

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

9 A. I have submitted testimony related to the SGS 4 Plant in this proceeding. I also  
10 testified before the IUB in Docket No. GCU-07-1.

11 **Q. Are you the same Thomas Sanzillo who submitted prior testimony in this docket?**

12 A. Yes.

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

14 I will specifically be responding to Messrs. Hillberry, Ott and Kitchen's testimony.

15 **Q. Has IPL presented a reasonable case to justify the SGS Unit?**

16 No. IPL has identified a capacity deficit of 80 MW by 2013. Their application calls for an  
17 additional 432 MW. This request will result in substantial overcapacity.

18 IPL's proposal is likely to produce electricity at a cost that will place significant  
19 upward pressure on the price of electricity to Iowans. This is imprudent and  
20 unreasonable. IPL's representatives seem to agree that electricity from the SGS Unit 4  
21 will be expensive. Mr. Kitchen (page 6-8 of testimony) acknowledges the upward price  
22 pressure, but asserts generally that coal must be presented in relation to the price of  
23 natural gas, and under such a scenario, the cost of SGS Unit 4 is reasonable.

24 IPL's successful energy efficiency program should have the capacity to manage  
25 the 80 MW deficit. IPL has five years to achieve this goal. The natural gas comparison  
26 assumes that only new generation can address this relatively small capacity deficit, which  
27 applies to the reserve margin. Energy efficiency is an effective, less costly alternative.

28 **Q. Has IPL adequately addressed the financial risks related to this plant?**

29 My prior testimony addresses four risk areas: rising construction costs, rising coal prices,  
30 an uncertain regulatory environment and a lack of demand for the electricity from the  
31 plant. IPL agrees that there are risks with the first three factors.

32 Mr. Hanley quoted extensively from reports by Standard and Poors and  
33 Moody's<sup>1</sup>: These reports place the three interrelated problems in a context for regulators.  
34 From Moody's:

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

41  
42 Future costs related to greenhouse gases would come on top of the significant  
43 capital many utilities are already investing to reduce emissions of mercury,  
44 nitrogen oxide and sulfur dioxide. While EPA-mandated rules relating to these  
45 pollutants are being challenged in the federal court system, many utilities foresee  
46 remediation costs that significantly exceed the agency's original estimates.

47  
48 Given the magnitude of these potential nondiscretionary environmental-related  
49 costs and the fact that electricity prices are rising throughout the country, electric  
50 utilities could face a daunting challenge in obtaining timely recovery of these  
51 costs through their respective regulatory rate-setting authorities. While Moody's  
52 believes that most commissions are likely to grant timely recovery of prudently  
53 incurred mandated environmental costs, the resulting increase in electricity prices  
54 may make recovery of other operating costs and capital investments more  
55 challenging. Such a scenario could cause negative rating actions within the sector.  
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<sup>1</sup> Hanley, Frank, Response to OCA Data Request 31, May 13, 2008.

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

58 Among the risks are that CO2 compliance costs could spiral out of control, those  
59 costs could be up for rate recovery at the same time that other expenses are rising,  
60 and the costs could then get “crowded out” if regulators try to ease customer rate  
61 shock. Any disallowance would not necessarily be explicit, since it is difficult  
62 and legally suspect to keep prudent, legislatively mandated costs out of rates. The  
63 real risk to credit quality is the prospect that CO2 compliance costs will be the  
64 proverbial straw that leads to harsh regulatory responses such as a disallowance or  
65 deferral because of cost pressures tied to commodity prices, more capital spending  
66 for basic reliability needs on the transmission and distribution system, and added  
67 construction costs for new generation to meet rising demand.... Clearly, the  
68 pursuit of a cooler planet will leave utilities sweating over the risk to their credit  
69 quality.

70  
71 This analysis strongly suggests that cumulative risk creates its own fundamental  
72 regulatory problem, and, as such needs to be treated as a separate credit matter. If the  
73 Board approves the IPL application without attention to this cumulative risk factor then it  
74 will absorb the risk and the thicket of regulatory questions that flow from them. IPL’s  
75 presentation regarding each individual risk factor shows why steps need to be taken to  
76 address the cumulative risk factor now.

77 Mr. Ott offers a defense of IPL’s contracting strategy as the best way to handle a  
78 rising cost environment. The contract discussion ends with one, basic, financial fact.  
79 There will be no final cost of construction on this project until well after the plant is  
80 operational. If the IUB accepts this arrangement, the chances that the cost cap will need  
81 to be revisited in a future proceeding increase. Mr. Ott’s testimony demonstrates that the  
82 market is not producing standard, fixed term contracts at a price that a buyer can accept.

83 During the last several years the majority of coal projects contracted on an EPC  
84 basis have been on a target priced, i.e. not a lump sum (full wrap, turnkey) EPC  
85 basis.

86  
87 This change has been due to a number of factors, which include the large  
88 magnitude of costs involved, the high material plant and equipment escalation  
89 being experienced in the world wide infrastructure and industrial equipment

90 markets and the increasing shortage of qualified technical and construction labor,  
91 all of which are make the option of obtaining lump sum contracts prohibitively  
92 expensive.<sup>2</sup>

93  
94 If the IUB accepts the cost cap, the rising price environment seems to suggest that one or  
95 more future proceedings will be necessary to address the likelihood of legitimate costs  
96 incurred above the cap. The price of construction is likely to rise (see Synapse below). If  
97 the IUB does not accept the cost cap as part of the principles, then the full construction  
98 cost issue can be decided at a later date. The hard facts of financial uncertainty that are  
99 today's reality make rejection of the cost cap a fully justifiable position for the IUB. On  
100 the other hand, these hard facts also make it clear that this proceeding will ultimately do  
101 little to offer consumers or IPL any real certainty about the final financial outcome of this  
102 plant's construction and operation. One must possess a very clear idea of the future  
103 regulatory docket to conclude that approval of this plant, at this time, will be manageable.

104 If the IUB accepts the IPL contract as part of its deliberations, it does so in an  
105 environment where forward-looking statements remain worrisome. A study<sup>3</sup> released in  
106 July 2008 summarizes the current outlook for the production of coal -fired power plants.

107 Construction cost estimates for new coal-fired power plants are very uncertain  
108 and have increased significantly in recent years. The industry is using terms like  
109 "soaring", "skyrocketing," and "staggering" to describe the cost increases being  
110 experienced by coal plant construction projects. In fact, the estimated costs of  
111 building new coal plants have reached \$3,500 kw, without financing costs. This  
112 would mean a cost of well over \$2 billion for a new 600 MW coal plant when  
113 financing costs are included. These cost increases have been driven by worldwide  
114 competition for power plant design and construction resources, commodities,  
115 equipment and manufacturing capacity.....

116  
117 Indeed, there is no reason to expect that the worldwide competition for resources  
118 or the existing supply constraints and bottlenecks affecting coal-fired plant  
119 construction costs will clear anytime in the foreseeable future....

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<sup>2</sup> Ronald Ott, Testimony RPU-08-01, July 31, 2008 . 6-7.

<sup>3</sup> Synapse Energy Economics, Inc., *Coal-Fired Power Plant Construction Costs*, July 2008.

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121 Other state utility regulators are responding to this situation by refusing to grant permits  
122 for new coal-fired generation facilities. In a proceeding with many parallels to this one,  
123 the Virginia State Corporation Commission in April 2008 denied the request of  
124 Appalachian Power Company (ApCo) to build an integrated gasification combined cycle  
125 coal-fired power plant in West Virginia. The Commission found that the proposal was  
126 neither “reasonable” nor “prudent”. In its order denying the request to build the new coal-  
127 fired power plant, the Virginia Commission also found that the Company’s cost estimate  
128 for the project was not credible and that the Company had not updated its cost estimate  
129 since November 2006. The Commission further noted that the Company (“APCo”) will  
130 not obtain actual or firm prices for components of the project until after receiving  
131 regulatory approval. The ApCo proposal included carbon capture technology that IPL  
132 claims it will install at SGS 4 at an unknown future date and at unknown cost.

133 The Virginia Commission opinion reflects one regulatory response to the  
134 fundamental financial facts in this matter.<sup>4</sup> The cost of construction of new plants is  
135 currently high. The price is likely to continue to rise. Standard contracting methods that  
136 control costs are not governing the transaction. Settlement of final costs will occur after  
137 regulatory approvals. While the Virginia Commission referred to the application before  
138 them as a “blank check”, the facts in this matter would perhaps more aptly be referred to  
139 as a “blank change order”.

140 The IPL application acknowledges the second risk factor -- a rising price  
141 environment for coal. Its method for dealing with the problem is to use a highly  
142 questionable model offered by the Energy Information Administration to substantiate

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<sup>4</sup> Final Order of the Virginia State Corporation Commission, in Case PUB 2007-00068, April 14, 2008.

143 lower out year costs than market indicators are showing. IPL ignores the analysis and  
144 support offered for higher out year costs for the price of coal in my prior testimony.

145 The analysis bears repeating as the credit agencies are expressly concerned about  
146 rising operating costs and their potential for crowding out other costs when regulatory  
147 dockets collide with the realities of new coal plant financial risk.

148 Arch Coal, the second largest producer of coal in the United States, has seen a  
149 73% increase in the price of PRB coal over the last year.<sup>5</sup> Peabody Energy reports a rise  
150 in PRB prices of 155% since the beginning of 2007.<sup>6</sup> Arch Coal attributes the rise in  
151 prices to rising export demand on eastern basin coal that is results in greater use of PRB  
152 coal from states east of the Mississippi.<sup>7</sup>

153 Recent dramatic increases in the price of Central Appalachian, Northern  
154 Appalachian and Illinois Basin Coal have set new ceilings for the per ton cost of coal.  
155 According to the Energy Information Agency. One year ago (the week of June 20, 2007)  
156 Central Appalachian coal sold on the spot market for \$44.60, this week June 20, 2008 the  
157 price is \$117.60, Northern Appalachian Coal was \$45.15 per ton, this week June 20, 2008  
158 the price is \$118.00.<sup>8</sup> One analyst covering coal price quotes Steven Leer, CEO of Arch  
159 Coal:

160 We certainly expect it (an increase in PRB prices) to happen. We have tracked  
161 pricing in previous run-ups. What we see is that every price increase starts in  
162 Central Appalachia moves to Northern Appalachia, moves to the Western  
163 bituminous region and then to PRB. Each increase that has occurred since 2001

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<sup>5</sup> Arch Coal, 8K Filing, June 19, 2008, slide 22.

<sup>6</sup> Vic Svec, Senior President for Investor Relations and Corporate Governance, Peabody Energy, *The New BTU*, Basic and Industrial Conference, June 3, 2008.

<sup>7</sup> Arch Coal, *Op Cit*, slides: 6,7, 11,12,14 and 15.

<sup>8</sup> Energy Information Agency, Price of Coal on Spot Market, week of June 22, 2007 and June 28, 2008 respectively.

164 has seen the spike much higher than the previous one and the valley much higher  
165 than the previous one.”<sup>9</sup>

166  
167 The futures price of PRB coal for 2011 on June 26, 2008 is \$22.15 per ton<sup>10</sup>. For IPL’s  
168 estimate to be correct, prices for PRB would have to rise an anemic 10% from 2011-13.  
169 This is highly unlikely.

170 Given the market changes that are occurring in the coal industry, the more likely  
171 scenario is an annual 20% rise in prices from 2011-2013. The consequence of this trend  
172 would be a per ton price for coal closer to \$35 (if not higher). IPL’s assumption reflects a  
173 considerably lower price.

174 Mr. Hillberry provides data from the Energy Information Administration (EIA),  
175 Energy Outlook 2007.<sup>11</sup> The title of the subsection to the Energy Outlook is “Fuel Costs  
176 Drop from Recent Highs, then Increase Gradually”. The report then goes on to state:  
177 “Coal prices to the electric power sector remain relatively low, peaking at \$1.71 per  
178 million BTU in 2010, falling to \$1.69 per million BTU in 2018, and remaining at that  
179 level through 2030.”

180 A recent study by the Western Resources Advocates<sup>12</sup> offers some insight into the  
181 forecasting models developed by EIA:

182 Inherent in the risk associated with fuel price changes is the inability to reliably  
183 project future fossil fuel prices. The Energy Information Administration  
184 conducted a review of its forecasts and found that, for long-term forecasts made  
185 from 1982 through 2006, the average absolute error (comparing forecasted prices  
186 and actual prices) for coal prices paid by electrical generating plants was about  
187 47% and that natural gas wellhead prices was about 64% --- both enormous  
188 forecasting errors.

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<sup>9</sup> Coal and Energy Report (CER), June 27, 2008, Volume 10, No. 124, p. 1.

<sup>10</sup> CER, *Ibid*, p. 6.

<sup>11</sup> Hillberry Response to OCA Data Request No. 54, Attachment B, page 7 of 7.

<sup>12</sup> Western Resources Advocates, *A Clean Electric Strategy for Arizona*, February 7, 2008. 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.

189 At minimum, in a volatile price environment, a more robust discussion of future coal  
190 costs would improve the basis for the Board's decision making.

191 The third factor, the future cost of new carbon rules, represents another large  
192 unknown cost. In this round of testimony, IPL's representatives offer no new information  
193 or analysis to address the issues. The financial data provided in the Bechtel study  
194 suggests a new carbon regime could add between 60 and 100 percent to the cost of  
195 electricity from the plant.<sup>13</sup>

196 The Standard and Poors and Moodys analysis is pointing to the problem of  
197 cumulative risk --- the likelihood that a number of factors will converge at once to create  
198 a negative credit environment. The underlying issue for the rating agencies is the  
199 increasingly constrained set of choices for public service commissions like the Iowa  
200 Utilities Board.

201 IPL's application offers a cost cap, backed by a construction contract with no firm  
202 upward limit in a rising cost environment. It offers one picture of coal costs in an  
203 environment that is experiencing large, upward, volatile swings in price. And, it offers a  
204 level of regulatory uncertainty on the carbon issues, that could double the cost of  
205 electricity.

206 **Q. IPL has criticized your view of its forecasting model, do you have anything**  
207 **further to offer?**

208 Yes. My evaluation of the model has been to test its authenticity using independent  
209 information. Forecasting models are self-contained instruments with complex  
210 assumptions driving each factor. For the purposes of regulatory decision-making, the

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<sup>13</sup> See Sanzillo Testimony RPU-08-01, Table I, page .

211 model should yield information that not only serves the purpose of the applicant, but also  
212 offers a realistic picture of the environment it is describing.

213 I offer again the formulation from my earlier testimony. The best available data is  
214 showing that population will decline just as the plant becomes operational.

215 According to the U.S. Census Bureau's Population Division, Iowa's population is  
216 projected to grow a total of only 1 percent annually between 2000 and 2030,  
217 placing Iowa 48<sup>th</sup> in the nation in projected population growth and well below the  
218 29.2 percent population increase projected for the national as a whole over that  
219 period. From 2010 to 2030, the out-year of the Census Bureau projection, Iowa's  
220 population is actually projected to experience a net decline of 1.8 percent, or  
221 approximately 55,000 residents.<sup>14</sup>  
222

223 Although this formulation may seem simple, if there are fewer people in the service area,  
224 there are fewer customers. Fewer customers, in this instance, means less demand for  
225 electricity. It certainly suggests lower economic activity.

226 In prior testimony, both IPL and the Coalition have offered the Institute for  
227 Economic Research's work regarding Iowa's economy. The critical factor for future  
228 demand that could offset a loss of population, might be an intensified need for electricity  
229 from the manufacturing sector. The data has consistently shown a projected decline in the  
230 State's manufacturing base. The most recent report of the Institute projects declines  
231 through 2009.<sup>15</sup>

232 In rebuttal testimony for Docket GCU-07-01, it was suggested that for IPL's  
233 forecast to be credible in the face of a declining manufacturing base their analysis would  
234 have to show: a) concrete evidence of growth of the manufacturing sector in its service  
235 area; b) how those increases offset the projected losses from generalized decline; and, c)

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<sup>14</sup> Sanzillo, Rebuttal Testimony, Docket No. GCU-07-1,

<sup>15</sup> Institute for Economic Research, Henry B. Tippie College of Business, University of Iowa, Forecast:  
2008 II – 2009-IV, Table 7 Annual Iowa Employment, p. 11.

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236 how those increases served to bolster demand to substantiate the overall load forecast.

237 Mr. Hillberry's responses, are, at best, anecdotal.

238 IPL's criticisms of my work are largely technical. Forecast models, contracting  
239 strategies and planning that offers a partial range of choices cannot make up for the hard  
240 financial facts that currently exist regarding the construction and operation of new coal  
241 plants and the reality of future demand for electricity in Iowa.

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

243 A. Yes.