

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY)

Tariff filing to present the Illinois)
Commerce Commission with an)
opportunity to consider revenue neutral)
tariff changes related to rate design)
authorized by subsection 16-108.5(e) of)
the Public Utilities Act.)

Docket No. 13-0387

Direct Testimony of

Robert R. Stephens

On behalf of

Illinois Industrial Energy Consumers

July 29, 2013



Direct Testimony of Robert R. Stephens

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

2 A Robert R. Stephens. My business address is 16690 Swingley Ridge Road,
3 Suite 140, Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION?**

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

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

8 A This information is included in Appendix A to my testimony.

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

10 A I am testifying on behalf of the Illinois Industrial Energy Consumers ("IIEC"). IIEC
11 companies have facilities and operations located in the Commonwealth Edison
12 Company ("ComEd" or "Company") service territory and are substantial users of
13 electricity within that service territory.

14 **Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY IN THIS**
15 **PROCEEDING?**

16 A I will address cost of service and revenue allocation issues. The fact that I do not
17 address an issue should not be interpreted as tacit approval for any position taken by
18 ComEd.

19 **Q PLEASE SUMMARIZE YOUR DIRECT TESTIMONY.**

20 A My testimony can be summarized as follows:

21 1. ComEd's embedded cost of service ("ECOS") studies could be improved by
22 further refinement of its segregation of primary versus secondary voltage
23 costs. While ComEd's cost allocations in this case are an improvement over
24 those which existed prior to Docket No. 10-0467 in this regard, they still are
25 not complete, in terms of correctly evaluating the costs imposed by secondary
26 customers versus primary customers.

27 2. More specifically, single-phase distribution assets exist, and function to serve,
28 exclusively or nearly exclusively, customers who take service at secondary
29 voltages. Hence, cost-causation principles suggest that customers at higher
30 voltages, such as transmission voltage or primary voltage generally should not
31 be allocated single-phase primary system costs.

32 3. I recommend that the Illinois Commerce Commission ("ICC" or "Commission")
33 direct the Company and all interested parties to review the merit of
34 segregating the primary delivery system costs into single-phase and three-
35 phase components and assigning the single-phase costs exclusively to
36 secondary customers. The parties should also discuss the best method to
37 estimate the single-phase primary costs to be assigned to secondary
38 customers. I also recommend that the Commission take a modest step in
39 refining ComEd's ECOS studies in this regard in the current case, by
40 assigning 10% of primary voltage costs to secondary customers. This is well
41 below the expected proportion of ComEd single-phase primary costs, but this
42 modification will be a step in the right direction.

43 4. Regarding revenue allocation, I recommend that the Commission take the
44 third of the four steps toward cost of service in its plan originally established in
45 Docket No. 07-0566 and, thus, for the Extra Large Load and High Voltage
46 delivery classes, move rates one-half of the remainder of the way toward cost
47 of service.

48 **Cost of Service**

49 **Q HAVE YOU REVIEWED THE COMPANY'S TESTIMONY RELATED TO ITS ECOS**
50 **STUDIES IN THIS CASE?**

51 A Yes, I have. These studies are presented by ComEd witness Bradley L. Bjerning in
52 ComEd Exhibit 3.0. As described in Mr. Bjerning's testimony, ComEd presents a
53 variety of ECOS studies that Mr. Bjerning says were prepared and submitted to the

54 Commission in response to certain Commission directives. In total, ComEd provides
55 eight different ECOS studies, which it includes as ComEd Exhibits 3.01, 3.04, 3.10,
56 3.12, 3.14, 3.16, 3.17 and 3.18. At page 2 of his testimony Mr. Bjerning states,
57 “ComEd takes no position at this time as to the relative merits of the methodologies
58 applied in any of the illustrative ECOSs.” Mr. Bjerning describes the various studies
59 in greater detail at pages 4-6 and 19-38 of his testimony. I will not repeat those
60 descriptions here.

61 **Q HAVE YOU EVALUATED THE COMPANY’S ECOS STUDIES PRESENTED IN**
62 **THIS CASE?**

63 A Yes. The studies appear to be as described by Mr. Bjerning and generally to comport
64 with cost allocation methodologies developed over several recent Company rate case
65 filings. Of particular note is ComEd’s separation and allocation of distribution costs
66 associated with serving primary and secondary voltage customers.¹ This distinction
67 between primary and secondary voltage costs in the ComEd system is a result of the
68 Commission’s decision in Docket No. 08-0532 and which was carried forward and
69 first implemented in ComEd’s last general delivery service rate case, Docket No.
70 10-0467.

71 Notwithstanding the forgoing, my failure to discuss any specific cost of service
72 or rate design method in my testimony should not be construed as acceptance of or
73 support for said method.

¹“Primary” voltage customers are those taking service at 4,000 volts to 69,000 volts, while “secondary” voltage customers take service at voltages below 4,000 volts. These are referred to as “primary customers” and “secondary customers,” respectively.

74 **Q DO YOU HAVE ANY SUGGESTED ADJUSTMENTS TO THE COMPANY'S ECOS**
75 **METHODOLOGY?**

76 A Yes. ComEd's ECOS studies could be improved by further refinement of its
77 segregation of primary versus secondary voltage costs. While ComEd's cost
78 allocations in this case are an improvement over those which existed prior to Docket
79 No. 10-0467 in this regard, they still are not complete, in terms of correctly evaluating
80 the costs imposed by secondary customers versus primary customers.

81 In Docket No. 10-0467, IIEC introduced the concept of further segregating
82 primary voltage system costs between single-phase and three-phase subfunctions,
83 as these systems serve largely different customer groups, and, accordingly, the cost
84 causation for these components also differs. More specifically, single-phase
85 distribution assets exist, and function to serve, exclusively or nearly exclusively,
86 customers who take service at secondary voltages.² Hence, cost-causation principles
87 suggest that customers at higher voltages, such as transmission voltage or primary
88 voltage generally should not be allocated single-phase primary system costs.³

89 **Q IS THERE SUPPORT IN COST OF SERVICE LITERATURE FOR THE CONCEPT**
90 **YOU HAVE DESCRIBED?**

91 A Yes, there is. For example, page 97 of the most recent "Electric Utility Cost Allocation
92 Manual" of the National Association of Regulatory Utility Commissioners ("NARUC")
93 states as follows:

²In Docket No. 10-0467, ComEd indicated that only eight of ComEd's 936 primary voltage customers were served via single-phase primary circuits. I would not expect the minute percentage to have changed significantly since that case.

³Because ComEd's HV and ELL classes may contain some relatively small amount of load served at secondary voltage, a small amount of single-phase primary cost may be appropriately allocated to those customer classes, commensurate with the amount of secondary voltage service.

94 Cost analysts developing the allocator for distribution of substations or
95 primary demand facilities must ensure that only the loads of those
96 customers who benefit from these facilities are included in the
97 allocator. For example, loads of customers who take service at
98 transmission level should not be reflected in the distribution substation
99 or primary demand allocator. Similarly, when analysts develop the
100 allocator for secondary demand facilities, the loads for customers
101 served by the primary distribution system should not be included.
102 (Emphasis added).

103 **Q IS THERE PRECEDENT IN OTHER JURISDICTIONS FOR THE KIND OF**
104 **SEGREGATION THAT YOU ARE DISCUSSING?**

105 A Yes, there is. I am aware of relatively recent decisions by the Public Service
106 Commission of Wisconsin that are directly on point. For example, in Docket No.
107 6690-UR-120, involving Wisconsin Public Service Corporation, the Wisconsin
108 Commission acknowledged the value of recognizing single-phase and three-phase
109 primary distribution circuit costs when assigning revenue responsibility. It directed its
110 Staff to work with the utility, intervenors in the case, and other major Wisconsin
111 investor-owned utilities to explore the issue further. As a result of this further
112 exploration, and the acknowledgement of the appropriateness of the concept by the
113 utility applicant, the Wisconsin Commission in 2012 approved the utility's filed cost of
114 service study, which segregated single-phase primary lines and allocated them to
115 secondary customers.⁴

⁴Public Service Commission of Wisconsin Docket No. 05-UR-106 involving Wisconsin Electric Power Company. The issue is addressed at pages 24-25 of the direct testimony of utility witness Eric A. Rogers, which was filed on May 15, 2012 and which is available at the following link:
http://psc.wi.gov/apps35/ERF_view/viewdoc.aspx?docid=164646

116 Q DID THE COMMISSION ADDRESS THIS ISSUE IN ITS ORDER IN THE LAST
117 COMED GENERAL DELIVERY SERVICE RATE CASE, DOCKET NO. 10-0467?

118 A Yes, it did. To my knowledge, the Commission had never confronted this issue
119 before that rate case and it was introduced by IIEC in direct testimony in that case.

120 At page 176 of its order in that case, in its Analysis and Conclusions section,
121 the Commission states as follows:

122 Additionally, while the IIEC has presented its arguments in detail, it has
123 not proffered any evidence to indicate that Staff is incorrect when
124 opining that serving primary voltage customers on a circuit may require
125 ComEd to incur the additional costs of a three-phase line, while a
126 single-phase line could serve secondary loads.

127 The Commission went on to observe that:

128 Because, at this time, these costs do not appear to be as neatly (and
129 fairly) segregable as the IIEC asserts, the Commission further
130 concludes that, at this time, ComEd's Primary Secondary split analysis
131 did not violate the *Rate Design Investigation* Order on this issue.
132 (Underlining emphasis added).

133 Q WHAT DO YOU CONCLUDE FROM THE COMMISSION ANALYSIS AND
134 CONCLUSIONS STATED ABOVE?

135 A It is my understanding and belief that Staff fundamentally misunderstood the nature of
136 designing and deploying the utility distribution system and how large customers utilize
137 power in making such a claim. Power is generated and transported in a three-phase
138 configuration. Primary customers did not cause this system design. Rather, this
139 system design is the most efficient to produce, transport and distribute power by
140 utilities. It typically is only in the lower load-concentrated parts of the system where
141 utilities can feasibly separate the phases of a three-phase circuit and serve
142 customers reliably from single-phase legs of the circuit. Such is the case in rural
143 areas and residential areas, for example, where lower load customers take service at

144 secondary voltages. Customers who use three-phase service already pay higher
145 costs than customers who only require single-phase service, as is dictated in
146 ComEd's tariff. In short, Staff effectively shifted the burden of disproving its
147 speculation on IIEC,⁵ rather than addressing straight-on the underlying concept of
148 what customers the single-phase primary distribution system serves.

149 Second, as indicated in the Commission Analysis and Conclusions, the
150 Commission seems to acknowledge that Docket No. 10-0467 was not the right time to
151 make such an adjustment because it was not convinced at that time that the costs
152 were as neatly and fairly segregable.

153 **Q NOW THAT YOU HAVE INTRODUCED THE ISSUE GENERALLY AND**
154 **DISCUSSED PRECEDENT FOR THE ISSUE, CAN YOU PLEASE PROVIDE MORE**
155 **TECHNICAL BACKGROUND ON SINGLE-PHASE PRIMARY LINES AND HOW**
156 **THEY ARE USED?**

157 A Yes. I will do so in the next section.

158 **Single-Phase Primary Lines**

159 **Q WHAT IS THE MEANING OF THE TERM "PHASE" AS IT IS USED TO DESCRIBE**
160 **SINGLE- OR THREE-PHASE PRIMARY DISTRIBUTION CIRCUITS?**

161 A The term "phase" refers to a particular characteristic of the distribution of alternating
162 current. In the context of electrical distribution, the term "phase" simply refers to an
163 energized conductor. Single-phase primary distribution *circuits* are composed of a

⁵I refer to this as speculation, because in Docket No. 10-0467, the Staff witness never actually claimed that primary customers caused increased costs of the primary voltage system. Rather, Staff merely offered the possibility that primary customers cause such increases, without proof or evidence that this was the case.

164 single conductor that is energized to a primary voltage level, and a ground conductor.
165 Three-phase primary distribution circuits consist of three energized conductors and a
166 ground conductor. Thus, electrical power is transmitted via separate conductors for
167 each phase. Household appliances, for example, typically operate on single-phase
168 service, while industrial applications, such as large motors, may operate on either
169 single-phase or three-phase service.

170 The majority of costs of single-phase and three-phase distribution facilities are
171 recorded in Federal Energy Regulatory Commission (“FERC”) Accounts 364 – Poles
172 and Towers, 365 – Overhead Conductors and Devices, 366 – Conduit and 367 –
173 Underground Cables and Devices.

174 **Q WITH RESPECT TO ELECTRICAL DISTRIBUTION SYSTEMS, HOW DOES THE**
175 **NUMBER OF PHASES RELATE TO THE VOLTAGE LEVEL?**

176 A Theoretically, the number of phases and the voltage level are independent
177 parameters of a distribution system. Therefore, a single-phase circuit could operate
178 at one of any number of primary or secondary voltages. Likewise, a primary voltage
179 customer could receive single-phase, dual-phase or three-phase service.

180 However, it is well known in the electric utility industry that certain
181 phase/voltage combinations can lead to localized system load imbalances, which in
182 turn, can cause voltage instabilities. Perhaps the most widely recognized problematic
183 combination is the use of a single-phase primary circuit to serve a primary voltage
184 customer. Such phase/voltage combinations typically are used to serve primary
185 voltage customers only when no other alternative is available. Consequently, costs of

186 single-phase primary distribution circuits are incurred predominantly, if not
187 exclusively, to serve secondary voltage customers.⁶

188 **Q WHAT IS THE COMPANY'S METHOD OF ALLOCATING SINGLE-PHASE AND**
189 **THREE-PHASE DISTRIBUTION COSTS TO CUSTOMER CLASSES IN ITS ECOS**
190 **STUDIES?**

191 A In its Primary/Secondary ("P/S") Analysis, ComEd identifies the costs of single-phase
192 primary circuits as "shared" costs (costs incurred to serve both primary and
193 secondary customers) because those circuits operate at primary voltage levels. In
194 fact, single-phase primary circuits are rarely, if ever, used to serve primary customers.
195 Costs associated with facilities used to serve secondary customers, like single-phase
196 components, should be allocated to secondary customers. When the results of
197 ComEd's flawed P/S analysis are reflected in the ECOS studies, these single-phase
198 primary circuit costs are misallocated and the cost of distributing electricity to primary
199 customers is overstated.

200 **Q WHAT IS THE IMPACT OF THE COMPANY'S METHOD ON THE ALLOCATION**
201 **OF DISTRIBUTION COSTS IN ITS ECOS STUDIES?**

202 A The exact dollars impacted will be slightly different under each of the Company's filed
203 illustrative ECOS studies. The Company did not file in the instant case the necessary
204 data to calculate specifically the number of single-phase and multi-phase circuits on
205 ComEd's system, but it did file useful data in the last delivery service rate case,
206 Docket No. 10-0467. IIEC witness David Stowe presented in direct testimony in that

⁶This concept was supported generally in Docket No. 10-0467 by a former ComEd distribution planning engineer, distribution design engineer and manager of engineering. (See Rebuttal Testimony of Harry L. Terhune, REACT Exhibit 6.0 in Docket No. 10-0467, at pages 13-14, 22-24 and 29-32.)

207 case data showing that roughly 25% of the total Company overhead primary costs
208 and 33% of the total Company underground primary costs that were originally
209 allocated as “shared” are actually related to single-phase facilities and should instead
210 be allocated to secondary customers only. Further evidence in that case was that
211 approximately 52% of all primary distribution line miles were single-phase or
212 dual-phase.⁷ These values indicate that this matter is significant and should be given
213 proper investigation by the Company and the Commission.

214 **Q WOULD YOU EXPECT SUCH PERCENTAGES TO CHANGE SIGNIFICANTLY**
215 **OVER TIME?**

216 **A** No, I would not expect this to be the case, as it would require a major reconfiguration
217 of ComEd’s distribution network. However, given the Commission’s earlier-mentioned
218 concerns about single-phase primary costs not being as cleanly and neatly
219 segregable from the remaining primary costs, I believe that further investigation of this
220 issue may be warranted. Only ComEd has the necessary data and systems to make
221 a precise estimate of the current system portions.

222 However, even if the Commission were left with IIEC’s estimates from a prior
223 case, it would be a better estimate of the amount of costs of the primary system that
224 are single-phase than it would be to assume that none of those costs are
225 single-phase, and serving only secondary customers, which is the result of not
226 recognizing this issue at all.

227 For these reasons, and because proper allocation of single-phase and
228 three-phase primary distribution circuits is still a relatively new concept to Illinois
229 utilities and regulators, further investigation of the issue and quantification of the

⁷As reported by REACT witness Terhune at page 29 of his Rebuttal Testimony, REACT Exhibit 6.0 in Docket No. 10-0467, citing to ComEd’s response to a REACT data request.

230 associated costs may be warranted before full recognition of an adjustment is made
231 in this regard.

232 **Q WHAT DO YOU RECOMMEND IN THIS REGARD?**

233 A My recommendation is twofold. First, I recommend that Commission direct the
234 Company and all interested parties to review the merit of segregating the primary
235 delivery system costs into single-phase and three-phase components and assigning
236 the single-phase costs exclusively to secondary customers. The parties should also
237 discuss the best method to estimate the single-phase primary costs to be assigned to
238 secondary customers. Then, ComEd and the Commission should seek to implement
239 the results of that investigation at the earliest appropriate opportunity, but no later
240 than the Company's next rate design proceeding.

241 I also recommend that the Commission take a modest step in refining the
242 ComEd ECOS study in this regard in the current case.

243 **Q PLEASE DESCRIBE THE MODEST STEP THAT YOU RECOMMEND.**

244 A As mentioned previously, in ComEd's last delivery service rate case, IIEC estimated
245 that single-phase primary costs constituted 25% to 33% of primary facility costs. To
246 my knowledge, no party provided any alternate estimates suggesting a lower
247 percentage. Therefore, a conservative step toward this refinement of the
248 primary/secondary split analysis would be to recognize 10% of the primary costs as
249 single-phase. Then, as segregation methods are further refined through the process
250 that I recommend above, the percentage can be adjusted accordingly.

251 I have asked IIEC witness Amanda Alderson to adjust ComEd's main ECOS
252 study to reflect this conservative step, i.e., 10%, and to present the results for the

253 Commission's review and potential use. Her testimony is labeled IIEC Exhibit 2.0. I
254 recommend this adjustment be directed in whatever version of ECOS study is
255 ultimately approved by the Commission in this case.

256 **Revenue Allocation**

257 **Q HAVE YOU REVIEWED COMED'S TESTIMONY AS IT RELATES TO REVENUE**
258 **ALLOCATION?**

259 A Yes, I have. This subject is addressed by ComEd witness Charles S. Tenorio, in
260 ComEd Exhibit 2.0.

261 **Q WHAT IS COMED'S STATED POSITION AS RELATES TO REVENUE**
262 **ALLOCATION IN THIS CASE?**

263 A As stated by Mr. Tenorio at page 16 of his testimony:

264 ComEd takes no position at this time as to the relative merits of the
265 2013 FRU Rate Design or the RDI Rate Design as they relate to the
266 costs allocated to the delivery classes in the associated ECOSS.

267 Mr. Tenorio provides illustrative rate designs reflecting various revenue
268 allocation scenarios, including no movement toward cost of service (as ComEd
269 defines it), 50% movement toward ComEd's cost of service, or 100% movement
270 toward ComEd's cost of service, as described generally at pages 23-26 of
271 Mr. Tenorio's testimony.

272 **Q DO YOU HAVE A POSITION AS TO THE AMOUNT OF MOVEMENT THAT**
273 **SHOULD BE MADE TOWARD COST OF SERVICE IN THIS CASE?**

274 A I do, but to begin I would like to give some background. In Docket No. 07-0566, the
275 Commission began a four-step movement toward cost of service for certain rate

276 classes of ComEd, namely the Extra Large Load (“ELL”) and High Voltage (“HV”)
277 classes. In that case, the Commission ordered the first of four steps be taken toward
278 cost of service, meaning that rates were moved one-fourth (or 25%) of the way
279 toward cost of service as ComEd had determined it in that case.⁸ The Commission
280 stated as follows:

281 Nonetheless, the Commission is left to choose between two
282 alternatives that are less than optimal; neither COSS allocates costs
283 as accurately as we would like. In this instance, the Commission finds
284 that an across the board increase not only goes against movement
285 towards cost-based rates, but would exacerbate conflict between the
286 classes and as such is inequitable for setting rates in this proceeding.
287 Therefore, we accept ComEd's ECOSS with the following modification.
288 Above, we determined that the proper assignment of primary and
289 secondary distribution costs would likely reduce the total cost
290 allocation to customers in the Extra Large Load, High Voltage, and
291 Railroad delivery classes. It would be inconsistent with that finding to
292 accept ComEd's two-step rate increase. Instead, an allocation that
293 more closely reflects a proper cost of service would be reflected in a
294 four-step, gradual movement toward rates based on the ECOSS for
295 Extra Large Load, High Voltage, and Railroad Delivery Classes.
296 ComEd Ex 30.0 at 43-45. Thus, the Commission authorizes a 25%
297 movement toward ECOSS based rates for these customers, instead of
298 a 50% movement. (Final Order in Docket No. 07-0566, September 10,
299 2008 at page 213).

300 Then, approximately three years later in the next rate case, Docket No.
301 10-0467, the Commission approved the second of four steps toward cost of service,
302 meaning that rates for the ELL and HV classes were moved 33% of the remainder of
303 the way toward cost of service, as computed by ComEd. In that case, the
304 Commission stayed with its four-step approach, despite suggestions made therein
305 that it should abandon the approach.

306 Accordingly, I recommend that the Commission take the third of the four steps
307 toward cost of service, and thus move rates one-half of the remainder of the way
308 toward cost of service, in accordance with its plan established in Docket No. 07-0566.

⁸The Commission was critical of ComEd's determination of cost of service in Docket No. 07-0566. However, it allowed movement of 25% of the way toward ComEd's calculated costs.

309 While I do not want to try to predict the future, at the time of the next rate
310 design investigation case, it may be appropriate to take the final step toward cost of
311 service. Hopefully, at that time, the cost of service studies will be more refined and
312 accurate than they currently are, reflecting items such as the refinement to the
313 primary system costs described in the prior section of my testimony.

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

315 **A Yes, it does.**

Qualifications of Robert R. Stephens

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

2 A Robert R. Stephens. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q PLEASE STATE YOUR OCCUPATION.**

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

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

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

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

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

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

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

29 The firm of Brubaker & Associates, Inc. provides consulting services in the
30 field of energy procurement and public utility regulation to many clients, including
31 large industrial and institutional customers, some utilities, and on occasion, state
32 regulatory agencies. More specifically, we provide analysis of energy procurement
33 options based on consideration of prices and reliability as related to the needs of the
34 client; prepare rate, feasibility, economic and cost of service studies relating to energy
35 and utility services; prepare depreciation and feasibility studies relating to utility
36 service; assist in contract negotiations for utility services; and provide technical
37 support to legislative activities.

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