

REBUTTAL TESTIMONY

OF

ERIC LOUNSBERRY

Supervisor

Engineering Department

Energy Division

Illinois Commerce Commission

Illinois Power Company, d/b/a AmerenIP

Reconciliation of Revenues Collected
Under Gas Adjustment Charges
with Actual Cost Prudently Incurred

Docket No. 07-0572

June 30, 2009

1 Q. Please state your name and business address.

2 A. My name is Eric Lounsberry, and my business address is 527 East Capitol
3 Avenue, Springfield, Illinois 62701.

4 Q. Are you the same Eric Lounsberry that previously provided testimony in this
5 proceeding?

6 A. Yes. I previously presented Direct Testimony in this proceeding, ICC Staff
7 Exhibit 2.0.

8 Q. What is the purpose of your rebuttal testimony?

9 A. My rebuttal testimony responds to the rebuttal testimony of Illinois Power
10 Company ("AmerenIP" or "Company") witnesses Kenneth C. Dothage and
11 Stephen D. Underwood.

12 Q. What recommendations did you make in your direct testimony?

13 A. I determined that AmerenIP included imprudently incurred gas costs associated
14 with a metering error at its Hillsboro storage field in its PGA gas rates. I
15 recommended that the Commission find that AmerenIP imprudently incurred a
16 gas cost of \$4,048,380.

17 Q. Has the Company's rebuttal testimony caused you to alter your
18 recommendations?

19 A. No. My recommendations have not changed.

20 Q. What topics does your rebuttal testimony discuss?

21 A. My rebuttal testimony discusses six topics raised by Mr. Underwood and four
22 topics raised by Mr. Dothage.

23 Underwood Rebuttal

24 Q. Does Mr. Underwood make any statements that you dispute?

25 A. Yes. Mr. Underwood makes statements about six topics that I dispute. The
26 statements involve the following topics:

- 27 1. AmerenIP exceeded normal industry standards by installing a bi-
28 directional facility metering system;
- 29 2. Existence of valve leak prior to November 1, 2006;
- 30 3. Prudence associated with valve leak;
- 31 4. Reliance on Code Part 500;
- 32 5. Industry standard would require the refund period to extend to
33 2000; and
- 34 6. Staff is speculating regarding the improper operation of the
35 ultrasonic meters installed in 2003 and 2004.

36 Industry Installation Standards

37 Q. What did Mr. Underwood state in his rebuttal testimony regarding industry
38 installation standards for ultrasonic meters?

39 A. Mr. Underwood, on pages 8 and 9 of his rebuttal testimony, indicates that
40 AmerenIP has exceeded normal industry standards by installing a bi-directional
41 facility metering system using new ultrasonic technology in 2007.

42 Q. Do you agree with Mr. Underwood's statement?

43 A. No.

44 Q. Explain how you determine what are normal industry standards.

45 A. I consider industry standards as the generally accepted requirements set forth in
46 industry guidelines as well as my interpretation of those guidelines such as the
47 American Gas Association ("AGA") standards guidelines for the operation and
48 installation of the meters and recommendations of means for enhancing their
49 accuracy. They do not set requirements of what metering to use. As such,
50 different types of meters are acceptable for use in storage fields. In other words,
51 the AGA standards exist for all meters.

52 Q. Why do you take issue with Mr. Underwood's statement regarding AmerenIP
53 exceeding normal industry standards by installing a bi-directional facility metering
54 system using new ultrasonic technology in 2007?

55 A. I do not quarrel with Mr. Underwood's statements about the benefits of the bi-
56 directional metering system. However, the installation of the new meters really
57 has no relevance to my adjustment. My adjustment addresses IP's behavior
58 prior to the installation of the new system; I recommended the adjustment based
59 upon the utility's inability to maintain its equipment correctly and for its failure to
60 discover the problem in a more timely fashion.

61 In addition, I find Mr. Underwood's claims of exceeding industry standards to be
62 exaggerated. I would point out that ultrasonic metering has been accepted and
63 is a standard practice in the industry; it is not new technology. The AGA issued

64 its "Measurement of Gas by Multipath Ultrasonic Meters" Report No. 9, in June
65 1998. Additionally, AGA Report No. 9 contains Appendix C, dated March 1996,
66 regarding the AGA Engineering Technical notes for ultrasonic metering. Further,
67 AGA Report No. 9, Section 3.3, dated March 1996, notes that ultrasonic meters
68 have "...the inherent capability of measuring flow in either direction with equal
69 accuracy; i.e., they are bi-directional."

70 When AmerenIP installed its most recent ultrasonic meter set at the Hillsboro
71 storage field in 2007, the technology had been around for more than 10 years
72 with a recognized measurement standard existing for that meter type since 1998.
73 Further, this 1998 standard recognized the meter could be bi-directional.

74 While I will agree that AmerenIP is likely the first utility in Illinois to revise its
75 storage fields using bi-directional ultrasonic metering, it is not unique in the gas
76 industry. Locations where companies have developed new storage fields or
77 even locations where major storage field upgrades have taken place are using
78 bi-directional ultrasonic metering. For example, Bay Gas Storage in Alabama
79 installed bi-directional ultrasonic metering in 2001 or 2002 and Nova Gas
80 Transmission's January Creek in Alberta, Canada installed bi-directional
81 ultrasonic metering in 1997. Reasons provided for selecting the ultrasonic
82 meters instead of other metering technology include savings associated with
83 capital cost as well as operation and maintenance expense savings.

84 For these reasons, I do not find with Mr. Underwood's statement that AmerenIP's
85 installation of its new metering set at Hillsboro exceeded industry standards to be

86 helpful. Industry standards do not establish that ultrasonic meters are the
87 preferred method of measurement at storage fields. In addition, I find the
88 statement to be an exaggeration; I would characterize AmerenIP's actions as
89 meeting the current industry standards for new or large upgrade projects.

90 Valve Leak Timing

91 Q. What did Mr. Underwood state in his rebuttal testimony regarding the timing of
92 the valve leak?

93 A. Mr. Underwood, on page 14 of his rebuttal testimony, stated that I did not dispute
94 that a valve leak existed prior to November 1, 2006, and that the leak prior to
95 November 1, 2006, resulted in the delivery of unrecorded gas to AmerenIP's
96 customers.

97 Q. Do you agree with Mr. Underwood's statement?

98 A. No.

99 Q. Why do you disagree with Mr. Underwood's statement that you did not dispute
100 AmerenIP's claim that the measurement error caused by the valve leak existed
101 prior to November 1, 2006, and that the leak prior to November 1, 2006, resulted
102 in the delivery of unrecorded gas to AmerenIP's customers?

103 A. Mr. Underwood's statement does not fully represent the purpose or intent of my
104 direct testimony. My direct testimony, pages 12-32, discusses the five issues
105 that I had with AmerenIP's estimate, noted that AmerenIP cannot demonstrate a

106 start date for the valve leak, and included my reasons for disputing AmerenIP's
107 request to pass the gas costs that AmerenIP estimated associated with the valve
108 leak prior to November 1, 2006.

109 Q. Did the valve leak exist prior to November 1, 2006?

110 A. I do not know. However, my review indicates that AmerenIP failed to provide
111 conclusive information that the valve leak existed prior to November 1, 2006. If
112 AmerenIP cannot demonstrate the valve leak existed prior to November 1, 2006,
113 then it also cannot demonstrate the delivery of unrecorded gas to AmerenIP's
114 customers prior to that date.

115 Q. If AmerenIP demonstrates the valve leak existed prior to November 1, 2006,
116 does this automatically allow it to pass additional gas costs on to its ratepayers?

117 A. No. AmerenIP must still demonstrate the prudence of its actions before Section
118 9-220 of the Public Utilities Act will permit it to include any additional gas costs in
119 its PGA.

120 Prudence of Valve Leak

121 Q. What did Mr. Underwood state regarding the prudence of the valve leak?

122 A. Mr. Underwood, on page 14 of his rebuttal testimony, indicated that I did not find
123 any imprudence associated with the valve leak.

124 Q. Do you agree with Mr. Underwood's statement?

125 A. No.

126 Q. Why do you dispute Mr. Underwood's statement that you did not find any
127 imprudence associated with the leaking valve?

128 A. Similar to the above Valve Leak Timing topic, Mr. Underwood's statement does
129 not fully represent the purpose or intent of my direct testimony. Mr. Underwood
130 is correct that (1) I agreed with the Company that at the time of its metering
131 review it found a leaking valve; (2) I agreed that AmerenIP's review determined a
132 measurement accuracy shortfall associated with that review; and (3) I accepted
133 the Company's calculation for the measurement inaccuracy for the period
134 November 1, 2006, through March 31, 2007, that AmerenIP attributed to the
135 valve leak. However, my concern is that his discussion implies I found no
136 problems associated with AmerenIP's assumption of a measurement inaccuracy
137 that it attributed to the valve leak prior to November 1, 2006.

138 Q. What information did you discuss in your direct testimony regarding prudence of
139 the valve leak prior to November 1, 2006?

140 A. My direct testimony, pages 26-27, noted that the Company planned to conduct
141 an inventory study after the 2008 injection season. My direct testimony also
142 indicated that if AmerenIP's latest inventory study supported a reduced inventory
143 at Hillsboro and AmerenIP claimed this shortfall was caused by the valve leak at
144 question in the instant proceeding, it would not demonstrate the prudence of its
145 actions. Instead, I noted that the Commission should not consider AmerenIP's

146 actions prudent due to the utility's inability to maintain its equipment correctly and
147 for its failure to discover the problem in a more timely fashion.

148 On pages 32-37 of my direct testimony, I also provided a summary of historical
149 events and problems at the Hillsboro storage field and noted that AmerenIP had
150 a multitude of opportunities to investigate any potential problems given all of its
151 prior efforts and reviews at the field. Further, this testimony noted that Ameren
152 could have conducted the evaluation that found the valve leak on its own, but
153 had failed to do so.

154 Q. Does AmerenIP dispute your discussion that it could have found the valve leak in
155 a more timely fashion?

156 A. Yes. Mr. Underwood's rebuttal testimony, pages 14-15, discusses why he
157 believes it would be extremely difficult to detect and find the leak.

158 Mr. Underwood also provides his opinion that AmerenIP found the leak in a
159 timely fashion.

160 Q. Do you agree with Mr. Underwood's claim that AmerenIP found the leak in a
161 timely fashion?

162 A. If you assume the valve leak started on or immediately prior to November 1,
163 2006, then yes; I would consider AmerenIP found the error in a timely fashion.
164 However, if AmerenIP uses the assumption that the valve leak started in 2000,
165 then I disagree with AmerenIP that it found the leak in a timely fashion.

166 Q. Aside from your discussion and reasoning in your direct testimony, do you have
167 any additional reasons to disagree with Mr. Underwood's claim that AmerenIP
168 found the valve leak in a timely fashion?

169 A. Yes. Based on my understanding of Mr. Underwood's discussion, he is claiming
170 that it is only because AmerenIP installed the new metering system in 2007 that
171 it found the valve leak. Stated differently, Mr. Underwood is implying that if
172 AmerenIP had not installed this new metering, it may have never found the valve
173 leak. I do not see that as a measurement standard that AmerenIP should strive
174 to attain for its ratepayers. Further, and as discussed in more detail below, the
175 concept of a master meter for the Hillsboro storage field is not a new concept,
176 just one that AmerenIP did not act upon until 2007.

177 I also determined that Mr. Underwood's statements regarding the difficulty in
178 finding the leak is a deviation from statements made in prior cases regarding that
179 particular orifice metering set¹. I also discuss this topic further below.

180 Q. Do you agree with Mr. Underwood's implication that had AmerenIP not installed
181 new metering in 2007, it may have never found the valve leak?

182 A. Under the review procedures that AmerenIP followed at the Hillsboro storage
183 field, this is likely true. However, as I noted in my direct testimony, pages 36-37,
184 AmerenIP had the means to verify the proper operation of the valve, yet failed to

¹ The valve in question is part of a two-meter system, the valve controls whether one orifice meter or both orifice meters measure the gas.

185 do so. Therefore, I would conclude that a prudently operated storage field would
186 not require the installation of new metering to locate a valve leak. From that
187 perspective, I disagree with Mr. Underwood's implication.

188 Q. Could AmerenIP have installed the same metering installation that it placed into
189 service in 2007 at an earlier date?

190 A. Yes. AmerenIP installed ultrasonic meters in 2003 and 2004 to replace the
191 turbine meters that had previously measured the injections into the field.
192 Obviously, this meant that AmerenIP was aware of this technology in 2003 and
193 comfortable enough with it to install it at the Hillsboro storage field.

194 Further, in August 1999, the Company hired Peterson Engineering to conduct an
195 audit of its metering at the Hillsboro storage field. Peterson Engineering issued
196 its report in December 1999 ("Peterson Study"). The Peterson Study found
197 several problems with the measurement at the Hillsboro storage field and made
198 several recommendations regarding its findings. One of those recommendations
199 was to install a master injection meter to measure compressor station gas
200 volume output to the storage field wells.

201 AmerenIP's installation of a new ultrasonic meter set in 2007 went beyond this
202 recommendation by essentially installing a master meter for both injection and
203 withdrawal volumes, but the concept remains the same. However, it took
204 AmerenIP over 7 years, after the issuance of the Peterson Study, to reach this
205 step. Obviously, AmerenIP could have taken this step at a much sooner date,

206 given that AmerenIP itself installed the same metering type in 2003 and those
207 meters are capable of bi-directional measurement.

208 Q. What other statements have AmerenIP witnesses made regarding the orifice
209 metering set?

210 A. In Docket No. 04-0677, AmerenIP's 2004 PGA reconciliation, AmerenIP
211 witnesses' Wayne G. Hood and Curtis D. Kemppainen, in their rebuttal
212 testimony, AmerenIP Exhibit 3.0, provided a discussion regarding why AmerenIP
213 should not remove and inspect the orifice plates associated with the orifice
214 meter. On page 33, they noted that there are other means of identifying
215 potential problems with an orifice plate besides the physical removal and
216 inspection of the plates. In particular, this testimony noted:

217 For example, when both the primary and secondary meter runs are
218 open, the differential pressure across each orifice will be close
219 (within 0-3 inches). If the difference increases to 5 to 10 inches,
220 the operators would recognize the elevated difference as abnormal
221 and begin investigating the condition.

222 This testimony, on page 34, then noted that:

223 ...there is an independent means to verify that the orifice meters
224 are operating properly, other than removing, inspecting, and
225 reinstalling the plates which adds additional and unnecessary
226 opportunities to damage or reinstall the plates properly.

227 Q. What does the rebuttal testimony from Mr. Hood and Mr. Kemppainen in Docket
228 No. 04-0677 indicate to you?

229 A. My understanding was that AmerenIP operated under the impression that aside
230 from verification of the operation of the temperature and pressure probes
231 associated with the orifice meters, any other physical problems associated with
232 the orifice metering set at the Hillsboro storage field could be determined through
233 the observation of and/or the comparison of the differential pressure associated
234 with the orifice meters. In other words, the actual physical inspection of the
235 interior of the metering set was not necessary.

236 Q. How do the statements from AmerenIP's 2004 PGA proceeding impact upon the
237 testimony of Mr. Underwood in the 2007 PGA proceeding?

238 A. As the testimony in this proceeding has indicated, AmerenIP was not able to
239 detect problems with its orifice metering via the observation of the differential
240 pressure. In particular, AmerenIP discovered in 2007, roughly one year after it
241 filed the testimony referenced above², that neither the valve leak nor the
242 improperly installed orifice plate was detectable via the observation of the
243 differential pressure. As AmerenIP's own investigation showed, these errors,
244 when found, caused significant measurement errors.

245 It appears that AmerenIP's mindset prior to installing the new ultrasonic metering
246 in 2007 was that a more thorough inspection of the orifice meter set was not
247 necessary to find measurement problems. In other words, AmerenIP did not
248 understand the magnitude of the measurement errors that could occur in the

² AmerenIP Exhibit 3.0, from Docket No. 04-0677, was dated January 20, 2006.

249 absence of a proactive review of measurement accuracy associated with the
250 orifice meters. This viewpoint also explains why AmerenIP had never checked
251 the valve in question for leakage after the Company installed the valve in 1993.

252 However, this viewpoint does not alleviate AmerenIP from its obligation to
253 maintain accurate measurement at its storage fields. Therefore, I dispute
254 Mr. Underwood's claim that, assuming that the valve leak started in 2000,
255 AmerenIP found the problems associated with the valve leak in a timely fashion.

256 Code Part 500

257 Q. What did Mr. Underwood state regarding your reference to 83 Illinois
258 Administrative Code 500 ("Part 500") in your direct testimony?

259 A. Mr. Underwood indicated that I am proposing a new six-month standard for
260 finding and correcting metering errors that is based upon Part 500, Section
261 500.240. Mr. Underwood then indicated that the Commission has confirmed that
262 my suggested six-month rule is inappropriate. He then cited AmerenIP's 2001
263 PGA proceeding, Docket No. 01-0701, where the Commission allowed for the
264 correction at the Shanghai storage field for the period 1995 through January
265 2000 as support for that statement.

266 Q. How do you respond to Mr. Underwood's statement regarding your use of Part
267 500?

268 A. While I agree I am not aware of any prior application of the of the six month limit
269 in a PGA proceeding, I am also not aware of any instance where the

270 circumstances are similar to those provided in the instant proceeding. Those
271 circumstances have created the situation where the Commission must determine
272 a reasonable period for the adjustment. I chose to rely on Section 500.240
273 because I believe it to be the only available guidance from the Commission.

274 While I agree with Mr. Underwood that the Commission allowed AmerenIP to
275 correct for the metering errors at the Shanghai storage field for the period 1995
276 through January 2000, he is not making a valid comparison. I was the Staff
277 witness for Docket No. 01-0701 proceeding, and within that case, AmerenIP
278 found a metering error at the Shanghai storage field. This metering error was
279 the result of an incorrect metering constant being programmed into a flow
280 computer. This error had a known start and end date and AmerenIP was able to
281 quantify the measurement error for that period. In that case, I did not dispute
282 AmerenIP's calculation of that error. Instead, the issue I raised in Docket
283 No. 01-0701 revolved around whether AmerenIP was prudent for having to
284 reduce the peak day capacity of the Shanghai storage field.

285 In the instant proceeding, the valve leak has no known start. There is also no
286 definitive start date for the error resulting from the comparison of the ultrasonic
287 metering sets because AmerenIP failed to provide the basis for the error. The
288 only fact that AmerenIP provided is that the error existed at the time of
289 AmerenIP's analysis. Further, the lack of definitive information in this proceeding
290 causes a situation where an accurate calculation of its impact cannot be made
291 for either measurement error, unlike the situation involving the use of an

292 incorrect metering constant, as was the case in Docket No. 01-0701, where
293 definitive information existed.

294 Further, in the instant proceeding I am disputing the prudence of the Company's
295 actions with regarding to its measurement activities, not just placing reliance on
296 Part 500.

297 Q. Are there any other proceedings where the Commission allowed a longer period
298 then six months for a metering adjustment at a storage field?

299 A. Yes. In AmerenIP's PGA cases from 2003 and 2004, Docket Nos. 03-0699 and
300 04-0677, respectively, as well as AmerenIP's 2004 rate case, Docket No. 04-
301 0476, AmerenIP placed reliance on a reservoir study to support the estimated
302 measurement shortfall amounts associated with the various metering errors at
303 the Hillsboro storage field. However, due to the circumstances that I discussed
304 in my direct testimony, AmerenIP was unable to conduct the same review for this
305 case.

306 Therefore, Mr. Underwood's statement that my recommendation is inconsistent
307 with the Commission's Order is incorrect. I based my recommendations on the
308 unique circumstances associated with this proceeding. Further, to the best of my
309 knowledge, no prior PGA proceedings have had the same set of circumstances
310 presented to the Commission.

311 Refund Period

312 Q. What did Mr. Underwood state regarding the refund period in his rebuttal
313 testimony?

314 A. Mr. Underwood, on pages 18-19 of his rebuttal testimony, indicated that
315 AmerenIP's decision to use the period from 2000 through 2007 as the likely
316 timing for the valve leak is consistent with gas industry precedent.

317 Q. Do you agree with Mr. Underwood's statement?

318 A. No.

319 Q. Why do you disagree with Mr. Underwood's statement that the gas industry
320 precedent would allow AmerenIP to select the 2000-2007 period as a reasonable
321 estimate for making its proposed metering adjustment?

322 A. In AmerenIP's last rate case, Docket Nos. 07-0585 – 07-0590 (Cons.),
323 Mr. Underwood provided a response to Staff data requests ENG 2.213 and
324 2.214 regarding a similar topic. Attached to these two responses are the
325 relevant sections of five interstate pipeline tariffs with which Ameren has
326 interconnections. For two of the tariffs, specifically, Panhandle Eastern Pipeline
327 Company and Mississippi River Transmission Corporation, the tariffs indicated
328 meter error corrections would not occur for a period longer than 16 days.

329 The remaining three tariffs, from Kinder Morgan, Texas Gas Transmission
330 Corporation, and ANR Pipeline Company, all had very similar language that

331 indicated that the metering correction would extend to one-half the time elapsed
332 since the date of the last calibration or calibration check of the meter. Further,
333 my review of AmerenIP's, AmerenCIPS', and AmerenCILCO's responses to Staff
334 data request ENG 1.24 from their respective 2007 PGA reconciliations indicates
335 the interstate pipelines typically check the calibration of their meters at least
336 quarterly, some more frequently, and some lower use meters receive less
337 frequent attention.

338 In short, Mr. Underwood's statement that AmerenIP's use of selecting one-half
339 the period since the valve was installed (14 years) was consistent with the gas
340 industry precedent, failed to account for the time limitations set forth in the
341 interstate pipeline tariffs or the frequency that the interstate pipelines conduct
342 calibration checks on their own meters. In fact, after accounting for these items,
343 my recommended allowance for six-months from the date of discovering the
344 meter error more closely corresponds to the limits that the interstate pipeline
345 would use versus the AmerenIP proposal. Given my understanding of the
346 interstate pipeline tariffs and the frequency of the meter checks that the
347 interstate pipelines conduct, I expect my recommendation has actually resulted
348 in a higher refund amount than if I would have placed reliance on the tariff
349 provisions associated with the interstate pipelines.

350 Ultrasonic Meter Operation

351 Q. What did Mr. Underwood state regarding ultrasonic meter operation?

352 A. Mr. Underwood, on page 21 of his rebuttal testimony, indicated that I was
353 speculating that the original ultrasonic meters must have either been installed in
354 the wrong location, not installed properly, not maintained properly, or possibly
355 some combination of the three.

356 Q. Do you agree with Mr. Underwood's statement?

357 A. No. While it is true that I do not know the exact reasons why AmerenIP's
358 comparison of the ultrasonic meters installed in 2003 and 2004 to the ultrasonic
359 meter set installed in January 2007 showed an accuracy variance of 1.9%, if
360 AmerenIP had done everything properly, that level of error is excessive.

361 Q. What additional information did Mr. Underwood provide regarding the installation
362 of the ultrasonic meters in 2003 and 2004?

363 A. Mr. Underwood indicated in his rebuttal testimony that AmerenIP followed the
364 American Gas Association ("AGA") Report 9, "Measurement of Gas by Multipath
365 Ultrasonic Meters" (June 1998) when installing the meters in 2003 and 2004. He
366 also indicated that the manufacturer of the meters designed the inlet and outlet
367 pipe spools to minimize pipe wall related flow disturbances. Finally, he indicated
368 that ultrasonic metering contains no moving parts, and volumes are calculated by
369 measuring the velocity of the gas passing by ultrasonic transducers.

370 Q. How do you respond to Mr. Underwood's comments?

371 A. While I do not dispute any of Mr. Underwood's factual comments regarding what
372 the manufacturer of those meters did, it does not explain why an error existed

373 between the old ultrasonic meter and the new ultrasonic metering. Further,
374 when AmerenIP installed those meters in 2003 and 2004, it installed them in the
375 same location as the previously in place turbine meters.

376 Q. Why is the location of the meter placement potentially significant?

377 A. AmerenIP knew the location where it installed the ultrasonic meters in 2003 and
378 2004 had previously had problems with pulsation and vibration effects. In
379 August 1999, the Company hired Peterson Engineering to conduct an audit of its
380 metering at the Hillsboro storage field. Peterson Engineering issued its report in
381 December 1999 ("Peterson Study"). The Peterson Study, pages 13-15,
382 discussed the pulsation and vibration effect on turbine metering measurement at
383 the Hillsboro storage field at that time. When AmerenIP installed the ultrasonic
384 meters in 2003 and 2004, it essentially just exchanged the turbine meters for the
385 new ultrasonic meter. In other words, AmerenIP installed the ultrasonic meters
386 in a location with a known pulsation and vibration effect.

387 Q. What is the potential significance of a pulsation and vibration effect?

388 A. The AGA Report 9, "Measurement of Gas by Multipath Ultrasonic Meters" (June
389 1998) contains guidelines and requirements for the use and installation of
390 ultrasonic meters. In particular, AGA Report 9, Section 7.1.2, Vibration, notes
391 that:

392 UMs should not be installed where vibration levels or frequencies
393 might excite the natural frequencies of SPU boards, components or
394 ultrasonic transducers. The manufacturer shall provide

395 specifications regarding the natural frequencies of the UM
396 components.

397 Further, AGA Report 9, Appendix C, Section 3.4.7, Pulsation Effects, notes, in
398 part, that:

399 In a number of measurement applications (e.g. compressor
400 stations), the flow may be pulsating instead of steady. Frequently
401 this can be rectified by placing the meter farther from the pulsation
402 source or by adding a pulsation damper, but sometimes this is not
403 possible. Thus, it may be important to know whether the
404 magnitude of the error due to pulsating flow conditions is
405 significant.

406 Q. Did the vibration and pulsation effect impact the accuracy of the ultrasonic
407 meters installed in 2003 and 2004?

408 A. I do not know. However, as I discuss below, the accuracy variance for the
409 ultrasonic meters installed in 2003, 2004, and 2007 is insufficient to achieve the
410 magnitude of the found error, 1.9%. Therefore, something is causing that error.

411 Q. What are the accuracy limits for the meters that AmerenIP installed at the
412 Hillsboro storage field in 2007?

413 A. According to Mr. Underwood's rebuttal testimony, page 7, since AmerenIP had
414 the meters' flows calibrated by an independent flow proving facility, the meters
415 accuracy is now +/- 0.5%. He then noted, on page 9 of his rebuttal testimony,
416 that AmerenIP also installed gas chromatographs and took other actions that
417 improved the accuracy of measurement calculations. He then noted that these
418 actions improved the meters accuracy to +/- 0.07% of the 0.23% flow lab
419 uncertainty. It is not clear if this means the meters accuracy is now +/- 0.3%

420 (0.23+0.07) or if the +/- 0.5% number is still appropriate. I request
421 Mr. Underwood clarify this information in his surrebuttal testimony. Nevertheless,
422 the accuracy of the meters installed in 2007 is at least +/- 0.5%.

423 Q. What are the accuracy limits for the meters that AmerenIP installed at the
424 Hillsboro storage field in 2003 and 2004?

425 A. According to the Company's response to Staff data request ENG 1.74, the three
426 ultrasonic meters installed in 2003 and 2004 were expected to operate with an
427 uncertainty of measurement within +/- .5% to +/- 1.0% for normal flow rates.

428 Q. Does comparing the allowed accuracy limits of the ultrasonic meters installed in
429 2003 and 2004 to the accuracy of the meters installed in 2007 account for the
430 1.9% measurement accuracy error that AmerenIP found for those meters?

431 A. No. Obviously, some other issue is causing that variance.

432 Q. Have you requested that AmerenIP conduct further review into the reasons for
433 the 1.9% measurement error?

434 A. Yes. On page 12 of my direct testimony, I indicated that if AmerenIP disputed
435 my recommendation regarding the ultrasonic meters, it should provide the basis
436 for the discrepancy between the two sets of ultrasonic meters and it should
437 explain whether it installed the older set of ultrasonic meters properly.

438 Q. Did AmerenIP provide this information?

439 A. No. Mr. Underwood did provide some information regarding the installation of
440 the older ultrasonic meters, but that testimony does not address why the error
441 exists or if the installation, the installation location, or some other issue is the
442 cause for the discrepancy between the older and newer set of ultrasonic meters.

443 My point is that if AmerenIP properly installed and operated the ultrasonic meters
444 from 2003, 2004, and 2007, as Mr. Underwood claims, then why did AmerenIP
445 find a 1.9% error between the accuracy of the new metering set versus the
446 meters installed in 2003 and 2004? Obviously, something is causing the
447 accuracy discrepancy between the meters, which leads me back to my direct
448 testimony conclusion that 2003 and 2004 ultrasonic meters must have either
449 been installed in the wrong location, not installed properly, not maintained
450 properly, or possibly some combination of the three.

451 Q. Why are you assuming that the error result from the older ultrasonic meters
452 instead of the 2007 installation?

453 A. In 2008, I toured the Hillsboro storage field and observed the placement of all the
454 ultrasonic meters. I have also reviewed various materials that AmerenIP
455 provided regarding the new ultrasonic metering set including Mr. Underwood's
456 rebuttal testimony. This review found no reason to criticize the manner
457 AmerenIP installed the 2007 ultrasonic meter set at the Hillsboro storage field.
458 This review also acknowledges AmerenIP flow tested the meters prior to the
459 2007 installation and installed them away from the field's compressors.

460 Therefore, I would expect the variance between the readings results from the
461 meters installed in 2003 and 2004.

462 Dothage Rebuttal

463 Q. Does Mr. Dothage make any statements that you dispute?

464 A. Yes. Mr. Dothage makes statements about four topics that I dispute. These four
465 topics are as follows:

- 466 1. The issues in this proceeding are completely different then the
467 legacy issue that led to disallowances in prior proceedings involving
468 the Hillsboro storage field;
- 469 2. The Commission's Order in AmerenIP 2006 PGA reconciliation
470 represents an end point to the legacy issues at the Hillsboro
471 storage field;
- 472 3. The Hillsboro storage field losses are no different than adjustments
473 made at most other storage fields across the United States; and
- 474 4. My testimony recommends the accounting treatment associated
475 with my proposed adjustment.

476 Legacy Issues

477 Q. What did Mr. Dothage indicate in his testimony regarding legacy issues?

478 A. Mr. Dothage, on page 13 of his rebuttal testimony, indicates the issues in this
479 proceeding are completely different from the "legacy" issues that led to
480 disallowances in past proceedings.

481 Q. Do you agree with Mr. Dothage's statement?

482 A. No. As I have noted above in my discussion of Mr. Underwood's testimony,
483 AmerenIP's identification of measurement problems at the Hillsboro storage field

484 is not a new issue or concern. While I understand Mr. Dothage's viewpoint that
485 with the installation of the new metering as well as the additional personnel that
486 Ameren has added to oversee storage operations may end the problems that
487 AmerenIP has had at Hillsboro, it does not alleviate AmerenIP's responsibilities
488 for the proper operation of the Hillsboro storage field, even if those problems
489 resulted from prior management of the field.

490 Q. Has AmerenIP conducted a reservoir study to demonstrate the status of the
491 inventory of the Hillsboro storage field?

492 A. No. As I noted in my direct testimony, page 25, AmerenIP replaced inventory it
493 assigned to an earlier metering inaccuracy problem during the period 2003
494 through 2005. Further, for the metering accuracy problem at issue in the current
495 proceeding, AmerenIP replaced that inventory in 2007. Because of the impact
496 that additional gas injections have on the analysis, AmerenIP could not conduct
497 a reservoir analysis of the Hillsboro storage field. This reservoir analysis is
498 necessary to verify that inventory levels within the storage field. As such,
499 AmerenIP does not know if the injections from 2003 to 2005, in addition to those
500 from 2007 exceeded, replenished, or only partially replenished the field's
501 inventory.

502 Q. Is there any part of Mr. Dothage's testimony on this issue that you do have some
503 agreement?

504 A. Yes. Mr. Dothage is correct that the adjustments from the 2003, 2004, and
505 proposed adjustment for 2005 cases are somewhat different in the instant

506 proceeding. In the prior cases, I recommended a disallowance in association
507 with the diminished capacity of the Hillsboro storage field due to AmerenIP's
508 failure to timely identify and correct the various problems associated with the
509 Hillsboro storage field. Whereas, I based my recommendations in the instant
510 proceeding on AmerenIP's failure to support the idea that it actually provided gas
511 volumes associated with the measurement errors to customers.

512 Further, my review indicates that if AmerenIP actually provided the gas to
513 customers, it did so only after imprudent actions by the Company. Therefore,
514 under either scenario, I would not recommend that the Commission allow
515 AmerenIP to pass those gas costs on to its customers via the PGA.

516 AmerenIP 2006 PGA

517 Q. What did Mr. Dothage indicate in his testimony regarding the Commission's
518 Order from AmerenIP's 2006 PGA reconciliation?

519 A. Mr. Dothage, on page 14 of his rebuttal testimony, indicated that the
520 Commission's Order in AmerenIP's 2006 PGA reconciliation is consistent with
521 the fact that the performance related issues at the Hillsboro storage field have
522 been resolved and represents an end to the legacy issues at the Hillsboro
523 storage field.

524 Q. Do you agree with Mr. Dothage?

525 A. Partially. I agree with Mr. Dothage that the 2006 PGA reconciliation did not find
526 any imprudence associated with its operation of the Hillsboro storage field due to

527 the field's performance or any other reason. However, that does not mean that
528 in the future other performance, measurement, or other issues could not occur
529 whose roots are related or based on the events discussed as part of the 2003-
530 2005 PGA reconciliation cases. Further, as I noted above, the legacy problem of
531 gas measurement at the Hillsboro storage field is still a concern in the instant
532 proceeding.

533 Industry Storage Losses

534 Q. What did Mr. Dothage indicate in his rebuttal testimony regarding storage gas
535 losses in the industry?

536 A. Mr. Dothage, on pages 14-16 of his rebuttal testimony, indicates that from his
537 perspective, the adjustments proposed to the Hillsboro storage field inventory in
538 the current case are the same as adjustments made at most other storage fields
539 across the United States, whether owned by local distribution companies ("LDC")
540 or interstate pipeline companies. Mr. Dothage then noted that to the best of his
541 knowledge every interstate pipeline company applies some form of fuel use and
542 loss reimbursement factor to each unit of transportation and storage activity on
543 their systems to manage these exact types of losses.

544 Q. Do you agree with Mr. Dothage's statement?

545 A. No. Mr. Dothage is comparing apples and oranges.

546 Q. Do you agree with any of Mr. Dothage's statements regarding this topic?

547 A. Yes. I agree that the Federal Energy Regulatory Commission (“FERC”) allows
548 interstate pipelines to charge for the items per the tariffs that Mr. Dothage
549 attached to his rebuttal testimony, AmerenIP Exhibit 3.1. I also agree that his
550 AmerenIP Exhibit 3.2 shows the unaccounted for gas percentages for two Illinois
551 LDCs. However, I disagree that the measurement losses at issue in the instant
552 proceeding are the same as the examples Mr. Dothage provided for the gas
553 industry in general.

554 Q. Why do you think that Mr. Dothage’s comparison is invalid?

555 A. In the instant proceeding, AmerenIP has identified a claimed known
556 measurement error for a set period and is attempting to pass the gas cost it
557 assigned to this known error on to its ratepayers in accordance with 83 Illinois
558 Administrative Code 525.

559 The examples to which Mr. Dothage refers (pipeline tariffs and LDC
560 transportation tariffs) are to compensate pipeline for either known activities, such
561 as compressor fuel use, or are unknown errors that account for the variance
562 between the amount of gas an interstate pipeline delivers to the utility and the
563 amount of gas the utility provides to its customers. The errors at question in the
564 instant proceeding do not fall into either of these two categories.

565 Further, interstate pipelines do not take part in proceedings that are similar to the
566 instant PGA case because they only provide transportation or storage services to
567 shippers. While I do agree the FERC allows various costs, such as compressor
568 fuel, to be recovered in the pipeline tariffs, these costs are only set after a

569 proceeding before the FERC where interested parties can intervene and dispute
570 the requested charges. In that respect, FERC only allows reasonable charges
571 into the tariffs.

572 Charges under Illinois LDCs' transportation tariffs, which Mr. Dothage references
573 in AmerenIP Exhibit 3.2, pages 1 and 2, similar to the FERC tariffs, are
574 associated with the transportation of gas and do not include any costs
575 associated with storage field measurement errors. LDCs' tariffs that provide the
576 provisions used to determine the unaccounted for gas amounts for transportation
577 customers are subject to review by interested parties in a rate case proceeding
578 before the Commission. However, a utility includes within its base rates known
579 activities, such as compressor fuel use, whose costs are then allocated to the
580 various customer groups include transportation customers.

581 My understanding is that the cost associated with a LDCs' unaccounted for gas
582 is automatically part of the PGA rate for customers. This occurs because a utility
583 bases the PGA rate upon the cost of gas, not the volume of gas provided to
584 customers.

585 However, a utility cannot automatically pass known measurement inaccuracies at
586 storage fields onto either PGA customers or transportation customers.

587 Depending on how the measurement inaccuracies affect the storage field, the
588 Commission would review a utility's request and determine the reasonableness
589 or prudence of the request in a rate case or a PGA case. As such, Mr.
590 Dothage's comparison is not valid. Instead, the relevant questions for this

591 proceeding are (1) whether AmerenIP can demonstrate that it actually supplied
592 the additional gas it assigned to the measurement errors to its customer and (2)
593 whether it prudently incurred the gas costs associated with the identified
594 measurement errors.

595 Accounting Treatment

596 Q. What did Mr. Dothage indicate in his testimony regarding the accounting
597 treatment associated with your recommended adjustment?

598 A. Mr. Dothage indicated, on page 16 of his rebuttal testimony, that it was my
599 recommendation that AmerenIP absorb the adjustments as a direct write-off to
600 bottom line earnings.

601 Q. Do you agree with Mr. Dothage's statement?

602 A. No. My direct testimony merely provides the basis for the recommended
603 adjustment. I do not address how AmerenIP should account for any
604 Commission ordered adjustments associated with this proceeding. It is my
605 understanding that Staff witness Burma Jones, ICC Staff Ex. 3.0, is addressing
606 this issue in her rebuttal testimony.

607 Q. Does this conclude your rebuttal testimony?

608 A. Yes, it does.