate Responsibility, April 30, 2008 discussed PGE's

217 performance and forward-looking goals<sup>16</sup>.

218 PGE's Energy Efficient Investments

219

220 • Over the past thirty years, our customer energy efficiency  
221 programs have:

222

○ Saved enough electricity to power 18 million homes;

223

○ Avoided the need to build approximately 24 power plants;

224

○ Prevented more than 125 million tons of carbon dioxide

225

emissions from being emitted into the atmosphere.

226 PGE's program goals over the next 10 years are to reduce load by 2500 MW and develop

227 a Demand Response Program that reduces peak electricity demand by 5%.

228 It is clear that the potential for additional energy efficiency savings would eliminate even

229 IPL's purported 80 MW deficit, and then some. A robust energy efficiency program

230 represents a far superior alternative than a new coal plant. In addition, it would save

231 consumers money as well. On the other hand, an expense of nearly \$2 billion for a new

232 coal plant will necessarily divert investment from expanded energy efficiency and

233 requires consumers to bear the burden of paying for through higher electricity prices. The

234 California model described above has an aggressive energy efficiency program with the

235 explicit objective, of avoiding expensive new investment in generation.

236 **Q. Do the costs for the construction of this plant fit the reasonableness criteria?**

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<sup>16</sup> Melissa Lavinson, Director, Federal Environmental Affairs and Corporate Responsibility, *Energy Efficiency as a Resource*, April 30, 2008 (attached as Exhibit TS-5).

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237 A. No. Cost assumptions of this plant are at best speculative. [REDACTED]  
238 [REDACTED] At this level, it is arguably the  
239 most expensive coal fired power plant in the country. A recent study documented the cost  
240 of the AMP-Ohio plant at cost of the Meigs County Plant at \$3,475 kW with financing.<sup>17</sup>  
241 A recent article in the Wall Street Journal, “Costs to Build Power Plants Pressure Rates”,  
242 May 27, 2008, describes the most recent report by the Cambridge Energy Research  
243 Energy Associates, Inc.<sup>18</sup>  
244 The article states that the costs of coal-fired power plants have risen by 78% since 2000.  
  
245 If anything, the index likely minimizes the rising cost of building power plants  
246 because it doesn’t factor in financing costs, and it doesn’t include fuel costs. But  
247 as prices for coal, natural gas and uranium have risen, they have put added  
248 pressure on the operating costs of many companies, and those increases are  
249 pushing up electricity prices, too.  
250  
251 The upshot, Ms. Scott said (director of Cost and Technology at CERA), is that  
252 prudent utility regulators should make sure they are basing future decisions on  
253 data that are updated frequently, because even calculations less than a year old  
254 can be dangerously out of date.<sup>19</sup>  
  
255 The article continues:  
  
256 The analysis is of interest because it is difficult to get solid cost data until after  
257 plants have been built. Even then, data aren’t always available.  
258  
  
259 The final cost of this plant cannot be projected with any certainty, however it would not  
260 be a stretch to see final construction costs in the range of \$4,000 kW, or approximately  
261 15-25% higher.

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<sup>17</sup> R.W. Beck, *American Municipal Power Generating Station Initial Project Feasibility Study Update*: January 2008. The report page 7 (attached as Exhibit TS-6) places the cost at \$3.391 billion for a 960 MW plant. These plants are roughly at the same stage of the process. The status of the planning process of a plant is critical to assessing its current cost in the current market. It is very likely that both plants will see a higher final cost than those projected in this document. See: Wall Street Journal Article below.

<sup>18</sup> Attached as Exhibit TS-7.

<sup>19</sup> *Id.*

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262 **Q. Do the cost projections of fuel for this plant meet the reasonableness criteria?**

263 A. No. [REDACTED]

264 [REDACTED]

265 [REDACTED] This estimate is unrealistic.

266 Arch Coal, the second largest producer of coal in the United States, has seen a 73%  
267 increase in the price of PRB coal over the last year.<sup>20</sup> Peabody Energy reports a rise in  
268 PRB prices of 155% since the beginning of 2007.<sup>21</sup> Arch Coal attributes the rise in prices  
269 to rising export demand on eastern basin coal that is results in greater use of PRB coal  
270 from states east of the Mississippi.<sup>22</sup>

271 Peabody Energy foresees these demand pressures continuing “over the next several  
272 decades”.<sup>23</sup>

273 Recent dramatic increases in the price of Central Appalachian, Northern Appalachian and  
274 Illinois Basin Coal have set new ceilings for the per ton cost of coal. According to the  
275 Energy Information Agency

276 One year ago (the week of June 20, 2007) Central Appalachian coal sold on the spot  
277 market for \$44.60, this week June 20, 2008 the price is \$117.60, Northern Appalachian  
278 Coal was \$45.15 per ton, this week June 20, 2008 the price is \$118.00.<sup>24</sup>

279 One analyst covering coal price quotes Steven Leer, CEO of Arch Coal:

280 We certainly expect it (an increase in PRB prices) to happen. We have tracked  
281 pricing in previous run-ups. What we see is that every price increase starts in

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<sup>20</sup> Arch Coal, 8K Filing, June 19, 2008, slide 22 (attached as Exhibit TS-8).

<sup>21</sup> Vic Svec, Senior President for Investor Relations and Corporate Governance, Peabody Energy, *The New BTU*, Basic and Industrial Conference, June 3, 2008 (attached as Exhibit TS-9).

<sup>22</sup> Arch Coal, *Op Cit*, slides: 6,7, 11,12,14 and 15 (see Exhibit TS-8).

<sup>23</sup> Peabody Energy, *Op Cit*, slide 17 (see Exhibit TS-9).

<sup>24</sup> Energy Information Agency, Price of Coal on Spot Market, week of June 22, 2007 and June 28, 2008 respectively (attached as Exhibit TS-10).

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282 Central Appalachia moves to Northern Appalachia, moves to the Western  
283 bituminous region and then to PRB. Each increase that has occurred since 2001  
284 has seen the spike much higher than the previous one and the valley much higher  
285 than the previous one.”<sup>25</sup>

286 The futures price of PRB coal for 2011 on June 26, 2008 is \$22.15 per ton<sup>26</sup>. For IPL’s  
287 estimate to be correct prices for PRB would have to rise an anemic 10% from 2011-13.  
288 This is highly unlikely.

289 Given the market changes that are occurring in the coal industry, the more likely scenario  
290 is an annual 20% rise in prices from 2011-2013. The consequence of this trend would be  
291 a per ton price for coal closer to \$35 (if not higher), not the \$24 per ton that IPL assumes.

292 Mr. Hillberry provides data from the Energy Information Administration (EIA), Energy  
293 Outlook 2007.<sup>27</sup> The title of the subsection to the Energy Outlook is “Fuel Costs Drop  
294 from Recent Highs, then Increase Gradually”. The report then goes on to state: “Coal  
295 prices to the electric power sector remain relatively low, peaking at \$1.71 per million  
296 BTU in 2010, falling to \$1.69 per million BTU in 2018, and remaining at that level  
297 through 2030.”

298 A recent study by the Western Resource Advocates<sup>28</sup> offers some insight into the  
299 forecasting models developed by EIA.

300 Inherent in the risk associated with fuel price changes is the inability to reliably  
301 project future fossil fuel prices. The Energy Information Administration  
302 conducted a review of its forecasts and found that, for long-term forecasts made  
303 from 1982 through 2006, the average absolute error (comparing forecasted prices  
304 and actual prices) for coal prices paid by electrical generating plants was about

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<sup>25</sup> Coal and Energy Report (CER), June 27, 2008, Volume 10, No. 124, at 1 (attached as Exhibit TS-11).

<sup>26</sup> *Id.* at 3.

<sup>27</sup> Hillberry Response to OCA Data Request No. 54, Attachment B, at 7 (attached as Exhibit TS-12).

<sup>28</sup> Western Resource Advocates, *A Clean Electric Strategy for Arizona* (February 7, 2008) at 18, 19 (attached as Exhibit TS-13). The study referred to is Energy Information Administration, *Annual Energy Outlook Retrospective Evaluation of Projection in Past Edition*, (1982-2006), DOE/EIA-0640 (2006) 2007, Table 2.

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305 47% and that natural gas wellhead prices was about 64% --- both enormous  
306 forecasting errors.

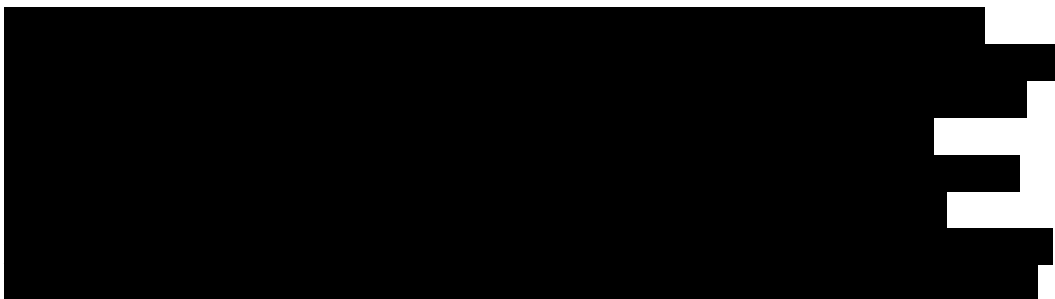
307 **Q. Has IPL taken into consideration the potential costs of addressing a new system**  
308 **for curbing greenhouse gas?**

309 A. No. The cost will be greater, and IPL carries the cost a separate potential future  
310 charge. IPL's analysis concludes that implementation of CO2 capture technology could  
311 add as much as \$5.54 Mwh to \$6.81Mwh to the cost of electricity.

312 Mr. Guelker summarizes the current issues facing IPL with regard to the future cost of  
313 carbon:

314 Contrary to the media's portrayal, the significant debate over greenhouse gas  
315 emissions certainty versus price certainty in carbon policy development stems  
316 from the lack of technology solutions currently available for greenhouse gas  
317 emissions control (especially CO2 emissions from fossil fuel combustion). As a  
318 result, carbon allowance markets have the potential to be highly volatile and thus,  
319 more costly for regulated companies to use to manage their carbon profiles. Given  
320 the many uncertainties, it is impossible to predict the cost impacts to IPL's  
321 customers, although in general terms IPL acknowledges that the potential for this  
322 cost to be significant.<sup>29</sup>

323 A Bechtel Power report prepared for the purposes of assessing the SGS Unit 4 technology  
324 states<sup>30</sup>:

325   
326  
327  
328  
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330  
331  
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333 To clarify this analysis Mr. Vesperman of IPL adds:

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<sup>29</sup> Guelker Direct Testimony at 14.

<sup>30</sup> Bechtel Power Corporation, *Study of CO2 Capture Capable Design Concepts For Sutherland Generating Station Unit*, December 2007 (Exhibit KDV-1, Confidential Schedule G).

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334 It is estimated to cost between \$20,000,000 and \$25,000,000 per year or a cost  
335 between \$5.44 and \$6.81 MWhr (net after derate).<sup>31</sup>

336 One study by Synapse Energy Economics arrives at approximately the same costs as  
337 Bechtel<sup>32</sup>. Synapse adds the following caveat:

338 Most importantly, as can be seen from Figure2, the Synapse CO2 price forecasts  
339 are substantially lower than a number of the other recent price projections. Thus,  
340 the annual CO2 costs would be even higher if Figure 4 had reflected these other  
341 CO2 price forecasts.

342 The Synapse report refers to the fact that its per ton CO2 cost estimate is lower than the  
343 Environmental Protection Agency (EPA) and Massachusetts Institute of Technology  
344 (MIT). EPA and MIT prepared their CO2 cost analyses in 2007. The Synapse figure is  
345 based on data available in 2006.

346 Mr. Guelker states in several places in his testimony that a new greenhouse gas emission  
347 policy will take years to implement. Any delay is imprudent.

348 Questions on what the anticipated greenhouse gas emissions policy may or may  
349 not be, including its impact on the proposed construction of SGS Unit 4, will not  
350 be answered in the near term by the passage of any single piece of legislation and  
351 regulation. No single piece of legislation or regulation will provide the certainty  
352 or clarity needed to predict the future including the resulting CO2 emissions  
353 prices in a carbon-constrained world.<sup>33</sup>

354 A recent decision on an air permit on a coal plant proposed for Early County, Georgia  
355 points to both the urgency for federal legislation, and the current inability to set a firm  
356 price on any new technology.

357 A New York Times account of the case states:

358 Judge Moore said in her decision that the permit would have to require “best  
359 available control technology” for all emissions that could be regulated, including

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<sup>31</sup> Vesperman Direct Testimony at 17.

<sup>32</sup> Synapse Energy Economics, *Don't Get Burned*, Prepared for the Interfaith Center on Corporate Responsibility (March 2008) 18-21.

<sup>33</sup> Guelker Direct Testimony at 13.

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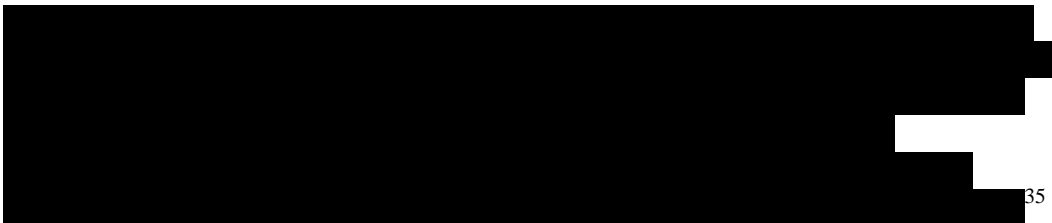
360 carbon dioxide. But Mr. Vogt (project manager for LS Power Group and Dynegy)  
361 said that in contrast to pollutants like soot, nitrogen, oxides and sulfur dioxide,  
362 there was no commercially available carbon-control technology, nor a  
363 government-set limit on emissions.

364  
365 “There simply are no regulations out there to tell us what we would have to do,”  
366 he said. “The E.P.A. is wrestling with this right now, as is Congress.”<sup>34</sup>

367 **Q. Are there any other cost factors that IPL has not taken into consideration?**

368 A. Yes. According to the Agreement between Corn Belt, CIPCO and IPL the project as a  
369 whole may face additional environmental costs.

370  
371  
372  
373  
374  
375



376 Whether or not actual financing is secured from RUS, the longstanding relationship  
377 between the two organizations and RUS may require RUS’ approval of their participation  
378 with this plant. What, if any, environmental actions would be required is unknown. The  
379 agency has recently instituted a moratorium on future financing of coal-fired plants. (A  
380 more detailed discussion on the RUS moratorium is contained near the end of this  
381 testimony). Any alternative financing secured by CIPCO or Corn Belt will be more  
382 expensive than RUS.

383 **Q. Does the Return on Equity recommendation of 12.55% by IPL meet the**  
384 **reasonableness criteria?**

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<sup>34</sup> Wald, Matthew, *Georgia Judge Cites Carbon Dioxide in Denying Coal Plant Permit*, New York Times (July 1, 2008) at C4 (attached as Exhibit TS-15).

<sup>35</sup> Agreement between Interstate Power and Light, Corn Belt Cooperative and CIPCO, Section 10.8, November 27, 2007, p. 42 (Confidential Figure 1.1-1).

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385 A. This extraordinary request reflects IPL's concern with financial risks associated with  
386 constructing a coal-fired power plant in this environment. The company has decided to  
387 place the risk for the plant on the ratepayers, in order to protect the short-term interests of  
388 its shareholders. Given the speculative nature of the assumptions used to prepare this rate  
389 proposal it is surprising that the request was for only 12.55%.

390 If the Board proposes a set of principles for this plant, a substantially reduced ROE,  
391 which more reasonably balances the risks, would be prudent.

392

393

394

<sup>36</sup>

395 According to a recent Alliant presentation, 12.55 % represents the highest request of any  
396 new generation project currently under review. The latest ROE approval was 10.7%<sup>37</sup>

397 **Q. If IPL's estimates are aggregated and compared to an alternative estimate and**  
398 **then to IPL's current cents per kwh revenue received from residential customers, is**  
399 **SGS Unit 4 a sound investment for Iowa's consumers?**

400 A. No. The presentation lacks a simplified one page version of what this plant could  
401 mean to consumers. According to Alliant Energy's Annual Report, the company receives  
402 7.93 cents per kilowatt for electricity sold to retail customers across the entire AES  
403 operation.<sup>38</sup>

---

<sup>36</sup> Hanley Exhibit, *Interstate Power and Light, Authorized Returns on Common Equity and Common Equity Ratios for Electric Operations of Electric and Combination Electric and Gas Companies for the Twelve Months Ended December 2007*, Exhibit\_\_\_(FJH-1), Schedule 9, Page 2 of 7.

<sup>37</sup> Alliant Energy Services, *Baird Marketing* (June 20, 2008) slide 20 (attached as Exhibit TS-16).

<sup>38</sup> AES, Annual Report, *Op Cit*, p. F-87 (see Exhibit TS-4).

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404

**CONFIDENTIAL TABLE 1**

405 [Confidential Table 1 redacted]

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[Redacted]

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[Redacted]

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[Redacted]

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[Redacted]

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[Redacted]

411

[Redacted]

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412 [REDACTED]

413 [REDACTED]

414 [REDACTED]

415 [REDACTED]

416 [REDACTED]

417 [REDACTED]

418 [REDACTED]

419 [REDACTED]

420 [REDACTED]

421 [REDACTED]

422 [REDACTED]

423 [REDACTED]

424 [REDACTED]

425 [REDACTED]

426 The risk is that this plant will add to IPL and the State's electricity grid a new facility that  
427 requires customer payments to effectively double in order to pay for it. This would place  
428 strong upward pressure on rates and the price to customers, as this 432 MW's of  
429 additional capacity would constitute 14 percent of all capacity in 2014, the first full year  
430 of operation.

431 **Q. Has IPL addressed the cumulative risk that it is confronting?**

432 No. There are four distinct problems with IPL's presentation. The cost of construction is  
433 high, and likely to go higher. The regulatory outcome on the issue of greenhouse gas

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434 could double the cost of electricity from this plant. The price of coal is high and expected  
435 to rise. Finally, the demand for electricity is not as strong as IPL has stated.

436 Mr. Hanley hints at the cumulative risk when he quotes both Moody's and Standard and  
437 Poors<sup>39</sup>:

438 From Moody's:

439 Rising concerns about the causes and consequences of climate change will carry  
440 major implications for the U.S. electric utility sector. Potential new limits on  
441 emissions of greenhouse gases, primarily carbon dioxide, are likely in the next  
442 several years. New rules are likely to force the industry to spend billions of  
443 dollars on compliance. The timing and form of any federal legislation that would  
444 establish these caps is unknown.

445  
446 Future costs related to greenhouse gases would come on top of the significant  
447 capital many utilities are already investing to reduce emissions of mercury,  
448 nitrogen oxide and sulfur dioxide. While EPA-mandated rules relating to these  
449 pollutants are being challenged in the federal court system, many utilities foresee  
450 remediation costs that significantly exceed the agency's original estimates.

451  
452 Given the magnitude of these potential nondiscretionary environmental-related  
453 costs and the fact that electricity prices are rising throughout the country, electric  
454 utilities could face a daunting challenge in obtaining timely recovery of these  
455 costs through their respective regulatory rate-setting authorities. While Moody's  
456 believes that most commissions are likely to grant timely recovery of prudently  
457 incurred mandated environmental costs, the resulting increase in electricity prices  
458 may make recovery of other operating costs and capital investments more  
459 challenging. Such a scenario could cause negative rating actions within the sector.

460 From Standard and Poors (still quoting Mr. Hanley):

461 Among the risks are that CO2 compliance costs could spiral out of control, those  
462 costs could be up for rate recovery at the same time that other expenses are rising,  
463 and the costs could then get "crowded out" if regulators try to ease customer rate  
464 shock. Any disallowance would not necessarily be explicit, since it is difficult  
465 and legally suspect to keep prudent, legislatively mandated costs out of rates. The  
466 real risk to credit quality is the prospect that CO2 compliance costs will be the  
467 proverbial straw that leads to harsh regulatory responses such as a disallowance or  
468 deferral because of cost pressures tied to commodity prices, more capital spending  
469 for basic reliability needs on the transmission and distribution system, and added

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<sup>39</sup> Hanley, Frank, Response to OCA Data Request 31 (May 13, 2008) (attached as Exhibit TS-17).

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470 construction costs for new generation to meet rising demand.... Clearly, the  
471 pursuit of a cooler planet will leave utilities sweating over the risk to their credit  
472 quality.

473 In other words, this plant will be a regulatory quagmire for the Iowa Utility Board for the  
474 next several decades.

475 **Q. Has IPL demonstrated a sound financial rationale for moving forward with this**  
476 **plant?**

477 A. No. It is clear that with these documents in support of ratemaking principles IPL is  
478 attempting to move the extraordinary risk involved with the project from its shareholders  
479 onto the ratepayers of Iowa.

480 One institution, with far greater experience financing coal-fired power plants than IPL  
481 has come to a completely different conclusion regarding the degree of risk involved with  
482 this proposal. The United States Department of Agriculture, Rural Utility Service has  
483 been providing financing for rural electrification projects for over seventy years. Faced  
484 with the same economic conditions that IPL faces, it has decided to call a moratorium on  
485 any coal fired power plant projects.

486 On February 19, 2008, the RUS Administrator informed the General Manager of  
487 Southern Montana Electric Cooperative, Inc. that it could not move forward with the  
488 Highwood Generation Station project. The letter to the cooperative discussed the general  
489 issues facing RUS, and informed the cooperative that no further baseload generation  
490 loans would be forthcoming at least through 2009. The letter states:

491 I have been closely and carefully monitoring the developments with  
492 the proposed Highwood Generation Station. The inherent risks  
493 associated with compounded delays make the situation more  
494 problematic as well as increasing the cost of the plant which will be

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495 passed on in the form of higher member rates raise concerns about  
496 financial feasibility

497

498 Additionally, as you know, the Agency is precluded from financing  
499 base load generation plants in Fiscal Year 2008 and I suspect that will  
500 be the situation in Fiscal year 2009. Costs will continue to increase  
501 throughout this period.

502

503 With all the facts considered: No base load generation loans probably  
504 through 2009; continued cost increases further exacerbated by the  
505 added time to reach loan approval; the feasibility of the project with  
506 extra time and additional cost; and the uncertainty of the litigation now  
507 filed compels me to inform you the Agency will not be able to finance  
508 the proposed Highwood Station Plant.

509

510 Add to the above facts concern exists that approximately 40 percent of  
511 Southern Montana's capacity in the proposed plant is not under  
512 contract through the entire term of the proposed financing from the  
513 Agency.<sup>40</sup>

514 Disclosure of this application denial and the larger issue of an effective moratorium on

515 new lending have prompted press attention.<sup>41</sup> The Washington Post article states:

516 Though the last loan for a generating plant was made in 2006, rural  
517 cooperatives have applied for \$1.2 billion in loans to cover all or part  
518 of four more coal-fired plants, including controversial ones in eastern  
519 Kentucky and southern Illinois. Two other cooperatives recently  
520 shelved their projects and withdrew their RUS loan applications. And  
521 last month the RUS informed the Southern Montana Electric  
522 Generation and Transmission Cooperative that the agency was  
523 rejecting its application for a coal plant loan, citing new agency policy,  
524 rising construction costs and the lack of customers for much of the  
525 proposed plant's output.....

526

527 The RUS administrator, James M. Andrew, said in the letter that it "is  
528 not funding loans for new base load generators until the Agency and  
529 the Office of Management and Budget can develop a subsidy rate to

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<sup>40</sup> Letter from Andrew, James M., Administrator, Utilities Program, United States Department of Agriculture to Gregori, Tim, General Manager, Southern Montana Electric Generation and Transmission Cooperatives, Inc. (February 19, 2008) (attached as Exhibit TS-18).

<sup>41</sup> Mufson, Steven, *Government Suspends Lending for Coal Plants: Risks Cited to Economy, Environment*, Washington Post, March 13, 2008. See also. Karl Puckett, *Rural Utilities explains funding pullout and Coal-fired power plant projects feel heat from rising costs, environmental concerns*, Great Falls Tribune, March 4 and 13, 2008, respectively (attached as Exhibit TS-).

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530 reflect the risks associate with the construction of new base load  
531 generation plants.”

532

533 An RUS spokesman would not say when the OMB closed the lending  
534 window for baseload plants; the agency gave no hint of the policy  
535 change until its letter to Southern Montana Electric on February 19.

536

537 The agency also conceded yesterday that it had not considered  
538 potential costs that could result from climate-change legislation that  
539 most commercial banks, utilities and other businesses consider when  
540 considering energy projects. “Since there is no clear consensus on  
541 what emission standards will be enacted and associated costs,  
542 attempting to make decisions on loans absent a factual base is  
543 speculative at best,” Andrew said.

544

545 .....A budget expert who asked not to be identified to protect his  
546 relationship with clients noted that the RUS was also glossing over  
547 the difficulty of passing costs along. Power generation co-ops are  
548 separate from distribution co-ops, which in the past have forced some  
549 generators into bankruptcy, rather than pass along higher costs.

550 The financial conditions facing RUS projects are the same ones confronting IPL. The  
551 difference is that RUS has decided the assumptions used by its applicants are speculative  
552 and did not meet financial standards. IPL would have the Iowa Utility Board ratify them  
553 as prudent and reasonable.

554 **Q. Does this conclude your prepared direct testimony?**

555 A. Yes