

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

**Liberty Utilities (Midstates Natural
Gas) Corp. d/b/a Liberty Utilities** :
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:
Allocated Cost of Service Study : Docket No. 16-____
and Rate Design :

DIRECT TESTIMONY OF

TIMOTHY S. LYONS

SCOTTMADDEN, INC.

SUBMITTED ON BEHALF OF

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP. D/B/A LIBERTY UTILITIES

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1 **I. INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Timothy S. Lyons. I am a Partner at ScottMadden, Inc.
4 ("ScottMadden"). My business address is 1900 West Park Road, Suite 250,
5 Westborough, MA 01581.

6 **Q. On whose behalf are you submitting this prefiled direct testimony?**

7 A. I am submitting this prefiled direct testimony on behalf of Liberty Utilities
8 (Midstates Natural Gas) Corp. ("Liberty Midstates" or the "Company") before the
9 Illinois Commerce Commission (the "Commission").

10 **Q. Please describe your professional and educational experience.**

11 A. I have over 30 years of experience in the energy industry. I started my career in
12 1985 at Boston Gas Company (now part of National Grid), eventually becoming
13 Director of Rates and Revenue Analysis. In 1993, I moved to Providence Gas
14 Company (also now part of National Grid), eventually becoming Vice President of
15 Marketing and Regulatory Affairs. Starting in 2001, I held a number of
16 management consulting positions in the energy industry first at KEMA and then
17 at Quantec, LLC. In 2005, I became Vice President of Sales and Marketing at
18 Vermont Gas Systems, Inc. before joining Sussex in 2013. Sussex was acquired
19 by ScottMadden on June 1, 2016.

20 I hold a Bachelor's degree from St. Anselm College, a Master's degree in
21 Economics from The Pennsylvania State University, and a Master's degree in
22 Business Administration from Babson College.

23 **Q. Have you previously provided testimony before a regulatory commission?**

24 A. Yes, I have previously provided testimony before a regulatory commission.
25 Exhibit 4.0.1 contains a list of regulatory proceedings in which I have provided
26 testimony.

27 **II. PURPOSE OF TESTIMONY**

28 **Q. What is the purpose of your prefiled direct testimony?**

29 A. The purpose of my prefiled direct testimony is to describe the methodology used
30 to design and develop the proposed delivery rates for Liberty Midstates. My
31 prefiled direct testimony includes: (a) a proposal to establish two new
32 Commercial and Industrial (“C&I”) rate classes to replace the existing Small C&I
33 class; (b) the development of an Allocated Cost of Service Study (“COSS”); (c)
34 the development of proposed revenue targets; (d) a proposed rate design and bill
35 impact analysis for each rate class; and (e) a proposed Volume Balance
36 Adjustment (“VBA”) rider.

37 This testimony is organized into the following sections:

- 38 • Section III – Describes the Company and its current rate structure;
- 39 • Section IV – Describes the approach to allocating costs;
- 40 • Section V – Describes the development of the proposed rates;
- 41 • Section VI – Describes the bill impact analysis; and
- 42 • Section VI – Describes the proposed Volume Balancing Adjustment
43 (“VBA”) rider.

44 Before describing the methodology used to design and develop the proposed
45 delivery rates, I would like to first provide some background on the Company’s

46 current rate structure and discuss ongoing concerns related to the existing rate
47 design.

48 **III. CURRENT RATE STRUCTURE**

49 **Q. Please describe Liberty Midstates' current rate structure.**

50 A. Liberty Midstates presently serves approximately 21,738 customers in Illinois:
51 19,645 Residential customers (90 percent); and 2,093 C&I customers (10
52 percent). Customers are presently served under one of the four rate classes
53 shown in Figure 1 depending on their service classification and load
54 characteristics.

Figure 1: Current Rate Classes

Rate Class	Availability	Rates
Residential, Schedule 110	Available to any residential or federal housing project customer	Facilities charge: \$23.00 Unit charge: \$0.19111/CCF
Small C&I, Schedule 120	Available to any C&I customer whose annual use is less than 135,000 CCF	Facilities charge: \$80.00 Unit charge: \$0.17487/CCF
Large C&I, Schedule 130	Available to any C&I customer whose annual use is at least 135,000 CCF	Facilities charge: \$200.00 Unit charge: \$0.30528/CCF
Optional Gas Service, Schedule 150	Available to any C&I customer whose annual use is at least 270,000 CCF	Facilities charge: \$100.00 Unit charge: \$0.05210/CCF

55 Figure 2 provides a breakdown of the Residential and C&I rate classes. The
56 Residential class consists of 19,645 customers using 14.3 million CCF annually.

57 The C&I classes consist of: (a) 2,073 Small C&I customers using 6.7 million CCF
 58 annually; (b) 15 Large C&I customers using 2.0 million CCF annually; and (c) 4
 59 Optional Gas Service customers using 4.5 million CCF annually. In addition,
 60 there is one customer with two service accounts taking service under a special
 61 contract. C&I customers can elect to take either sales or transportation service
 62 under any of the three C&I rate classes.

Figure 2: Breakdown of Customers and Annual Use by Current Rate Class

Liberty Utilities - Illinois 2017 Forecast	Number of Customers	% Customers	Annual Use	% Use	Use per Customer
Residential (GR-110)	19,645	90.4%	14,344,453	49.3%	730
Small C&I (GC-120)	2,073	9.5%	6,740,132	23.2%	3,251
Large C&I (GC-130)	15	0.1%	2,032,490	7.0%	140,172
Optional Gas Service (GC-150)	4	0.0%	4,478,589	15.4%	1,143,470
Contract	2	0.0%	1,486,494	5.1%	743,247
Total	21,738	100.0%	29,082,158	100.0%	1,338

63 Figure 2 shows that there are substantial differences in the use per customer
 64 among the rate classes, with Residential customers using on average 730 CCF
 65 per year, while Optional Gas Service customers use on average 1,143,470 CCF
 66 per year.

67 **Q. Does the company have any concerns with the current rate classes?**

68 A. Yes, the Company has concerns with the structure of the existing Small C&I rate
 69 class. The Company believes that the current rate class do not reflect the
 70 underlying cost differences in serving different types of customers within the
 71 Small C&I class. The Small C&I class includes customers that have a wide
 72 range of gas demands. The rate class includes, for example, small, storefront
 73 businesses whose gas demands are very similar to those of a residential

74 customer, in addition to large commercial and industrial businesses whose gas
75 demands are substantially greater. These differences in gas demand have an
76 impact on the cost of service, with some customers, for example, having
77 significantly higher service connection costs (e.g., meters and services) than
78 other customers within the same rate class. The rates under the current Small
79 C&I rate tariff do not adequately reflect those differences in costs. The Company
80 believes that the C&I rate design would be improved by refining the classification
81 into two new rate classes – a small C&I class and a medium C&I class – based
82 on annual use. The new rate classes would better reflect the underlying cost
83 differences in serving low use as compared to higher use customers. The new
84 rate classes would also include different customer charges to better reflect the
85 underlying differences in customer-related costs. This approach is consistent
86 with the approach taken by other gas utilities in the Midwest.

87 **Q. What is the company's proposal regarding the introduction of new rate**
88 **classes?**

89 A. As shown in Figure 3, the Company proposes to establish two new rate classes
90 to replace the single existing Small C&I class. The first new rate class would be
91 the Small C&I GC-120 rate class and would be applicable to those C&I
92 customers who use less than 5,000 CCF annually. Approximately 1,807
93 customers (or 87 percent) of the existing Small C&I customers would be mapped
94 to the new Small C&I rate class. In aggregate, those customers use
95 approximately 2.3 million CCF annually (or 35 percent). The second new rate
96 class would be the Medium C&I GC-130 and would be applicable to those C&I

97 customers who use annually at least 5,000 CCF and less than 135,000 CCF.
 98 Approximately 267 customers (or 13 percent) of the existing Small C&I
 99 customers would be mapped to the new Medium C&I rate class. Those
 100 customers use annually approximately 4.4 million CCF (or 65 percent).

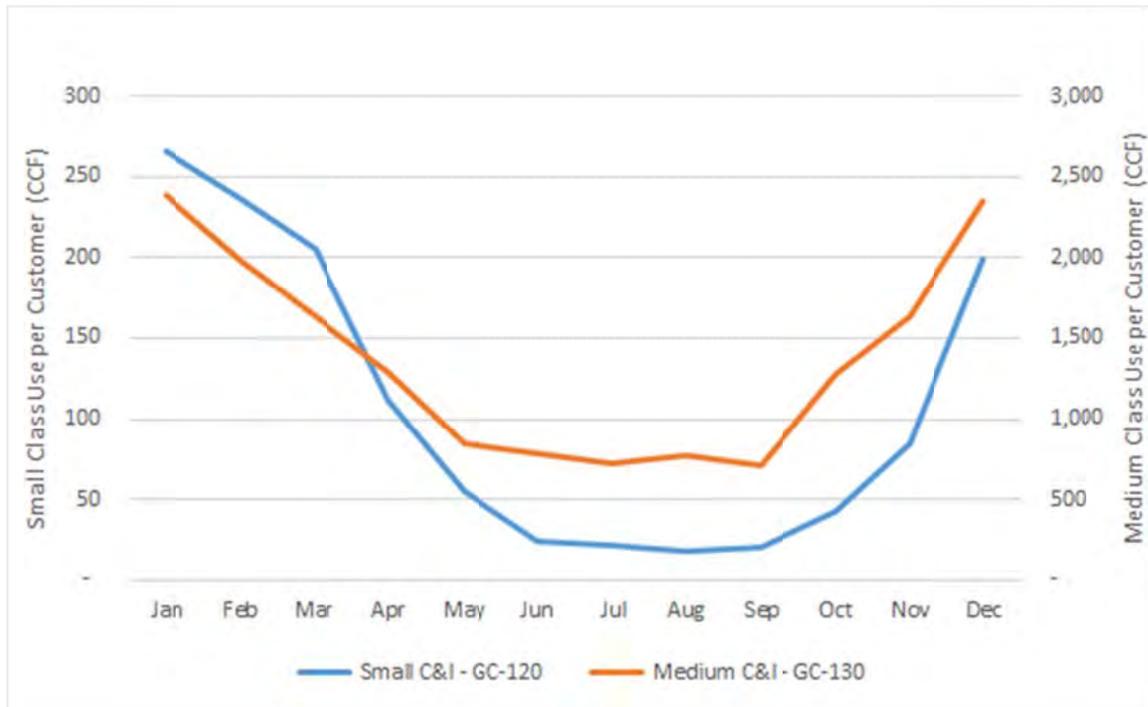
Figure 3: Description of Proposed C&I Classes

Liberty Utilities (Midstates Natural Gas): 2017 Forecast	Number of Customers	% Customers	Annual Use	% Use	Use per Customer
Small C&I - GC-120	1,807	87.1%	2,353,070	34.9%	1,302
Medium C&I - GC-130	267	12.9%	4,387,062	65.1%	16,459
Total	2,073	100.0%	6,740,132	100.0%	3,251

101 The new classes were designed to reflect a distinct breakpoint between Small
 102 and Medium C&I customers. Figure 3 demonstrates clear differences in the
 103 demand requirements between Small and Medium C&I customers, with Medium
 104 C&I customers using on average more than 10-times the annual use of the Small
 105 C&I customers. These differences translate to different service connection costs
 106 – discussed below – which on average are higher for Medium C&I customers
 107 than Small C&I customers. The proposed breakpoint is generally consistent with
 108 other gas utilities in the Midwest, as included in Exhibit 4.0.2.

109 Figure 4 illustrates the average use per customer throughout the year. The
 110 Figure shows significant differences in monthly use per customer throughout the
 111 year (note the differences in scales for the Small and Medium C&I classes).

Figure 4: Proposed C&I Classes (Average Use per Customer)



112

113 **Q. Please explain why the Company proposes to establish two new C&I**
114 **classes.**

115 A. The Company proposes to establish two new C&I classes to better reflect the
116 cost of providing service to customers within the current Small C&I class. Each
117 new rate class represents different demand characteristics which are an
118 important basis for assigning costs.

119 The proposed approach is consistent with industry literature on developing sound
120 rate structures.¹ The NARUC Gas Distribution Rate Design Manual notes,

121 "In order to design rates, it is first necessary to divide the utility's
122 customers into various rate classes. This is done by defining rate

¹ See Bonbright, James, Danielsen, Albert, and Kamerschen, David. "Principles of Public Utility Rates." Public Utilities Reports, Inc. 1988. Second edition, at 377-407.

123 classes according to certain characteristics which are common to all
124 members of the class. The specific factors used to define rate
125 classes will depend upon the characteristics of the customer
126 population and the goals to be achieved. Factors which have been
127 used to define rate classes include: (1) size, (2) customer type, (3)
128 type of usage, (4) interruptible or firm service, (5) load factor, and (6)
129 alternate fuel capability....In determining which factors to use in
130 setting rate classes, it is necessary to consider the objectives to be
131 achieved. In theory utility rates could be designed for only a single
132 rate class. However an appropriate division of customers into rate
133 classes can achieve a variety of goals, including economic
134 efficiency, fairness and equity, reflection of costs, social needs,
135 competitiveness, operating efficiency, business climate
136 development, rate stability, conservation and political feasibility. The
137 need for a reasonable division of rate classes to achieve these goals
138 exists whether the rates are designed based on cost of service
139 principles or some other means.”²

140 The proposed approach is generally consistent with the approach taken by
141 several gas utilities in the Midwest in classifying Small C&I customers.³ In
142 addition, Exhibit 4.0.3 includes an article that I co-authored regarding a rate
143 reclassification process for C&I customers.

144 **Q. Did Sussex perform a statistical analysis to determine if the proposed C&I**
145 **rate classes were significantly different from each other?**

146 A. Yes. Sussex performed a t-test on the proposed rate classes to determine if the
147 load characteristics for each rate class were significantly different from each
148 other.

² National Association of Regulatory Utility Commissioners, Staff Subcommittee on Gas. “Gas Distribution Rate Design Manual.” June 1989, at 15-17.

³ See, for example: Alliant Energy, <http://www.alliantenergy.com/AboutAlliantEnergy/CompanyInformation/Tariffs/030307#rates>; and Laclede Gas Company, <http://www.lacledegas.com/upload/51db19a074024.pdf>.

149 **Q. What does a t-test show?**

150 A. A t-test is used to evaluate whether there are significant differences in the means
151 or averages of two populations. In this case, the t-test is used to show whether
152 the difference between the small and medium customer class is statistically
153 significant. The larger the magnitude of t-value (either positive or negative), the
154 greater the probability that there is a significant difference in the customer
155 classes. The t-test also produces a p-value which measures the probability that
156 the populations (i.e., the customer classes) are statistically the same.

157 The results of the t-test are included in Lyons Exhibit 4.0.2. The results show a t-
158 value of -11.70 , which means that there is a statistically significant difference in
159 the means of the two rate classes. The results also show a p-value of 0.000
160 percent, which means that there is a very low probability that the two customer
161 classes are statistically the same. In other words, the p-value demonstrates that
162 the rate classes are statistically different.

163 **IV. ALLOCATED COST OF SERVICE STUDY**

164 **Q. Please describe the purpose of an allocated cost of service study.**

165 A. The purpose of a COSS is to assign or allocate the Company's overall cost of
166 service to each rate class in a manner that reflects the underlying cost drivers
167 associated with each class. The allocation of cost was performed by establishing
168 the relationship for each rate class between the service requirements and the
169 cost drivers for those service requirements. This approach is well established in
170 industry literature and is consistent with past cost of service studies approved by
171 the Commission, including that of Liberty Midstates in Docket No. 14-0371.

172 The COSS methodology included in this testimony is generally consistent with
173 the methodology filed and approved by the Commission in Docket No. 14-0371,
174 the Company's most recent rate case proceeding before the Commission.

175 **Q. Please describe the overall process used to prepare the allocated cost of**
176 **service study.**

177 A. The overall approach used to prepare the COSS consisted of three steps: (1)
178 functionalization, or cost assignment into functional categories, largely related to
179 production, transmission and distribution; (2) classification, or cost assignment
180 according to whether the costs are related to meeting peak demands or providing
181 customer-related services; and (3) allocation, or cost assignment to rate classes
182 consistent with the functionalization and classification steps described above.

183 The functionalization process includes separating rate base and expense items
184 into operational components that include production, storage, transmission and
185 distribution. Gas costs, which include production and pipeline charges and
186 related costs, as well as commodity costs, are recovered through the Company's
187 gas cost recovery mechanism and thus are not included in the COSS for
188 purposes of designing delivery rates.

189 The classification process includes separating functionalized rate base and
190 expense items into classifications that relate to cost drivers. Distribution-related
191 costs are generally classified as demand- or customer-related. Demand-related
192 costs are driven by the requirement to serve customer peak demands, while
193 customer-related costs are driven by the requirement to connect and provide
194 customer-related services, such as metering and billing services.

195 The allocation process then assigns total Company rate base and expense
196 amounts to individual rate classes on the basis of the requirements to provide
197 service to those customer classes, including the ability to serve customer peak
198 demands and to connect and provide customer-related services.

199 The COSS was prepared utilizing an Excel spreadsheet model developed by
200 ScottMadden specifically for utilization in this rate case. Each revenue, rate base
201 and expense item in the Company's overall COSS was assigned to each
202 customer class on the basis of the three-step process described above.

203 The customer classes used in the COSS reflect a new numbering system:
204 Residential, RC-110; Small C&I, GC-120; Medium C&I, GC-130; Large C&I, GC-
205 140; and Optional Gas Service, GC-160. Since the special contract contains
206 pricing terms that are not impacted by this proceeding, it was not necessary to
207 prepare a cost of service for the customer. All revenues generated by the special
208 contract were credited to the cost of service based on class distribution
209 revenues.

210 **Q. Please describe the overall results of the cost of service study.**

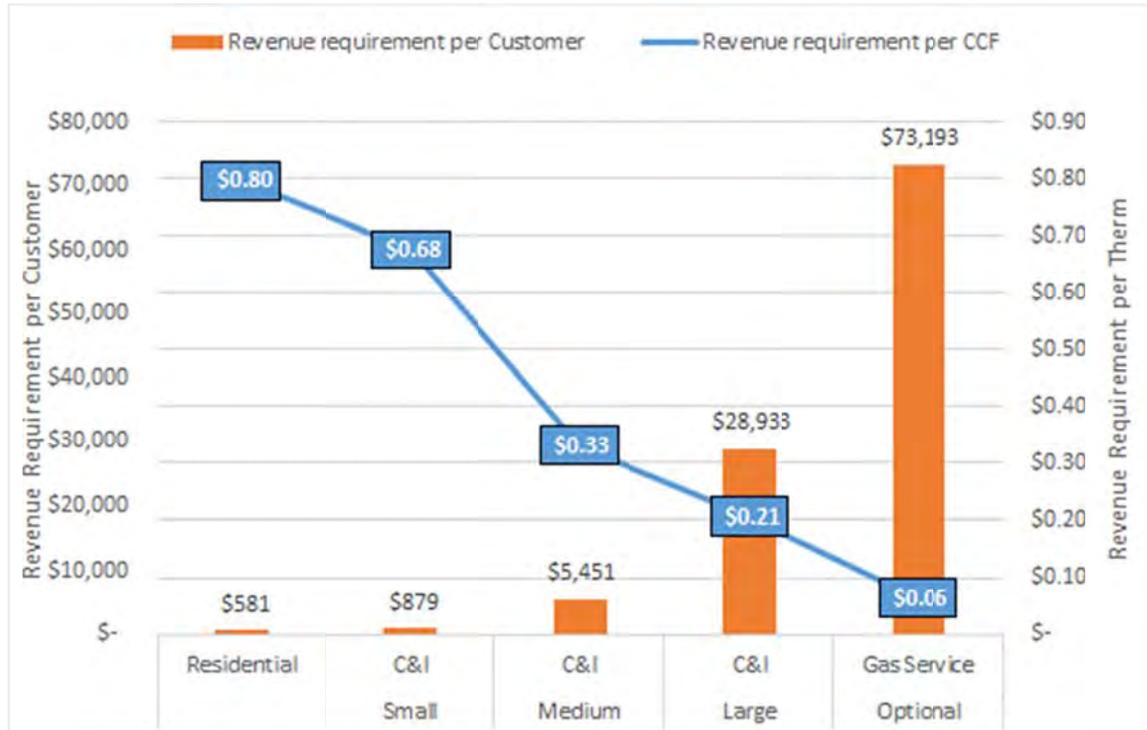
211 A. The results of the COSS are included in Exhibit 4.0.4. The Exhibit shows the
212 results of the calculated Rate of Return ("ROR") for each customer class as
213 compared to the overall or system ROR based on current rates. The Exhibit
214 shows that the Residential class earns a ROR less than the Company's overall
215 ROR. Specifically, the Residential class earns a ROR of 1.73 percent, which is
216 less than the overall ROR of 3.80 percent.

217 The Exhibit also shows that some of the C&I classes earn a ROR higher than the
218 overall ROR. Specifically, the new Small, Large and Optional Gas Service rate
219 classes earn a ROR of 14.49 percent, 18.04 percent and 4.79 percent,
220 respectively, which are above the overall ROR of 3.80 percent. In comparison,
221 the new Medium C&I rate class earns a ROR of 2.80 percent, which is below the
222 overall ROR of 3.80 percent.

223 **Q. Do the COSS results vary across the proposed commercial rate classes?**

224 A. Yes, the results of the COSS, as shown in Figure 5, show variation in the
225 average revenue requirement across all of the rate classes. Figure 5 includes
226 the annual revenue requirement on the basis of 'per customer' and 'per CCF'.
227 The Figure shows variation in all of the rate classes, but particularly the proposed
228 Small and Medium C&I rate classes. Specifically, the 'per customer' revenue
229 requirement is \$879 for a Small C&I customer and \$5,451 for a Medium C&I
230 customer. The 'per CCF' revenue requirement is \$0.68 for a Small C&I customer
231 and \$0.33 for a Medium C&I customer. The results support the Company's
232 proposal to establish separate rate classes for Small and Medium C&I
233 customers.

Figure 5: Revenue Requirement by Rate Class



234 **Q. Please describe the overall approach to prepare the COSS.**

235 A. The approach begins with a review of the Company's overall cost of service.
 236 This is described in the prefiled direct testimony of Witness Schwartz. As
 237 discussed in Witness Schwartz testimony, the Company's overall cost of service
 238 is based on a Forecast Period of January 1, 2017 through December 31, 2017.
 239 The Forecast Period includes twelve months of projected revenues, expenses
 240 and net plant.
 241 The Forecast Period data includes a projection of the number of customers,
 242 usage and revenues for the period January 1, 2017 through December 31, 2017.
 243 The customer, usage and revenue data were assigned to the proposed rate
 244 classes consistent with the definitions described above.

245 The Forecast Period data also includes rate base items for the period January 1,
246 2017 through December 31, 2017. The rate base data includes transmission,
247 distribution and general plant-in-service as well as (a) additions to plant-in-
248 service, including cash working capital, materials and supplies, budget payment
249 plan balances and an adjustment to gross plant; and (b) reductions to plant-in-
250 service, including accumulated deferred income taxes, customer advances for
251 construction, customer deposits and an adjustment to accumulated depreciation.
252 Rate base items were assigned to individual rate classes generally consistent
253 with the methodology used in Liberty Midstates' most recent rate case
254 proceeding in Docket No. 14-0371 as described in Exhibits 4.0.5 and 4.0.6.

255 The Forecast Period data also includes expense items for the period January 1,
256 2017 through December 31, 2017. The expense data includes transmission,
257 distribution, customer service, sales, and administrative and general expenses as
258 well as taxes other than income, including payroll and property taxes, and
259 income taxes. Expense items were allocated to individual rate classes generally
260 consistent with the methodology used in Liberty Midstates' most recent rate case
261 proceeding in Docket No. 14-0371 as described in Exhibits 4.0.5 and 4.0.6.

262 **Q. Please describe the allocators used in the COSS.**

263 A. A description of the allocators is included in Exhibit 4.0.5. The Exhibit describes
264 each allocator used in the COSS, including which costs were allocated, how
265 each allocator was derived, and the rationale for utilizing the allocator. For
266 example, the 'C1_customers' allocator is used to allocate meter reading
267 expenses based on the percentage of customers in each rate class. The

268 rationale is that meter reading expenses are driven by the number of customer
269 meters that are read.

270 **Q. Please describe the process used to allocate rate base to the customer**
271 **classes.**

272 A. The process used to allocate rate base to customer classes is included in
273 Exhibits 4.0.5 and 4.0.6 and consists of the following four steps. First, gross
274 plant investment by individual FERC account is allocated to each rate class on
275 the basis of an allocator that most closely reflects the underlying cost driver.
276 Second, accumulated depreciation by individual FERC account is allocated to
277 each rate class on the same basis as the gross plant investment for that account.
278 Third, net plant investment by individual FERC account is calculated as the
279 difference between gross plant investment and accumulated depreciation by
280 individual FERC account. Lastly, additions and deletions to net plant investment
281 are allocated to each rate class on the basis of an allocator that most closely
282 reflects the underlying cost driver. Total rate base is shown on Exhibit 4.0.6.
283 Gross plant investment that is designed to meet the peak demands of the
284 Company's customers was generally classified as demand-related and then
285 allocated to each rate class on the basis of the demand allocator. Such gross
286 plant investment included distribution facilities, mains, and land and land rights.
287 The Peak Day allocator used to assign these costs was based on a study that is
288 discussed in more detail below.
289 Gross plant investment that is designed to connect customers to the gas
290 distribution system and meet their service requirements was generally classified

291 as customer-related and allocated to each rate class on the basis of various
292 allocators that are related to the numbers of customers. Such distribution plant
293 included: meters, services, and other customer-service items. The allocator
294 used to assign these costs was based on studies that calculate each rate
295 classes' responsibilities for the associated costs.

296 Gross plant investment that provides support services for the Company's
297 operations was allocated based on an internally generated labor allocator that
298 was calculated using the accumulated labor expenses associated with the
299 individual FERC accounts during the Forecast Period. The labor allocator was
300 developed based on an allocation of each individual FERC Operations and
301 Maintenance account using an allocator that most closely reflects the underlying
302 cost driver for each account. The allocated labor costs were subtotaled by rate
303 class to develop a composite labor allocation factor. The development of the
304 allocator is included in Exhibit 4.0.6.

305 In addition to the allocators noted above, there were a number of other allocators
306 that were developed internal to the model that used a combination of other
307 supporting factors.

308 **Q. Please describe the process used to develop the demand-related allocator.**

309 A. The derivation of the demand allocator is included in Exhibit 4.0.7. The Exhibit
310 shows that the demand allocator was based on the Peak Day method, also
311 referred to as the Coincident Demand or Peak Responsibility method. It is one of

312 several methods commonly used as a demand allocator for natural gas utilities.⁴
313 The allocator is based on each rate classes' responsibility to the peak day
314 demands of the system. This method is consistent with the approach taken in
315 Docket No. 14-0371, Liberty Midstates' most recent rate case filing.
316 The process used to derive the allocator is included in Exhibit 4.0.7 and consists
317 of four steps. First, heat use per degree day per customer was derived based on
318 the results of a regression analysis for each rate class of heat use per degree
319 day per customer as a function of billing heating degree days. The regression
320 analysis produced R-Square statistics, ranging from 98 percent for the
321 Residential class to 35 percent for the Optional Gas Service class. The R-
322 Square statistic measures how much variation in a dependent variable (in this
323 case, heat use per customer) can be explained by a variation in an independent
324 variable (in this case, heating degree days). Data for the heat use per customer
325 variable was calculated as the difference between actual use per customer and
326 base use per customer, where base use per customer was calculated as the
327 lowest two consecutive month average of the non-heating months of July through
328 September.
329 The next step was to apply the heat use per degree per customer derived from
330 the regression analysis to the Company's design day degree days, in this case
331 74.0 degree days (based on a weighted average of the design day degree days

⁴ National Association of Regulatory Utility Commissioners, Staff Subcommittee on Gas. "Gas Distribution Rate Design Manual." June 1989, at 27.

332 across the Company's eight service areas), to calculate design day heating use
333 per customer. Then base use per customer was added to the design day heating
334 use per customer to calculate total design day use per customer. The final step
335 was to multiply the number of customers for each class on the system on the
336 design day by the design day use per customer for each class to calculate total
337 design day use by class. The results are shown on Exhibit 4.0.7. The Exhibit
338 shows that the estimated design day use is 280,612 CCF, of which the
339 Residential class represents 187,769 CCF, or 66.91 percent of the design day
340 use. It is important to note that the Optional Gas Service class produced a very
341 low R-Square value of 35 percent, representing a relatively low relationship
342 between heat use per customer and degree days. Thus, the peak day for that
343 class was based on average daily use per customer for the rate class.

344 **Q. Please describe the process used to develop the customer-related**
345 **allocators.**

346 A. Plant investment that is designed to connect customers to the gas distribution
347 system (i.e., meter, meter installation and services plant) was allocated to each
348 rate class on the basis of a meter allocator and a services allocator. These
349 allocators were derived based on current costs since historic cost data was not
350 available. The allocators were developed based on an estimate of the current
351 cost of meters and services, respectively, weighted by the number of meters and
352 services at year-end. The Company determined a current cost for each type of
353 meter and service and how many are installed in each rate class. From this

354 information the Company was able to estimate the total meter and service cost
355 for each customer class.

356 The Industrial Meter investment was directly assigned to those classes that have
357 an industrial meter.

358 The service allocator is an enhancement to the COSS since the last study. The
359 Company believes that the current approach is consistent with the underlying
360 cost drivers, the approach taken to allocate meter costs, and the approach taken
361 by other natural gas utilities. Other enhancements to the allocation methodology
362 include:

FERC Account and Description	Current Study Allocator	Prior Study Allocator
871 – Distribution load dispatching	Demand	Meters
874 – Mains and services expenses	Weighted average of demand and service allocators	Demand
875 – Measurement and regulation - general	Demand	Meters
878 – Meter and house regulators expense	Meters	Customers
892 – Maintenance of services	Services	Meters

363 **Q. Please describe the allocation of reserves for depreciation.**

364 A. The process used to allocate reserves for depreciation to each rate class was
365 consistent with the allocation of the corresponding gross plant investment. The
366 allocation is included in Exhibit 4.0.6.

367 **Q. Please describe the allocation of other rate base items.**

368 A. Additions to rate base and associated allocators included: (a) cash working
369 capital and budget payment plan balances, which were allocated on the basis of
370 total revenues; (b) materials and supplies, which largely consists of gas storage
371 was allocated on the basis of peak demand; and (c) adjustment to gross plant,
372 which was allocated on total gas plant.

373 Reductions to rate base and associated allocators included: (a) accumulated
374 deferred income taxes and adjustment to accumulated depreciation, which were
375 allocated on total gas plant; (b) customer advances for construction and
376 customer deposits, which were allocated on total revenues.

377 The allocation of other rate base items is included in Exhibits 4.0.5 and 4.0.6.

378 The approach is generally consistent with the approach taken in the most recent
379 rate case proceeding.

380 **Q. Please describe the allocation of distribution expense items.**

381 A. The assignment of Operation and Maintenance expenses by FERC account to
382 each rate class generally followed the assignment of gross plant investment
383 associated with the expense account. Customer accounts, sales expenses, and
384 administrative and general expenses were allocated using a variety of methods
385 based on direct assignments, revenues, number of bills and number of
386 customers depending on the cost causation of those expense items.

387 Other expense items and associated allocators included: (a) depreciation
388 expenses, allocated on the basis of total gas plant; (b) property taxes, allocated
389 on the basis of total gas plant; and (c) revenue taxes, allocated on the basis of

390 total revenues. Federal and state income taxes were computed for each rate
391 class based on each class's calculated net income.

392 **Q. Please discuss the results of the COSS.**

393 A. The results of the COSS at current rates are summarized in Figure 6. The
394 results show that the current rates generate different rates of return for each rate
395 class with some classes that produce returns in excess of the Company's overall
396 ROR while other classes produce returns less than the overall ROR.

Figure 6: COSS Results

Rate Class	Revenue Requirements	
	Class ROR	Overall ROR
Residential	1.73%	3.80%
Small C&I	14.49%	3.80%
Medium C&I	2.80%	3.80%
Large C&I	18.04%	3.80%
Optional Service	4.79%	3.80%

397 The Table shows a ROR of 1.73 for the Residential class as compared to the
398 Company's overall ROR of 3.80 percent. In addition, the Table shows a ROR of
399 14.49 percent, 2.80 percent, 18.04 percent and 4.79 percent for the Small C&I,
400 Medium C&I, Large C&I, and Optional Gas Service rate classes, respectively.

401 The results of the COSS were used to establish revenue targets that produce
402 more equitable rates.

403 **V. RATE DESIGN**

404 **Q. Please describe the principles used to guide the proposed rate design.**

405 A. The proposed rate design was guided by several principles common throughout
406 the industry, including: (a) rates should recover the overall cost of providing

407 service; (b) rates should be fair, minimizing inter- and intra-class inequities to the
408 extent possible; and (c) rate changes should be tempered by rate continuity
409 concerns.⁵

410 Because these principles can conflict, the rate design process also includes a
411 level of judgment to balance these principles.

412 **Q. How were those principles applied in this proceeding?**

413 A. First, rates were designed in a way that recovers the overall cost of service. This
414 was done by developing customer charges and consumption rates based on
415 Forecast Period bills and usage.

416 In addition, rates were designed to be fair and equitable. This was done by
417 setting revenue targets for each class at a level closer to the overall ROR.

418 Another primary objective in rate design is to maintain pricing stability by
419 moderating the impact of changes in rates on customers. This objective was
420 considered both during the setting of revenue targets, and again in reviewing the
421 impact of proposed rates on customers' bills at various usage levels within
422 customer classes.

423 **Q. Please summarize the steps taken to derive the proposed rates.**

424 A. The first step was to establish the overall revenue requirement to be recovered
425 from base rates. The next step was to set revenue targets for each rate class
426 based on the results of the COSS, as shown on Exhibit 4.0.6. Rates within each

⁵ See Bonbright, James, Danielsen, Albert, and Kamerschen, David. "Principles of Public Utility Rates." Public Utilities Reports, Inc. 1988. Second edition, at 377-407.

427 customer class were then designed to recover the revenue requirements based
428 on Forecast Period customer and usage data.

429 **Q. What is the total revenue requirement that you used as a starting point?**

430 A. To determine the total Company revenue requirement for this rate design filing,
431 the Company relied on information from the overall cost of service presented in
432 Witness Schwartz testimony, which indicates a total revenue requirement of
433 \$15.3 million.

434 **Q. What data did you rely on in designing the proposed rates?**

435 A. Most of the information used to design the proposed rates was taken from the
436 COSS, including class revenues at equalized rates of return by rate class. The
437 COSS also estimates unit costs by rate class that are separated into demand-
438 and customer-related costs.

439 One of the major components of the COSS is the classification of costs on the
440 basis of the function or the service provided. The primary cost categories are: (1)
441 customer-related costs, which represent fixed costs to provide customers with
442 access to the gas distribution system; and (2) demand-related costs, which
443 represent fixed costs to serve peak requirements. The COSS allocates each of
444 these costs to each rate class based on that class' proportionate responsibility for
445 the cost being incurred.

446 **Q Please describe the process used to set the revenue requirement targets**
447 **for each rate class.**

448 A. First, as shown in Exhibit 4.0.9, the Company began with those rate classes that
449 are earning below the system average ROR; i.e., the Residential and Medium
450 C&I classes.

451 1. Residential rate class. The Company proposes to move the Residential
452 rate class 50 percent towards its equalized rates of return at this time.
453 This results in a revenue increase for the Residential class of \$2.6 million,
454 or 32.0 percent from its current revenues. This represents an average
455 increase in the monthly bill of \$11.05. The revenue shortfall between the
456 proposed revenue increase of \$2.6 million and the revenue increase of
457 \$3.2 million needed to achieve equalized rates of return is then recovered
458 from other rate classes.

459 2. Medium C&I rate class. The Company proposes to move this class 50
460 percent towards its equalized rates of return at this time. This results in a
461 revenue increase of \$0.3 million, or 33.0 percent from its current
462 revenues. This represents an average increase in the monthly bill of
463 \$105.61. The revenue shortfall between the proposed revenue increase
464 of \$0.3 million and the revenue increase of \$0.4 million needed to achieve
465 equalized rates of return is then recovered from other rate classes.

466 The Company proposes to recover from the Small and Large C&I rate classes
467 the revenue shortfall between the proposed revenue increases for the
468 Residential and Medium C&I rates and the revenue increase needed to achieve

469 equalized rates of return. Those rate classes were selected since their current
470 revenues are substantially higher than their revenues at equalized rates of return.
471 The revenue shortfall would be assigned to each class based on their difference
472 between revenues at their equalized rates of return and current revenues.

473 **Q. In general, how did you determine the appropriate rate design within each**
474 **customer class?**

475 A. Rates are designed by first examining the customer charge for the particular
476 customer class to determine what level of fixed costs may be recovered through
477 customer charges consistent with rate design objectives identified above. This
478 involved examining existing customer charges by rate class and comparing those
479 amounts to the results of the COSS.

480 Exhibit 4.0.10 compares the proposed customer charges to the customer costs
481 produced by the COSS. The Exhibit shows calculations of the fully-loaded
482 customer costs, which include basic customer costs as well as an allocated
483 portion of administrative and general expenses, depreciation, return and income
484 taxes on other plant, and other taxes. As shown in the Exhibit and summarized
485 in Figure 7, the proposed customer charges are below the fully-loaded customer
486 costs.

Figure 7: Customer-related Costs

Liberty Utilities (Midstates Natural Gas): IL					
Summary of Rates	Residential GR-110	Small C&I GC-120	Medium C&I GC-130	Large C&I GC-140	Optional Gas Service GC-160
Proposed Customer Charge (\$ per Month)	\$ 25.00	\$ 35.00	\$ 100.00	\$ 200.00	\$ 300.00
Customer Costs					
Basic customer costs	\$ 13.75	\$ 17.67	\$ 107.30	\$ 132.01	\$ 143.05
Fully loaded customer costs	\$ 28.20	\$ 38.31	\$ 220.59	\$ 672.39	\$ 1,333.24

487 Specifically, the proposed Residential customer charges for the Residential class
 488 of \$25.00 is below the fully load customer cost of \$28.20.
 489 Exhibit 4.0.10 also shows Residential customer charges for other Illinois gas
 490 utilities, as provided in a report published by the American Gas Association.⁶
 491 Specifically, the proposed Residential customer charge of \$25.00 are in a few
 492 cases comparable to other Illinois gas utilities. The Company proposes the
 493 following changes to the customer charges in Figure 8.

Figure 8: Proposed Customer Charges

Rate Class	Customer Charge	
	Current	Proposed
Residential	\$23.00	\$25.00
Small C&I	\$80.00	\$35.00
Medium C&I	\$80.00	\$100.00
Large C&I	\$200.00	\$200.00
Optional Service	\$100.00	\$300.00

494 Once the customer charge levels for each class have been set, the remaining
 495 revenue requirements for each class are recovered via the consumption charges,
 496 as shown in 4.0.10. The rate design process was iterative, balancing several
 497 rate design considerations, including revenue recovery, fairness and bill
 498 continuity. Below a description of the rate design for each rate class.

⁶ American Gas Association, Energy Analysis, Natural Gas Utility Rate Structure: The Customer Charge Component - 2015 Update, May 28, 2015.

499 *Residential – GR-110*

500 The proposed Residential rates were based on a revenue requirement target of
501 \$10.8 million, annual customer bills of 235,734 and annual usage of 14,344,453
502 CCF. The Company proposes to increase the monthly customer charge from
503 \$23.00 to \$25.00 to recover a larger portion of the customer-related costs. The
504 revenue requirements not recovered through the customer charge is then
505 recovered through the proposed consumption charge of \$0.33986 per CCF. The
506 Company evaluated the impact of the proposed rate changes utilizing a bill
507 impact analysis in Exhibit 4.0.11 that identifies the impact of the proposed rates
508 relative to the current rates across a range of annual use levels.

509 *Small C&I – GC-120*

510 The proposed Small C&I rates were based on a revenue requirement target of
511 \$2.1 million, annual customer bills of 21,680 and annual usage of 2,353,070
512 CCF. The Company proposes to decrease the monthly customer charge from
513 \$80.00 to \$35.00 to recover the customer-related costs related to the new Small
514 C&I rate class. The revenue requirement not recovered through the customer
515 charge is then recovered through the consumption charge of \$0.57276 per CCF.
516 The Company evaluated the impact of the proposed rate changes utilizing a bill
517 impact analysis in Exhibit 4.0.11 that identifies the impact of the proposed rates
518 relative to the current rates across a range of annual use levels.

519 *Medium C&I – GC-130*

520 The proposed Medium C&I rates were based on a revenue requirement target of
521 \$1.4 million, annual customer bills of 3,199 and annual usage of 4,387,062 CCF.

522 The Company proposes to increase the monthly customer charge from an
523 average of \$80.00 to \$100.00 to recover the customer-related costs related to the
524 new Medium C&I rate class. The revenue requirement not recovered through the
525 customer charge is then recovered through the consumption charge of \$0.23729
526 per CCF. The Company evaluated the impact of the proposed rate changes
527 utilizing a bill impact analysis in Exhibit 4.0.11 that identifies the impact of the
528 proposed rates relative to the current rates across a range of annual use levels.

529 *Large C&I – GC-140*

530 The proposed Large C&I rates were based on a revenue requirement target of
531 \$0.6 million, annual customer bills of 174 and annual usage of 2,032,490 CCF.
532 The Company proposes to leave the monthly customer charge unchanged at
533 \$200.00 to recover this class's portion of the customer-related costs. The
534 revenue requirement not recovered through the customer charge is then
535 recovered through the consumption charge of \$0.29716 per CCF. The Company
536 evaluated the impact of the proposed rate changes utilizing a bill impact analysis
537 in Exhibit 4.0.11 that identifies the impact of the proposed rates relative to the
538 current rates across a range of annual use levels.

539 *Optional Gas Service – GC-160*

540 The proposed Large C&I rates were based on a revenue requirement target of
541 \$0.3 million, annual customer bills of 47 and annual usage of 4,478,589 CCF.
542 The Company proposes a customer charge of \$300.00 to recover this class's
543 portion of the customer-related costs. The revenue requirement not recovered

544 through the customer charge is then recovered through the consumption charge
545 of \$0.06086 per CCF.

546 **VI. BILL IMPACTS**

547 **Q. Have you examined the impact of your proposed change in rates on**
548 **customers within each rate class?**

549 A. Yes. As shown in Exhibits 4.0.11, the Company evaluated the bill impacts of the
550 proposed changes on customers based on a range of annual usage within each
551 rate class. The range of annual usage represents an approximate uniform
552 distribution across the rate classes. The proposed rates were based on the rate
553 design discussed above. The bill impact analysis was calculated using two
554 approaches: (a) without a PGA charge, to evaluate the change in the delivery
555 portion of the customer bill; and (b) with a PGA charge, to evaluate the change in
556 the total customer bill.

557 **VII. RIDER VOLUME BALANCING ADJUSTMENT (VBA)**

558 **Q. Please describe briefly the Company's proposed VBA rider?**

559 A. The Company proposes to implement a Volume Balancing Adjustment (VBA)
560 rider that is consistent with the volume balancing adjustment riders approved by
561 the Commission for the Peoples Gas Light & Coke Company, North Shore Gas
562 Company, and Ameren Illinois Company.

563 The VBA rider is a rate design mechanism that decouples the Company's
564 revenues from the Company's sales volume, avoiding the challenge faced by
565 many gas utilities without a VBA (or similar rate mechanism) of over- and under-
566 recovery of costs resulting from fluctuations in customer usage.

567 **Q. Please describe briefly the history of VBA riders in Illinois?**

568 A. In 2008, the Commission approved VBA riders for Peoples Gas and North Shore
569 on a four-year pilot basis.⁷ Following positive results of the pilot program, the
570 Commission approved the VBA rider on a non-pilot basis in Peoples Gas and
571 North Shore's 2011 rate case.⁸ In early 2015, the Illinois Supreme Court upheld
572 the legality of the VBA rider.⁹ The VBA rider has been maintained in subsequent
573 rates cases for Peoples Gas and North Shore.¹⁰ The Commission also approved
574 a similar VBA rider for Ameren in its 2015 rate case.¹¹

575 **Q. What are the benefits of the VBA rider?**

576 A. The Commission observed that VBA rider promotes distribution rate stability for
577 customers.¹² The Commission has stated that, "[the Rider VBA] is a symmetrical
578 and transparent formula for collecting the approved distribution revenue
579 requirements -- not more or less -- from customers if the Commission chooses
580 not to provide fully for recovery of fixed costs through fixed charges. There are
581 however, additional benefits to ratepayers from Rider VBA."¹³ Specifically, the
582 Commission also noted that VBA rider reduces the reliance on the inevitably

⁷ See, Illinois Commerce Commission, Order, Docket Nos. 07-0241 and 07-0242 (Consolidated), February 5, 2008, at 138-153.

⁸ See, Illinois Commerce Commission, Order, Docket Nos. 11-0280 and 11-0281 (Consolidated), January 10, 2012, at 163-164.

⁹ See, Illinois Supreme Court, Opinion, *People ex rel. Madigan v. Illinois Commerce Commission*, 2015 IL 116005, January 23, 2015.

¹⁰ Specifically, in the subsequent rate case it was noted that "the Commission continues to believe that Rider VBA is a sound rate design policy that should remain in place permanently." Illinois Commerce Commission, Order, Docket Nos. 12-0511 and 12-0512 (Consolidated), June 18, 2013, at 264.

¹¹ See, Illinois Commerce Commission, Order, Docket No. 15-0142, December 9, 2015, at 109.

¹² See, Illinois Commerce Commission, Order, Docket Nos. 11-0280 and 11-0281 (Consolidated), January 10, 2012, at 164.

¹³ *Ibid*, at 163.

583 incorrect forecasting process and diminishes the advantage a utility has in
584 choosing the timing of the next rate case.¹⁴ Additionally, the VBA rider protects
585 consumers against the negative effects on utilities of declining load and revenue
586 losses attributable to energy efficiency programs.¹⁵

587 **Q. Would Liberty Midstates' customers realize these same benefits?**

588 A. Yes. The Company's proposed VBA rider is consistent with those previously
589 approved by the Commission and thus would accrue similar benefits.

590 **Q. What factors contribute to fluctuations in sales volumes?**

591 A. There are several factors that contribute to the fluctuations in customer usage for
592 a gas utility. For the Company, the most significant factor that contributes to
593 fluctuations in customer usage is weather, and more specifically, fluctuations in
594 temperature. In colder weather, customer usage increases and in warmer
595 weather, customer usage decreases. Other factors include customer
596 conservation and implementation of energy efficiency measures.

597 **Q. Do other utilities experience similar over- and under-recovery of costs?**

598 A. Yes. This type of over- and under-recovery of costs is not unique to Liberty
599 Midstates. This is a challenge for the natural gas industry. Peoples Gas, North
600 Shore, and Ameren all noted a similar challenge in their requests for a VBA
601 rider.¹⁶

¹⁴ Ibid.

¹⁵ Ibid, at 164.

¹⁶ See, for example, Direct Testimony of Leonard M. Jones submitted on behalf of Ameren Illinois Company d/b/a Ameren Illinois, Docket No. 15-0142, January 2015, at 9.

602 **Q. Why is revenue stability important?**

603 A. The VBA rider provides revenue stability that enable the Company to recover its
604 cost of service, the majority of which is fixed. As such, the VBA rider supports
605 Liberty Midstates financial health and with it the financial support to provide safe,
606 reliable and efficient service to its customers.

607 **Q. Please describe how the Company's proposed VBA rider will operate?**

608 A. The proposed VBA rider is modeled after Peoples Gas, North Shore Gas, and
609 Ameren's VBA rider. Under Liberty Midstates' proposed VBA rider, the Company
610 will reconcile annually the difference between the revenue requirements
611 approved by the Commission in the most recent rate case proceeding and the
612 actual revenues billed. Under the Company's proposal, the Commission
613 conducts a proceeding annually to review and approve the Company's proposed
614 reconciliation and resulting surcharge or credit that will be assessed on customer
615 bills over the subsequent twelve months. The Company is required to file
616 supporting documents (discussed below) and to petition the Commission
617 annually on or before March 20 to initiate the annual reconciliation.

618 **Q. Are there any differences between the VBA rider proposed by the Company
619 and those in place for other Illinois utilities?**

620 A. There are no substantive differences between the Company's proposed VBA
621 rider and those approved and implemented by Peoples Gas, North Shore Gas
622 and Ameren, other than a provision that addresses the circumstances under
623 which the Commission approves a gas utility acquisition by the Company.
624 Ameren has proposed a similar provision in a recent filing before the

625 Commission.¹⁷ In addition, there are a few minor differences that conform the
626 rider to the Company's proposed new tariffs and that customize the reporting and
627 informational requirements to the Company's situation.

628 **Q. What reporting requirements are included in the VBA rider?**

629 A. The proposed VBA rider requires the Company to file with the Commission an
630 information statement on before March 20 of each year that specifies the annual
631 adjustments to be effective under the VBA rider. With its filing, the Company is to
632 include: (1) a report showing the determination of the revenue adjustment (dollar
633 amount due or owing as a result of the reconciliation) applicable to the upcoming
634 amortization period, and (2) a report showing the Company's rate of return with
635 and without the effect of the VBA rider.

636 Additionally, the Company will specify in its compliance filing of a rate case
637 decision by the Commission the Rate Case Revenue for each applicable service
638 classification based on the approved revenue requirement in the rate case.

639 **Q. Are there any additional safeguards in the proposed VBA rider?**

640 A. The proposed VBA rider contains additional safeguards. The proposed rider
641 requires the Company to conduct an annual internal audit of the distribution
642 revenue requirements recovered or refunded pursuant to the rider. The audit
643 shall test whether (1) the actual amount of revenues that exceed or fall short of
644 the approved Rate Case Revenue collected through base rate distribution

¹⁷ Ameren Illinois Company d/b/a Ameren Illinois, Tariff Filing GRM #16-031, filed February 11, 2016 and effective March 27, 2016.

645 charges are correctly reflected in the Company's calculations on the
646 information sheet and report; (2) revenues under the VBA rider are collected
647 through other approved tariffs; (3) adjustments under the VBA rider are
648 being properly billed to customers; and (4) revenues under the VBA rider
649 are recorded in the appropriate accounts.

650 The Company will provide a copy of the audit report to Commission's Manager of
651 Accounting by May 31 of each year. The audit combined with the other reporting
652 requirements and the annual reconciliation proceeding are comparable to those
653 in place for other Illinois utilities and provide sufficient mechanisms for the
654 Commission to evaluate compliance with the rider.

655 **Q. Please describe how the VBA rider is expected to operate when weather is**
656 **colder or warmer than normal?**

657 A. In years where the weather is colder than normal, sales and revenues will be
658 greater than expected resulting in a refund to customers of the amount collected
659 over the Commission's approved revenue requirement. This prevents customers
660 from overpaying when usage is greater than forecast.

661 Conversely, in years where the weather is warmer than normal, sales and
662 revenues can be expected to be lower than expected resulting in a charge to
663 customers in an amount sufficient to fully collect the Commission's approved
664 revenue requirement.

665 **Q. Will the proposed VBA rider adjust the Company's revenue requirement?**

666 A. No. The VBA rider does not adjust the Company's revenue requirements. The
667 Company's revenue requirements will continue to be set by the Commission in

668 ratemaking proceedings. The proposed VBA rider helps ensure that the
669 Company is able to achieve the revenues established and approved during its
670 ratemaking proceedings.

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

672 **A. Yes, it does.**