

**STATE OF ILLINOIS**  
**ILLINOIS COMMERCE COMMISSION**

**Commonwealth Edison Company** :  
 :  
**Petition for Approval of the Energy Efficiency** : **Docket No. 07-0540**  
**and Demand-Response Plan Pursuant To** :  
**Section 12-103(f) of the Public Utilities Act** :

Direct Testimony of

**Robert R. Stephens**

On Behalf of

**Illinois Industrial Energy Consumers**

December 14, 2007  
Project 8861



**BRUBAKER & ASSOCIATES, INC.**  
ST. LOUIS, MO 63141-2000

**STATE OF ILLINOIS**  
**ILLINOIS COMMERCE COMMISSION**

**Commonwealth Edison Company** :  
: **Docket No. 07-0540**  
**Petition for Approval of the Energy Efficiency** :  
**and Demand-Response Plan Pursuant To** :  
**Section 12-103(f) of the Public Utilities Act** :

**Direct Testimony of Robert R. Stephens**

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A My name is Robert R. Stephens. My business address is 1215 Fern Ridge Parkway,  
3 Suite 208; St. Louis, Missouri 63141.

4 **Q PLEASE STATE YOUR OCCUPATION.**

5 A I am a consultant in the field of public utility regulation with Brubaker & Associates,  
6 Inc. ("BAI"), energy, economic and regulatory consultants.

7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A This is summarized in Appendix A to my testimony.

9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

10 A I am appearing on behalf of the Illinois Industrial Energy Consumers ("IIEC"). The  
11 IIEC is an ad hoc group of industrial customers eligible to take power and energy or  
12 delivery service from Commonwealth Edison Company ("ComEd"). IIEC companies  
13 are not able to take fixed price commodity service from ComEd. ComEd declared  
14 bundled service to these customers competitive in 2003. IIEC members are generally

15 supportive of energy efficiency and demand response programs, but have serious  
16 concerns with ComEd's Energy Efficiency and Demand Response Plan (the "ComEd  
17 Plan").

18 **Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?**

19 A In this testimony, I discuss the inequity of the ComEd Plan in terms of the mismatch  
20 between the program incentives and implementation costs (collectively "program  
21 costs") and the proposed mechanism to recover from customers the costs of the  
22 programs. In addition, I will propose a modified cost recovery mechanism which will  
23 better match program costs and collections for affected customer classes, while  
24 maintaining program design and deployment flexibility for ComEd.

25 **Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCLUSIONS.**

26 A My recommendations and conclusions can be summarized as follows:

- 27 1. The ComEd Plan recognizes three customer classes in the energy efficiency  
28 measures used in the program design phase, but only one customer class,  
29 i.e., all customers, for cost recovery. ComEd should also recognize three  
30 customer classes for cost recovery.
- 31 2. A three customer class structure consisting of Residential, Small C&I and  
32 Large C&I, at a minimum, should be used for cost recovery. The most logical  
33 dividing point between Small C&I and Large C&I is 1 MW in demand, which is  
34 the traditional dividing point between commercial and industrial customers and  
35 has considerable precedent within ComEd rates, Commission Rules and  
36 reporting requirements, and FERC reporting requirements. It also is  
37 consistent with dividing points used by the Ameren companies.
- 38 3. Because of the mismatch between the target classes for programs and the  
39 recovery mechanism proposed by ComEd, customers with demands of 1 MW  
40 or more ("Large C&I" class) would be required to pay as much as double the  
41 cost of programs directed to them. Equity dictates that the recovery  
42 mechanism should be designed to recover amounts from the various classes  
43 that are commensurate with energy efficiency program costs.

- 44 4. For the three year program cost recovery levels, IIEC has grouped expected  
45 program costs to correspond with the three customer classes it recommends  
46 for the determination of cost recovery rates. If participation experience or  
47 program redeployment suggests that different program costs are attributable  
48 to the classes in the second and subsequent years, the recovery rates should  
49 be adjusted in accordance with new class-based program cost estimates.
- 50 5. The IIEC proposed recovery mechanism should not impact energy efficiency  
51 and demand response program design and deployment. The cost recovery  
52 mechanism should follow program implementation, not vice versa. The IIEC  
53 proposed cost recovery mechanism will collect the same total funding as  
54 ComEd's proposed mechanism and in no way will impair ComEd's ability to  
55 implement or to recover the costs of its energy efficiency and demand  
56 response programs.

57 **The ComEd Plan Fails to Properly Recognize**  
58 **Commercial and Industrial Class Differences**

59 **Q DOES THE COMED PLAN PRESCRIBE DIFFERENT ENERGY EFFICIENCY**  
60 **PROGRAMS FOR DIFFERENT CUSTOMER CLASSES?**

61 A Yes. As shown in Table 2 and described at pages 5-6 of the ComEd Plan, ComEd  
62 directs distinct energy efficiency programs to the residential class and the combined  
63 commercial and industrial customer classes. However, as discussed below, for the  
64 purposes of program cost recovery, ComEd essentially treats all customers as one  
65 class, in that it proposes a single per kWh charge to recover the combined cost of all  
66 programs. That single charge would be applied uniformly to all customer classes.

67 With respect to energy efficiency measures,<sup>1</sup> ComEd recognizes in Table 8,  
68 on page 24 of the ComEd Plan, the differences between three customer classes:  
69 residential, commercial and industrial, when identifying the different types of energy  
70 efficiency measures for each.

---

<sup>1</sup> For a description of the difference between energy efficiency "programs" and "measures," see generally, the direct testimony of ComEd witness Val R. Jensen, ComEd Ex. 6.0, at 5-6, 18-19 and 23-24. To understand the target class of a program, it is often necessary to consider the measures within the program.

71 **Q WHAT MEASURES DOES COMED ASSOCIATE WITH THESE THREE CLASSES?**

72 A Residential energy efficiency measures include items such as compact fluorescent  
73 light bulbs, energy efficient appliances and residential heating and air conditioning  
74 measures. Commercial measures include fluorescent light replacements, exit signs,  
75 and commercial heating, ventilating and air conditioning (HVAC) improvements. For  
76 the industrial class, ComEd identifies items relating to compressed air, pumps,  
77 process heating, machine drive, etc. These diverse categories of energy efficiency  
78 measures generally reflect differences in how these three classes of customers use  
79 electric energy.

80 **Q HAVE THE DIFFERENCES IN ELECTRICITY USAGE TRADITIONALLY BEEN**  
81 **REFLECTED IN UTILITY RATES?**

82 A Yes. Prior to January 2, 2007, ComEd had separate bundled service rates for the  
83 residential, commercial and industrial customer classes. Although there were multiple  
84 rates within each of these customer classes, the predominant rate for residential  
85 customers was Rate 1, for commercial customers was Rate 6, and for industrial  
86 customers was Rate 6L. The primary distinction between Rate 6 and Rate 6L was  
87 that Rate 6 was available only to non-residential customers smaller than 1 MW in  
88 demand and Rate 6L was available only to non-residential customers larger than  
89 1 MW. These various ComEd rates had different charges. These charges reflected  
90 the very different ways in which each customer class uses electricity and the  
91 difference in costs they imposed on the system.

92 Currently, ComEd reflects these class differences in its delivery service rates  
93 as well. ComEd has separate delivery service rates for residential and  
94 non-residential customers. The non-residential customers are divided into multiple

95 classes, defined primarily by size, e.g., demand levels such as 100 kW, 400 kW,  
96 1 MW, and 10 MW. In all, ComEd now has 17 different delivery service rate classes.

97 **Q DO ENERGY EFFICIENCY MEASURES PROPOSED BY COMED VARY AMONG**  
98 **THE CLASSES?**

99 A Yes. Energy efficiency measures will vary to a large degree by class, recognizing the  
100 different energy using equipment prevalent in each class. As suggested by the  
101 commercial and industrial measure descriptions in Table 8, at page 24 of the ComEd  
102 Plan, most energy efficiency measures directed to the commercial class have to do  
103 with building improvements, such as lighting, HVAC, or the building shell. In contrast,  
104 large industrial customers are more process oriented, i.e., the bulk of the energy is  
105 used in the manufacture of a product, not in lighting, HVAC or the building shell.  
106 Typical uses of power by large industrial customers are for items such as metal  
107 melting, pumping, compressing, milling, and electrolytic processes. Lighting, HVAC  
108 and building shell energy usage is typically a relatively low percentage of the overall  
109 energy consumption for the industrial customer class.

110 **Q SHOULD THERE BE MULTIPLE CLASSES FOR ENERGY EFFICIENCY AND**  
111 **DEMAND RESPONSE COST RECOVERY?**

112 A Yes.

113 Q WHAT IS YOUR RECOMMENDATION REGARDING ESTABLISHMENT OF  
114 CUSTOMER CLASSES FOR ENERGY EFFICIENCY PROGRAMS AND COST  
115 RECOVERY?

116 A While multiple approaches could be used for establishing customer classes for these  
117 purposes, I am recommending a moderate approach. Specifically, I recommend that  
118 there be a Residential class and two C&I classes, namely a “Small C&I” class and a  
119 “Large C&I” class, corresponding to customer sizes generally associated with  
120 commercial and industrial customers, respectively. Specifically, I recommend that the  
121 Small C&I class be defined as non-residential customers with demands below 1 MW.  
122 Customers with demands 1 MW and above would be in the Large C&I class. This is  
123 a reasonable delineation between classes and has considerable precedent within  
124 ComEd rate structures and within Illinois Commerce Commission (“Commission”)  
125 reporting requirements. Further, as I mention below, this is the industry standard  
126 distinction between commercial and industrial customers used by the Federal Energy  
127 Regulatory Commission (FERC) in its Uniform System of Accounts.

128 Q TO WHAT RATE PRECEDENT ARE YOU REFERRING?

129 A For example, as mentioned earlier in my testimony, ComEd’s traditional bundled  
130 service rates had an eligibility breakpoint at 1 MW. That is, Rate 6 was available to  
131 customers below 1 MW while Rate 6L was available to customers 1 MW and larger.  
132 Also, in ComEd’s current delivery service rate structure, ComEd has a breakpoint at  
133 1 MW between its “Large Load” and its “Very Large Load” customer classes.<sup>2</sup>

---

<sup>2</sup> Indeed, ComEd in its last electric delivery service rate case, Docket No. 05-0597, attempted to lump all customers 1 MW and greater served at standard voltage into a single customer class.

134 In terms of Commission reporting requirements, the 1 MW breakpoint was  
135 generally used to distinguish between commercial and industrial customers for  
136 electric utilities in their annual reports to the Commission. This distinction is also  
137 present in the FERC's Uniform System of Accounts, 18 CFR 101, which is used by  
138 the Illinois Commission for its own reporting requirements.<sup>3</sup>

139 In addition, in ComEd's reports to the Commission regarding customer  
140 switching to third-party suppliers prior to 2007, ComEd reported on customers below  
141 and above 1 MW as the "Small C&I" and "Large C&I" customer classes.<sup>4</sup>

142 **Q IS A BREAKPOINT OF 1 MW EFFICIENT FOR BILLING PURPOSES?**

143 A Yes. Because ComEd bills customers above 1 MW separately from the customers  
144 below 1 MW for delivery service, there is an existing billing system capability that can  
145 be utilized for class-specific cost recovery for energy efficiency programs.<sup>5</sup>

---

<sup>3</sup> The 1 MW commercial/industrial dividing line is used for reporting Operating Revenues in Account 442.

<sup>4</sup> In its switching reports, ComEd also had categories for "Governmental" and "Other". The non-residential customers in these categories should be included in the demand based classes I have defined, based on their demands.

<sup>5</sup> I would also note that the 1 MW breakpoint corresponds to a similar class definition in the Ameren Utilities' tariffs (namely, between rates DS-3 and DS-4). Given the parallels between the ComEd and Ameren energy efficiency plans, and the fact that I am making a similar recommendation in the Ameren energy efficiency case, Docket No. 07-0739, the 1 MW threshold is an efficient breakpoint in that it readily applies to both utilities.

146 **Inequity in ComEd Cost Recovery**

147 **Q USING THE THREE CUSTOMER CLASSES YOU HAVE OUTLINED ABOVE,**  
 148 **RESIDENTIAL, SMALL C&I AND LARGE C&I, IS IT POSSIBLE TO DETERMINE**  
 149 **THE ENERGY EFFICIENCY COST RECOVERY LEVELS PROPOSED BY COMED**  
 150 **FOR EACH CLASS?**

151 **A** Yes, it is. It is relatively straightforward to determine the number of kilowatthours  
 152 delivered to each of the three classes using information provided by ComEd. These  
 153 are shown in Table 1, below. Because ComEd proposes a single per kWh charge as  
 154 the recovery mechanism for the energy efficiency programs, the cost recovery from  
 155 each class in any given year corresponds directly to the percentage of energy  
 156 delivered to the customer class.

<u>Class</u>	<u>2008 Percentage of Energy Delivered<sup>6</sup></u>	<u>2008 Cost Recovery (\$M)</u>	<u>2009 Cost Recovery (\$M)</u>	<u>2010 Cost Recovery (\$M)</u>
Residential	31.3%	\$ 12.3	\$ 25.5	\$ 39.5
Small C&I	37.3%	14.7	30.5	47.5
Large C&I	31.5%	<u>12.4</u>	<u>25.6</u>	<u>39.8</u>
Total		\$ 39.4	\$ 81.6	\$ 126.7

157 The total cost recovery figures above match those shown in Table 4 on page 16 of  
 158 the ComEd Plan.

<sup>6</sup> Although only the 2008 percentage of energy delivered is shown above, 2009 and 2010 percentage are very similar and are used in determining the 2009 and 2010 cost recovery levels shown.

159 **Q IS IT POSSIBLE TO ESTIMATE THE PROGRAM COSTS ATTRIBUTABLE TO THE**  
160 **DIFFERENT CUSTOMER CLASSES?**

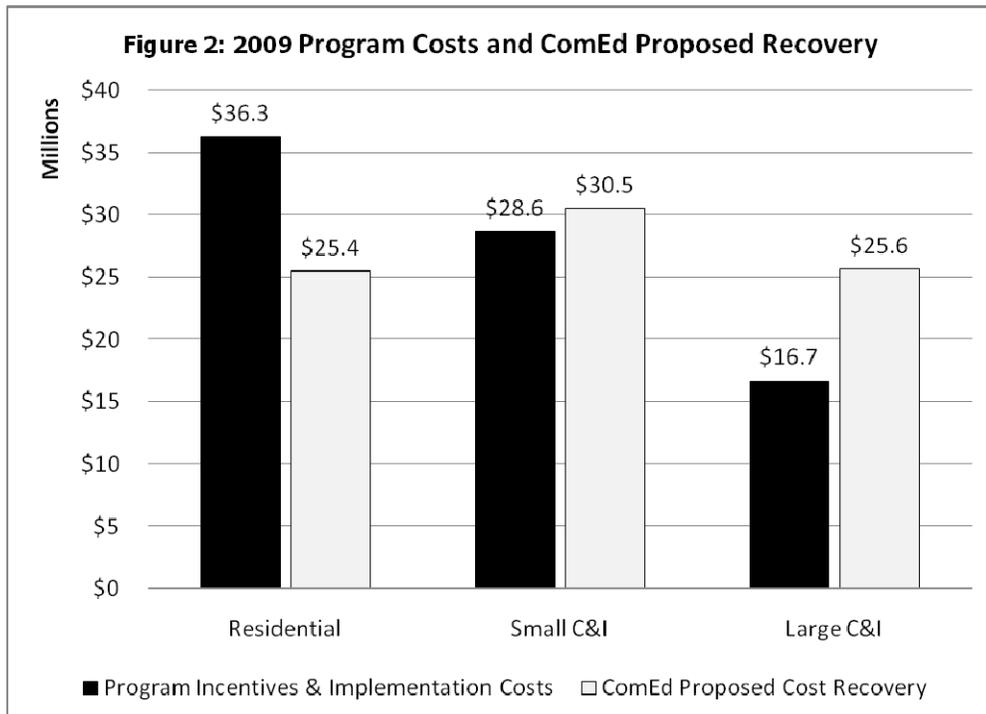
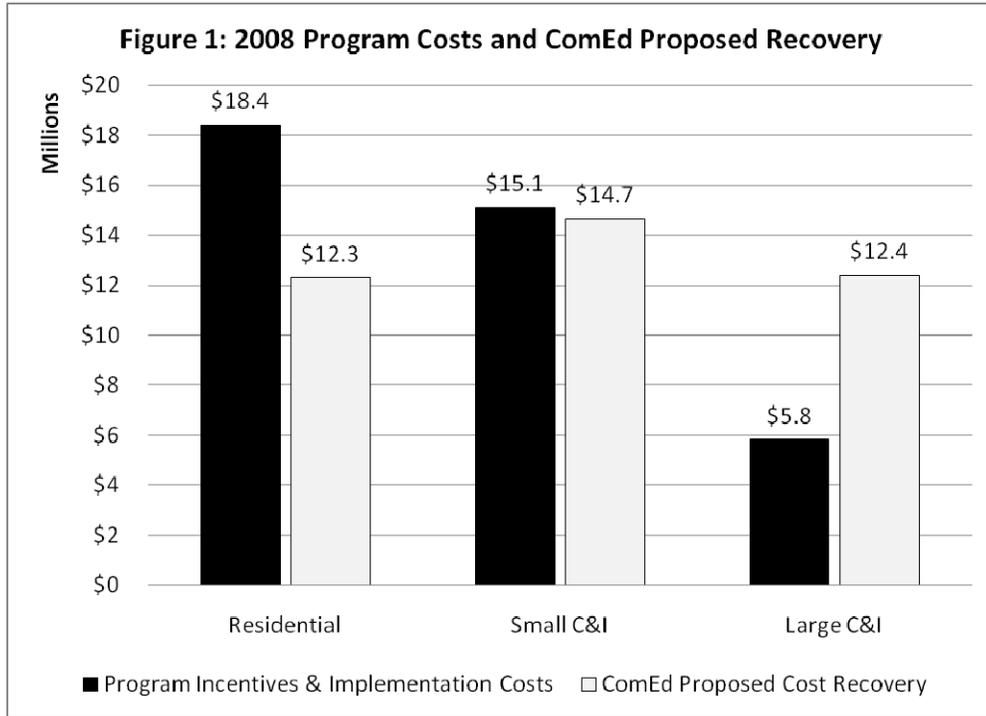
161 A Yes. Because ComEd has already defined separately programs for the residential  
162 class, it is relatively straightforward to determine the costs of the programs for  
163 residential customers, based on information in the ComEd Plan. For the C&I  
164 customers, it is somewhat more involved. Of the five C&I programs administered by  
165 ComEd, some appear to be designed such that likely participants will come  
166 exclusively from the Small C&I or Large C&I class, while others appear to have  
167 potential participants in both classes. The DCEO<sup>7</sup> programs for C&I customers are  
168 similar in this regard. At my request, IIEC witness David Stowe examined the various  
169 programs and, in consultation with me, has estimated the program costs associated  
170 with the likely participation by members of each class and determined the total  
171 program costs by class which we believe to be reasonable and reflective of the nature  
172 of the programs.

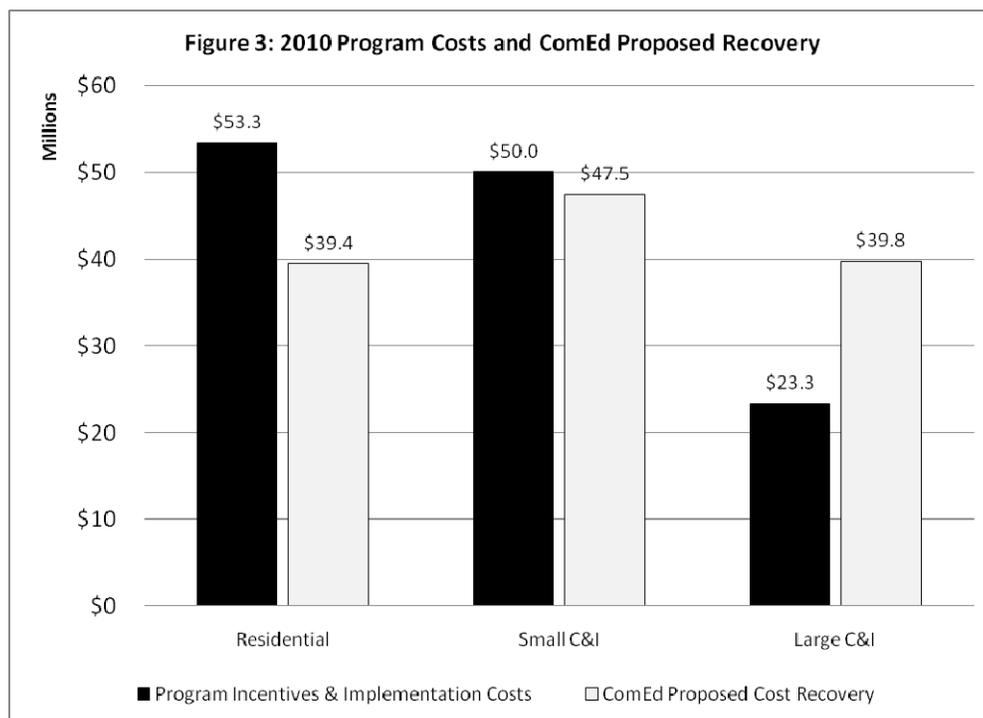
173 **Q BASED ON THE PROGRAM COST DETERMINATIONS BY MR. STOWE, HOW DO**  
174 **THE CLASS PROGRAM COSTS COMPARE TO THE PROPOSED CLASS COST**  
175 **RECOVERY BY COMED?**

176 A As is shown in Figures 1, 2 and 3 below, the program costs and cost recovery do not  
177 match well, especially for the Residential and Large C&I classes.

---

<sup>7</sup> DCEO is the Illinois Department of Commerce and Economic Opportunity.





178       **As can be seen from the charts above, there is a significant disparity between**  
179       **the costs of planned energy efficiency programs and the cost recovery**  
180       **proposed by ComEd, in each of the program years.** It is fundamentally unfair for  
181       some customer classes to be required to pay disproportionate amounts in excess of  
182       the costs they cause, for programs that do not directly benefit them or for which they  
183       are not eligible, when a more appropriate allocation of costs to cost-causers is easily  
184       accomplished.

185       **Q       WHY IS THIS IMPORTANT?**

186       A       The customers who benefit most from the energy efficiency and demand response  
187       programs are those who see direct energy or demand cost savings through  
188       participation in the programs. However, other members of the same class see  
189       significant benefits in the fact that they are eligible for such programs and because

190 significant changes in the class usage profile can affect the regulated rates for the  
191 classes. This is especially true for customers who purchase power from the utility, as  
192 the price for such power could be impacted by the new class load profiles.

193 **IIEC Proposed Cost Recovery**

194 **Q PLEASE DESCRIBE THE OBJECTIVES OF THE COST RECOVERY MECHANISM**  
195 **THAT YOU PROPOSE.**

196 A My proposal seeks to balance the program costs with the cost recovery responsibility,  
197 by class, for each year. On a year-by-year basis, cost recovery from a class should  
198 recover the costs of the programs directed to that class. If a particular class receives  
199 25% of the program costs, for example, that class should be responsible for 25% of  
200 the cost recovery.

201 **Q WHAT ARE THE ESTIMATED PROGRAM COSTS BY CLASS FOR EACH YEAR**  
202 **IN THE THREE YEARS COVERED UNDER THE COMED PLAN?**

203 A These program costs have been determined by IIEC witness Stowe, as previously  
204 mentioned. Figures 1 through 3, above, show the program costs by class in the dark  
205 shaded bars.

206 **Q WHAT ARE THE ESTIMATED CHARGES TO RECOVER THE PROGRAM COSTS**  
207 **UNDER YOUR PROPOSED RECOVERY MECHANISM?**

208 A As previously mentioned, the charges can change over time, as program changes  
209 occur and as the utilities gain information on participation levels and program results.<sup>8</sup>

---

<sup>8</sup> See ComEd witness Michael S. Brandt's direct testimony at pages 35-39 for a discussion of ComEd's proposed flexibility in program management in the initial three year period.

210 However, using ComEd's proposed program spending estimates and expected  
211 consumption levels, the estimated charges are shown in Table 2 below.

<b><u>Class</u></b>	<b><u>2008</u></b>	<b><u>2009</u></b>	<b><u>2010</u></b>
Residential	0.06	0.12	0.18
Small C&I	0.04	0.08	0.14
Large C&I	0.02	0.06	0.08

212 The derivation of the charges above is discussed by IIEC witness Stowe.

213 **Q ARE THE COST RECOVERY NUMBERS ABOVE INTENDED TO BE FIXED**  
214 **THROUGHOUT THE COURSE OF THE THREE-YEAR PLAN?**

215 **A** Not necessarily. To the extent ComEd utilizes its requested flexibility to shift program  
216 focus over time, it would be appropriate to modify the cost recovery charges in  
217 accordance with updated program costs. Also, if the initial assumptions as to C&I  
218 participation levels can be refined based on experience, it would be appropriate to  
219 change the program recovery percentages described by Mr. Stowe. For example, if  
220 ComEd determines that the Small C&I customers are actually utilizing the C&I  
221 Prescriptive program at a level greater than the 90% estimated by Mr. Stowe, it would  
222 be appropriate to change the cost recovery responsibility associated with that  
223 program between the Small C&I and Large C&I classes going forward.

224 **Impact of Cost Recovery Mechanism on Program Design**

225 **Q DOES THE COST RECOVERY MECHANISM YOU PROPOSE DICTATE WHICH**  
226 **PROGRAMS ARE DEPLOYED OVER THE THREE-YEAR PLAN?**

227 A No. Deployment decisions are left to the utility, with the Commission's oversight. I  
228 assume such decisions will be based on factors such as kWh reduction targets, cost  
229 effectiveness of programs and expected participation rates. The cost recovery should  
230 follow program implementation, not vice versa. Once ComEd knows which types of  
231 programs are to be funded for a particular year, that should determine the recovery  
232 charges. In this way, ComEd retains the flexibility to meet the mandated MWh target  
233 reductions as it sees fit, with Commission approval.

234 Similarly, the proposed cost recovery mechanism will have no impact on the  
235 total funding level; that is, it should collect the same amount as the ComEd proposed  
236 mechanism. Importantly, however, it will bring greater equity in the recovery of  
237 program costs because the cost recovery will more closely align with the cost causers  
238 and direct benefit recipients.

239 **Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

240 A Yes, it does.

**Qualifications of Robert R. Stephens**

241 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

242 A Robert R. Stephens. My business address is 1215 Fern Ridge Parkway, Suite 208,  
243 St. Louis, Missouri 63141.

244 Q PLEASE STATE YOUR OCCUPATION.

245 A I am a consultant in the field of public utility regulation and a principal in the firm of  
246 Brubaker & Associates, Inc., energy, economic and regulatory consultants.

247 Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

248 A I graduated from Southern Illinois University at Carbondale in 1984 with a Bachelor of  
249 Science degree in Engineering. During college, I was employed by Central Illinois  
250 Public Service Company in the Gas Department. Upon graduation, I accepted a  
251 position as a Mechanical Engineer at the Illinois Department of Energy and Natural  
252 Resources. In the summer of 1986, I accepted a position as Energy Planner with City  
253 Water, Light and Power, a municipal electric and water utility in Springfield, Illinois.  
254 My duties centered on integrated resource planning and the design and  
255 administration of load management programs.

256 From July 1989 to June 1994, I was employed as a Senior Economic Analyst  
257 in the Planning and Operations Department of the Staff of the Illinois Commerce  
258 Commission. In this position, I reviewed utility filings and prepared various reports  
259 and testimony for use by the Commission. From June 1994 to August 1997, I worked  
260 directly with a Commissioner as an Executive Assistant. In this role, I provided

261 technical and policy analyses on a broad spectrum of issues related to the electric,  
262 gas, telecommunications and water utility industries.

263 In May 1996, I graduated from the University of Illinois at Springfield with a  
264 Master of Business Administration degree.

265 In August 1997, I joined Brubaker & Associates, Inc. as a Consultant. Since  
266 that time, I have participated in the analysis of various utility rate and restructuring  
267 matters in several states and the evaluation of power supply proposals for clients. I  
268 am currently a Principal in the firm.

269 The firm of Brubaker & Associates, Inc. provides consulting services in the  
270 field of energy procurement and public utility regulation to many clients, including  
271 large industrial and institutional customers, some utilities, and on occasion, state  
272 regulatory agencies. More specifically, we provide analysis of energy procurement  
273 options based on consideration of prices and reliability as related to the needs of the  
274 client; prepare rate, feasibility, economic and cost of service studies relating to energy  
275 and utility services; prepare depreciation and feasibility studies relating to utility  
276 service; assist in contract negotiations for utility services; and provide technical  
277 support to legislative activities.

278 In addition to our main office in St. Louis, the firm also has branch offices in  
279 Phoenix, Arizona and Corpus Christi, Texas.

\\Huey\Shares\PLDocs\MED\8861\Testimony - BAI\123619.DOC

STATE OF ILLINOIS  
ILLINOIS COMMERCE COMMISSION

Commonwealth Edison Company :  
: :  
Approval of Energy Efficiency and Demand : No. 07-0540  
Response Plan Pursuant to Section 12-103(f):  
of the Public Utilities Act :

**AFFIDAVIT**

STATE OF MISSOURI :  
: SS  
COUNTY OF ST. LOUIS :

Robert R. Stephens, being duly sworn, deposes and states as follows:

1. Affiant is Robert R. Stephens. He is employed as a consultant by Brubaker & Associates, Inc., St. Louis, Missouri.
2. Affiant is a witness for the Illinois Industrial Energy Consumers ("IIEC") in the subject proceeding.
3. Affiant caused to be prepared direct testimony (IIEC Ex.1.0) for submission in this proceeding, on behalf of IIEC. The direct testimony was prepared by him and is his sworn testimony in this proceeding. The direct testimony is true and accurate in all respects.

*Robert R. Stephens*

Robert R. Stephens  
Brubaker & Associates, Inc.  
P. O. Box 412000  
St. Louis, MO 63141

SUBSCRIBED AND SWORN to before me, a Notary Public, on this 14th day of December, 2007.

*Maria E. Decker*  
NOTARY PUBLIC/62128.1

