

STATE OF ILLINOIS
BEFORE THE ILLINOIS COMMERCE COMMISSION

North Shore Gas Company)	
)	
The Peoples Gas Light and Coke Company)	
)	
)	Docket Nos. 09-0436, 09-0437
)	(Cons.)
Petition Pursuant to Rider EEP of)	
Schedule of Rates for Gas Service to)	
Initiate a Proceeding To Determine the)	
Accuracy of the Rider EEP)	
Reconciliation Statement)	

SURREBUTTAL TESTIMONY OF

JOHN J. PLUNKETT

PRESIDENT

GREEN ENERGY ECONOMICS GROUP, INC.

ON BEHALF OF

THE PEOPLES GAS LIGHT AND COKE COMPANY

AND NORTH SHORE GAS COMPANY

SEPTEMBER 2, 2010

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1 **I. INTRODUCTION**

2 **A. Identification**

3 **Q. Please state your name.**

4 A. I am John J. Plunkett.

5 **Q. Are you the same John J. Plunkett who previously testified in this**
6 **proceeding?**

7 A. Yes.

8 **Q. On whose behalf are you testifying?**

9 A. My testimony is sponsored by The Peoples Gas Light and Coke Company
10 (“Peoples Gas”) and the North Shore Gas Company (“North Shore”) (together the
11 “Utilities”).

12 **B. Summary**

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

14 A. My testimony refutes Staff witness David Brightwell’s rebuttal testimony that the
15 Utilities were imprudent in their decision to provide financial incentives for three
16 efficiency measures that were not cost-effective under the Total Resource Cost
17 (“TRC”) test and that they should be denied cost recovery for the incentives paid to
18 customers.

19 **Q. Summarize your response to Dr. Brightwell’s rebuttal testimony.**

20 A. Dr. Brightwell’s rebuttal testimony provides more evidence that he is seeking to
21 “sustain” “imprudence ... by substituting one’s judgment for that of another. The
22 prudence standard recognizes that reasonable persons can have honest

23 differences of opinion without one or the other necessarily being ‘imprudent.’¹ He
24 disagrees with the reasons behind the Chicagoland Governance Board’s decision
25 to offer consumer financial incentives for Energy-Star clothes washers, tankless
26 water heaters, and contractor-installed wall insulation in the initial launch of a multi-
27 year program portfolio because of their marginal individual cost-effectiveness. As
28 explained in the Utilities’ rebuttal testimony, providing incentives for these
29 measures in the “quick launch” timed to meet the 2009 heating season would raise
30 long-term benefits from a multi-year portfolio designed to raise awareness and
31 future market shares of high-efficiency appliances and products. Dr. Brightwell
32 insists that further research and analysis should have been conducted and
33 documented before deciding to include the three measures. These are differences
34 of professional opinion between Staff and the Governance Board’s experienced
35 program design team; they do not qualify, under the Illinois Commerce
36 Commission’s (“Commission”) standard, as imprudence.

37 My surrebuttal testimony demonstrates that Dr. Brightwell’s vision of how the
38 two cost-effectiveness tests recognized by this Commission should be applied is
39 not the most reasonable way to value energy-efficiency in program planning or
40 evaluation. I also correct Dr. Brightwell’s characterization of my rebuttal testimony
41 regarding clothes washers, tankless water heaters, and wall insulation, as well as
42 the likely adverse consequences from imposing the disallowance he recommends.
43 Finally, Dr. Brightwell provided no evidence contradicting my testimony that his

¹ ICC Docket No. 84-0395, Order (Oct. 7, 1987) at 17.

44 recommended disallowance fails to subtract the benefits resulting from the rebates
45 paid.

46 Q. Are you including any attachments with your testimony?

47 A. Yes, exhibit NS-PGL Ex. 7.1, which is entitled "TRC with Increased Wall Insulation
48 Costs."

49 **II. DISCUSSION**

50 **Q. Do you agree with Dr. Brightwell's assertion at lines 13-14 of his rebuttal
51 testimony that the three measures were not economically justified?**

52 A. No. From the ratepayer perspective, the Governing Board has demonstrated
53 through the program administrator cost ("PAC") test the measures were cost-
54 effective. I also disagree with his contention that the measures were not
55 economically justified from the perspective of total resource costs because the
56 cost-effectiveness analysis excluded real if unquantified benefits to consumers and
57 to the program portfolio's future economic performance.

58 **Q. What is wrong with Dr. Brightwell's testimony that financial incentives for the
59 three efficiency measures in question were not economically justified?**

60 A. Such a sweeping conclusion is premature in the extreme because it is simply not
61 appropriate to judge the performance of a multi-year efficiency program investment
62 portfolio solely on the cost-effectiveness of its first six months of activity.

63 The Chicagoland program was launched to customers through the January
64 2009 bill insert cycle. The period covered by this first reconciliation is through
65 June 30, 2009. The Governance Board made decisions and expenditures during
66 the first six months that in its judgment would contribute to the long-term success

67 of the portfolio. Much of these costs, such as program design and development,
68 are obviously front-loaded, with their future benefits to the portfolio extending
69 years.

70 Dr. Brightwell's rebuttal testimony on the subject of marketing benefits from
71 including high-efficiency clothes washers in the program exemplifies the flaw in his
72 rationale. He states, "[i]f there is any marketing benefit, it is more than offset by
73 the fact that 40 to 50 percent of the savings claimed by the program would have
74 occurred in the program's absence." (p. 20, lines 426-428) This statement
75 mischaracterizes Utilities' witness Ms. Beitel's testimony. The marketing benefit
76 refers to the benefit not just for clothes washers, but for all measures, using a
77 marketing channel (retailers) that had already been well-developed by the electric
78 efficiency programs. The market share of the clothes washers prior to the
79 program's existence is irrelevant to the marketing benefit that the program design
80 team sought by including clothes washers as a measure and promoting the clothes
81 washers and the Chicagoland suite of measures through the retailer channel to
82 raise awareness of gas efficiency program offerings newly offered through
83 Chicagoland.

84 **Q. Is it true, as Dr. Brightwell testifies, that the portfolio-level cost-effectiveness**
85 **standard you recommend in your rebuttal testimony is inappropriate?**

86 A. No. The approach to cost-effectiveness analysis that I recommend and that the
87 Governance Board followed is consistent with the approach adopted by this
88 Commission and by regulators in other jurisdictions. It involves both the TRC test
89 and the PAC test to assess cost-effectiveness. Both tests apply at all three levels

90 – to individual measures to consider for inclusion in a program; for the program
91 including multiple measures and customers, and for the portfolio of programs. This
92 combined approach enables program administrators to achieve economic benefits
93 for both the economy and to customers from the entire portfolio investment. This
94 is consistent with the standard practice manual California regulators adopted for
95 demand-side management cost-effectiveness analysis: “The tests set forth in this
96 manual are not intended to be used individually or in isolation. ... This multi-
97 perspective approach will require program administrators and state agencies to
98 consider tradeoffs between the various tests.”²

99 Explaining the strengths of the PAC test, the California Standard Practice
100 Manual states that “[i]n contrast to the Total Resource Cost test, the Program
101 Administrator Test includes only the portion of the participant's equipment costs
102 that is paid for by the administrator in the form of an incentive. Therefore, for
103 purposes of comparison, costs in the Program Administrator Cost Test are defined
104 similarly to those supply-side projects which also do not include direct customer
105 costs.”³

106 **Q. Do you agree with Dr. Brightwell’s assertion, at lines 91-92 in his rebuttal**
107 **testimony, that the PAC test should only be used to set rebate levels once**
108 **the TRC test is used to determine there is value to society?**

² California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002, p. 6.

³ *Id.*, p. 24.

109 A. No, the PAC test, as set forth in the California Standard Practice Manual, is used
110 to assess economic benefits from the perspective of ratepayers. The TRC test, on
111 the other hand, is used to assess economic benefits from the perspective of
112 society. Both tests exclude attributes that are not readily quantifiable but can
113 nevertheless be important and valid considerations in purchasing an efficiency
114 measure (from the customer's perspective) or including the measure in an energy
115 efficiency portfolio (from the program design/implementation team's perspective).
116 Both tests can and should be used in designing and administering programs and
117 portfolios.

118 **Q. Do you agree with Dr. Brightwell's assertion at lines 61 to 64 of his rebuttal**
119 **testimony that the PAC test does not provide a reliable indicator of the**
120 **economic benefits of a measure because it ignores all costs to society not**
121 **borne by the administrator of the program?**

122 A. No, both the PAC and the TRC tests measure economic benefits, but from different
123 perspectives. Both can and should be used in designing, implementing and
124 administering energy-efficiency program portfolios. Both have strengths and
125 limitations, so neither should be used as a "litmus test" in isolation to determine
126 whether a measure should reasonably be included in an energy efficiency program
127 or portfolio.

128 **Q. Wouldn't this approach justify including any measure, regardless of its cost-**
129 **effectiveness under the TRC, as Dr. Brightwell testifies?**

130 A. No. Dr. Brightwell testifies that one could use the PAC test to set incentives so low
131 that uneconomic efficiency measures could be justified. His claim that "nearly

132 anything can be economically justified to include in a program” (p. 4, lines 66-67) is
133 simply not true. Setting a low financial incentive for a measure to make it “pass”
134 the PAC test at the measure level would invariably lead to little or no additional
135 customer acceptance of the measure, and consequently no increase in benefits
136 compared to no program at all under either test. In his example, no additional TRC
137 or PAC net benefits would result from the incentive, so this option would not be
138 favored under proper application of the tests at the program level. By using the
139 two tests together, program administrators can compare how much additional net
140 societal and customer benefits can be achieved by increasing or decreasing
141 incentives based on higher or lower acceptance rates.

142 **Q. Explain how the PAC test is useful in designing a program to maximize**
143 **benefits to customers.**

144 A. This is easily done using Dr. Brightwell’s example of widgets and gadgets, using
145 Energy Star storage water heaters and tankless water heaters instead. The
146 utilities offered up to a \$140 as an incentive for Energy Star storage water heaters
147 that save 19 therms/year. The present worth of customer benefits of these savings
148 is \$143. The utilities also offered a \$400 incentive for tankless water heaters that
149 save 78 therms/year. These savings are worth \$762. The net savings to
150 customers for each tankless water heaters is \$362 – the \$762 PAC benefits minus
151 the \$400 incentive; customer savings from the Energy Star storage water heaters
152 are only \$3 – the \$143 PAC benefit minus the \$140 incentive. The tankless
153 alternative thus provides far more benefits to customers than the Energy Star
154 storage water heater option. Despite its marginal cost-effectiveness under the

155 TRC at the outset, including the tankless water heater added to the customer
156 benefits realized in the first six months of the program.

157 **Q. Is Dr. Brightwell correct that all that matters when determining whether to**
158 **include a measure in a program is TRC cost-effectiveness results for a**
159 **measure installed at the outset of a program?**

160 A. No. At pages 5 to 6, lines 106 to 111, Dr. Brightwell insists again a measure is only
161 cost-effective if its TRC benefits exceed costs if installed “today”. It is entirely
162 reasonable that a marginally cost-effective measure in the early stages of a multi-
163 year program will become more cost-effective in the future. Having limited the
164 cost-effectiveness analysis period for the quick-launch programs to only four
165 months, it was not possible for the Governance Board to model the effects of
166 future cost expectations beyond this brief period. In my experience with multi-year
167 program planning, the first year of a program’s operation is rarely expected to be
168 cost-effective for two reasons – first because program development and marketing
169 costs occur at the front end, and second because participation has not a chance to
170 “take off” as awareness and interest builds over time. Never have I seen any
171 regulator judge a portfolio’s performance solely on the strength of its first six
172 months of operation.

173 **Q. Does Dr. Brightwell acknowledge that the unquantified benefits of high-**
174 **efficiency may be legitimate?**

175 A. Yes. He acknowledges that “non-quantifiable benefits, market transformation, or
176 marketing of the energy efficiency program” may be “valid considerations.” (p. 9,
177 lines 185-187). He testifies further that “the problem is that the Chicagoland Board

178 and its management team appears to have relied on conjecture rather than valid
179 analysis to determine if any of these reasons apply for any of the measures in
180 question.” (p. 9, lines 187-190)

181 **Q. Is that a valid criticism?**

182 A. No. The Governance Board decided to launch the portfolio in time to reach the
183 market during the 2009 winter heating season to provide therm savings when they
184 are needed most – in the winter. The considerations cited in my testimony and in
185 that of Ms. Beitel led the Governance Board to include these measures with the
186 rest of those targeted by the programs. It would not have been reasonable to
187 delay launching of a comprehensive portfolio and undisputed economic and
188 customer benefits to accommodate additional research and analysis, such as that
189 described by Dr. Brightwell on page 22, lines 460 through 464, of his rebuttal
190 testimony. The team who designed the programs and portfolio included
191 experienced professionals from two leading energy efficiency jurisdictions
192 (California and Vermont), plus seasoned, experience efficiency professionals from
193 Chicago (Midwest Energy Efficiency Alliance and Center for Neighborhood
194 Technology) familiar with local and Midwestern conditions. The team performed
195 measure, program and portfolio-level economic analysis using local data where
196 readily available, and considered measures and incentive levels in other
197 Midwestern jurisdictions before finalizing its program design recommendations.

198 **Q. What was Dr. Brightwell’s response to your concern that excluding measures**
199 **on the basis of a single-year’s cost-effectiveness analysis would jeopardize**

200 **the long-term business relationships between the Utilities and supply chain**
201 **for efficient products?**

202 A. He did not address this issue directly. By failing to do so, he ignores the value of
203 consistent and coordinated program designs across the Utilities offering programs
204 targeting the same markets. It would not be practical for the Utilities to sustain
205 productive business relationships with trade allies and other utilities if they were
206 required to delete measures, which are likely to add positive benefits to the
207 portfolio over time, from programs because of year-to-year variations in measure
208 cost-effectiveness analysis.

209 **Q. Was your testimony that financial incentives for high-efficiency clothes**
210 **washers will promote market transformation inconsistent with your**
211 **testimony that market transformation in the past has lowered their costs, as**
212 **Dr. Brightwell alleges?**

213 A. No. Despite the history of cost reductions due to previous market intervention
214 elsewhere in the country, the Chicago-area market for Energy Star washers is far
215 from transformed. Indeed, the attachment to Dr. Brightwell's rebuttal testimony
216 states that the 40% market penetration of this technology in the Chicago area is far
217 below that in the Northeast, West, and elsewhere in the Midwest due to the
218 absence of efficiency programs here.⁴ Moreover, the DOE material attached to Dr.
219 Brightwell's rebuttal testimony also states that tightening federal standards are
220 about to lower the market penetration of qualifying equipment. Thus, it is entirely
221 reasonable to expect that market intervention is warranted over the years ahead to

⁴ Brightwell rebuttal, Attachment C, NS-PGL 0000039

222 stimulate demand for high-efficiency washers, and that the price premiums will
223 continue to decline accordingly in the future.

224 **Q. Dr. Brightwell repeatedly testifies that the market transformation effects of**
225 **the programs are non-existent because of the small number of products sold**
226 **during the reconciliation period. Is this a valid observation?**

227 A. No. Nowhere has the Governance Board claimed that the programs would
228 achieve volumes in the six months of program activity sufficient to transform
229 markets. Market transformation occurs over a period of years and in coordination
230 with national and regional efforts rather than one program acting independently.

231 **Q. Do you agree with Dr. Brightwell's characterization of the cost-effectiveness**
232 **of wall insulation?**

233 A. No, the TRC cost-effectiveness result for this measure was not definitive for long
234 run program planning because it does not reflect the uncontested but unquantified
235 consumer value of increased comfort. Nor does it recognize that currently, wall
236 insulation is not commonly installed in Chicago homes. As I testified on rebuttal,
237 New England's experience showed that wall insulation costs could be expected to
238 come down over time as installation techniques become more widely practiced by
239 contractors. Finally, there is still plenty of time for the program administrator to
240 refine the program design and marketing approach to improve the cost-
241 effectiveness of including wall insulation. It was therefore entirely reasonable for
242 the Utilities to offer consumer financial incentives for this measure as part of the
243 initial program offering that already included incentives for attic insulation, which is
244 indisputably highly cost-effective under the TRC.

245 **Q. Dr. Brightwell claims that if the original cost-effectiveness analysis had**
246 **assumed wall insulation costs to be \$1.22 per square foot instead of \$0.35**
247 **per square foot that it would have caused the whole portfolio to not be cost**
248 **effective. Do you agree with this hypothetical?**

249 A. No. Dr. Brightwell appears to have made an error in his calculations. When I tried
250 to replicate Dr. Brightwell's hypothetical, I calculated that the portfolio TRC would
251 have only declined to 1.17 and would therefore still be cost effective.

252 **Q. How did you reach this result?**

253 A. I began with the incremental measure costs of \$110,741 for wall insulation as
254 shown in Attachment A of Dr. Brightwell's rebuttal testimony. If the costs would
255 have been \$1.22 per square foot instead of \$0.35 per square foot, then the costs
256 would have increased by 349% and total \$386,013, or an increase of \$275,272.
257 The portfolio benefits would remain unchanged at \$6,518,469 and the
258 administrative costs would remain unchanged at \$1,119,618. The new portfolio
259 incremental measure costs would be the total of the original \$4,198,384 plus the
260 additional \$275,272 for the increase in wall insulation costs, which is \$4,473,656.
261 The new total TRC costs would be \$5,593,274 – the total of \$1,119,618
262 administrative costs plus the new incremental measure costs of \$4,473,656. The
263 TRC would then be \$6,518,469 divided by \$5,593,274, or 1.17. These
264 computations are presented in detail in exhibit NS-PGL Ex. 7.1, TRC with
265 Increased Wall Insulation Costs.

266 **Q. Even if it were correctly calculated, is Dr. Brightwell's scenario reasonable**
267 **for assessing the potential portfolio performance risk from including**
268 **measures with TRC benefit/cost ratios less than one?**

269 A. No, it is not. Once again, Dr. Brightwell confines the scope of his analysis to less
270 than a single year of results from a multi-year portfolio investment. As I testified
271 before, it is not appropriate to pass judgment on a multi-year portfolio's
272 performance based on the first six months of results. Showing what would happen
273 under hypothetical circumstances involving triple the actual program activity for the
274 period further undermines the legitimacy and relevance of his scenario.

275 **Q. Do you agree with Dr. Brightwell's testimony that "[t]he Commission should**
276 **also make it clear that measure level-cost-effectiveness analysis under the**
277 **TRC test is expected." (p. 21, lines 450-451)?**

278 A. Of course I agree that TRC cost-effectiveness analysis should be conducted at the
279 measure level when planning demand side management ("DSM") programs. In
280 fact, The program design team did conduct measure level cost-effectiveness using
281 both the TRC and PAC test. What I disagree with is the highly restrictive way that
282 Dr. Brightwell is asking the Commission to require program administrators to apply
283 TRC cost-effectiveness test results in deciding whether to promote particular
284 efficiency measures in a program. The Utilities have provided ample justification
285 for their consideration of consumer value and benefits to future program portfolio
286 performance in deciding to include these three measures in the program that were
287 not quantified in the TRC calculation but are nonetheless real and significant.

288 **Q. What are the origins of consumer value for the three measures not counted**
289 **in the TRC calculations?**

290 A. As explained in more detail in the Utilities' rebuttal testimony,

- 291 1. High-efficiency clothes washers are gentler on clothes, improving their
292 comfort and appearance and extending their wearable life expectancies.
- 293 2. Tankless water heaters take up less space and deliver hot water on demand.
- 294 3. Wall insulation makes occupants feel more comfortable.

295 In addition, providing incentives for products that provide consumer value can
296 build consumer awareness and support for other efficient products over time.

297 **Q. Why was additional consumer value beyond energy savings so critical to**
298 **marketing high-efficiency measures in the quick-launch program portfolio?**

299 A. The non-energy benefits of high-efficiency clothes washers and tankless water
300 heaters help overcome negative expectations and view of efficiency created by
301 previous customer experience with inferior high-efficiency products, such as early-
302 stage compact fluorescent lamps (CFLs) that had some performance issues. By
303 emphasizing products with tangible consumer value beyond energy savings, the
304 program is designed to build consumer and supplier acceptance of energy-efficient
305 product alternatives.

306 **Q. What jurisdictions use the portfolio-level TRC analysis that you recommend?**

307 A2: In addition to Illinois (the standard the Commission adopted for the electric
308 efficiency programs), California, Massachusetts, Connecticut, Vermont, and the
309 Ohio Public Utilities Commission ("Ohio PUC") have all adopted this approach in
310 judging the cost-effectiveness of DSM investments. In its rules guiding utility

311 portfolio planning, the Ohio PUC states: “Each electric utility shall demonstrate that
312 its program portfolio plan is cost-effective on a **portfolio basis**. [emphasis added]
313 In general, each program proposed within a program portfolio plan must also be
314 cost-effective, although each measure within a program need not be cost-effective.
315 However, an electric utility may include a program within its program portfolio plan
316 that is not cost-effective when that program provides substantial non-energy
317 benefits.”⁵

318 **Q2: What is your response to Dr. Brightwell’s testimony that a finding of**
319 **imprudence in this case would have no deleterious effect on future utility**
320 **investment in energy-efficiency?**

321 A. Dr. Brightwell is mistaken. The Governance Board made a good-faith effort to
322 design and implement a portfolio that would produce economic value to
323 Chicagoland and their customers. This effort followed best practices used by other
324 utilities in Illinois and elsewhere. In addition to cost-effectiveness analysis under
325 both tests recognized by this Commission, the Governance Board considered
326 numerous factors that were not amenable to ready quantification under the TRC
327 test, particularly in the time available to get the programs “on the street” in time for
328 the 2009 winter season.

329 With the lone exception of the gas-pressure issue regarding tankless water
330 heaters in Peoples Gas’ service territory, Dr. Brightwell has uncovered no new
331 relevant information or evidence that was unknown to the design team at the time
332 these decisions were made. His assertion that the Governance Board somehow

⁵ Ohio PUC, Program Portfolio Plan and Filing Requirements, 4901:1-39-04, p. 5, Section (B).

333 failed to engage in “due diligence” prior to launching the portfolio is unfounded.
334 His insistence on a rush to judgment on portfolio economic performance before the
335 results are in from front-loaded expenditures is patently biased against a fair and
336 reasonable assessment of the cost-effectiveness of the portfolio.

337 Were the Commission to impose the disallowance according to Dr.
338 Brightwell’s recommended cost-effectiveness standard, it would discourage the
339 Governance Board and other program administrators in Illinois from taking
340 aggressive steps to maximize long-term benefits from their investments. They
341 would take no chances on front-end investments that do not promise to pay off
342 within the first year of program implementation. The fact that Illinois law now
343 requires utilities to pursue cost-effective efficiency investment does nothing to
344 encourage utilities to do the best job they can to maximize cost-effective savings
345 from multi-year program investments. On the contrary, a disallowance based only
346 on a single – and the first -- year’s results will lead utilities to pursue only those
347 highly certain, quick-payoff opportunities. This would, in term, lead to lower levels
348 of cost-effective gas savings to customers over the long term.

349 **Q. What was Dr. Brightwell’s response to your testimony that the proper**
350 **calculation of how much of the costs to disallow?**

351 A. He provided no evidence to refute my testimony that if in fact the financial
352 incentives were not economically justified, the amount of the disallowance should
353 be limited to the difference between the estimated benefits of the expenditures and
354 the expenditures themselves. This would be the alleged “loss” that would need to
355 be refunded to customers, not the entire amount of the expenditures. As I testified

356 originally, this would only be around 10% of the rebate expenditures for clothes
357 washers and tankless water heaters, and up to two thirds of the wall insulation
358 rebates paid to contractors.

359 **Q. Does this complete your surrebuttal testimony?**

360 A. Yes, it does.