

**STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION**

AMEREN ILLINOIS COMPANY)	
d/b/a Ameren Illinois)	
)	Docket No. 15-0142
Proposed General Increase in Gas Delivery)	
Service Rates and Revisions to Other Terms and)	
Conditions of Service)	

**DIRECT TESTIMONY OF SCOTT J. RUBIN
ON BEHALF OF
THE PEOPLE OF THE STATE OF ILLINOIS**

AG Exhibit 3.0

JUNE 9, 2015

ILLINOIS COMMERCE COMMISSION
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1 **INTRODUCTION**

2 **Q. Please state your name.**

3 A. My name is Scott J. Rubin. My business address is 333 Oak Lane, Bloomsburg, PA.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am an independent consultant and an attorney. My practice is limited to matters
6 affecting the public utility industry.

7 **Q. What is the purpose of your testimony in this case?**

8 A. I have been asked by the Office of the Attorney General (“AG”) to review the cost of
9 service study and proposed rate design filed by Ameren Illinois Company ("Ameren",
10 "AIC" or "Company").

11 **Q. What are your qualifications to provide this testimony in this case?**

12 A. I have testified as an expert witness before utility commissions or courts in the District of
13 Columbia; the province of Nova Scotia; and the states of Alaska, Arizona, California,
14 Connecticut, Delaware, Illinois, Kentucky, Maine, Maryland, Mississippi, New
15 Hampshire, New Jersey, New York, Ohio, Pennsylvania, and West Virginia. I also have
16 testified as an expert witness before various legislative committees. I also have served as
17 a consultant to the staffs of state utility commissions, as well as to national utility trade
18 associations, and state and local governments throughout the country. Prior to
19 establishing my own consulting and law practice, I was employed by the Pennsylvania
20 Office of Consumer Advocate from 1983 through January 1994 in increasingly
21 responsible positions. From 1990 until I left state government, I was one of two senior

22 attorneys in that Office. Among my other responsibilities in that position, I had a major
23 role in setting its policy positions on water and electric matters. In addition, I was
24 responsible for supervising the technical staff of that Office. I also testified as an expert
25 witness for that Office on rate design and cost of service issues.

26 Throughout my career, I developed substantial expertise in matters relating to the
27 economic regulation of public utilities. I have published articles, contributed to books,
28 written speeches, and delivered numerous presentations, on both the national and state
29 level, relating to regulatory issues. I have attended numerous continuing education
30 courses involving the utility industry. I also have participated as a faculty member in
31 utility-related educational programs for the Institute for Public Utilities at Michigan State
32 University, the American Water Works Association, and the Pennsylvania Bar Institute.

33 **Q. Do you have any experience that is particularly relevant to the issues in this case?**

34 A. Yes, I do. I have testified on numerous occasions as a rate design and cost of service
35 expert. Specific to Ameren, I have testified in, or advised the AG about, several Ameren
36 proceedings during the past decade relating to the utility's natural gas and electric
37 operations. In addition, in the last three years I have testified as an expert witness on
38 similar issues in natural gas utility rate proceedings in Illinois, Nova Scotia, Ohio, and
39 Pennsylvania. My curriculum vitae is attached to this testimony as Appendix A.

40 **SUMMARY**

41 **Q. What is the primary focus of your direct testimony?**

42 A. My testimony focuses on Ameren's proposed design of rates for the residential (GDS-1)
43 customer class.

44 **Q. Do you have any caveats before you discuss your analyses and conclusions?**

45 A. Yes. I want to make clear at the outset that my testimony and analyses are based on the
46 Company's proposed revenue requirement as originally filed. This is a standard practice
47 because it allows different parties' cost of service and rate design recommendations to be
48 compared on an "apples-to-apples" basis. This should not be taken, however, as an
49 endorsement by me or the AG of the Company's proposed revenue requirements.

50 **Q. Please summarize your conclusions and recommendations.**

51 A. My conclusions and recommendations are summarized as follows:

- 52 • Ameren's GDS-1 customer class is very diverse. The class includes
53 residential customers in multi-family buildings, single-family homes of
54 various sizes, as well as family farms. While a typical customer in the
55 class uses approximately 900 therms of natural gas per year, several
56 thousand lower-use customers use less than half that amount, and
57 hundreds of high-use customers use more than five times the average
58 amount of gas. Indeed, one customer (presumably a farming operation)
59 uses enough gas each year to heat 64 typical homes. I question why such
60 large customers are included in what is supposed to be the residential
61 class.
- 62 • The costs to serve high-use customers within the class are much higher
63 than the typical cost to serve a residential customer. The cost of a meter
64 and service line installation for a typical customer would be approximately
65 \$1,700. The cost for a high-use customer, however, would exceed \$5,000,
66 and for a few customers the cost would be \$10,000 or more.
- 67 • Ameren's existing and proposed distribution charges incorrectly assume
68 that all GDS-1 customers are served by the same types of facilities and
69 have similar demand-related costs. As a consequence, Ameren's rate
70 design over-recovers costs from low-use customers and fails to even cover
71 the cost of the meter and service line used by high-use customers.

- 72 • Setting GDS-1 rates based on the cost-of-service study ("COSS") would
73 solve this problem. Such rates would have a lower customer charge than
74 Ameren's existing customer charges and would collect more of the GDS-1
75 revenue requirement through per-therm charges.
- 76 • The Commission also may want to consider setting the GDS-1 customer
77 charge to collect only those costs directly related to connecting a customer
78 to the system. Such a direct cost analysis would be limited to the costs of
79 providing a customer with the meter, service line, bill, and related
80 customer-service functions. Under Ameren's proposed revenue
81 requirement, this cost would be \$11.01 per month.
- 82 • Based on these factors, as well as a consideration of customer bill impacts
83 (including distribution charges, total bill impacts, and winter bill impacts),
84 I recommend that the Commission adopt COSS-based rates at this time,
85 particularly if the Commission finds that Ameren has over-stated its
86 revenue requirement.

87 **OVERVIEW OF AMEREN'S GDS-1 CUSTOMER CLASS**

88 **Q. What is your understanding of Ameren's GDS-1 customer class?**

89 A. The GDS-1 customer class is Ameren's Residential customer class. Ameren's tariff
90 defines Residential customers as follows:

91 a. Single-family dwelling or building containing two or more single-
92 family units, where each unit is separately metered and used as a
93 residence.

94 b. Homes that are served by a single meter where usage is a combination
95 of home and farm use. Usage shall be limited to service within the
96 residence on the farm and that required for all general farming and
97 agricultural purposes conducted on the premises served. Where separate
98 meters are required to supply other operations, each additional meter shall
99 be billed under the applicable Non-Residential rate.

100 c. Recreation facilities consisting of summer cottages, homes, trailers or
101 boat slips where service is individually metered and intended for
102 continuous use by the same single family.

103 AIC Tariff Ill. C.C. No. 2, Original Sheet No. 11 (effective Nov. 19, 2010).

104 **Q. Does Ameren's GDS-1 class have the characteristics you typically find in a**
105 **residential class?**

106 A. No. Ameren's GDS-1 customer class includes agricultural use on family farms. In my
107 experience, many utilities require agricultural usage to be separately metered and billed
108 under a non-residential rate schedule. I do not know the historical reasons why farming
109 load was included in the residential rate class, but it does make rate design more difficult
110 when you have such large users in the same class as apartment units or other smaller
111 homes.

112 **Q. Can you provide a sense of the diversity within the GDS-1 customer class?**

113 A. Yes. In response to data request AG 3.06, Ameren provided consumption data for each
114 GDS-1 customer for each month from January through December 2014. In total, Ameren
115 provided data for 751,690 customers. I then selected from those data all GDS-1
116 customers who received bills in all 12 months of the year, thereby eliminating seasonal
117 customers and those customers who moved during the year. This full-year data set
118 contains monthly usage information for 685,982 customers.

119 I have prepared AG Exhibit 3.01 to summarize the data. During 2014, these
120 customers used an average of 910 therms per year. But there are many customers whose
121 usage is very different from the class average. One percent of customers (approximately
122 7,000 customers) used 78 therms or less during the year. This level of annual usage is
123 less than an average customer would use during just one month of the winter heating

124 season. At the other extreme, another 7,000 customers used 2,360 therms or more during
125 the year -- usage that is almost 2.5 times the usage of the average customer.

126 The data also show the effect of including family farms in the customer class.
127 There were 187 customers who used more than 5,000 therms during the year (more than
128 five times the average residential usage). Of those, 31 customers used more than 9,000
129 therms (about 10 times the average domestic usage). The largest customer used 58,375
130 therms during the year -- enough gas to heat 64 typical homes for an entire year.

131 **Q. Does Ameren incur additional costs to serve such large customers?**

132 A. Yes. In addition to needing a larger gas main and other facilities to serve such large
133 customers, Ameren also incurs additional costs for large customers' meters and
134 regulators. Ameren summarized the cost differential in its response to data request AG
135 3.01 (attached hereto as AG Exhibit 3.02). In that exhibit, Ameren explains the increased
136 costs it incurs to serve different sizes of non-residential customers, stating:

137 The cost of meters and regulators increase based on the meter and
138 regulator required to meet the customer's load. In general, higher load
139 requirements require larger, and more expensive meters and regulators.
140 GDS-2 meter and regulator costs have a wide range; i.e., a meter size of
141 250 has an installed meter current cost of \$144 as compared to a meter
142 size of 7M with a cost of \$4,664. Similarly, the current cost of a regulator
143 installed with a meter size of 250 is \$65 as compared to a regulator
144 installed with a meter size of 7M which has a cost of \$541.

145 **Q. Does the GDS-1 customer class have a similar range of sizes (and costs) for meters
146 and regulators needed to serve the large customers included in the class?**

147 A. Yes. I have prepared AG Exhibit 3.03 from the Company's workpapers. This exhibit
148 shows the different types of meters; the cost for the meter, installation, and regulator; and

149 the number of GDS-1 customers with each type of meter. This exhibit confirms that
150 Ameren's statement in AG Exhibit 3.02 for the GDS-2 class is equally true for the GDS-1
151 class; that is, Ameren incurs significant additional costs to serve larger customers,
152 regardless of the customer class in which the customer is placed.

153 **Q. Can you provide an example?**

154 A. Yes. From AG Exhibit 3.03, most GDS-1 customers are served by a small meter and
155 regulator (typical for a residential or small commercial installation) that has an installed
156 cost of about \$210. As demonstrated above, however, the GDS-1 class has some much
157 larger customers who require larger meters and regulators that are both more costly to
158 purchase and more expensive to install than a typical residential installation.

159 My exhibit shows that more than 5,000 meters have an installed cost of
160 approximately \$399, or almost twice the cost of a typical installation. Another 676
161 meters have a cost of \$688, which is more than three times the typical cost. Finally, 485
162 customers are served by meters with an installed cost of \$3,500 or more, or more than 16
163 times the cost of a typical residential installation. The most expensive meter installation
164 within the GDS-1 class costs more than \$16,000, equivalent to the cost of meter
165 installations for more than 75 typical homes. Again, I question why such large customers
166 are included in what is supposed to be the residential class.

167 **EXISTING AND AMEREN PROPOSED GDS-1 RATE DESIGN**

168 **Q. What is your understanding of Ameren's existing GDS-1 rate design?**

169 A. Under existing rates, Ameren's GDS-1 rates were designed to collect 80% of distribution
170 revenues from the class through the customer charge. The remaining 20% of revenues is
171 collected through a per-therm distribution charge. At the present time, GDS-1 customers
172 in rate zones 1 and 3 (former CIPS and IP, respectively) pay a customer charge of \$22.31
173 per month and a distribution charge of 9.320¢ per therm. GDS-1 customers in rate zone 2
174 (former CILCO) pay a customer charge of \$19.97 per month and a distribution charge of
175 7.692¢ per therm.

176 **Q. Does Ameren propose to make any significant change in its GDS-1 rate design?**

177 A. No. Ameren proposes to continue collecting 80% of GDS-1 revenues through the
178 customer charge. Under proposed rates, Ameren proposes to place GDS-1 customers in
179 all three rate zones on the same rate schedule. Those rates would consist of a customer
180 charge of \$24.82 per month and a distribution charge of 10.197¢ per therm.

181 **Q. Do the existing and Ameren-proposed rate design for the GDS-1 customer class**
182 **reflect the diversity within the class or the cost of serving different-sized customers?**

183 A. No. Ameren's GDS-1 rate design collects 80% of the class's cost of service through a
184 customer charge that is the same for all customers. This has the effect of assuming that
185 metering costs, service line costs, as well as other costs that can vary with the gas
186 demands of the customer are essentially the same for all customers. As I discussed
187 above, this assumption is demonstrably false. There is, in fact, a significant difference in
188 the cost of serving a small GDS-1 customer and a large GDS-1 customer, but the existing
189 and Ameren-proposed rate designs do not reflect this difference in cost.

190 **Q. Can you be more specific about the differences in the cost of serving different**
191 **GDS-1 customers and how that relates to Ameren's proposed rates?**

192 A. Yes. The purpose of distribution rates is to fairly collect the costs of providing a
193 customer with a meter and service line, reading the meter and sending monthly bills,
194 providing other customer service and support functions, and supporting the essential costs
195 of having the distribution network in place (gate stations, transmission and distribution
196 mains, and so on).

197 I already discussed differences in metering costs among customers of different
198 sizes. In addition, the Company's workpapers show that there are differences in the costs
199 of installing a customer service line depending on the size of the customer. AIC
200 workpaper *Schonhoff DWP 12_Service weightings by customer class.xlsx* shows that a
201 typical residential-sized service line has an installed cost of \$1,479, while a typical
202 commercial-sized service line costs \$1,738 to install. As I discussed above, there are
203 hundreds of GDS-1 customers whose consumption is so large that they require meters
204 and service line installations that would typically be associated with commercial
205 customers.

206 On AG Exhibit 3.04, I have compared just two components of the cost of serving
207 GDS-1 customers of different sizes to the rates Ameren proposes to charge. Those two
208 components are the return of and on investment in meter and service line installations. In
209 performing this comparison, I used the Company's proposed return on investment

210 (including the tax gross-up factor) and composite depreciation rate for distribution
211 investment (1.44%) as shown in the Company workpaper noted in my exhibit.

212 The exhibit shows that the revenue requirement under Ameren's proposed rates
213 associated with only the meter and service line is \$252 per year for small (400 therms per
214 year) and typical (900 therms per year) residential customers. For a large GDS-1
215 customer (4,000 therms per year), however, the cost to support the investment in only the
216 meter and service line is \$795 per year.

217 Under Ameren's proposed rates, the Company would collect more than the \$252
218 meter and service line revenue requirement from small and typical GDS-1 customers
219 (\$339 and \$390, respectively). The proposed rate design, however, would not collect
220 enough money from a large GDS-1 customer to even cover of the cost of the meter and
221 service line; collecting only \$706 per year compared to the meter and service line revenue
222 requirement of \$795 per year.

223 I would reiterate that distribution rates must recover more than just meter and
224 service line costs; rates also must pay for billing, customer service, transmission and
225 distribution mains, and other facilities and overheads.

226 **Q. What do you conclude about Ameren's proposed rate design for GDS-1 customers?**

227 A. Ameren's proposed rate design for GDS-1 customers is not consistent with the cost of
228 serving the diverse types of customers that exist within the customer class. The rates
229 collect too much money from smaller customers and fail to collect enough money from
230 larger customers. In fact, hundreds of the largest customers in the class are paying rates

231 that are not even sufficient to cover the costs of their large (and expensive) meters and
232 service line installations, let alone all of the other costs that should be collected through
233 distribution charges.

234 **Q. If Ameren's GDS-1 rate design is requiring smaller customers to subsidize large**
235 **customers, why was it adopted?**

236 A. It is my understanding that the Commission established Ameren's current rate design in
237 2008 as a method of implementing what the Commission believed to be a type of revenue
238 decoupling that did not involve a true-up rider. I have reviewed the Commission's order
239 in Docket Nos. 07-0588, et al. (Sept. 24, 2008), particularly pages 215 and 236-237. In
240 that decision, the Commission directed Ameren to adopt a residential rate design that
241 would collect 80% of revenues through the customer charge, compared to then-existing
242 rates that collected approximately 43% of revenues through the customer charge.

243 My further review of documents in that case (I testified on rate design and related
244 issues in Ameren's companion electric cases at that time) shows that no party had
245 proposed such a steep increase in the customer charge. When that case was filed,
246 Ameren's residential rates in CILCO (now zone 2), for example, consisted of a customer
247 charge of \$11.80 and distribution charges of 18.750¢ per therm (for the first 90 therms
248 per month) and 12.000¢ per therm for usage above 90 therms in a month. Ameren had
249 proposed increasing the customer charge to \$15.00 per month and decreasing both per-
250 therm charges to 10.414¢ per month. The effect of the Commission's order was to
251 increase the customer charge to \$16.42 per month (a 39% increase) while decreasing the

252 distribution charges to 6.718¢ and 4.300¢ for the two consumption blocks. As a
253 consequence, a higher-use customer (300 therms in a month) would have seen its
254 distribution bill decline from \$53.88 per month to \$31.50 per month (a 41% decrease),
255 while a lower-use customer (20 therms in a month) had its bill increase from \$15.55 per
256 month to \$17.76 per month (a 14% increase).

257 As far as I know, no party to the case had proposed such a radical rate design and
258 there was no analysis in the record of that case that evaluated the effects on a range of
259 customers' bills of adopting such an extreme proposal. It also appears that the
260 Commission considered this rate design a type of test or pilot program (similar to the
261 decoupling pilot program involving Rider VBA for Peoples Gas that was in effect at that
262 time), inviting Ameren to propose alternatives in its next case.

263 **REVENUE DECOUPLING AND GDS-1 RATE DESIGN**

264 **Q. In 2008, the Commission apparently viewed high customer charges as a means of**
265 **guaranteeing revenue recovery, similar to revenue decoupling (without a**
266 **reconciliation). Is that an appropriate approach to rate design?**

267 **A.** No. In fact, one researcher (a former utility executive) who led a collaborative review of
268 decoupling mechanisms cautions that while high fixed charges may "achieve ... similar
269 results for utilities as decoupling mechanisms ... they often do so with significant impact
270 to customers. These impacts include shifting cost recovery within a customer class and

271 weakening incentives to invest in energy efficiency ... Moreover, the result can be rigid
272 rate designs that may send wholly inadequate price signals"¹

273 She could have been talking about exactly what has happened to Ameren's GDS-1
274 customers since the extreme rate design was put in place in 2008. Fixed charges have
275 nearly doubled, per-therm charges are less than half of what they were in 2007, and
276 hundreds of higher-use customers do not pay sufficient revenues to even cover Ameren's
277 investment in the meter and service line that serve them. Meanwhile, lower-use
278 customers are collectively paying millions of dollars per year to subsidize the inefficient
279 consumption of the highest-use GDS-1 customers.

280 **Q. Are there other kinds of revenue decoupling mechanisms in use by gas utilities in**
281 **Illinois?**

282 A. Yes, Peoples Gas and North Shore Gas have had Volume Balancing Adjustments (Rider
283 VBA) for almost ten years. I am advised by counsel that the Illinois Supreme Court has
284 upheld the lawfulness of this type of decoupling mechanism. Ameren is proposing to
285 implement a similar Rider VBA in this case, and I am advised that the Office of the
286 Attorney General will not be opposing that rider. Thus, if approved by the Commission,
287 Ameren will have a decoupling mechanism that does not improperly shift costs between
288 lower-use and higher-use customers, and that does not distort the price signals that can
289 guide customers' consumption decisions.

¹ Pamela Morgan, *A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations* (Dec. 2012), available at: <http://aceee.org/collaborative-report/decade-of-decoupling>.

290 I would note that Peoples and North Shore also have implemented separate rates
291 for their lowest-use customers (non-heating customers). Those rates, which were based
292 on cost analyses specific to low-use customers, have significantly lower customer charges
293 than the charges paid by higher-use customers. As a result, those utilities have a
294 decoupling mechanism that works in concert with more cost-based rates.

295 **Q. Are Ameren's existing and proposed rates designs consistent with established**
296 **ratemaking principles?**

297 A. No. Two of the fundamental rate design principles are that rates should be equitable (that
298 is, fair to all customers) and that the rates should encourage customers to make efficient
299 consumption decisions. In practice, these principles are implemented by setting cost-
300 based rates. That is, customer charges should be limited to collecting customer-related
301 costs (as defined in a cost-of-service study ("COSS")) and volumetric charges should
302 collect costs that vary with customer demand and consumption. Ameren's GDS-1 rates
303 bear no relationship to the cost of service. The rates collect too much revenue from
304 lower-use customers and fail to collect sufficient revenues from higher-use customers.
305 The rates thereby fail to send an accurate price signal to customers, resulting in
306 inefficient consumption decisions.

307 **Q. Are there other recognized rate design principles that might affect this issue?**

308 A. Yes, another rate design principle is the effect of rates on revenue stability.

309 **Q. What is revenue stability?**

310 A. Revenue stability addresses the relative certainty of the stream of revenues to the utility;
311 that is, whether the utility has reasonable assurance that its revenues will not fluctuate
312 wildly from year to year. With a utility service that is highly weather-sensitive, such as
313 natural gas used for space heating, it is not feasible to have very stable revenues from one
314 month to the next, so revenue stability is more appropriately considered on an annual
315 basis.

316 **Q. Is annual revenue stability a concern for Ameren?**

317 A. No, it is not. At the conclusion of this case, Ameren will have two rate mechanisms in
318 place that essentially assure the Company that it will recover approximately the same
319 annual level of residential revenues each year. Rider VBA would adjust Ameren's
320 revenue collections for any changes in consumption as compared to the forecasted
321 amount. This is achieved through an annual reconciliation that ensures that the Company
322 receives the revenue requirement for the residential and small commercial customer
323 classes (the vast majority of its customer base) that was established in the last rate case.
324 That is, if revenues in a given class fall below the previously established revenue
325 requirement set by the Commission, surcharges are assessed through Rider VBA in April
326 through December of the following year. (Likewise, credits are assessed through Rider
327 VBA if revenues in a given class exceed the class revenue requirement.)

328 In addition, the Company is essentially guaranteed a designated level of revenues
329 for uncollectible accounts through a separate rider. The uncollectibles rider provides for

330 monthly adjustments to customers' bills for any over- or under-collections of Ameren's
331 actual uncollectible accounts expense.

332 Collectively, these ratemaking mechanisms remove most uncertainties the
333 Company may have concerning the annual level of revenue collection from residential
334 customers.

335 **Q. Does Ameren's revenue stability benefit from any other tariff provisions?**

336 A. Yes. I am advised by counsel that Ameren has implemented a monthly revenue
337 adjustment mechanism called Rider QIP. That rider allows the Company to collect a
338 return of and on qualifying infrastructure investments, as defined in new Section 9-220.3
339 of the Public Utilities Act. This rider will ensure that Ameren's costs for new distribution
340 facilities are collected from customers as the facilities are completed, rather than having
341 to wait for the filing and completion of a new distribution rate case.

342 **Q. Why are those ratemaking mechanisms important in the context of this case?**

343 A. Those mechanisms are important because they remove any concerns Ameren otherwise
344 may have with revenue stability. There is no need to have high customer charges to
345 enhance annual revenue stability when other rate riders already provide Ameren with
346 those assurances.

347 I would note that the Minnesota Public Utilities Commission recently made
348 precisely this conclusion about revenue stability when considering a revenue decoupling
349 mechanism (like Rider VBA) and the residential customer charge for another natural gas
350 utility. In *CenterPoint Energy Resources*, Docket No. G-008/GR-13-316 (Minn. PUC

351 June 9, 2014), that commission rejected the utility's request for a large increase in the
352 customer charge (from \$8.00 to \$12.00) and set the customer charge at \$9.50 for all
353 residential customers (heating and non-heating). That commission stated: "full revenue
354 decoupling achieves a revenue-stabilization objective that might otherwise be
355 accomplished by an increased customer charge. Both effectively reduce revenue
356 volatility for the Company, protecting its ability to recover fixed costs from unexpected
357 usage variations caused by weather or other factors. ... Given the protection provided by
358 revenue decoupling, the Commission will not approve the Company's proposed increase
359 ..." *Id.*, slip op., p. 51.

360 **Q. Has the Illinois Commission also recognized that Rider VBA and high fixed charges**
361 **are redundant ways to address the issue of revenue stability?**

362 A. Yes. This Commission addressed this issue in an August 30, 2013 report to the General
363 Assembly entitled, *Report to the Illinois General Assembly Concerning Coordination*
364 *Between Gas and Electric Utility Energy Efficiency Programs and Spending Limits for*
365 *Gas Utility Energy Efficiency Programs* (cited below as "ICC Report"). In that report,
366 this Commission stated that because of Rider VBA, "the Commission can provide a
367 mechanism for revenue stability that lowers the monthly customer charges and increases
368 the volumetric charges. Such a change can decrease energy use by providing a greater
369 price signal" to customers. ICC Report, p. 23. In other words, because of the various
370 adjustment riders in Ameren's tariff, it is no longer necessary (assuming for the sake of
371 argument that it ever was necessary) for Ameren to have high customer charges. The

372 issue of revenue stability is addressed through the riders; it does not need to be addressed
373 again through the rate design.

374 **Q. Are there other policy implications the Commission should consider in examining**
375 **the customer charge issue in this case?**

376 A. Yes. I am advised by counsel that the Illinois General Assembly, in its passage of
377 Section 8-104 of the Public Utilities Act, made clear its interest in reducing the amount of
378 natural gas delivered to utility customers and reducing the cost of utility bills that
379 customer pay. To that end, I am advised that Section 8-104(c) requires specific reductions
380 in the use of natural gas on an annual basis. High fixed charges undermine this public
381 policy objective by reducing the amount of the customer bill that can be reduced through
382 conservation and energy efficiency. Giving the Company's customers more control over
383 their natural gas bills by reducing the customer charge gives customers an important
384 incentive to reduce energy usage.

385 **Q. Has the Commission recognized that moving away from high customer charges**
386 **could help the State meet its energy efficiency goals?**

387 A. Yes, it has. In the ICC Report, the Commission recognized that reducing the customer
388 charge while increasing variable charges could reduce overall natural gas usage and assist
389 in the achievement of statutory natural gas use reduction goals in a cost-effective manner.

390 The Commission stated:

391 The importance of these findings is that increasing the volumetric
392 distribution charge by even 10% (the distribution charge is approximately
393 40%-50% of the bill) could lead to a 0.4%-0.5% short term reduction and

394 0.88%-1.1% long-term reduction in gas use over what it would be with the
395 lower volumetric price. Since altering the volumetric charge does not
396 affect the average cost of delivery service to retail customers (it does
397 affect the costs to individual customers but on average a customer pays the
398 same amount), these additional savings can be achieved without increasing
399 the [energy efficiency program] budget limitations. If prices and weather
400 are similar to what was experienced in 2009, one should expect that
401 increasing the volumetric distribution charge by 10% would achieve a
402 usage reduction that is about half of the May 31, 2015 goal of 0.8%.

403 ICC Report, p. 24. Thus, the Commission agreed that enabling customers to have more
404 control over their natural gas bills serves the statutory goal of reducing natural gas
405 consumption in a cost-effective manner.

406 **COST-BASED GDS-1 RATE DESIGNS**

407 ***Introduction***

408 **Q. Are there ways to design rates for a class as diverse as the GDS-1 class that ensure**
409 **the costs of serving each type of customer are collected through the rates?**

410 A. Yes. In my experience, there are two approaches that are used to design residential rates
411 in a manner that is fair to all customers on a residential rate schedule, consistent with
412 cost-based rate-setting, and reflecting other important rate-setting principles. One
413 method sets the customer charge to be equal to the fully embedded customer costs in a
414 cost-of-service study ("COSS"). The second method sets the customer charge equal to
415 the direct customer costs; that is, the costs of providing a customer with the meter,
416 service line, bill, and related customer-service functions.

417 ***Fully Embedded Customer Cost Method***

418 **Q. Does a properly performed COSS contain information that can be used to design**
419 **GDS-1 rates that are fair to all customers?**

420 A. Yes. A properly performed COSS, including the one filed by Ameren in this case,
421 contains a functionalization analysis that identifies specific categories of customer-related
422 costs. Each customer class's share of those costs can also be determined from the COSS,
423 resulting in a customer charge that collects all of the customer-related costs. All
424 remaining costs, that is, demand-related costs, are then collected on a per-therm basis.
425 Such a rate design would have the effect of collecting more revenue from larger
426 customers, so that the costs of more expensive metering and service lines (as well as
427 greater demand placed on mains, valves, and other facilities) is fairly collected from
428 larger-use customers.

429 **Q. Have you performed such an analysis for this case?**

430 A. Yes. On AG Exhibit 3.05, I have taken information directly from Ameren's COSS and
431 used it to determine a cost-based customer charge. Again, it is important to remember
432 that the costs listed in that exhibit support Ameren's proposed revenue requirement. As
433 shown on that exhibit, the functions that go into the customer charge are Services,
434 Meters, Customer Installation, Meter Expense, Customer Records, Customer Other, and
435 a credit for Miscellaneous Revenues. For each function, I determine the percentage of
436 costs that is associated with the GDS-1 class. For example, Services costs are based on
437 the proportion of service line investment calculated for each customer class in the COSS,
438 Meter and Meter Expense costs are based on the proportion of meter and regulator

439 investment for each class in the COSS, and so on. All of these calculations are shown in
440 my exhibit.

441 The result of these calculations is that the GDS-1 customer class should be
442 responsible for paying \$149,319,806 in customer-related costs through the customer
443 charge under Ameren's proposed revenue requirement. When this figure is divided by
444 the number of monthly GDS-1 bills (8,927,528), the result is a monthly customer charge
445 of \$16.73.

446 **Q. If the GDS-1 customer charge were set at \$16.73 per month, what per-therm**
447 **distribution charge would be required for Ameren to collect its proposed amount of**
448 **revenues from the GDS-1 customer class?**

449 A. If the GDS-1 customer charge were set at \$16.73 and there were no change in Ameren's
450 proposed revenue requirement, then the class's distribution charge would be 23.503¢ per
451 therm.²

452 **Q. If a customer charge of \$16.73 per month and a distribution charge of 23.503¢ per**
453 **therm were implemented, what percentage of GDS-1 revenues would be collected**
454 **through the customer charge?**

455 A. Under those rates, 53.9% of GDS-1 revenues would be collected through the customer
456 charge.

² This calculation is shown in my workpapers, which includes a GDS-1 proof of revenues calculation showing that these rates would collect approximately the same amount of revenue as Ameren's proposed rates.

457 **Q. Have you prepared an analysis similar to AG Exhibit 3.04 to show whether COSS-**
458 **based rates would fairly collect revenues within the GDS-1 class?**

459 A. Yes. AG Exhibit 3.06 provides a similar analysis for small, typical, and large GDS-1
460 customers, but using rates based on Ameren's COSS rather than Ameren's proposed 80%
461 cost recovery through the customer charge. In contrast to Ameren's proposed rates, when
462 the COSS is used to guide the rate design, costs are collected fairly from each customer,
463 resulting in each customer paying rates sufficient to collect meter and service line
464 installation costs. In addition, each type of customer provides additional revenues that
465 would be used to collect other customer-related costs (such as meter reading, billing, and
466 customer service costs).

467 **Q. Under COSS-based rates, would any low-use customers fail to pay metering and**
468 **service line costs?**

469 A. Yes, under this approach customers who use less than approximately 215 therms per year
470 (less than 3% of Ameren's GDS-1 customers) would not pay enough revenues annually to
471 cover the cost of metering and the service line. I would note, however, that at this low
472 level of consumption, I would expect many of these customers to be in apartment
473 buildings or similar shared spaces where each unit might not have a separate service line
474 or a separate regulator. Consequently, I still consider these rates to be cost-based and fair
475 to all customers.

476 ***Direct Customer Cost Method***

477 **Q. What is the direct customer cost method?**

478 A. Some regulatory commissions use a method to determine customer charges that is
479 designed solely to collect the direct costs of connecting a customer to the system.
480 Typically, direct costs include meter and service line installation, meter reading, billing,
481 and customer service costs. Most overhead costs (such as officers' salaries, office
482 buildings, legal and accounting expenses, and so on) are excluded from the customer
483 charge calculation. The exception would be overhead costs that are directly related to the
484 customer service functions (such as employee benefits for customer service employees or
485 meter readers, or computers and telephones used in a call center). While general
486 overhead costs might be properly allocated to a customer-related function in a COSS,
487 they are collected from customers through distribution charges rather than through the
488 customer charge.

489 **Q. From your experience, are you aware of any jurisdictions that use a direct customer**
490 **cost analysis?**

491 A. Yes. From my recent experience, I am aware that this type of analysis is used in Alaska
492 and Pennsylvania. I also know that it was used in Ohio in some cases in which I have
493 testified in that state, but I do not know if it is used uniformly in that state. I would note,
494 however, that I have not conducted any type of state-by-state analysis to determine
495 whether other states use this method to determine utility customer charges.

496 **Q. What are the benefits of using the direct cost method?**

497 A. The direct cost method gives customers greater control over their bills; that is, because
498 more of the bill is based on usage, energy efficiency efforts have a greater benefit for

499 customers. Thus, this approach also can be used to enhance energy conservation
500 initiatives.

501 In addition, the direct cost approach can lessen the burden of being a gas customer
502 during the summer months. This can be beneficial to customers who have other costs
503 that are higher in the summer, such as electricity costs for air conditioning or providing
504 meals for low-income children who do not receive free school breakfast and lunch during
505 the summer.

506 **Q. Can you provide an illustration of the difference in customer charges that can result**
507 **from using the direct cost approach?**

508 A. Yes. The following table shows the residential customer charges currently levied by the
509 major natural gas distribution utilities in Pennsylvania.

510

Natural Gas Utility	Residential Customer Charge (per month)
Columbia Gas	\$16.75
Equitable Gas	\$13.25
National Fuel Gas Distribution	\$12.00
Peoples Natural Gas	\$13.95
PECO / Exelon	\$11.75
Philadelphia Gas Works	\$12.00
UGI	\$8.55

511 These charges are all substantially less than Ameren's existing and proposed customer
512 charges. While the underlying costs may differ somewhat from one utility to another, I
513 would expect most of the difference to be the result of the methodology used to design
514 the residential customer charges.
515

516 **Q. Have you performed a direct customer cost analysis for this case?**

517 A. Yes. On AG Exhibit 3.07, I have taken information directly from Ameren's COSS and
518 used it to perform a direct customer cost analysis. The analysis is similar to the analysis I
519 presented in AG Exhibit 3.05, but excludes most overhead types of costs. The result of
520 these calculations is that direct customer costs for the GDS-1 customer class would be
521 \$98,254,550 under the Company's proposed revenue requirement. When this figure is
522 divided by the number of monthly GDS-1 bills (8,927,528), the result would be a
523 monthly customer charge of \$11.01. This charge is in line with the customer charges
524 (using a similar direct-cost methodology) currently in effect in Pennsylvania.

525 **Q. If the GDS-1 customer charge were set at \$11.01 per month, what per-therm**
526 **distribution charge would be required for Ameren to collect its proposed amount of**
527 **revenues from the GDS-1 customer class?**

528 A. If the GDS-1 customer charge were set at \$11.01 and there were no change in Ameren's
529 proposed revenue requirement, then the class's distribution charge would be 32.918¢ per
530 therm.³

531 **Q. If a customer charge of \$11.01 per month and a distribution charge of 32.918¢ per**
532 **therm were implemented, what percentage of GDS-1 revenues would be collected**
533 **through the customer charge?**

³ This calculation is shown in my workpapers, which includes a GDS-1 proof of revenues calculation showing that these rates would collect approximately the same amount of revenue as Ameren's proposed rates.

534 A. Under those rates, 35.5% of GDS-1 revenues would be collected through the customer
535 charge. This is another rate design option that the Commission may want to consider.

536 **Q. Have you prepared an analysis similar to AG Exhibit 3.04 to show whether direct**
537 **customer cost -based rates would fairly collect revenues within the GDS-1 class?**

538 A. Yes. AG Exhibit 3.08 provides a similar analysis for small, typical, and large GDS-1
539 customers, but using rates based on the direct customer cost analysis. Each type of
540 customer provides additional revenues that would be used to collect other customer-
541 related costs (such as meter reading, billing, and customer service costs).

542 **CUSTOMER IMPACT**

543 **Q. In addition to the cost of service, are there other factors that should affect the**
544 **development of a rate design?**

545 A. Yes, one additional important consideration (other than the cost of service) is the impact
546 of a rate design change on customers. In other words, a rate design should be fair and not
547 punish customers who use relatively small amounts of the utility's service.

548 **Q. How is customer impact evaluated?**

549 A. There are various approaches that can be used to evaluate the impact on customers of a
550 rate design change. These include evaluating the annual change in the distribution
551 portion of the bill only, the annual change in the total bill, and looking at seasonal bill
552 changes on a total bill basis. I tend to focus on annual distribution impacts, but I am
553 aware from previous cases I have worked on in Illinois, that this Commission also finds
554 total bill impacts and seasonal bill impacts to provide useful information.

555 **Q. Have you performed customer impact analyses of the different rate options?**

556 A. Yes. I have prepared customer impact analyses under each rate design scenario. My
557 analyses evaluate three types of impacts: annual distribution bill impacts, annual total bill
558 impacts, and winter total bill impacts (defining winter as the billing months of November
559 through April, which captures usage from roughly mid-October through mid-April).

560 AG Exhibit 3.09 graphs the distribution of annual percentage increases in the
561 distribution portion of the bill (customer charge plus per-therm charge) under each rate
562 design option. Ameren's proposal (the solid line) is unusual because it is a stepped
563 function. Approximately 73% of customers would see annual increases between 10.5%
564 and 11.5% annually. The remaining 27% of customers (the Zone 2 customers) would
565 have annual distribution increases of between 25% and 27.5%.

566 The other rate design options have a much broader range of distribution bill
567 impacts. The COSS-based rate option (the dotted line) has impacts ranging from a 19%
568 reduction in distribution costs (these are lower-use customers in Zones 1 and 3) to
569 increases as high as 68% (high-use customers in Zone 2). The rates based on charging a
570 customer charge based on the direct customer cost have even more diverse impacts --
571 ranging from a 41% decrease to a 100% increase in distribution charges. But again, as
572 noted earlier, I question whether the highest-use customers should be included within the
573 GDS-1 residential customer class.

574 **Q. Are those types of bill impacts unexpected given the historical context of this case?**

575 A. No. As I explained above, when the Commission moved from customer charges
576 collecting 43% of revenues to 80% of revenues, it did so without evaluating customer
577 impacts. The resulting changes were dramatic, causing much greater than average
578 increases for lower-use customers and substantial reductions in distribution charges for
579 higher-use customers. It stands to reason that restoring rates to more traditional levels
580 (having customer charges collect customer-related costs) would result in dramatic swings
581 in the other direction -- lower-use customers would have their bills reduced to better track
582 the cost of service, and higher-use customers would have their bills increase by more than
583 average to restore an appropriate relationship to cost.

584 **Q. Please begin your analysis of annual total bill impacts.**

585 A. AG Exhibit 3.10 shows a similar distribution of annual total bill impacts. These total bill
586 impacts assume no change in the cost of gas and Ameren's proposed .04¢ per therm
587 increase in the capacity banking charge.

588 **Q. Before you discuss in detail the total bill impact analysis, is it reasonable to assume**
589 **no change in the cost of gas over the next 12 to 18 months?**

590 A. Based on the most recent price forecast from the U.S. Department of Energy's Energy
591 Information Administration ("EIA"), it appears likely that natural gas prices will be lower
592 this year than they were in 2014, but may trend slightly higher in 2016. Attached as AG
593 Exhibit 3.11 is a graph showing the EIA's most recent price forecast for natural gas (in
594 dollars per therm at Henry Hub). The forecast is dated May 12, 2015, so data from
595 January 2014 through April 2015 are actual prices; May 2015 through December 2016

596 are forecasts. Overall EIA is projecting that prices through the end of 2016 will be either
597 the same or lower than in the comparable month of 2014. It appears, therefore, that
598 assuming no change in the cost of gas is a reasonably conservative assumption to make
599 for purposes of my analysis of total bill impacts.

600 **Q. Please continue with your discussion of AG Exhibit 3.10, annual total bill impacts.**

601 A. AG Exhibit 3.10 graphs the distribution of annual percentage increases in the total bill
602 under each rate design option. Ameren's proposal (the solid line) shows total-bill
603 increases ranging from 3% to 15.5% (the high percentage increases are low-use
604 customers in Zone 2). The COSS-based rate option (the dotted line) has impacts ranging
605 from a 16% reduction for low-use customers in Zones 1 and 3 to 19% increases for high-
606 use customers in Zone 2. The rates based on the direct customer cost have total bill
607 impacts ranging from a 36% decrease to a 27.5% increase for the same types of
608 customers, respectively.

609 **Q. Did you also evaluate total bill impacts just in the winter heating season?**

610 A. Yes, I did. AG Exhibit 3.12 shows the impacts on total bills in the winter heating season
611 (bills issued in November through April). The impacts are similar but generally slightly
612 lower than the annual total bill impacts.

613 **Q. Based on your review of the customer impact data, what do you conclude?**

614 A. My review of the customer impact data leads me to several conclusions. First, Ameren's
615 rate design is not a reasonable way to implement its proposal to consolidate GDS-1 rates
616 in Zone 2 with Zones 1 and 3. The consolidation results in Zone 2 customers seeing their

Scott J. Rubin

Attorney + Consultant

333 Oak Lane • Bloomsburg, PA 17815

Current Position

Public Utility Attorney and Consultant. 1994 to present. I provide legal, consulting, and expert witness services to various organizations interested in the regulation of public utilities.

Previous Positions

Lecturer in Computer Science, Susquehanna University, Selinsgrove, PA. 1993 to 2000.

Senior Assistant Consumer Advocate, Office of Consumer Advocate, Harrisburg, PA. 1990 to 1994.

I supervised the administrative and technical staff and shared with one other senior attorney the supervision of a legal staff of 14 attorneys.

Assistant Consumer Advocate, Office of Consumer Advocate, Harrisburg, PA. 1983 to 1990.

Associate, Laws and Staruch, Harrisburg, PA. 1981 to 1983.

Law Clerk, U.S. Environmental Protection Agency, Washington, DC. 1980 to 1981.

Research Assistant, Rockville Consulting Group, Washington, DC. 1979.

Current Professional Activities

Member, American Bar Association, Public Utility Law Section.

Member, American Water Works Association.

Admitted to practice law before the Supreme Court of Pennsylvania, the New York State Court of Appeals, the United States District Court for the Middle District of Pennsylvania, the United States Court of Appeals for the Third Circuit, and the Supreme Court of the United States.

Previous Professional Activities

Member, American Water Works Association, Rates and Charges Subcommittee, 1998-2001.

Member, Federal Advisory Committee on Disinfectants and Disinfection By-Products in Drinking Water, U.S. Environmental Protection Agency, Washington, DC. 1992 to 1994.

Chair, Water Committee, National Association of State Utility Consumer Advocates, Washington, DC. 1990 to 1994; member of committee from 1988 to 1990.

Member, Board of Directors, Pennsylvania Energy Development Authority, Harrisburg, PA. 1990 to 1994.

Member, Small Water Systems Advisory Committee, Pennsylvania Department of Environmental Resources, Harrisburg, PA. 1990 to 1992.

Member, Ad Hoc Committee on Emissions Control and Acid Rain Compliance, National Association of State Utility Consumer Advocates, 1991.

Member, Nitrogen Oxides Subcommittee of the Acid Rain Advisory Committee, U.S. Environmental Protection Agency, Washington DC. 1991.

Education

J.D. with Honors, George Washington University, Washington, DC. 1981.

B.A. with Distinction in Political Science, Pennsylvania State University, University Park, PA. 1978.

Publications and Presentations (* denotes peer-reviewed publications)

1. "Quality of Service Issues," a speech to the Pennsylvania Public Utility Commission Consumer Conference, State College, PA. 1988.
2. K.L. Pape and S.J. Rubin, "Current Developments in Water Utility Law," in *Pennsylvania Public Utility Law* (Pennsylvania Bar Institute). 1990.
3. Presentation on Water Utility Holding Companies to the Annual Meeting of the National Association of State Utility Consumer Advocates, Orlando, FL. 1990.
4. "How the OCA Approaches Quality of Service Issues," a speech to the Pennsylvania Chapter of the National Association of Water Companies. 1991.
5. Presentation on the Safe Drinking Water Act to the Mid-Year Meeting of the National Association of State Utility Consumer Advocates, Seattle, WA. 1991.
6. "A Consumer Advocate's View of Federal Pre-emption in Electric Utility Cases," a speech to the Pennsylvania Public Utility Commission Electricity Conference. 1991.
7. Workshop on Safe Drinking Water Act Compliance Issues at the Mid-Year Meeting of the National Association of State Utility Consumer Advocates, Washington, DC. 1992.
8. Formal Discussant, Regional Acid Rain Workshop, U.S. Environmental Protection Agency and National Regulatory Research Institute, Charlotte, NC. 1992.
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19. "Zealous Advocacy, Ethical Limitations and Considerations," participant in panel discussion at "Continuing Legal Education in Ethics for Pennsylvania Lawyers," sponsored by the Office of General Counsel, Commonwealth of Pennsylvania, State College, PA. 1993.
20. "Serving the Customer," participant in panel discussion at the Annual Conference of the National Association of Water Companies, Williamsburg, VA. 1993.
21. "A Simple, Inexpensive, Quantitative Method to Assess the Viability of Small Water Systems," a speech to the Water Supply Symposium, New York Section of the American Water Works Association, Syracuse, NY. 1993.
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24. "Are Water Rates Becoming Unaffordable?," a speech to the Legislative and Regulatory Conference, Association of Metropolitan Water Agencies, Washington, DC. 1994.
25. "Relationships: Drinking Water, Health, Risk and Affordability," speaker and participant in panel discussion at the Annual Meeting of the Southeastern Association of Regulatory Commissioners, Charleston, SC. 1994.
26. "Small System Viability: Assessment Methods and Implementation Issues," speaker and participant in panel discussion at the Annual Conference of the American Water Works Association, New York, NY. 1994.
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34. Speaker and participant in the Water Policy Forum, sponsored by the National Association of Water Companies, Naples, FL. 1995.
35. Participant in panel discussion on "The Efficient and Effective Maintenance and Delivery of Potable Water at Affordable Rates to the People of New Jersey," at The New Advocacy: Protecting Consumers in the Emerging Era of Utility Competition, a conference sponsored by the New Jersey Division of the Ratepayer Advocate, Newark, NJ. 1995.
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3. *Pa. Public Utility Commission v. Pennsylvania Gas and Water Co. - Water Division*, Pa. Public Utility Commission, Docket R-00922482. 1993. Concerning rate design, on behalf of the Pa. Office of Consumer Advocate
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6. *West Penn Power Co. v. State Tax Department of West Virginia*, Circuit Court of Kanawha County, West Virginia, Civil Action No. 89-C-3056. 1993. Concerning regulatory policy and the effects of a taxation statute on out-of-state utility ratepayers, on behalf of the Pa. Office of Consumer Advocate
7. *Pa. Public Utility Commission v. Pennsylvania Gas and Water Co. - Water Division*, Pa. Public Utility Commission, Docket R-00932667. 1993. Concerning rate design and affordability of service, on behalf of the Pa. Office of Consumer Advocate
8. *Pa. Public Utility Commission v. National Utilities, Inc.*, Pa. Public Utility Commission, Docket R-00932828. 1994. Concerning rate design, on behalf of the Pa. Office of Consumer Advocate
9. *An Investigation of the Sources of Supply and Future Demand of Kentucky-American Water Company*, Ky. Public Service Commission, Case No. 93-434. 1994. Concerning supply and demand planning, on behalf of the Kentucky Office of Attorney General, Utility and Rate Intervention Division.
10. *The Petition on Behalf of Gordon's Corner Water Company for an Increase in Rates*, New Jersey Board of Public Utilities, Docket No. WR94020037. 1994. Concerning revenue requirements and rate design, on behalf of the New Jersey Division of Ratepayer Advocate.
11. *Re Consumers Maine Water Company Request for Approval of Contracts with Consumers Water Company and with Ohio Water Service Company*, Me. Public Utilities Commission, Docket No. 94-352. 1994. Concerning affiliated interest agreements, on behalf of the Maine Public Advocate.
12. *In the Matter of the Application of Potomac Electric Power Company for Approval of its Third Least-Cost Plan*, D.C. Public Service Commission, Formal Case No. 917, Phase II. 1995. Concerning Clean Air Act implementation and environmental externalities, on behalf of the District of Columbia Office of the People's Counsel.
13. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of the Dayton Power and Light Company and Related Matters*, Ohio Public Utilities Commission, Case No. 94-105-EL-EFC. 1995. Concerning Clean Air Act implementation (case settled before testimony was filed), on behalf of the Office of the Ohio Consumers' Counsel.

14. *Kennebec Water District Proposed Increase in Rates*, Maine Public Utilities Commission, Docket No. 95-091. 1995. Concerning the reasonableness of planning decisions and the relationship between a publicly owned water district and a very large industrial customer, on behalf of the Maine Public Advocate.
15. *Winter Harbor Water Company, Proposed Schedule Revisions to Introduce a Readiness-to-Serve Charge*, Maine Public Utilities Commission, Docket No. 95-271. 1995 and 1996. Concerning standards for, and the reasonableness of, imposing a readiness to serve charge and/or exit fee on the customers of a small investor-owned water utility, on behalf of the Maine Public Advocate.
16. *In the Matter of the 1995 Long-Term Electric Forecast Report of the Cincinnati Gas & Electric Company*, Public Utilities Commission of Ohio, Case No. 95-203-EL-FOR, and *In the Matter of the Two-Year Review of the Cincinnati Gas & Electric Company's Environmental Compliance Plan Pursuant to Section 4913.05, Revised Cost*, Case No. 95-747-EL-ECP. 1996. Concerning the reasonableness of the utility's long-range supply and demand-management plans, the reasonableness of its plan for complying with the Clean Air Act Amendments of 1990, and discussing methods to ensure the provision of utility service to low-income customers, on behalf of the Office of the Ohio Consumers' Counsel.
17. *In the Matter of Notice of the Adjustment of the Rates of Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 95-554. 1996. Concerning rate design, cost of service, and sales forecast issues, on behalf of the Kentucky Office of Attorney General.
18. *In the Matter of the Application of Citizens Utilities Company for a Hearing to Determine the Fair Value of its Properties for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, and to Approve Rate Schedules Designed to Provide such Rate of Return*, Arizona Corporation Commission, Docket Nos. E-1032-95-417, *et al.* 1996. Concerning rate design, cost of service, and the price elasticity of water demand, on behalf of the Arizona Residential Utility Consumer Office.
19. *Cochrane v. Bangor Hydro-Electric Company*, Maine Public Utilities Commission, Docket No. 96-053. 1996. Concerning regulatory requirements for an electric utility to engage in unregulated business enterprises, on behalf of the Maine Public Advocate.
20. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Monongahela Power Company and Related Matters*, Public Utilities Commission of Ohio, Case No. 96-106-EL-EFC. 1996. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
21. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Cleveland Electric Illuminating Company and Toledo Edison Company and Related Matters*, Public Utilities Commission of Ohio, Case Nos. 96-107-EL-EFC and 96-108-EL-EFC. 1996. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
22. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Ohio Power Company and Columbus Southern Power Company and Related Matters*, Public Utilities Commission of Ohio, Case Nos. 96-101-EL-EFC and 96-102-EL-EFC. 1997. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.

23. *An Investigation of the Sources of Supply and Future Demand of Kentucky-American Water Company (Phase II)*, Kentucky Public Service Commission, Docket No. 93-434. 1997. Concerning supply and demand planning, on behalf of the Kentucky Office of Attorney General, Public Service Litigation Branch.
24. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Cincinnati Gas and Electric Co. and Related Matters*, Public Utilities Commission of Ohio, Case No. 96-103-EL-EFC. 1997. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
25. *Bangor Hydro-Electric Company Petition for Temporary Rate Increase*, Maine Public Utilities Commission, Docket No. 97-201. 1997. Concerning the reasonableness of granting an electric utility's request for emergency rate relief, and related issues, on behalf of the Maine Public Advocate.
26. *Testimony concerning H.B. 1068 Relating to Restructuring of the Natural Gas Utility Industry*, Consumer Affairs Committee, Pennsylvania House of Representatives. 1997. Concerning the provisions of proposed legislation to restructure the natural gas utility industry in Pennsylvania, on behalf of the Pennsylvania AFL-CIO Gas Utility Caucus.
27. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Cleveland Electric Illuminating Company and Toledo Edison Company and Related Matters*, Public Utilities Commission of Ohio, Case Nos. 97-107-EL-EFC and 97-108-EL-EFC. 1997. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
28. *In the Matter of the Petition of Valley Road Sewerage Company for a Revision in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR92080846J. 1997. Concerning the revenue requirements and rate design for a wastewater treatment utility, on behalf of the New Jersey Division of Ratepayer Advocate.
29. *Bangor Gas Company, L.L.C., Petition for Approval to Furnish Gas Service in the State of Maine*, Maine Public Utilities Commission, Docket No. 97-795. 1998. Concerning the standards and public policy concerns involved in issuing a certificate of public convenience and necessity for a new natural gas utility, and related ratemaking issues, on behalf of the Maine Public Advocate.
30. *In the Matter of the Investigation on Motion of the Commission into the Adequacy of the Public Utility Water Service Provided by Tidewater Utilities, Inc., in Areas in Southern New Castle County, Delaware*, Delaware Public Service Commission, Docket No. 309-97. 1998. Concerning the standards for the provision of efficient, sufficient, and adequate water service, and the application of those standards to a water utility, on behalf of the Delaware Division of the Public Advocate.
31. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Cincinnati Gas and Electric Co. and Related Matters*, Public Utilities Commission of Ohio, Case No. 97-103-EL-EFC. 1998. Concerning fuel-related transactions with affiliated companies and the appropriate ratemaking treatment and regulatory safeguards involving such transactions, on behalf of the Ohio Consumers' Counsel.
32. *Olde Port Mariner Fleet, Inc. Complaint Regarding Casco Bay Island Transit District's Tour and Charter Service*, Maine Public Utilities Commission, Docket No. 98-161. 1998. Concerning the standards and

requirements for allocating costs and separating operations between regulated and unregulated operations of a transportation utility, on behalf of the Maine Public Advocate and Olde Port Mariner Fleet, Inc.

33. *Central Maine Power Company Investigation of Stranded Costs, Transmission and Distribution Utility Revenue Requirements, and Rate Design*, Maine Public Utilities Commission, Docket No. 97-580. 1998. Concerning the treatment of existing rate discounts when designing rates for a transmission and distribution electric utility, on behalf of the Maine Public Advocate.
34. *Pa. Public Utility Commission v. Manufacturers Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00984275. 1998. Concerning rate design on behalf of the Manufacturers Water Industrial Users.
35. *In the Matter of Petition of Pennsgrove Water Supply Company for an Increase in Rates for Water Service*, New Jersey Board of Public Utilities, Docket No. WR98030147. 1998. Concerning the revenue requirements, level of affiliated charges, and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
36. *In the Matter of Petition of Seaview Water Company for an Increase in Rates for Water Service*, New Jersey Board of Public Utilities, Docket No. WR98040193. 1999. Concerning the revenue requirements and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
37. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Ohio Power Company and Columbus Southern Power Company and Related Matters*, Public Utilities Commission of Ohio, Case Nos. 98-101-EL-EFC and 98-102-EL-EFC. 1999. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
38. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Dayton Power and Light Company and Related Matters*, Public Utilities Commission of Ohio, Case No. 98-105-EL-EFC. 1999. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
39. *In the Matter of the Regulation of the Electric Fuel Component Contained within the Rate Schedules of Monongahela Power Company and Related Matters*, Public Utilities Commission of Ohio, Case No. 99-106-EL-EFC. 1999. Concerning the costs and procedures associated with the implementation of the Clean Air Act Amendments of 1990, on behalf of the Ohio Consumers' Counsel.
40. *County of Suffolk, et al. v. Long Island Lighting Company, et al.*, U.S. District Court for the Eastern District of New York, Case No. 87-CV-0646. 2000. Submitted two affidavits concerning the calculation and collection of court-ordered refunds to utility customers, on behalf of counsel for the plaintiffs.
41. *Northern Utilities, Inc., Petition for Waivers from Chapter 820*, Maine Public Utilities Commission, Docket No. 99-254. 2000. Concerning the standards and requirements for defining and separating a natural gas utility's core and non-core business functions, on behalf of the Maine Public Advocate.
42. *Notice of Adjustment of the Rates of Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2000-120. 2000. Concerning the appropriate methods for allocating costs and designing rates, on behalf of the Kentucky Office of Attorney General.

43. *In the Matter of the Petition of Gordon's Corner Water Company for an Increase in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR00050304. 2000. Concerning the revenue requirements and rate design for a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
44. *Testimony concerning Arsenic in Drinking Water: An Update on the Science, Benefits, and Costs*, Committee on Science, United States House of Representatives. 2001. Concerning the effects on low-income households and small communities from a more stringent regulation of arsenic in drinking water.
45. *In the Matter of the Application of The Cincinnati Gas & Electric Company for an Increase in Gas Rates in its Service Territory*, Public Utilities Commission of Ohio, Case No. 01-1228-GA-AIR, *et al.* 2002. Concerning the need for and structure of a special rider and alternative form of regulation for an accelerated main replacement program, on behalf of the Ohio Consumers' Counsel.
46. *Pennsylvania State Treasurer's Hearing on Enron and Corporate Governance Issues*. 2002. Concerning Enron's role in Pennsylvania's electricity market and related issues, on behalf of the Pennsylvania AFL-CIO.
47. *An Investigation into the Feasibility and Advisability of Kentucky-American Water Company's Proposed Solution to its Water Supply Deficit*, Kentucky Public Service Commission, Case No. 2001-00117. 2002. Concerning water supply planning, regulatory oversight, and related issue, on behalf of the Kentucky Office of Attorney General.
48. *Joint Application of Pennsylvania-American Water Company and Thames Water Aqua Holdings GmbH*, Pennsylvania Public Utility Commission, Docket Nos. A-212285F0096 and A-230073F0004. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the Pennsylvania Office of Consumer Advocate.
49. *Application for Approval of the Transfer of Control of Kentucky-American Water Company to RWE AG and Thames Water Aqua Holdings GmbH*, Kentucky Public Service Commission, Case No. 2002-00018. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the Kentucky Office of Attorney General.
50. *Joint Petition for the Consent and Approval of the Acquisition of the Outstanding Common Stock of American Water Works Company, Inc., the Parent Company and Controlling Shareholder of West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 01-1691-W-PC. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the Consumer Advocate Division of the West Virginia Public Service Commission.
51. *Joint Petition of New Jersey-American Water Company, Inc. and Thames Water Aqua Holdings GmbH for Approval of Change in Control of New Jersey-American Water Company, Inc.*, New Jersey Board of Public Utilities, Docket No. WM01120833. 2002. Concerning the risks and benefits associated with the proposed acquisition of a water utility, on behalf of the New Jersey Division of Ratepayer Advocate.
52. *Illinois-American Water Company, Proposed General Increase in Water Rates*, Illinois Commerce Commission, Docket No. 02-0690. 2003. Concerning rate design and cost of service issues, on behalf of the Illinois Office of the Attorney General.

53. *Pennsylvania Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00038304. 2003. Concerning rate design and cost of service issues, on behalf of the Pennsylvania Office of Consumer Advocate.
54. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 03-0353-W-42T. 2003. Concerning affordability, rate design, and cost of service issues, on behalf of the West Virginia Consumer Advocate Division.
55. *Petition of Seabrook Water Corp. for an Increase in Rates and Charges for Water Service*, New Jersey Board of Public Utilities, Docket No. WR3010054. 2003. Concerning revenue requirements, rate design, prudence, and regulatory policy, on behalf of the New Jersey Division of Ratepayer Advocate.
56. *Chesapeake Ranch Water Co. v. Board of Commissioners of Calvert County*, U.S. District Court for Southern District of Maryland, Civil Action No. 8:03-cv-02527-AW. 2004. Submitted expert report concerning the expected level of rates under various options for serving new commercial development, on behalf of the plaintiff.
57. *Testimony concerning Lead in Drinking Water*, Committee on Government Reform, United States House of Representatives. 2004. Concerning the trade-offs faced by low-income households when drinking water costs increase, including an analysis of H.R. 4268.
58. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 04-0373-W-42T. 2004. Concerning affordability and rate comparisons, on behalf of the West Virginia Consumer Advocate Division.
59. *West Virginia-American Water Company*, West Virginia Public Service Commission, Case No. 04-0358-W-PC. 2004. Concerning costs, benefits, and risks associated with a wholesale water sales contract, on behalf of the West Virginia Consumer Advocate Division.
60. *Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2004-00103. 2004. Concerning rate design and tariff issues, on behalf of the Kentucky Office of Attorney General.
61. *New Landing Utility, Inc.*, Illinois Commerce Commission, Docket No. 04-0610. 2005. Concerning the adequacy of service provided by, and standards of performance for, a water and wastewater utility, on behalf of the Illinois Office of Attorney General.
62. *People of the State of Illinois v. New Landing Utility, Inc.*, Circuit Court of the 15th Judicial District, Ogle County, Illinois, No. 00-CH-97. 2005. Concerning the standards of performance for a water and wastewater utility, including whether a receiver should be appointed to manage the utility's operations, on behalf of the Illinois Office of Attorney General.
63. *Hope Gas, Inc. d/b/a Dominion Hope*, West Virginia Public Service Commission, Case No. 05-0304-G-42T. 2005. Concerning the utility's relationships with affiliated companies, including an appropriate level of revenues and expenses associated with services provided to and received from affiliates, on behalf of the West Virginia Consumer Advocate Division.
64. *Monongahela Power Co. and The Potomac Edison Co.*, West Virginia Public Service Commission, Case Nos. 05-0402-E-CN and 05-0750-E-PC. 2005. Concerning review of a plan to finance the construction of pollution control facilities and related issues, on behalf of the West Virginia Consumer Advocate Division.

65. *Joint Application of Duke Energy Corp., et al., for Approval of a Transfer and Acquisition of Control*, Case Kentucky Public Service Commission, No. 2005-00228. 2005. Concerning the risks and benefits associated with the proposed acquisition of an energy utility, on behalf of the Kentucky Office of the Attorney General.
66. *Commonwealth Edison Company proposed general revision of rates, restructuring and price unbundling of bundled service rates, and revision of other terms and conditions of service*, Illinois Commerce Commission, Docket No. 05-0597. 2005. Concerning rate design and cost of service, on behalf of the Illinois Office of Attorney General.
67. *Pennsylvania Public Utility Commission v. Aqua Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-00051030. 2006. Concerning rate design and cost of service, on behalf of the Pennsylvania Office of Consumer Advocate.
68. *Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a AmerenIP, proposed general increases in rates for delivery service*, Illinois Commerce Commission, Docket Nos. 06-0070, et al. 2006. Concerning rate design and cost of service, on behalf of the Illinois Office of Attorney General.
69. *Grens, et al., v. Illinois-American Water Co.*, Illinois Commerce Commission, Docket Nos. 5-0681, et al. 2006. Concerning utility billing, metering, meter reading, and customer service practices, on behalf of the Illinois Office of Attorney General and the Village of Homer Glen, Illinois.
70. *Commonwealth Edison Company Petition for Approval of Tariffs Implementing ComEd's Proposed Residential Rate Stabilization Program*, Illinois Commerce Commission, Docket No. 06-0411. 2006. Concerning a utility's proposed purchased power phase-in proposal, in behalf of the Illinois Office of Attorney General.
71. *Illinois-American Water Company, Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges Pursuant to 83 Ill. Adm. Code 655*, Illinois Commerce Commission, Docket No. 06-0196. 2006. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General and the Village of Homer Glen, Illinois.
72. *Illinois-American Water Company, et al.*, Illinois Commerce Commission, Docket No. 06-0336. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Illinois Office of Attorney General.
73. *Joint Petition of Kentucky-American Water Company, et al.*, Kentucky Public Service Commission, Docket No. 2006-00197. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Kentucky Office of Attorney General.
74. *Aqua Illinois, Inc. Proposed Increase in Water Rates for the Kankakee Division*, Illinois Commerce Commission, Docket No. 06-0285. 2006. Concerning various revenue requirement, rate design, and tariff issues, on behalf of the County of Kankakee.
75. *Housing Authority for the City of Pottsville v. Schuylkill County Municipal Authority*, Court of Common Pleas of Schuylkill County, Pennsylvania, No. S-789-2000. 2006. Concerning the reasonableness and uniformity of rates charged by a municipal water authority, on behalf of the Pottsville Housing Authority.

76. *Application of Pennsylvania-American Water Company for Approval of a Change in Control*, Pennsylvania Public Utility Commission, Docket No. A-212285F0136. 2006. Concerning the risks and benefits associated with the proposed divestiture of a water utility, on behalf of the Pennsylvania Office of Consumer Advocate.
77. *Application of Artesian Water Company, Inc., for an Increase in Water Rates*, Delaware Public Service Commission, Docket No. 06-158. 2006. Concerning rate design and cost of service, on behalf of the Staff of the Delaware Public Service Commission.
78. *Central Illinois Light Company, Central Illinois Public Service Company, and Illinois Power Company: Petition Requesting Approval of Deferral and Securitization of Power Costs*, Illinois Commerce Commission, Docket No. 06-0448. 2006. Concerning a utility's proposed purchased power phase-in proposal, in behalf of the Illinois Office of Attorney General.
79. *Petition of Pennsylvania-American Water Company for Approval to Implement a Tariff Supplement Revising the Distribution System Improvement Charge*, Pennsylvania Public Utility Commission, Docket No. P-00062241. 2007. Concerning the reasonableness of a water utility's proposal to increase the cap on a statutorily authorized distribution system surcharge, on behalf of the Pennsylvania Office of Consumer Advocate.
80. *Adjustment of the Rates of Kentucky-American Water Company*, Kentucky Public Service Commission, Case No. 2007-00143. 2007. Concerning rate design and cost of service, on behalf of the Kentucky Office of Attorney General.
81. *Application of Kentucky-American Water Company for a Certificate of Convenience and Necessity Authorizing the Construction of Kentucky River Station II, Associated Facilities and Transmission Main*, Kentucky Public Service Commission, Case No. 2007-00134. 2007. Concerning the life-cycle costs of a planned water supply source and the imposition of conditions on the construction of that project, on behalf of the Kentucky Office of Attorney General.
82. *Pa. Public Utility Commission v. Pennsylvania-American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-00072229. 2007. Concerning rate design and cost of service, on behalf of the Pennsylvania Office of Consumer Advocate.
83. *Illinois-American Water Company Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 07-0195. 2007. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
84. *In the Matter of the Application of Aqua Ohio, Inc. to Increase Its Rates for Water Service Provided In the Lake Erie Division*, Public Utilities Commission of Ohio, Case No.07-0564-WW-AIR. 2007. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
85. *Pa. Public Utility Commission v. Aqua Pennsylvania Inc.*, Pennsylvania Public Utility Commission, Docket No. R-00072711. 2008. Concerning rate design, on behalf of the Masthope Property Owners Council.

86. *Illinois-American Water Company Proposed increase in water and sewer rates*, Illinois Commerce Commission, Docket No. 07-0507. 2008. Concerning rate design and demand studies, on behalf of the Illinois Office of Attorney General.
87. *Central Illinois Light Company, d/b/a AmerenCILCO; Central Illinois Public Service Company, d/b/a AmerenCIPS; Illinois Power Company, d/b/a AmerenIP: Proposed general increase in rates for electric delivery service*, Illinois Commerce Commission Docket Nos. 07-0585, 07-0586, 07-0587. 2008. Concerning rate design and cost of service studies, on behalf of the Illinois Office of Attorney General.
88. *Commonwealth Edison Company: Proposed general increase in electric rates*, Illinois Commerce Commission Docket No. 07-0566. 2008. Concerning rate design and cost of service studies, on behalf of the Illinois Office of Attorney General.
89. *In the Matter of Application of Ohio American Water Co. to Increase Its Rates*, Public Utilities Commission of Ohio, Case No. 07-1112-WS-AIR. 2008. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
90. *In the Matter of the Application of The East Ohio Gas Company d/b/a Dominion East Ohio for Authority to Increase Rates for its Gas Service*, Public Utilities Commission of Ohio, Case Nos. 07-829-GA-AIR, et al. 2008. Concerning the need for, and structure of, an accelerated infrastructure replacement program and rate surcharge, on behalf of the Office of the Ohio Consumers' Counsel.
91. *Pa. Public Utility Commission v. Pennsylvania American Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2008-2032689. 2008. Concerning rate design, cost of service study, and other tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.
92. *Pa. Public Utility Commission v. York Water Company*, Pennsylvania Public Utility Commission, Docket No. R-2008-2023067. 2008. Concerning rate design, cost of service study, and other tariff issues, on behalf of the Pennsylvania Office of Consumer Advocate.
93. *Northern Illinois Gas Company d/b/a Nicor Gas Company*, Illinois Commerce Commission, Docket No. 08-0363. 2008. Concerning rate design, cost of service, and automatic rate adjustments, on behalf of the Illinois Office of Attorney General.
94. *West Virginia American Water Company*, West Virginia Public Service Commission, Case No. 08-0900-W-42T. 2008. Concerning affiliated interest charges and relationships, on behalf of the Consumer Advocate Division of the Public Service Commission of West Virginia.
95. *Illinois-American Water Company Application for Approval of its Annual Reconciliation of Purchased Water and Purchased Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 08-0218. 2008. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
96. *In the Matter of Application of Duke Energy Ohio, Inc. for an Increase in Electric Rates*, Public Utilities Commission of Ohio, Case No. 08-0709-EL-AIR. 2009. Concerning rate design and cost of service, on behalf of the Office of the Ohio Consumers' Counsel.
97. *The Peoples Gas Light and Coke Company and North Shore Gas Company Proposed General Increase in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 09-0166 and 09-0167. 2009.

Concerning rate design and automatic rate adjustments on behalf of the Illinois Office of Attorney General, Citizens Utility Board, and City of Chicago.

98. *Illinois-American Water Company Proposed Increase in Water and Sewer Rates*, Illinois Commerce Commission, Docket No. 09-0319. 2009. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General and Citizens Utility Board.
99. *Pa. Public Utility Commission v. Aqua Pennsylvania Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2009-2132019. 2010. Concerning rate design, cost of service, and automatic adjustment tariffs, on behalf of the Pennsylvania Office of Consumer Advocate.
100. *Apple Canyon Utility Company and Lake Wildwood Utilities Corporation Proposed General Increases in Water Rates*, Illinois Commerce Commission, Docket Nos. 09-0548 and 09-0549. 2010. Concerning parent-company charges, quality of service, and other matters, on behalf of Apple Canyon Lake Property Owners' Association and Lake Wildwood Association, Inc.
101. *Application of Aquarion Water Company of Connecticut to Amend its Rate Schedules*, Connecticut Department of Public Utility Control, Docket No. 10-02-13. 2010. Concerning rate design, proof of revenues, and other tariff issues, on behalf of the Connecticut Office of Consumer Counsel.
102. *Illinois-American Water Company Annual Reconciliation Of Purchased Water and Sewage Treatment Surcharges*, Illinois Commerce Commission, Docket No. 09-0151. 2010. Concerning the reconciliation of purchased water and sewer charges, on behalf of the Illinois Office of Attorney General.
103. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket Nos. R-2010-2166212, et al. 2010. Concerning rate design and cost of service study for four wastewater utility districts, on behalf of the Pennsylvania Office of Consumer Advocate.
104. *Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP Petition for accounting order*, Illinois Commerce Commission, Docket No. 10-0517. 2010. Concerning ratemaking procedures for a multi-district electric and natural gas utility, on behalf of the Illinois Office of Attorney General.
105. *Commonwealth Edison Company Petition for General Increase in Delivery Service Rates*, Illinois Commerce Commission Docket No. 10-0467. 2010. Concerning rate design and cost of service study, on behalf of the Illinois Office of Attorney General.
106. *Pa. Public Utility Commission v. City of Lancaster Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2010-2179103. 2010. Concerning rate design, cost of service, and cost allocation, on behalf of the Pennsylvania Office of Consumer Advocate.
107. *Application of Yankee Gas Services Company for Amended Rate Schedules*, Connecticut Department of Public Utility Control, Docket No. 10-12-02. 2011. Concerning rate design and cost of service for a natural gas utility, on behalf of the Connecticut Office of Consumers' Counsel.
108. *California-American Water Company*, California Public Utilities Commission, Application 10-07-007. 2011. Concerning rate design and cost of service for multiple water-utility service areas, on behalf of The Utility Reform Network.

109. *Little Washington Wastewater Company, Inc., Masthope Wastewater Division*, Pennsylvania Public Utility Commission Docket No. R-2010-2207833. 2011. Concerning rate design and various revenue requirements issues, on behalf of the Masthope Property Owners Council.
110. *In the matter of Pittsfield Aqueduct Company, Inc.*, New Hampshire Public Utilities Commission Case No. DW 10-090. 2011. Concerning rate design and cost of service on behalf of the New Hampshire Office of the Consumer Advocate.
111. *In the matters of Pennichuck Water Works, Inc. Permanent Rate Case and Petition for Approval of Special Contract with Anheuser-Busch, Inc.*, New Hampshire Public Utilities Commission Case Nos. DW 10-091 and DW 11-014. 2011. Concerning rate design, cost of service, and contract interpretation on behalf of the New Hampshire Office of the Consumer Advocate.
112. *Artesian Water Co., Inc. v. Chester Water Authority*, U.S. District Court for the Eastern District of Pennsylvania Case No. 10-CV-07453-JP. 2011. Concerning cost of service, ratemaking methods, and contract interpretation on behalf of Chester Water Authority.
113. *North Shore Gas Company and The Peoples Gas Light and Coke Company Proposed General Increases in Rates for Gas Service*, Illinois Commerce Commission, Docket Nos. 11-0280 and 11-0281. 2011. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General, the Citizens Utility Board, and the City of Chicago.
114. *Ameren Illinois Company: Proposed general increase in electric delivery service rates and gas delivery service rates*, Illinois Commerce Commission, Docket Nos. 11-0279 and 11-0282. 2011. Concerning rate design and cost of service for natural gas and electric distribution service, on behalf of the Illinois Office of Attorney General and the Citizens Utility Board.
115. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2011-2232243. 2011. Concerning rate design, cost of service, sales forecast, and automatic rate adjustments on behalf of the Pennsylvania Office of Consumer Advocate.
116. *Aqua Illinois, Inc. Proposed General Increase in Water and Sewer Rates*, Illinois Commerce Commission, Docket No. 11-0436. 2011. Concerning rate design and cost of service on behalf of the Illinois Office of Attorney General.
117. *City of Nashua Acquisition of Pennichuck Corporation*, New Hampshire Public Utilities Commission, Docket No. DW 11-026. 2011. Concerning the proposed acquisition of an investor-owned utility holding company by a municipality, including appropriate ratemaking methodologies, on behalf of the New Hampshire Office of Consumer Advocate.
118. *An Application by Heritage Gas Limited for the Approval of a Schedule of Rates, Tolls and Charges*, Nova Scotia Utility and Review Board, Case NSUARB-NG-HG-R-11. 2011. Concerning rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.
119. *An Application of Halifax Regional Water Commission for Approval of a Cost of Service and Rate Design Methodology*, Nova Scotia Utility and Review Board, Case NSUARB-W-HRWC-R-11. 2011. Concerning rate design and cost of service, on behalf of the Nova Scotia Consumer Advocate.

120. *National Grid USA and Liberty Energy Utilities Corp.*, New Hampshire Public Utilities Commission, Docket No. DG 11-040. 2011. Concerning the costs and benefits of a proposed merger and related conditions, on behalf of the New Hampshire Office of Consumer Advocate.
121. *Great Northern Utilities, Inc., et al.*, Illinois Commerce Commission, Docket Nos. 11-0059, et al. 2012. Concerning options for mitigating rate impacts and consolidating small water and wastewater utilities for ratemaking purposes, on behalf of the Illinois Office of Attorney General.
122. *Aqua Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2011-2267958. 2012. Concerning rate design, cost of service, and automatic rate adjustment mechanisms, on behalf of the Pennsylvania Office of Consumer Advocate.
123. *Golden State Water Company*, California Public Utilities Commission, Application 11-07-017. 2012. Concerning rate design and quality of service, on behalf of The Utility Reform Network.
124. *Golden Heart Utilities, Inc. and College Utilities Corporation*, Regulatory Commission of Alaska, Case Nos. U-11-77 and U-11-78. 2012. Concerning rate design and cost of service, on behalf of the Alaska Office of the Attorney General.
125. *Illinois-American Water Company*, Illinois Commerce Commission, Docket No. 11-0767. 2012. Concerning rate design, cost of service, and automatic rate adjustment mechanisms, on behalf of the Illinois Office of Attorney General.
126. *Application of Tidewater Utilities, Inc., for a General Rate Increase in Water Base Rates and Tariff Revisions*, Delaware Public Service Commission, Docket No. 11-397. 2012. Concerning rate design and cost of service study, on behalf of the Staff of the Delaware Public Service Commission.
127. *In the Matter of the Philadelphia Water Department's Proposed Increase in Rates for Water and Wastewater Utility Services*, Philadelphia Water Commissioner, FY 2013-2016. 2012. Concerning rate design and related issues for storm water service, on behalf of Citizens for Pennsylvania's Future.
128. *Corix Utilities (Illinois) LLC, Hydro Star LLC, and Utilities Inc. Joint Application for Approval of a Proposed Reorganization*, Illinois Commerce Commission, Docket No. 12-0279. 2012. Concerning merger-related synergy savings and appropriate ratemaking treatment of the same, on behalf of the Illinois Office of Attorney General.
129. *North Shore Gas Company and The Peoples Gas Light and Coke Company*, Illinois Commerce Commission, Docket Nos. 12-0511 and 12-0512. 2012. Concerning rate design, cost of service study, and automatic rate adjustment tariff on behalf of the Illinois Office of Attorney General.
130. *Pa. Public Utility Commission v. City of Lancaster Sewer Fund*, Pennsylvania Public Utility Commission, Docket No. R-2012-2310366. 2012. Concerning rate design, cost of service, and cost allocation, on behalf of the Pennsylvania Office of Consumer Advocate.
131. *Aquarion Water Company of New Hampshire*, New Hampshire Public Utilities Commission, Docket No. DW 12-085. 2013. Concerning tariff issues, including an automatic adjustment clause for infrastructure improvement, on behalf of the New Hampshire Office of Consumer Advocate.

132. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates*, Public Utilities Commission of Ohio, Case No. 12-1682-EL-AIR, et al. 2013. Concerning rate design and tariff issues, on behalf of the Office of the Ohio Consumers' Counsel.
133. *In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Natural Gas Distribution Rates*, Public Utilities Commission of Ohio, Case No. 12-1685-GA-AIR, et al. 2013. Concerning cost-of-service study, rate design, and tariff issues, on behalf of the Office of the Ohio Consumers' Counsel.
134. *In the Matter of the Application of The Dayton Power and Light Company to Establish a Standard Service Offer in the Form of an Electric Security Plan*, Public Utilities Commission of Ohio, Case No. 12-426-EL-SSO, et al. 2013. Concerning rate design, on behalf of the Office of the Ohio Consumers' Counsel.
135. *Application of the Halifax Regional Water Commission, for Approval of Amendments to its Schedule of Rates and Charges and Schedule of Rules and Regulations for the delivery of water, public and private fire protection, wastewater and stormwater services*, Nova Scotia Utility and Review Board, Matter No. M05463, 2013. Concerning rate design, cost-of-service study, and miscellaneous tariff provisions, on behalf of the Consumer Advocate of Nova Scotia.
136. *California Water Service Co. General Rate Case Application*, California Public Utilities Commission, Docket No. A.12-07-007. 2013. Concerning rate design, phase-in plans, low-income programs, and other tariff issues, on behalf of The Utility Reform Network.
137. *Application of The United Illuminating Company to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority, Docket No. 13-01-19. 2013. Concerning sales forecast, rate design, and other tariff issues, on behalf of the Connecticut Office of Consumer Counsel.
138. *Application of Aquarion Water Company of Connecticut to Amend its Rate Schedules*, Connecticut Public Utility Regulatory Authority, Docket No. 13-02-20. 2013. Concerning sales forecast and rate design on behalf of the Connecticut Office of Consumer Counsel.
139. *Ameren Illinois Company, Proposed General Increase in Natural Gas Delivery Service Rates*, Illinois Commerce Commission, Docket No. 13-0192. 2013. Concerning rate design and revenue allocation, on behalf of the Illinois Office of Attorney General and Citizens Utility Board.
140. *Commonwealth Edison Company, Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Docket No. 13-0387. 2013. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
141. *In the Matter of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service*, District of Columbia Public Service Commission, Formal Case No. 1103. 2013. Concern rate design, revenue allocation, and cost-of-service study issues, on behalf of the District of Columbia Office of Peoples' Counsel.
142. *Pa. Public Utility Commission v. Pennsylvania-American Water Co.*, Pennsylvania Public Utility Commission, Docket No. R-2013-2355276. 2013. Concerning rate design, revenue allocation, and regulatory policy, on behalf of the Pennsylvania Office of Consumer Advocate.

143. *In the Matter of the Revenue Requirement and Transmission Tariff Designated as TA364-8 filed by Chugach Electric Association, Inc.*, Regulatory Commission of Alaska, U-13-007. 2013. Concerning rate design and cost-of-service study issues, on behalf of the Alaska Office of the Attorney General.
144. *Ameren Illinois Company: Tariff filing to present the Illinois Commerce Commission with an opportunity to consider revenue neutral tariff changes related to rate design*, Docket No. 13-0476. 2013. Concerning rate design and cost of service study issues, on behalf of the Illinois Office of Attorney General.
145. *Pa. Public Utility Commission v. City of Bethlehem Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2013-2390244. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
146. *In the Matter of the Tariff Revision Designated as TA332-121 filed by the Municipality of Anchorage d/b/a Municipal Light and Power Department*, Regulatory Commission of Alaska, U-13-184. 2014. Concerning rate design and cost-of-service study issues, on behalf of the Alaska Office of the Attorney General.
147. *Pa. Public Utility Commission v. Pike County Light and Power Co. - Gas*, Pennsylvania Public Utility Commission, Docket No. R-2013-2397353. 2014. Concerning rate design and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
148. *Pa. Public Utility Commission v. Pike County Light and Power Co. - Electric*, Pennsylvania Public Utility Commission, Docket No. R-2013-2397237. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
149. *The Peoples Gas Light and Coke Company North Shore Gas Company Proposed General Increase In Rates for Gas Service*. Illinois Commerce Commission, Docket Nos. 14-0224 and 14-0225. 2014. Concerning rate design on behalf of the Illinois Office of the Attorney General and the Environmental Law and Policy Center.
150. *Apple Valley Ranchos Water Company*, California Public Utilities Commission, Docket No. A.14-01-002. 2014. Concerning rate design and automatic rate adjustment mechanisms on behalf of the Town of Apple Valley.
151. *Application by Heritage Gas Limited for Approval to Amend its Franchise Area*, Nova Scotia Utility and Review Board, Matter No. M06271. 2014. Concerning criteria, terms, and conditions for expanding a utility's service area and using transported compressed natural gas to serve small retail customers, on behalf of the Nova Scotia Consumer Advocate.
152. *Notice of Intent of Entergy Mississippi, Inc. to Modernize Rates to Support Economic Development, Power Procurement, and Continued Investment*, Mississippi Public Service Commission Docket No. 2014-UN-132. 2014. Concerning rate design and tariff issues, on behalf of the Mississippi Public Utilities Staff.
153. *Pa. Public Utility Commission v. City of Lancaster Bureau of Water*, Pennsylvania Public Utility Commission, Docket No. R-2014-2418872. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.

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154. *Pa. Public Utility Commission v. Borough of Hanover Municipal Water Works*, Pennsylvania Public Utility Commission, Docket No. R-2014-2428304. 2014. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.
155. *Investigation of Commonwealth Edison Company's Cost of Service for Low-Use Customers In Each Residential Class*, Illinois Commerce Commission, Docket No. 14-0384. 2014. Concerning rate design on behalf of the Illinois Office of Attorney General.
156. *Application of the Halifax Regional Water Commission, for Approval of its Schedule of Rates and Charges and Schedule of Rules and Regulations for the Provision of Water, Public and Private Fire Protection, Wastewater and Stormwater Services*, Nova Scotia Utility and Review Board, Matter No. M06540. 2015. Concerning rate design, cost of service study, and tariff issues on behalf of the Nova Scotia Consumer Advocate.
157. *Testimony concerning organization and regulation of Philadelphia Gas Works*, Philadelphia City Council's Special Committee on Energy Opportunities. 2015.
158. *Testimony concerning proposed telecommunications legislation*, Maine Joint Standing Committee on Energy, Utilities, and Technology. 2015.
159. *Pa. Public Utility Commission v. United Water Pennsylvania, Inc.*, Pennsylvania Public Utility Commission, Docket No. R-2015-2462723. 2015. Concerning rate design, cost of service study, and revenue allocation on behalf of the Pennsylvania Office of Consumer Advocate.