

**ILLINOIS COMMERCE COMMISSION**

**DOCKET NO. 11-0341**

**REBUTTAL TESTIMONY**

**OF**

**DR. JOHN CHAMBERLIN**

**Submitted On Behalf**

**Of**

**AMEREN ILLINOIS COMPANY  
d/b/a Ameren Illinois**

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1 I. Introduction

2 **A. Witness Qualifications**

3 **Q. Please state your name and business addresses.**

4 **A.** My name is John Chamberlin. My business address is 1720 E. Main Street, Reedsburg,  
5 Wisconsin 53959.

6 **Q. Please summarize your professional and educational experience.**

7 **A.** I am a senior advisor to Pacific Economics Group Research (PEG). Prior to joining PEG I  
8 was a principal with the Cadmus Group, where I was responsible for utility rates, cost of  
9 service, and financial planning work. The Cadmus Group acquired my former company,  
10 Quantec, LLC, a leading energy efficiency planning and evaluation firm, in 2008. Prior to  
11 joining Quantec in March 2003, I was with KEMA Management Consulting, formerly  
12 XENERGY, Inc, a California based energy efficiency firm. Before that, I was Vice President,  
13 Strategy and Planning at PG&E Energy Services, where I led development of market entry  
14 and evaluation models, assessed product profitability, and evaluated the economic and  
15 financial aspects of regulatory and market rules, among other things.

16 I joined PG&E Energy Services following the 1997 sale of the consulting company I co-  
17 founded: Barakat and Chamberlin, Inc. (BCI). This 150-person firm was a national leader in  
18 utility energy efficiency and rate consulting for more than ten years. At BCI, I led the electric  
19 utility consulting practice, and personally managed numerous rate, cost of service and  
20 related assignments for utilities throughout North America.

21 **Q. Please summarize your background and experience in the development of**  
22 **energy efficiency plans, and cost effectiveness analysis for energy efficiency**  
23 **programs.**

24 **A.** I was one of the early developers of methods to identify, plan, and evaluate energy  
25 efficiency (EE), load management and price response programs. For example, I authored a  
26 number of the “grey books” published as part of the EPRI/EEI Rate Design Study in the  
27 early 1980s, including “Cost Benefit Methodology for the Evaluation of Load Management  
28 Options.” I was also the principle author of EPRI’s End Use Technical Assessment Guide,  
29 which was an early attempt to establish a set of standards for, among other things, cost  
30 benefit analysis for EE programs. I was also an early developer of a comprehensive  
31 approach to the development of DSM plans. I have developed DSM plans for numerous  
32 utilities throughout North America and am the author of four books (three of them on DSM  
33 planning and evaluation methods), dozens of published articles and hundreds of  
34 presentations on DSM and EE planning and implementation methods, IRP methods and  
35 results, utility rate design, costs of service and related issues. Much of my work has been  
36 used as industry guidance in developing, analyzing and evaluating energy efficiency  
37 programs. I hold a B.A. in Economics from California State University at Chico, as well as an  
38 M.A. and a Ph.D. in Economics from Washington State University.

39 **Q. Have you previously testified before utility regulatory commissions?**

40 **A.** I have appeared in more than 100 regulatory proceedings during the past 30 years, and  
41 have testified in several civil proceedings, and before several state legislative bodies. My  
42 testimony has focused upon EE planning and implementation, cost-effectiveness analysis,  
43 integrated resource planning (IRP), utility rates and cost of service, and utility policy issues.

44 **B. Purpose of Testimony**

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

46 **A.** On behalf of the Ameren Illinois Company (AIC), the purpose of my testimony is to discuss  
47 several issues raised by Illinois Commerce Commission staff witness Jennifer L. Hinman.

48 **Q. Please summarize the issues you will address.**

49 **A.** I will address two issues raised in Staff's testimony:

50 1) Staff recommends disallowing recovery of the program year 2 costs associated with the  
51 Small Business HVAC (SBHVAC) program. The recommendation is based upon an

52 erroneous interpretation of the relevance of the Total Resource Cost (TRC) test during the  
53 start-up period of energy efficiency programs and an incorrect application of the TRC test to

54 a program, rather than portfolio of programs. The recommendation is also apparently based  
55 upon several factual errors.

56 2) In addition, Staff recommends that the Commission issue a policy decision requiring that  
57 all programs within an energy efficiency portfolio continually pass the TRC test; that is, that

58 all programs demonstrate a TRC test value equal or greater than 1.0 (or, at least, that  
59 Ratepayer funds only be spent on programs in which the projected TRC benefits exceed the

60 projected TRC costs). I will testify that this requirement is inconsistent with the use of  
61 standard benefit/cost testing and would result in reduced energy efficiency benefits for

62 Illinois ratepayers.

63 **C. Attachments**

64 **Q. Are you attaching any exhibits to your testimony?**

65 **A.** Yes, Ameren Exhibit 5.1 is my resume.

66 **D. Recommendations**

67 **Q. Please summarize your recommendations for the Commission.**

68 **A.** As described in detail below I recommend that the Commission:

- 69 1) Deny Staff’s proposed adjustment to Rider GER recoverable costs;
- 70 2) Reaffirm the Commission’s position that energy efficiency cost effectiveness<sup>1</sup> should
- 71 be evaluated at the portfolio level during the planning stage; and
- 72 3) Affirm that the TRC test is not an appropriate tool for determining cost recovery.

73 **E. Testimony Organization**

74 **Q. How is your testimony organized?**

75 **A.** I first provide an overview of the role of cost effectiveness analysis in the development of EE

76 plans, and discuss several key issues involved in the application of the TRC test in

77 particular. Next, I discuss the importance of conducting cost effectiveness analysis at the

78 portfolio level, and explain why it is undesirable to require all programs to pass the TRC in

79 each year they are offered. Then, I discuss Staff’s recommendation to disallow PY2 costs

80 associated with the SBHVAC program, and show why its analysis and recommendation is

81 flawed. I then discuss my concern that Staff’s recommendation for disallowance of the

82 SBHVAC costs would raise a significant new barrier to the adoption of new and innovative

83 EE programs. Finally, I provide a summary of my testimony and recommendations.

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<sup>1</sup> In my testimony I define “cost effective” to mean that benefits exceed costs resulting in a TRC benefit/cost ratio greater than 1.0.

84 II. Cost Effectiveness Testing

85 **A. Overview of Cost Effectiveness Testing**

86 **Q. What is the purpose of cost effectiveness testing for EE programs?**

87 **A.** Cost effectiveness analysis is generally used to ensure that programs selected for  
88 implementation will provide greater benefits to utility customers than the costs associated  
89 with the program. This analysis is complicated by the fact that various subsets of utility  
90 customers differ in the amount of benefits received, and in the costs incurred. For example,  
91 participants in programs generally receive greater benefits compared to non-participants.  
92 Several different cost effectiveness tests, each measuring costs and benefits from a  
93 different perspective have become standardized over the past 30 years. The most  
94 commonly applied test, which measures costs and benefits from the broadest perspective,  
95 is the Total Resource Cost (TRC) test. My understanding is that the TRC test is required for  
96 EE planning purposes in Illinois.

97 **Q. When programs “pass” the TRC test, what does that mean?**

98 **A.** A program is said to be cost effective, or to “pass” the TRC test, when the ratio of benefits  
99 counted by the TRC test exceed the costs counted by the test.

100 **Q. Are all costs and benefits associated with an EE program counted in the TRC test?**

101 **A.** No. For example, non-energy benefits such as increased comfort or worker productivity are  
102 not included in the TRC test.

103 **Q. What implications does this have for the application of cost effectiveness analysis?**

104 **A.** It is important to recognize that Section 8-104(f)(5) of the Illinois Public Utilities act appears  
105 to require both cost effectiveness and that the portfolio “represent diverse cross-section of  
106 opportunities for customers of all rate classes to participate in the programs”. Let’s consider  
107 an example of how the TRC measures cost effectiveness and how supply side resources  
108 differ from demand side resources.

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109 In general, “supply side” resources, like traditional generation resources, contribute to the  
110 same network. All customers pay, and benefit, in proportion to their use. One can therefore  
111 rank alternatives based on cost (adjusted for reliability differences). “Demand side”  
112 resources, like energy efficiency programs, do not have this characteristic, as is evident  
113 when we look at the implications for demand side resources versus supply side resources  
114 using the TRC and a second, alternative cost effectiveness measure -- the Rate Impact  
115 Measure (RIM) test.

116 The TRC test measures average total energy costs. Passing the TRC test means average  
117 total energy costs decline. On the other hand, the RIM test measures impacts on non-  
118 participants via changes in average energy prices (i.e., revenue requirements divided by  
119 usage).

120 Suppose an energy efficiency program consists of a large rebate intended to encourage a  
121 customer to adopt an efficient appliance. Suppose it passes the TRC, but “fails” the RIM  
122 test. This is a fairly common situation for energy efficiency programs. Suppose further that  
123 1000 customers participate in this hypothetical program (by taking the incentive and  
124 installing the appliance). Finally, suppose this is the only program being offered. The result  
125 is that overall costs for the utility and its customers are lower (as reflected in the TRC  
126 benefit/cost ratio greater than 1.0). However, are all customers better off? No, because it  
127 fails the RIM test and, as a result, average rates rise, and non-participants are in fact slightly  
128 worse off. Participants are much better off, since they benefit from both the incentive  
129 payment and their own reduced usage (and therefore, reduced bill).

130 **Q. Does this mean that you are advocating that the RIM test be utilized instead of the**  
131 **TRC test?**

132 **A.** No, my example illustrates that factors other than just the TRC test may be considered  
133 when determining which programs might be included in a comprehensive energy efficiency  
134 portfolio. In this simple example, it means that one should consider the distributional impacts

135 of the proposed programs because, as noted above, the ability of a diverse group of  
136 customers to participate in the EE programs is a very important concept in the development  
137 of utility energy efficiency programs.

138 **Q. How can portfolios be designed to alleviate this distributional impact?**

139 **A.** It is very important that a portfolio be designed to offer program participation to a broad  
140 number of customers. This means that individual measures or programs may be included in  
141 the portfolio if they reach a segment of customers that would otherwise be unable to  
142 participate even if the TRC associated with these measures or programs does not appear  
143 cost effective.

144 **Q. Are there still other situations beyond alleviating the distributional impact in which it  
145 is appropriate to implement measures or programs that may not pass a TRC test?**

146 **A.** Yes, programs or measures may be valuable even if they do not appear cost effective (as  
147 measured by the TRC test) for several additional reasons:

- 148 a) It involves a trial, particularly for emerging technologies or for a hard to reach market  
149 segment. The SBHVAC program falls into this category. The small business market  
150 has numerous constraints that limit participation including shortage of capital,  
151 frequently leased physical space and focus on day-to-day operations.
- 152 b) It is expected to break down market barriers. A good example of a program that is  
153 intended to break down market barriers is one that leads to the installation of cost  
154 effective equipment such as tune-ups. Another example is a residential new  
155 construction program. Key to this kind of program is informing the potential  
156 participants of the benefits so that first cost becomes less of an issue.
- 157 c) The measure creates some additional value not easily measured by TRC. This is  
158 frequently noted in lighting programs, as workplace productivity is often improved by  
159 appropriate light levels.

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160 d) A program might not be cost-effective in its early years, but is expected to become  
161 cost effective as it matures. This is typical of programs that rely heavily on trade ally  
162 coordination. Development of the trade ally network increases expenses in the early  
163 years, but costs decline as the network matures.

164 **Q. Is it ever appropriate to evaluate EE activities at the measure level, and not the overall**  
165 **portfolio level?**

166 **A.** Yes, it is appropriate to evaluate EE measures when the initial screening is being performed  
167 for portfolio planning purposes. Note that this is much different from using either prospective  
168 or retrospective cost effectiveness analysis when examining utility cost recovery, which I do  
169 not advocate.

170 It is typical to apply a TRC analysis to individual measures at an early stage of screening.  
171 There are hundreds of individual measures which, in various circumstances, could be cost  
172 effective. One useful screening technique is to apply a limited form of TRC analysis to each  
173 measure, in order to determine which have the potential to be cost effective in a given set of  
174 circumstances. These preliminary analyses generally include only a portion of costs (usually  
175 incremental costs) and exclude common costs such as program administration. "Measures"  
176 which have the potential to be cost effective are then packaged into "programs", which are  
177 examined in more detail. In this context, a "measure" is a technology, appliance, or activity  
178 (e.g., a high efficiency gas furnace), whereas a "program" consists of a marketing strategy,  
179 rebate or incentive level, the equipment to be utilized, and generally an administrative and  
180 evaluation approach. "Programs" may have multiple "measures". Some of the component  
181 measures can have multiple purposes. For example, the program may offer low cost tune-  
182 ups as both a stand-alone measure (i.e., one that produces some energy savings), but also  
183 as a marketing or outreach effort intended to leverage contractor visits to increase  
184 installations of more efficient new HVAC units.

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185 While a measure level screening is appropriate when first considering the development of  
186 an EE portfolio, utilities should ultimately be responsible for the overall performance of their  
187 portfolio as a whole in terms of amount of energy savings achieved. As discussed in the  
188 testimony above, there can be numerous circumstances in which it is appropriate to deviate  
189 from a TRC standard for individual measures or programs in order to improve the overall  
190 performance of the portfolio.

191 **Q. What would the implications be for energy efficiency if a utility was required to**  
192 **implement only programs and measures that passed the TRC continually?**

193 **A.** Energy efficiency portfolios are best designed to balance multiple considerations. As I have  
194 mentioned, the first step in determining which of the many potential measures to include in  
195 programs could be the TRC screening at the measure level. This provides guidance, but is  
196 not an absolute determinant of the measures to be included. Other factors, such as the  
197 distributional impact may suggest that a measure that does not appear cost effective from  
198 the TRC screen nonetheless adds value to the overall portfolio. Similarly, when aggregated  
199 into programs it may become apparent that certain sectors of customers will not have an  
200 opportunity to participate in an energy efficiency program. Utilities may, at this stage,  
201 determine that it is in the best interest of their customers to add measures or programs that  
202 have not passed a TRC screen on a stand-alone basis in order to maximize the benefits of  
203 the overall portfolio and provide opportunities for broader participation. A strict application of  
204 the TRC would result in reduced benefits from the portfolio.

### 205 **B. Cost Effectiveness Testing in Illinois**

206 **Q. Does Illinois recognize the benefit of applying the TRC to the portfolio, rather than**  
207 **program or measure level?**

208 **A.** I believe so. My reading of Section 8-104 of the Public Utilities Act indicates that cost  
209 effectiveness is to be measured at the portfolio level (220 ILCS 5/8-104 (f)(5)).

210 **Q. Has the Commission indicated that it supports applying the TRC at the portfolio**  
211 **rather than program or measure level?**

212 A. Yes. In the final order in North Shore Gas Company and The Peoples Light Gas and Coke  
213 Company docket 10-0564 the Commission indicates that the Staff witness recommended  
214 “that only measures that are cost-effective be included in any programs or the portfolio”  
215 (Order in docket 10-0564, May 24, 2011 at page 79). The order states:

[Staff Witness] Dr. Brightwell explains that using a measure level Total Resource  
217 Cost test allows for an analysis of whether any particular measure has greater  
218 expected value to society than it costs. (Staff Ex. 1.0, p. 3) If a particular measure is  
219 not cost-effective under the TRC, then it does not have sufficient value to society to  
220 make it worthwhile to incent. Every unit sold of a measure that is not cost effective  
221 serves to reduce the net benefit of the program.

Dr. Brightwell further explains that including only measures that are cost-effective  
222 removes some of the risks that the overall portfolio will be cost-ineffective. The risk  
223 associated with portfolio-level uncertainty comes from the fact that it is unknown how  
224 well customers will respond to incentives for any particular measure. If there is a high  
225 uptake of measures that are not cost-effective, the entire portfolio may be cost-  
226 ineffective as a result. (Id., pp. 4-5)

228 **Q. Did the Commission accept staff’s recommendation in that case?**

229 A. No. The Commission was very specific in its denial of staff’s recommendation. The  
230 Commission stated “The Commission agrees with the Utilities that Section 8-104 does not  
231 require each measure to meet the TRC test, but it does require the portfolio (except for the  
232 low income portion) to meet the TRC test. The Commission declines to make the finding  
233 requested by Staff witness Brightwell.” (Order in docket 10-0564 at page 92).

234 **Q. Has the Commission provided guidance specific to AIC?**

235 A. Yes, in its February 6, 2008 order in Docket 07-0539 the Commission indicated that no party  
236 contested the Illinois Department of Commerce and Economic Opportunity's ("DCEO")  
237 contention that cost effectiveness be calculated at the portfolio level and that this contention  
238 was approved without objection (Order in docket 07-0539 at page 20). The Commission  
239 later affirmed this decision when approving Ameren's second three year plan in Docket 10-  
240 0568.

241 **Q. Do you agree with the direction provided by the Commission?**

242 A. Yes, for several reasons. First, it is often the case that energy efficiency programs benefit  
243 from synergies that are created both between measures within programs and frequently  
244 between programs themselves. A good example might be a home energy audit program  
245 that leads customers to participate in a weatherization or new appliance program. The tune-  
246 up portion of the SBHVAC program shares similar characteristics to this example. As made  
247 clear in the EE plan, the program's goals were to increase the adoption of more efficient  
248 HVAC units. While the tune-up portion was expected to produce some savings on its own, it  
249 was essentially an outreach effort intended to accomplish the broader goal of increasing the  
250 adoption of energy efficient technology in the small business sector. AIC believes that this  
251 segment is hard to reach and has market barriers that need to be overcome. AIC expected  
252 that getting contractors on site to tune up HVAC units will place the contractors in the  
253 position to advise customers of the benefits of replacing antiquated units with energy  
254 efficient models.

255 **Q. Are there other reasons you agree with the direction provided by the Commission?**

256 A. Yes, it is often true that there are significant uncertainties associated with program  
257 implementation. For example, it may not be clear whether trade allies can be convinced to  
258 stock particular technologies, or what level of incentive is required to induce customer  
259 participation, or whether a particular marketing or outreach strategy would be effective. The

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260 prudent course of action in such circumstances is to modify programs over time in light of  
261 new or evolving information. A program might not be cost effective in its first year, but  
262 subsequent modifications can lead to much improved cost effectiveness results. A policy  
263 requiring that all measures and programs be cost effective in every year would preclude  
264 such improving portfolio results and would exclude measures and programs that increase  
265 the value of the portfolio without being cost effective on a standalone basis such as  
266 outreach and education programs.

267 **Q. Are there specific reasons that a new program may not be cost effective when initially**  
268 **implemented?**

269 **A.** Yes, it is often the case that a program is not cost effective during its first year or even first  
270 several years due to start-up costs. I believe that cost benefit analysis is premature until a  
271 program has reached a level of maturity that is indicative of its long term potential.  
272 Developing a robust portfolio of energy efficiency programs is analogous to starting a new  
273 business. The early efforts require investments before the first customer even walks through  
274 the door. Energy efficiency programs exhibit similar initial costs that are either non-recurring,  
275 such as development of marketing collateral, or are diminishing over time, such as outreach  
276 efforts to establish a network of trade allies.

277 **Q. Are there additional reasons why you believe the Commission was correct in**  
278 **approving a “portfolio level” rather than individual program or measure level TRC**  
279 **test?**

280 **A.** Yes. In the long run it is important that the portfolio as a whole achieve a TRC greater than  
281 1.0. However individual programs may not achieve a TRC greater than 1.0, yet still  
282 contribute towards increasing the overall portfolio TRC and overall portfolio savings.  
283 Educational programs often fall into this category as do programs which lead towards  
284 greater savings in other programs or other elements of the same program. The tune-up  
285 portion of the SB HVAC program falls into this category. Participants receiving tune-ups are

286 likely to participate in the program and purchase a higher efficient furnace or boiler at the  
287 time of replacement.

288 III. SBHVAC Cost Disallowance

289 **A. Appropriateness of SBHVAC Cost Disallowance**

290 **Q. Does Staff indicate that AIC's natural gas energy efficiency portfolio is not cost**  
291 **effective?**

292 **A.** Staff does not address the overall cost effectiveness of the energy efficiency portfolio.  
293 However, Staff cites a preliminary analysis of the SBHVAC program, in which the first year  
294 cost effectiveness of the program was found to be quite low (JLH 4.01a Attach 10  
295 Confidential and Proprietary at 3). Staff also cites the implementation contractor's second  
296 year implementation plan (PY2) (JLH 4.01a Attach 10 Confidential and Proprietary at 5), in  
297 which a concern was expressed by the contractor that, without changes to the measure, it  
298 would continue to have a TRC cost effectiveness ratio significantly less than 1.0. Based  
299 upon these preliminary findings, Staff recommends that the Commission disallow the PY2  
300 costs associated with the SBHVAC program. In addition, Staff recommends that the  
301 Commission issue a Policy Statement essentially requiring that each program in an EE  
302 portfolio be cost effective (i.e., have a TRC ratio of 1.0 or greater) for each year such  
303 program is offered as part of the EE portfolio (Staff Exhibit 2.0, page 19) before continuing a  
304 program into a subsequent year.

305 **Q. Is it common to apply a TRC test to determine cost recovery?**

306 **A.** No, I am not aware of any instance where the TRC was applied to determine cost recovery  
307 and to do so would be a very dangerous policy. It would impose a new, and I believe large  
308 disincentive for utilities to implement EE programs of any kind, and particularly new and/or  
309 innovative programs, since the uncertainties in the components of the TRC test would be  
310 quite large.

311 **Q. Is Staff's recommendation to disallow all SBHVAC program year 2 costs consistent**  
312 **with the idea of evolving programs based on improved market knowledge?**

313 **A.** No. Staff cites a first year cost effectiveness calculation that indicates the program is not  
314 cost effective and concludes that the costs associated with the program should be  
315 disallowed. This would prevent a program from further evolving into potentially becoming  
316 cost effective or assisting the portfolio in other ways to become cost effective.

317 **Q. Is this an accurate representation of the program's potential cost effectiveness?**

318 **A.** No. It is not uncommon for a start-up program to be less cost effective in its early years. The  
319 natural gas energy efficiency plan filed by Ameren on February 11, 2008 anticipated that the  
320 SBHVAC program would have a TRC benefit/cost ratio of 1.48 over the course of the three  
321 year plan. The overall cost effectiveness of the program depends in part on the ratio of tune-  
322 ups to new HVAC equipment installations. The initial year had a higher than expected  
323 proportion of tune-ups compared with installation of new efficient furnaces and boilers.  
324 Tune-ups are fairly labor intensive, and have small direct savings. However, the purpose of  
325 the tune up is not the direct savings but (as the implementation plan Staff cites clearly  
326 states) is to leverage contractor visits to increase the number of more efficient new HVAC  
327 units sold (JLH 4.01a Attach 10 Confidential and Proprietary at 45). In the initial year, the  
328 higher than expected number of tune-ups reduced the program's cost effectiveness.

329 **Q. Doesn't Staff also cite a TRC forecast for the second program year that is less than**  
330 **1.0?**

331 **A.** Yes. However, Staff fails to note that the source document for the second year forecast also  
332 indicates that the program is expected to have a TRC greater than 1.0 by the end of the  
333 three year plan ("Business Program - Program Year Two Implementation Plan", October 12,  
334 2009, page 43 (confidential)). More importantly, Staff fails to note that the implementation  
335 plan itself recommends modifying the program in order to increase its cost effectiveness in  
336 PY2.

337 **Q. How can the program achieve a TRC greater than 1.0 by the end of the third year?**

338 **A.** The low TRC at the end of program year 1 is due to a higher than expected proportion of  
339 tune-ups to equipment replacements. The Program Year 2 Business Plan indicates that by  
340 limiting the total number of tune-ups and directing the program funds towards incentives for  
341 furnace and boiler replacements the TRC will exceed 1.0 by the end of the three year plan.  
342 And, the modification process continued with the Program Year 3 implementation plan. That  
343 most recent plan modified the tune-up measure in several ways, including reducing the  
344 tune-up incentive payment to reduce the program participation and costs. The goal was  
345 again to improve the overall cost effectiveness.

346 **Q. Is it appropriate to disallow the SBHVAC program costs as recommended by Staff?**

347 **A.** No. Program cost recovery should be premised on the best available information at the time  
348 the program is initiated which should include factors other than TRC results. In addition, the  
349 original three year plan clearly indicates that the program is anticipated to be cost effective  
350 over the three year period. Further, the second year business plan indicates that the  
351 SBHVAC program is forecasted to be cost effective with modifications that the implementer  
352 suggests. As Staff cites in its testimony "Hindsight review is impermissible" (Staff Exhibit  
353 2.0, page 4). There is no indication in either the initial filing nor the second year business  
354 plan that the program is anticipated to be less than cost effective.

355 **Q. Please summarize the Staff's mischaracterizations of the cost effectiveness of the**  
356 **SBHVAC program and subsequent conclusions.**

357 **A.** I believe Staff erred in its fundamental contention that cost effectiveness be applied at the  
358 program or measure level. Further, Staff has mischaracterized the information in the second  
359 year business plan (Exhibit JLH 4.01a Attach 10). Staff correctly noted the numerical result  
360 of the TRC test for program year 1 and forecast TRC test for program year 2, but failed to  
361 note that adopting the changes suggested by the implementer would allow the program to  
362 be cost effective over the entire three year plan. Based on its characterization of the

363 information in the second year business plan, Staff concludes that the program should have  
364 been terminated at the end of program year 1. Termination at that time would not allow the  
365 program to achieve the forecasted cost effectiveness. AIC responded appropriately to the  
366 low preliminary TRC finding by adopting modifications expected to increase the TRC by the  
367 end of the three year plan. Further, based on the Commission's direction to analyze the cost  
368 effectiveness at the portfolio rather than program or measure level it would be inappropriate  
369 to disallow costs associated with an individual program or measure.

370 **Q. Are there additional reasons why costs should not be disallowed for the SBHVAC**  
371 **program?**

372 **A.** Yes. As I indicated previously, the design of an effective portfolio of programs considers  
373 more than just the TRC results. The SBHVAC program is designed to increase the overall  
374 portfolio effectiveness through its outreach to a customer segment that would otherwise  
375 have limited ability to participate in the energy efficiency programs and through the  
376 development of a trade ally network. The inclusion of the SBHVAC program increases the  
377 value of AIC's portfolio to Illinois ratepayers.

378 **B. EE Disincentives**

379 **Q. Are concerns for program cost recovery a disincentive for utilities to operate energy**  
380 **efficiency programs?**

381 **A.** Yes, program cost recovery concerns are recognized as a disincentive for utilities to operate  
382 energy efficiency programs. Clear and consistent cost recovery policy from regulators is  
383 required to alleviate those concerns. Further, disallowance of costs based on cost  
384 effectiveness testing, particularly initial year preliminary cost effectiveness results at a  
385 program or measure level would be contrary to the growing awareness of the need to align  
386 utilities' incentives for energy efficiency with traditional resources. The standard should be  
387 that the portfolio, not individual programs or measures, is expected to be cost effective at  
388 the time of implementation, and that the utility properly managed its programs. The impact

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389 of potential disallowances is recognized in the National Action Plan for Energy Efficiency's  
390 "Aligning Utility Incentives with Investment in Energy Efficiency", November 2007 Section  
391 2.2.1 which discusses prudence and indicates that states address uncertainty of recovery by  
392 requiring utilities to submit energy efficiency portfolio plans and budgets for review and  
393 sometimes approval. The utility receives assurance that its proposed expenditures are  
394 decisionally prudent, and regulators are assured that proposed expenditures satisfy policy  
395 objectives. AIC's three year plan is a good example of this approach. Disallowance of costs  
396 associated with programs approved in the plan would create the uncertainty that the plan is  
397 intended to alleviate. Of course, the National Action Plan document acknowledges that the  
398 filing of a plan does not preclude regulatory review of actual expenditures or findings that  
399 actual program implementation was imprudently managed, nor does it suggest that passage  
400 of a single cost effectiveness test, such as the TRC, be the criteria upon which to judge  
401 prudence. Indeed, some programs may contribute to an overall portfolio without being cost-  
402 effective on a standalone basis. Mid-stream course corrections intended to improve program  
403 cost effectiveness are good examples of prudently managed programs.

404 **Q. Please explain what you mean by the growing awareness of the need to align utilities'**  
405 **incentives for energy efficiency with traditional resources?**

406 **A.** The first formal recognition of the need to align utility incentives for energy efficiency with  
407 traditional resources is the NARUC "Resolution in Support of Incentives for Electric Utility  
408 Least-Cost Planning" in 1989. This resolution urges state commissions to "adopt appropriate  
409 ratemaking mechanisms to encourage utilities to help their customers improve end-use  
410 efficiency cost-effectively".

411 A more recent confirmation of this need can be found in "Aligning Utility Incentives with  
412 Investment in Energy Efficiency, A Resource Of The National Action Plan For Energy  
413 Efficiency", November 2007 which states "Aligning the financial incentives of utilities with the

414 delivery of cost-effective energy efficiency supports the key role utilities can play in  
415 capturing energy savings” (page ES-1).

416 The September 2008 Edison Electric Institute “State Regulatory Update: Energy Efficiency”  
417 adds “Many utilities are seeking regulatory reforms and approvals to increase their energy  
418 efficiency investment. At the same time, regulators in many states are exploring or revisiting  
419 energy efficiency regulatory policies and frameworks through informal and formal  
420 proceedings. (page 1).

421 Another example is the 2006 ACEEE study “Aligning Utility Interests with Energy Efficiency  
422 Objectives: A Review of Recent Efforts at Decoupling and Performance Incentives” which  
423 states “there is increasing recognition that in order to expect utilities to embrace the  
424 aggressive deployment of energy efficiency programs, something must be done to address  
425 the financial concerns utilities have regarding energy efficiency” (page iii).

426 **Q. How might programs’ performance be monitored?**

427 **A.** Cost effectiveness is but one of several criteria to be used when evaluating whether a  
428 program is in the public interest, as I have discussed at length above, it is important to  
429 regularly monitor and evaluate a program’s performance so that an informed decision can  
430 be made for prospective changes. AIC has done this in its business plan for the second and  
431 third years of the program. Changes, such as limiting the number of tune-up participants,  
432 reductions in incentive levels, and rebundling of measures are an appropriate response to  
433 the current program performance. As the portfolio matures there will undoubtedly be further  
434 changes to this and the other programs. To think otherwise would be to expect perfect  
435 foresight.

436 IV. Conclusion

437 **A. Summary of Testimony**

438 **Q. Please summarize your testimony.**

439 **A.** I have testified that at the planning stage it is most appropriate to apply the TRC cost  
440 effectiveness test at the portfolio, rather than measure or program level. I have also testified  
441 that there is often sound rational to include individual measures or programs that would fail  
442 a TRC test on a standalone basis in an EE portfolio. I further testify that Staff has  
443 mischaracterized and misinterpreted the exhibits Staff relied upon to reach its conclusion  
444 that the SBHVAC PY 2 costs be disallowed. Based on my testimony, I conclude that it would  
445 be contrary to the public interest of Illinois ratepayers to disallow the PY2 program costs for  
446 the SBHVAC program. Further, I conclude that adopting Staff's recommendation to require  
447 each program to be cost effective in each program year would create a disincentive for utility  
448 investment in EE.

449 **B. Recommendations**

450 **Q. Please reiterate your recommendations to the Commission.**

451 **A.** I recommend recovery of the PY2 expenditures for the SBHVAC program through  
452 the Rider GER for the reasons cited above. I further recommend that the Commission  
453 reaffirm its position that cost effectiveness is to be measured at the portfolio level at the time  
454 the portfolio is approved. Staff's policy recommendation should be rejected. I also  
455 recommend that the Commission affirm that the TRC test is not an appropriate tool for  
456 determining cost recovery.

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

458 **A.** Yes, it does.

**Resume of Dr. John Chamberlin**

Dr. Chamberlin is a Senior Advisor to the Pacific Energy Group Research LLC. He advises utilities and energy market participants in several areas including IRP strategy, EE planning and cost effectiveness analysis, cost-of-service analysis, rate design, retail market strategy, resource procurement strategy, and expert witness and litigation support. He leads the development of tools and procedures to assist utilities and unregulated energy companies in the evaluation and understanding of product and market costs, valuation, profitability and performance. He also leads the evaluation of regulatory and market rules, market pricing and strategy.

Dr. Chamberlin has been a leader in the development and application of innovative utility planning and pricing strategies for more than 3 decades. He authored portions of the federal PURPA pricing guidelines in the early 1980s, wrote many of the EPRI/EEI Rate Design Study “grey books” including the development of DSM cost effectiveness methods, marginal cost pricing methods, wrote three innovative pricing guidebooks, developed and taught pricing courses for EPRI, EEI and APPA, and has developed numerous demand response rates over the past decade.

Prior to joining PEG Research, Dr. Chamberlin was Executive Vice President at Quantec, LLC, Principal at the Cadmus Group, Vice President, Strategic Services, at Xenergy, and Vice President, Strategy and Planning at PG&E Energy Services. While at PG&E ES, he led the development of the company’s market entry and evaluation models and processes, product profitability analysis, and long range planning and budgeting. He was also responsible for the company’s product development, market assessment, customer targeting, market planning, the economic and financial aspects of regulatory strategy, and the financial evaluation of a variety of new initiatives.

Dr. Chamberlin joined PG&E ES through the sale of the consulting company he cofounded: Barakat and Chamberlin (BCI). BCI was a national leader in the utility consulting business, providing services in the areas of energy efficiency and demand-side management, rates and pricing, forecasting, market planning and assessment, organizational planning, cost of service and revenue requirements, and related areas. As Executive Vice President of BCI, Dr. Chamberlin directed most of the electric utility practice throughout North America.

Dr. Chamberlin has co-authored several books, including Demand-side Management: Concepts and Methods, and Demand-side Management Planning. He is the author of dozens of published articles, numerous monographs and has been invited to present more than a hundred speeches at industry conferences on a variety of energy related topics. He has also taught at numerous workshops on topics including energy efficiency, rates and pricing, planning, forecasting, and competitive policies. He has been widely recognized as a pioneer in the development of methods to plan and evaluate energy efficiency programs, and was an early leader in the development of innovative energy pricing methods. He has testified numerous times before state regulatory commissions and legislatures on matters including cost effectiveness, rates, pricing policy, energy efficiency plans, resource planning, competitive market policy issues, and energy efficiency.

Prior to cofounding BCI, Dr. Chamberlin was employed by the Electric Power Research Institute, ICF Incorporated, and Westinghouse Hanford. He earned a BA in Economics at California State University (Chico) in 1972, and the MA(1975) and PhD(1976) in Economics at Washington State University. He has been a member of numerous industry organizations, and served as a founding board member of the Association of Energy Service Professionals.