

REDACTED

DIRECT TESTIMONY

of

GREG ROCKROHR

Engineering Department

Energy Division

Illinois Commerce Commission

Commonwealth Edison Company
Tariffs and charges submitted pursuant to
Section 16-108.5 of the Public Utilities Act.

Docket No. 11-0721

January 13, 2012

1 **Q. Please state your name and business address.**

2 A. My name is Greg Rockrohr. My business address is 527 East Capitol Avenue,
3 Springfield, Illinois 62701.

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

5 A. I am employed by the Illinois Commerce Commission (“Commission”) as a
6 Senior Electrical Engineer in the Energy Division. In my current position, I review
7 various planning and operating practices at Illinois electric utilities and provide
8 opinions or guidance to the Commission through Staff reports and testimony.

9 **Q. What is your previous work experience?**

10 A. Prior to joining the Commission Staff (“Staff”) in 2001, I was an electrical
11 engineer at Pacific Gas and Electric Company in California for approximately 18
12 years. Prior to that, I was an electrical engineer at Northern Indiana Public
13 Service Company for approximately 3 years. I am a registered professional
14 engineer in the state of California.

15 **Q. What is your educational background?**

16 A. I hold a Bachelor of Science degree in Electrical Engineering from Valparaiso
17 University. While employed in the utility industry and at the Commission, I have
18 attended numerous classes and conferences relevant to electric utility
19 operations.

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

21 A. My testimony provides my opinions and recommendations regarding:

22 1. ComEd’s distribution loss study, identified as ComEd Ex. 7.1, which ComEd
23 proposes to utilize when determining the distribution loss factor component of

24 its customer rates in this proceeding.¹ I also convey information about
25 ComEd's Study Report #3 and Study Report # 7B, which are different
26 versions of ComEd's distribution loss study that ComEd filed in this
27 proceeding.

28 2. Information that ComEd provided in Study Report #5, which is a ComEd study
29 about eliminating its use of and dependence on CTA-owned and Metra-
30 owned electric facilities to supply other ComEd customers.

31 **ComEd's Distribution Loss Study**

32 **Q. What is the purpose of ComEd's distribution loss study?**

33 A. ComEd performed a distribution loss study in order to quantify and allocate the
34 energy lost when supplying electricity to customers using its distribution system.
35 ComEd allocates distribution losses to each customer class based upon the
36 estimated customer class load during various hours of the day and the typical
37 distribution facilities used to supply members of each customer class. Upon
38 study completion, ComEd assigned each customer class a corresponding
39 "distribution loss factor." This factor represents the electric energy that was lost
40 on, or consumed by, ComEd's distribution system during the course of delivering
41 the electricity to customers. I understand ComEd's distribution loss factors for
42 each class to be expressed as a percentage of the electric energy delivered to
43 customers in the class.

44 **Q. What is your recommendation regarding the distribution loss study and the**
45 **distribution loss factors that ComEd proposes to use in this proceeding?**

¹ ComEd Ex. 10.0, p. 39 and ComEd Ex. 10.12.

46 A. I recommend that the Commission reject ComEd's distribution loss study,
47 identified as ComEd Ex. 7.1, and instead use the distribution loss study and
48 distribution loss factors that ComEd submitted as Study Report #7B, or in the
49 alternative, use the distribution loss study and distribution loss factors that the
50 Commission previously approved in Docket No. 10-0467. Although ComEd has
51 alleged that it used the same approach in ComEd Ex. 7.1 as it used in Docket
52 No. 10-0467,² it is still not apparent to me that the distribution loss study filed as
53 ComEd Ex. 7.1, which ComEd proposes to use for customer rate determination,
54 meets all of the requirements set by the Commission in its Final Order in Docket
55 No. 10-0467.

56 **Q. What requirements did the Commission establish in its Final Order in**
57 **Docket No. 10-0467?**

58 A. Within its analysis and conclusions concerning ComEd's distribution loss factors,
59 the Commission stated: "However, to eliminate future confusion, ComEd shall
60 segregate the SEC and SERVICE elements in any future rate case in its initial
61 filing."³ Although I am not an attorney, I understand the Commission's order to
62 indicate that when ComEd filed its next rate case, the associated distribution loss
63 study ComEd filed must segregate the SEC and SERVICE elements.

64 **Q. Does ComEd's distribution loss study filed as ComEd Ex. 7.1 "segregate**
65 **the SEC and SERVICE elements?**

² ComEd Ex. 7.0, p. 5.

³ May 24, 2011, Final Order Docket 10-0467, p. 291.

66 A. No. The distribution loss study that ComEd proposes to use for determining
67 customer rates does not segregate the SEC and SERVICE elements.⁴ I would
68 note that ComEd also filed a different version of its distribution loss study as
69 Study Report #3 that does segregate the SEC and SERVICE elements, but
70 ComEd does not propose to use Study Report #3 in this proceeding.

71 **Q. Do you recommend that Study Report #3 be used in this proceeding?**

72 A. No. I do not believe it would be appropriate for ComEd to use that distribution
73 loss study because some of the results in Study Report #3 appear to be illogical,⁵
74 and I believe the schedule for this proceeding provides inadequate time to fully
75 resolve all potential issues Staff and interveners might have regarding ComEd's
76 distribution loss study identified as Study Report #3.

77 **Q. Do you have any additional concerns regarding the distribution loss study**
78 **that ComEd filed as ComEd Ex. 7.1 and proposes to use in this**
79 **proceeding?**

80 A. Yes, the study is only partially updated and ComEd should not be allowed to use
81 a distribution loss study that is partially updated. The Commission's Final Order
82 in Docket No. 10-0467 required ComEd to update its distribution loss study with
83 information from an updated transmission loss study and provide the results to all
84 parties of record in Docket No. 10-0467 by the end of 2011.⁶ ComEd's Study
85 Report #7B appears to be this updated distribution loss study that includes
86 updated transmission losses, but ComEd has not indicated that it intends to
87 utilize the distribution loss factors resulting from Study Report #7B. ComEd

⁴ ComEd's response to Staff data request GER 1.02(a), included as Attachment A to this testimony.

⁵ ComEd's response to Staff data request GER 2.03, included as Attachment B to this testimony.

⁶ May 24, 2011, Final Order Docket 10-0467, p. 291.

88 instead intends to use the distribution loss factors from ComEd Ex. 7.1, which
89 ComEd says uses the same approach as the distribution loss study that the
90 Commission approved in its Final Order in Docket No. 10-0467; except ComEd
91 Ex. 7.1 was updated with 2010 class loads.⁷ The distribution loss study that the
92 Commission approved in its Final Order in Docket No. 10-0467, and that ComEd
93 used to determine its present rates, was based upon 2009 class loads.⁸ As
94 discussed below, I do not believe it to be appropriate for ComEd to update its
95 distribution loss study with 2010 class loads, but not update the same distribution
96 loss study to reflect updated transmission losses, especially since both quantities
97 are an integral part of the distribution loss factor calculation.⁹

98 **Q. How do the distribution loss factors that ComEd proposes in ComEd Ex.**
99 **7.1 for various customer categories compare to the distribution loss**
100 **factors that ComEd determined in Study Report #7B and in Study Report**
101 **#3, and how do they compare to the distribution loss factors the**
102 **Commission approved in its Final Order in Docket No. 10-0467?**

103 A. The following table shows the distribution loss factors that ComEd identified in
104 the four distribution loss studies I just discussed. ComEd uses distribution loss
105 factors to allocate losses that occur on its distribution system, and the associated
106 cost of those losses, to the various customer classes.¹⁰ The four separate
107 distribution loss factors for each of the customer categories shown in the table

⁷ ComEd Ex. 7.0, p. 5.

⁸ Docket 10-0467, ComEd Ex. 67.2, p. 2.

⁹ ComEd Ex. 7.1, p. 2.

¹⁰ ComEd Ex. 10.0, p.39.

108 illustrate the results from four separate distribution loss studies that ComEd
 109 performed.

ComEd Customer Category	ComEd Ex. 7.1 Appendix G	ComEd Study Report #7B Appendix G	ComEd Study Report #3 Appendix G	Docket 10-0467 ComEd Ex. 67.2 Appendix G
SF	8.17%	7.22%	8.07%	7.61%
MF	8.70%	7.69%	8.24%	8.08%
SF-SH	9.35%	8.29%	9.22%	8.81%
MF_SH	10.02%	8.88%	8.91%	9.32%
WH	8.50%	7.52%	8.41%	8.33%
0-100 kW	7.98%	7.07%	8.38%	7.61%
100-400 kW	7.77%	6.88%	7.53%	7.41%
400-1000 kW	7.27%	6.44%	7.04%	6.96%
>1-10 MW	6.82%	6.02%	7.05%	6.29%
>10 MW	6.80%	6.02%	7.05%	6.34%
HV >=69 kV w losses	1.03%	0.78%	1.07%	0.85%
HV DLF=0	0.00%	0.00%	0.00%	0.00%
Railroad	3.34%	2.97%	3.60%	3.69%
D-D Lighting	12.08%	10.72%	11.56%	11.90%
Gen Lighting	10.60%	9.44%	10.07%	10.63%
Muni	1.18%	1.03%	1.26%	1.11%
Primary Voltage	4.65%	4.13%	5.00%	4.50%
Total Deliveries	6.96%	6.15%	6.96%	6.55%

110 As an example, in order to explain the meaning of table entries, ComEd Ex. 7.1
 111 suggests that ComEd, or an ARES, would procure, on average, an additional 817
 112 kWh for every 10,000 kWh delivered to single family residential customers
 113 (category SF in the table) to account for ComEd's distribution losses.¹¹ Similarly,
 114 ComEd Study Report #7B indicates that ComEd or an ARES would need to
 115 procure an additional 722 kWh per 10,000 kWh delivered; ComEd Study Report
 116 #3 indicates an additional 807 kWh per 10,000 kWh delivered; and ComEd Ex.

¹¹ 817 kWh = .0817 X 10,000 kWh

117 67.2 from Docket No. 10-0467 indicates an additional 761 kWh per 10,000 kWh
118 delivered. The table also illustrates that customer categories with higher delivery
119 voltages, such as the primary voltage category, generally have lower distribution
120 loss factors. These lower distribution loss factors exist because delivery of
121 electric energy to customers supplied at a higher voltage generally involves fewer
122 distribution system elements, such as transformers and service lines, and
123 therefore lower distribution losses.

124 **Q. What is your primary objection to ComEd's use of the distribution loss**
125 **factors from ComEd Ex. 7.1, Appendix G.**

126 A. With ComEd Ex. 7.1, ComEd proposes using transmission losses that were most
127 recently determined in the late 1990s.¹² Updated transmission loss percentages
128 can have as great an impact on distribution loss factors as the incremental
129 changes in class load that ComEd determined occurred from 2009 to 2010. I
130 agree with ComEd's explanation that changes in distribution loss factors from
131 one year to the next may occur because of changes in distribution and
132 transmission system configuration, load, load shape, and temperature.¹³ But this
133 also means that no one can be sure whether ComEd's customer loads in the
134 future years of 2012 and later will be more similar to the customer loads in 2009
135 or to the customer loads in 2010, so that updating the study only for customer
136 loads does not necessarily mean the study will more accurately reflect future
137 conditions. If ComEd updates its distribution loss factors to reflect 2010 loading
138 instead of 2009 loading, then it certainly should also update those distribution

¹² ComEd Ex. 7.0, p. 7.

¹³ *Id.*, p. 6.

139 loss factors to reflect its updated transmission losses that were previously
140 updated in 1998.¹⁴

141 **Q. What is your recommendation regarding distribution loss factors in the**
142 **instant proceeding?**

143 A. The Commission should use the distribution loss factors that resulted from Study
144 Report #7B, because they include updates to both customer loading and
145 transmission losses. However, in the alternative, if the Commission rejects
146 ComEd's use of Study Report #7B to determine distribution loss factors because
147 Study Report #7B does not segregate SEC and SERVICE elements, as I
148 understood the Commission's Final Order in Docket No. 10-0467 to require, I
149 recommend that the Commission continue to use the distribution loss factors that
150 the Commission approved in Docket No. 10-0467.

151 As previously discussed, the Commission should not use the distribution loss
152 factors determined via ComEd Ex. 7.1 because that distribution loss study only
153 updates customer loads without updating transmission losses. Since Study
154 Report #7B did not yet exist when ComEd filed its direct case, ComEd should
155 clarify in rebuttal whether it still intends to use the distribution loss factors from
156 ComEd Ex. 7.1 for determining rates, and explain the reasons for its decision. If
157 ComEd still intends to use the distribution loss factors indicted by ComEd Ex.
158 7.1, ComEd should explain in rebuttal why it believes updating customer loads
159 without updating transmission loss percentages is appropriate.

¹⁴ ComEd Study Report #7A contains ComEd's recently completed transmission loss study.

160 **ComEd's Study Report #5**

161 **Q. What information does ComEd provide in Study Report #5?**

162 A. In Study Report #5, ComEd explains modifications to its facilities, and to facilities
163 owned by the CTA and Metra, that would allow ComEd to supply all of its
164 Chicago-area customers ***BEGIN CONF [REDACTED]

165 [REDACTED].*** END CONF

166 In its Final Order in Docket No. 10-0467, I understand that the Commission
167 determined that \$678,104 of ComEd's cost to supply Railroad Class¹⁵ customers
168 should be annually allocated to the other customer classes throughout ComEd's
169 operating area because ComEd has utilized Railroad Class customer facilities to
170 supply the other customer classes for decades without compensation. It is my
171 further understanding that the Commission required ComEd to file a report within
172 one year of the date of the Final Order in Docket No. 10-0467 that provides
173 information about steps that ComEd and the railroads have taken to eliminate
174 ComEd's use of Railroad Class customer facilities to supply other customers.¹⁶
175 ComEd's Study Report #5 appears to at least partially respond to the
176 Commission's Final Order in Docket No. 10-0467.

177 **Q. What changes does Study Report #5 contemplate for ComEd's supply to
178 CTA-owned and Metra-owned traction power substations?**

179 A. Study Report #5 indicates that ComEd at times supplies its other customers
180 through use of ***BEGIN CONF [REDACTED]

181 [REDACTED]

¹⁵ Railroad Class customers consist of CTA and Metra traction power substations.

¹⁶ May 24, 2011, Final Order Docket 10-0467, pp. 274-275.

182 [REDACTED].*** END CONF ComEd's Study Report #5 appears to indicate that
183 ComEd would need to ***BEGIN CONF [REDACTED]
184 [REDACTED]
185 [REDACTED].*** END CONF Similarly, ComEd would
186 have to ***BEGIN CONF [REDACTED]
187 [REDACTED]
188 [REDACTED].¹⁷*** END CONF

189 **Q. Did ComEd provide any cost estimates in Study Report #5 to cover the**
190 **work identified to eliminate its dependence on the CTA and Metra traction**
191 **power substations?**

192 **A.** Yes. ComEd's preliminary estimate of total direct cost for *** BEGIN CONF [REDACTED]
193 [REDACTED]
194 [REDACTED].*** END CONF
195 Additionally, ComEd estimated that it would ***BEGIN CONF [REDACTED]
196 [REDACTED]
197 [REDACTED]
198 [REDACTED].¹⁸*** END CONF ComEd's

199 costs for these ***BEGIN CONF [REDACTED]*** END CONF are not
200 included in the costs identified above. I do not know the accuracy of the cost
201 estimates that ComEd provides in Study Report #5.

202 **Q. Would the CTA and Metra need to modify their facilities if ComEd modified**
203 **its distribution system as contemplated in Study Report #5?**

¹⁷ Study Report #5, Attachment 1: Work Paper to Study Report #5.

¹⁸ *Id.* It appears that, at line 63 of its Study Report #5, Attachment 1 Excel Work Paper, ComEd may have inadvertently included two extra *** BEGIN CONF [REDACTED].*** END CONF

204 A. Possibly. ComEd's Study Report #5 suggests that modifications to *** BEGIN
205 CONF [REDACTED]*** END CONF would be necessary if
206 ComEd no longer *** BEGIN CONF [REDACTED]
207 [REDACTED].¹⁹ [REDACTED]
208 [REDACTED]
209 [REDACTED]
210 [REDACTED]*** END CONF to supply other customers, then it is my
211 understanding that CTA and Metra would not need to modify their facilities, and
212 *** BEGIN CONF [REDACTED]
213 [REDACTED]
214 [REDACTED]
215 [REDACTED],*** END CONF ComEd would have adequate capacity to supply
216 all of its customers using distribution facilities that ComEd itself owns, operates,
217 and maintains. Note that ComEd's estimated direct cost *** BEGIN CONF [REDACTED]
218 [REDACTED]
219 [REDACTED]***
220 END CONF is less than the existing annual Railroad Class subsidy of \$678,000
221 borne by other customer classes.

222 Q. To clarify: would ComEd's *** BEGIN CONF [REDACTED]
223 [REDACTED]
224 [REDACTED]?*** END CONF

¹⁹ Study Report #5, pp. 6-8 and 10-12. *** BEGIN CONF [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED].*** END CONF

225 A. No. As long as ComEd *** BEGIN CONF [REDACTED]
226 [REDACTED], *** END CONF ComEd's inadvertent use
227 of those facilities will continue. Study Report #5 indicates that *** BEGIN CONF
228 [REDACTED]
229 [REDACTED]
230 [REDACTED]
231 [REDACTED]
232 [REDACTED].²⁰ [REDACTED]
233 [REDACTED]
234 [REDACTED],²¹ *** END CONF or were to install
235 SCADA (Supervisory Control and Data Acquisition) at these substations.²²

236 **Q. According to ComEd, does the Commission need to consider Study Report**
237 **#5 in this proceeding?**

238 A. No. It is my understanding that ComEd submitted Study Report #5 for
239 informational purposes, and that the Commission need not make any
240 determination regarding the information in Study Report #5 in this proceeding.²³
241 Also, while I am not an attorney, given the passage of PA 97-0616 and the
242 adoption of Section 16-108.5 of the Public Utilities Act [220 ILCS 5/16-108.5], it is
243 unclear to me when the Commission will need to consider the information
244 included in Study Report #5 or when it should revisit the annual subsidy that the
245 Railroad Class receives from other customer classes.

²⁰ Study Report #5, p. 13.

²¹ *Id.*, p. 5 and p. 9.

²² ComEd's response to Staff data request GER 1.04, included as Attachment C.

²³ ComEd Ex. 1.0, p.17.

246 **Q. Does this conclude your prepared direct testimony?**

247 A. Yes.

ICC Docket No. 11-0721

**Commonwealth Edison Company's Response to
Illinois Commerce Commission ("STAFF") Data Requests
GER 1.01 – 1.09**

Date Received: November 23, 2011

Date Served: December 5, 2011

REQUEST NO. GER 1.02:

When discussing ComEd's distribution loss study on page 291 of its Final Order in Docket 10-0467, the Commission stated:

"However, to eliminate future confusion, ComEd shall segregate the SEC and SERVICE elements in any future rate case in its initial filing."

It does not appear to Staff that ComEd segregated the SEC and SERVICE elements in the instant filing. For example, Appendix B, Appendix C, Appendix D, and Appendix E of ComEd Ex. 7.1 in this proceeding appear to combine the SEC and SERVICE elements, even though ComEd's Work Paper for Study Report 3 appears to segregate them.

- a. Please explain whether ComEd believes it segregated the SEC and SERVICE elements in the 2010 ComEd Distribution System Loss Factor Study that it filed as ComEd Ex. 7.1 Appendix B, Appendix C, Appendix D, and Appendix E.
- b. Please provide a modified version of ComEd's 2010 Distribution Loss Factor Study provided in ComEd Ex. 7.1 that includes separate values for SEC and SERVICE elements in Appendix B, Appendix C, Appendix D, and Appendix E.
- c. Referring to each customer category shown on the revised Appendix C that ComEd provides in response to (b), please explain ComEd's rationale for the percentages shown for the SEC and SERVICE elements.

RESPONSE:

- a. The SEC and SERVICE elements were not segregated in the 2010 ComEd Distribution System Loss Factor Study that it filed as ComEd Ex. 7.1 Appendix B, Appendix C, Appendix D, and Appendix E.
- b. A modified version of the 2010 ComEd Distribution System Loss Factor Study with separate values for SEC and SERVICE element losses was provided as Study Report #3 (See ComEd Ex. 1.0, 17:327-335).
- c. The SEC and SERVICE element percent loss (Appendix D) and the category load through element values (Appendix C) used in Study Report # 3 were determined in a sample based engineering study of secondary and service conductor losses. The attachment labeled as GER 1.02_Attach 1 is a copy of this study.

ICC Docket No. 11-0721

**Commonwealth Edison Company's Response to
Illinois Commerce Commission ("STAFF") Data Requests**

GER 2.01 – 2.05

Date Received: December 8, 2011

Date Served: December 12, 2011

REQUEST NO. GER 2.03:

Staff seeks clarification regarding various entries in ComEd's Study Report #3, Appendix C:

- a. Appendix C of Study Report #3 appears to indicate that a greater percent of Single-Family Residential load is supplied by ComEd's secondary facilities than is supplied by ComEd's service facilities. However, Staff understands the opposite to be the case: that all Single Family Residential load is supplied by services, and some portion of that Single Family Residential load is also supplied by ComEd's secondary. Similarly, Staff understands that more customer load in the "WH" category is supplied with services than with secondary. Does ComEd agree that Appendix C of Study Report #3 implies that more customer load within each of these customer-categories is supplied by ComEd's secondary than by its services? If yes, please explain how the situation implied by the values in Appendix C could actually occur. If no, please provide and explain a correct interpretation of the percentages shown in Appendix C.
- b. Appendix C of Study Report #3 appears to imply that 100% of the load in ComEd's "0-100 kW" customer category is supplied by both ComEd's secondary and ComEd's services. However, Staff understands that some of ComEd's customers in the "0-100 kW" customer category receive service directly from a dedicated transformer at the street or on the customer's property, and in those cases no ComEd secondary would be utilized. Is Staff's understanding correct? If yes, please explain in greater detail how ComEd determined that the percentages in Appendix C for the "0-100 kW" customer category for Secondary and Service elements should both be 100%. If no, please explain why Staff's understanding is in error.
- c. Please confirm that Appendix C implies that the percentage of category load through services is greater for the ">10MW" customer category than for the "1-10MW" customer category.
 - i. Please state in the response whether ComEd places any upper voltage limit on facilities it considers to be "Service".
 - ii. Please identify the voltage levels that ComEd typically utilizes for service installations to customers in the "1-10MW" customer category and in the ">10MW" customer category.
 - iii. Please identify the major components that make up ComEd's service installations to customers in the "1-10MW" customer category and in the ">10MW" customer category.

RESPONSE:

- a. ComEd agrees that Appendix C of Study Report #3 could be interpreted to imply that there is more customer load on secondary conductors compared to service conductors. ComEd also agrees that not all customers utilize secondary conductors. Appendix 1 of the attachment labeled as GER 1.02_Attach 1, attached to ComEd's Response to Staff Data Request GER 1.02, shows the basis for determining secondary and service losses for one or more loss models for each customer class. The tables in this report show the load and weighting applied to each model to account for secondary and service losses. The values in Appendix C of Study Report #3 represent the weighted losses for each customer class as a percent of the weighted losses of the class with the largest amount of losses. This approach was taken to minimize changes to the structure of the spreadsheet that is used to calculate loss factors. For the Secondary and Service conductor elements, the listed values are loss multipliers rather than a percent of the customer use of the element.
- b. Staff's understanding that some customers in the 0-100 kW class have a service conductor directly connected to a distribution transformer, while other customers in this class are supplied by service conductors that are connected to a secondary conductor is correct. In Appendix 1 of the attachment labeled as GER 1.02_Attach 1, there are four loss models used to represent the 0-100 kW class. Two of the models utilize secondary conductors while the others did not utilize secondary conductors.
- c. It is possible to interpret Appendix C of Study Report #3 to state that there is a greater percentage of class load through services for the >10MW class compared to the 1-10MW class. However as explained in the response to subpart (a) of this request, the values in Appendix C for service conductors represent the losses for each class as a percent of the percent of losses of the class with the greatest losses.
 - a. The highest service voltage utilized for the purpose of determining loss factors is 480V.
 - b. The voltage typically used to provide service in the 1-10 MW and >10 MW classes is 480V.
 - c. The major component used to make up service installations in the 1-10 MW and >10 MW classes is multiple sets of conductors operated at 480V. The specific number and size of these conductors used for this study are contained in Appendix 1 of the attachment labeled as GER 1.02_Attach 1.

ICC Docket No. 11-0721

**Commonwealth Edison Company's Response to
Illinois Commerce Commission ("STAFF") Data Requests
GER 1.01 – 1.09**

Date Received: November 23, 2011

Date Served: December 7, 2011

REQUEST NO. GER 1.04:

Study Report #5 that ComEd included with its filing indicates that ComEd's scope of work for eliminating its use of railroad facilities to supply its other customers would include SCADA connectivity for replacement relays. Are all of the substation relays that ComEd currently uses to supply the railroad traction power substations presently connected to ComEd's SCADA system? If no, please identify those that are not presently connected to ComEd's SCADA system.

RESPONSE:

No. All of the substation relays that ComEd currently uses to supply the railroad traction power substations are not themselves presently connected to ComEd's SCADA system. However, all of the feeders used to supply the railroad traction power substations have metering that is connected to the ComEd SCADA system. Moreover, as part of this change of design ComEd replaces old electromechanical relays with microprocessor based relays to maximize performance and reliability. When electromechanical relays are used, as is now the case, there is no direct connection to the SCADA system as there is no provision for this in the relays. Microprocessor based relays, however, have provisions for providing data directly to the SCADA system via a serial cable or IP-based network connection. This data provided to SCADA includes the line metering data, but also may include fault data and other alarms not generally available. Therefore, it is ComEd's standard design practice to make these connections.