

REBUTTAL TESTIMONY
of
ROCHELLE PHIPPS

Finance Department
Financial Analysis Division
Public Utilities Bureau
Illinois Commerce Commission

Aqua Illinois, Inc.

Docket No. 06-0285

September 5, 2006

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SCHEDULE

Schedule 9.01 – Actual Interest Rates Versus Projected Interest Rates for U.S.
Treasury Bonds and Aaa-Rated Corporate Bonds

1

Witness Identification

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

3 A. My name is Rochelle Phipps. My business address is 527 East Capitol
4 Avenue, Springfield, Illinois 62701.

5 2. Q. **Are you the same Rochelle Phipps who previously testified in this**
6 **proceeding?**

7 A. Yes, I am.

8 3. Q. **What is the purpose of your rebuttal testimony in this proceeding?**

9 A. I will respond to the rebuttal testimony of Aqua Illinois, Inc. (“Aqua” or the
10 “Company”) witness Ms. Pauline M. Ahern (Aqua Exhibits 8.0 through
11 8.12). Specifically, I will address the following five issues raised by Ms.
12 Ahern in her rebuttal testimony:

13 1) **The Efficient Market Hypothesis.** Ms. Ahern mischaracterizes the
14 Efficient Market Hypothesis (“EMH”) when she asserts that the EMH
15 **requires** that investors evaluate all information available to them.¹ In
16 fact, the EMH is concerned with whether security prices fully reflect all
17 relevant, available information and does not require that investors use
18 Ms. Ahern’s sources to estimate Aqua’s cost of common equity.

¹ Aqua Exhibit 8.0, p. 21, lines 477-478.

19 Further, the EMH says nothing concerning the importance that
20 investors impart to various sources and types of information.

21 **2) The risk-free rate of return.** Ms. Ahern alleges using current U.S.
22 Treasury yields (including U.S. Treasury bill yields) in risk premium
23 analysis understates my cost of equity estimate for Aqua. To the
24 contrary, current, observable U.S. Treasury yields are the best
25 available proxy for the true, unobservable risk-free rate. Therefore, the
26 Commission should continue to rely on current, observable U.S.
27 Treasury yields to estimate the risk-free rate.

28 **3) Aqua's NAIC-2 debt rating.** The average Standard & Poor's ("S&P")
29 issuer credit rating for the companies comprising my utility sample is
30 BBB+. Thus, even if Aqua's NAIC-2 debt rating was equivalent to
31 BBB+/BBB/BBB- issuer credit ratings from Nationally Recognized
32 Statistical Rating Organizations ("NRSROs") such as S&P, which it is
33 not, adding an investment risk premium to my cost of equity estimate
34 for my utility sample would be unnecessary. Further, NAIC debt
35 ratings and NRSRO issuer ratings are not equivalent measures of
36 credit risk. Unlike NRSRO issuer ratings, NAIC debt ratings are
37 security-specific, which diminishes their usefulness as proxies for
38 Aqua's level of credit risk. Thus, Aqua's NAIC-2 debt ratings do not
39 justify adding thirty-two (32) basis points to Aqua's rate of return on
40 common equity.

41 **4) Sufficiency of a 10.45% cost of equity for Aqua.** In an attempt to
42 show a 10.45% cost of equity estimate for Aqua is insufficient, Ms.
43 Ahern calculated an equity risk premium for Aqua using the Company's

44 embedded cost of debt (which includes interest rates locked into as
45 long ago as 1988), which she then compares to equity risk premiums
46 based on the difference between the rate of return on the market and
47 concurrent yields on Aaa-, Aa- and A-rated debt. My cost of equity
48 estimate for Aqua provides an equity risk premium of 4.30% relative to
49 the concurrent yield on A-rated public utility bonds, which is sufficient
50 based upon Ms. Ahern's own estimates of historical and projected
51 equity risk premiums.

52 **5) Ms. Ahern's updated cost of equity analysis.** Aqua Exhibit 8.12 is
53 an updated cost of equity analysis, which Ms. Ahern alleges supports
54 her original 11.0% cost of equity recommendation for Aqua. However,
55 Ms. Ahern's updated analysis contains the same flaws as her original
56 cost of equity analysis.² Therefore, it should not be given any weight in
57 this proceeding.

58 **4. Q. Please summarize your conclusions and recommendations**
59 **regarding Aqua's cost of common equity.**

60 A. Ms. Ahern's rebuttal testimony contained nothing to change my opinion of
61 Aqua's cost of common equity. In my judgment, the investor-required rate
62 of return on common equity for Aqua is 10.45%. In contrast, Ms. Ahern's
63 11.00% cost of common equity estimate for Aqua is based on a flawed
64 cost of equity analysis and should be rejected.

² The flaws in Ms. Ahern's cost of equity analysis are described at length in ICC Staff Exhibit 3.0, pp. 35-54.

65

The Efficient Market Hypothesis

66 **5. Q. Is Ms. Ahern correct that the Efficient Market Hypothesis (“EMH”)**
67 **requires that investors evaluate all information available to them?³**

68 A. No. Followed to its logical conclusion, Ms. Ahern’s description of the EMH
69 would require that every investor use Ms. Ahern’s sources to estimate
70 Aqua’s cost of equity and give each the same weight as Ms. Ahern does.
71 In fact, the semi-strong form of the EMH states that security prices should
72 reflect all relevant information that is publicly available at any point in time
73 and that the expected returns implicit in the current price of the security
74 should reflect its risk.⁴ Specifically, the EMH is concerned with whether
75 investors can reap “excess” returns from a given information set (e.g.
76 historical price information, all publicly-available information or all public
77 and non-publicly available information).⁵ Contrary to Ms. Ahern’s claim,
78 the tenets of the EMH do not identify what information is relevant, let alone
79 which sources should be used in cost of equity analysis.

80

The Risk-Free Rate of Return

81 **6. Q. Does Ms. Ahern accurately describe your risk premium analysis?**

82 A. No. Ms. Ahern alleges my risk premium analysis “is understated because
83 it is based upon historical, *i.e.*, current, yields on U.S. Treasury securities

³ Aqua Exhibit 8.0, p. 21, lines 477-478.

⁴ Copeland, Weston and Shastri, *Financial Theory and Corporate Policy*, Fourth edition, 2005, pp. 354-355.

⁵ Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *Journal of Finance*, May 1970, pp. 383-417.

84 and, in part, upon yields on 30-day U.S. Treasury bills.”⁶ To be clear, I
85 used only current U.S. Treasury yields to estimate the risk-free rate of
86 return in my risk premium analysis.

87 **7. Q. Please explain why current U.S. Treasury yields are the best**
88 **available proxy for the risk-free rate of return estimate required in**
89 **risk premium analysis.**

90 A. Consistent with the tenets of the EMH, current interest rates reflect
91 investor expectations about future interest rates. Ms. Ahern recognizes
92 this principle when she states the following:

93 The generally-accepted “semistrong” form of the EMH
94 means that all perceived risks are taken into account by
95 investors in the prices they pay for securities and investors
96 are aware of all publicly-available information, including bond
97 ratings, discussions about companies by bond rating
98 agencies and investment analysts, as well as the many
99 interest rate forecasts available.⁷

100 That is, estimating Aqua’s cost of equity with projections of the risk-free
101 rate would effectively double-count investor expectations regarding future
102 interest rates. Moreover, since we are estimating Aqua’s current cost of
103 equity, using interest rate projections in risk premium analysis also
104 mismatches measurement periods. The problems inherent in using
105 interest rate projections to estimate the risk-free rate reduce the accuracy
106 of Ms. Ahern’s cost of equity estimate for Aqua.

⁶ Aqua Exhibit 8.0, p. 2, lines 23-25.

⁷ Aqua Exhibit 8.0, p. 3, lines 47-51.

107 **8. Q. Please respond to Ms. Ahern's argument that interest rate**
108 **projections should be used in cost of equity analysis because they**
109 **are available to investors.**

110 A. To support her claim that interest rate projections are appropriate proxies
111 in cost of equity analysis, Ms. Ahern argues:

112 Investors are also aware of the accuracy of past forecasts,
113 whether for earnings or dividends growth or for interest
114 rates. Investors have no prior knowledge of the accuracy of
115 any forecasts available at the time they make their
116 investment decisions. The accuracy of any forecast only
117 becomes known after some future period of time has
118 elapsed... Therefore, consistent with the EMH upon which
119 the cost of common equity models utilized by both Ms.
120 Phipps and myself are predicated; since ratemaking and the
121 cost of capital are prospective; investors have interest rate
122 projections available to them and investors are aware of the
123 accuracy of such projections, interest rate projections should
124 be utilized in a cost of common equity analysis.⁸

125 Indeed, investors are concerned with analysts' forecast accuracy.
126 Academic research shows that analysts' past accuracy is significantly
127 positively correlated with current accuracy.⁹ However, accurately
128 forecasting interest rates is problematic, as illustrated by Schedule 9.01,
129 which compares actual U.S. Treasury bond yields and Aaa-rated
130 corporate bond yields (which are also used in Ms. Ahern's cost of equity
131 analysis) to the projections published in Ms. Ahern's source for interest
132 rate projections, *Blue Chip Financial Forecasts ("BCFF")*. Schedule 9.01
133 shows that *BCFF* interest rate projections have consistently exceeded the
134 actual interest rates. Importantly, Schedule 9.01 illustrates that the

⁸ Aqua Exhibit 8.0, p. 3, lines 51-63.

⁹ Brown, "How Important is Past Analyst Forecast Accuracy?" *Financial Analysts Journal*, AIMR, November/December 2001, pp. 44-49.

135 accuracy of the forecasted yields diminishes as the forecast period
136 lengthens.

137 In contrast, the current U.S. Treasury yields I used to estimate the
138 risk-free rate reflect all relevant, available information, including investor
139 expectations regarding future interest rates. Consequently, investor
140 appraisals of the value of forecasts are also reflected in current interest
141 rates. Therefore, if investors believe that the *BCFF* forecasts are
142 valuable, that would be reflected in current market interest rates.
143 Conversely, if investors believe that the *BCFF* forecasts are not valuable,
144 that would be reflected in current market interest rates. In summary, if one
145 uses current market interest rates in a risk premium analysis, speculation
146 of whether investor expectations of future interest rates equals those from
147 a particular forecast reporting service, such as *BCFF*, is unnecessary.
148 Thus, the Commission should continue to rely on current, observable
149 market interest rates rather than the projected rates that Ms. Ahern used
150 in her risk premium analysis.

151 **9. Q. What would the results of Ms. Ahern's risk premium analysis be had**
152 **she used the current U.S. Treasury bond yield rather than a**
153 **projection to estimate the risk-free rate of return?**

154 A. Substituting the U.S. Treasury bond yield on January 12, 2006 (the
155 measurement date for Ms. Ahern's cost of equity analysis) for the
156 projected yield in Ms. Ahern's risk premium analysis results in cost of
157 equity estimates of 9.85% and 11.00% for her water and utility samples,
158 respectively.

159 **10. Q. Has the Commission previously rejected Ms. Ahern's use of**
160 **projected U.S. Treasury bond yields in risk premium analysis?**

161 A. Yes. Ms. Ahern's risk premium analysis was rejected in Docket Nos.
162 03-0403 and 04-0442.¹⁰

163 **11. Q. Ms. Ahern claims that it is inappropriate to use the current U.S.**
164 **Treasury bill yield as the risk-free rate in risk premium analysis.¹¹ Is**
165 **she correct?**

166 A. No. U.S. Treasury bill yields can be appropriate proxies for the risk-free
167 rate of return.¹² In Docket No. 97-0351 (Consumers Illinois Water
168 Company rate increase), the Commission authorized a rate of return on
169 common equity that was based, in part, on a risk premium analysis that
170 relied exclusively upon the current U.S. Treasury bill yield to estimate the
171 risk-free rate. Specifically, the Commission's 97-0351 Order states:

172 For reasons given by the Staff, the Commission concludes
173 that [Staff's] decision to discard the CAPM result based on
174 T-bonds ... is appropriate and supported by substantial
175 evidence. The Commission agrees with Staff's position that
176 T-bonds incorporate within their yields a premium for interest
177 rate risk that causes those yields to overstate the long-term
178 risk-free rate. We find [the Company's] testimony on this
179 issue to be self-contradictory and not supported with
180 substantial fact. Although short and long-term expectations
181 of the real risk-free rate and inflation might differ, we find that
182 [Staff's] test of the current difference in those expectations is
183 reasonable and we agree with his conclusion that they are
184 currently similar. Therefore we accept Staff's position that

¹⁰ Order at 43, Consumers Illinois Water Company: Tariffs seeking general increase in water Rates for the Kankakee Water Division (Tariffs filed on May 21, 2003), ICC Docket No. 03-0403 (April 13, 2004); Order at 43-44, Aqua Illinois, Inc.: Proposed general increase in water rates, ICC Docket No. 04-0442 (April 20, 2005).

¹¹ Aqua Exhibit 8.0, p. 4, lines 64-65.

¹² The relative merits of using long- and short-term U.S. Treasury yields as proxies for the risk-free rate are described in ICC Staff Exhibit 3.0, pp. 22-26.

185 T-bill yields currently are the better estimate of the risk-free
186 rate used in the CAPM.¹³

187 Similarly, the Commission's Order in Docket No. 99-0534 (MidAmerican
188 Energy Company gas rate case), endorsed Staff's use of the current U.S.
189 Treasury bill yield to estimate the risk-free rate, stating:

190 As previously discussed, the Commission believes that Staff
191 used appropriate data in implementing its cost of common
192 equity analysis... In addition, the Commission is convinced
193 by Staff's explanation of the relative merits of using U.S.
194 Treasury bill yields and U.S Treasury bond yields that,
195 currently, U.S. Treasury bill yields are a better estimate of
196 the long-term risk-free rate.¹⁴

197 The Commission has also accepted estimating the risk-free rate with an
198 average of the current long- and short-term U.S. Treasury yields in several
199 rate cases.¹⁵

200 **Aqua's NAIC-2 Debt Rating**

201 **12. Q. Please describe the flaws in Ms. Ahern's argument that Aqua is**
202 **riskier than the companies in both Staff and Company proxy groups**
203 **because "both of my proxy groups and both of Ms. Phipps' sample**

¹³ Amended Order at 46, Consumers Illinois Water Company: Proposed general increase in water rates, ICC Docket No. 97-0351 (June 17, 1998).

¹⁴ Order at 19, MidAmerican Energy Company: Proposed general increase in gas rates, ICC Docket No. 99-0534, 2000 Ill. PUC Lexis 563 (July 11, 2000).

¹⁵ Order at 43-46, Commonwealth Edison Company: Petition for approval of Delivery Services Tariffs and Delivery Services Implementation Plan and for Approval of Certain Other Amendments and Additions to its Rates, Terms and Conditions, ICC Docket No. 99-0117 (August 26, 1999); Order at 65-67, Central Illinois Public Service Company d/b/a AmerenCIPS and Union Electric Company d/b/a AmerenUE: Petition for approval of delivery services implementation plan and delivery service tariffs, ICC Docket No. 99-0121 (August 25, 1999); Order at 9-10, MidAmerican Energy Company: Delivery Service Tariffs Implementation Plan filed pursuant to Section 16-105 of the Public Utilities Act / MidAmerican Energy Company: Petition for Approval of Delivery Service Tariffs filed pursuant to Section 16-108 of the Public Utilities Act, ICC Docket Nos. 99-0122 / 0130 (consol.) (August 25, 1999); and Order at 52-56, Illinois Power Company: Petition for approval of Delivery Services Implementation Plan pursuant to Section 16-105 of the Public Utilities Act / Illinois Power Company: Petition for Approval of Delivery Services Tariffs pursuant to Section 16-108 of the Public Utilities Act, ICC Docket Nos. 99-0120 / 0134 (consol.)

204 **groups would likely be assigned an NAIC-1 ratings [sic] on**
205 **average”.**¹⁶

206 A. Ms. Ahern mistakenly assumes that the companies comprising her
207 samples likely have debt rated NAIC-1 “as both proxy groups have bond
208 which are on average rated in the A bond ratings categories of Moody’s
209 and S&P.”¹⁷ To support her argument, Ms. Ahern relies upon a
210 “composite” credit rating and business profile score that she calculated for
211 her water and utility samples (Aqua Exhibit 8.7) and both of my samples
212 (Aqua Exhibit 8.11) that equals the average bond ratings, issuer ratings
213 and business profile scores for all of the rated operating subsidiaries of
214 each holding company (*i.e.* sample company).

215 Ms. Ahern’s composite credit rating for each sample company’s operating
216 subsidiaries is not pertinent to estimating Aqua’s cost of equity. Rather,
217 issuer credit ratings and business profile scores for each sample company
218 provide a more comprehensive risk assessment of the cost of equity
219 samples than Ms. Ahern’s composite rating because they reflect the level
220 of financial risk and business risk inherent in each sample company’s
221 stock price, including risks arising from the holding companies’ non-
222 operating subsidiary businesses. Since we are relying on market data for
223 the sample company to estimate Aqua’s cost of equity (and not market
224 data for the operating subsidiaries), the sample company’s ratings and
225 business profile scores are the relevant risk indicator.

(August 25, 1999).

¹⁶ Aqua Exhibit 8.0, p. 19, lines 420-421.

¹⁷ Aqua Exhibit 8.0, p. 19, lines 413-416.

226 Table 1 summarizes the average S&P issuer credit rating and business
 227 profile score for all of the samples used to estimate Aqua’s cost of equity
 228 and is based on sample company data rather than Ms. Ahern’s irrelevant
 229 composite ratings.

Table 1: Average Standard & Poor’s Issuer Credit Rating and Business Profile Score for Staff and Company Samples

Description	Issuer Credit Rating	Business Profile Score
Staff Utility Sample	BBB+	4.1
Company Utility Sample	A-	3.9
Water Sample*	A	2.6
*With the exception of Pennichuck Corp., which is not rated by S&P, Staff and the Company used the same water sample to estimate Aqua’s cost of equity.		

230

231 As shown on Table 1, the average credit rating of my utility sample equals
 232 BBB+, not Ms. Ahern’s composite rating estimate of A. Assuming for the
 233 sake of argument that NAIC-2 debt ratings denote a risk level
 234 commensurate with the BBB credit rating category,¹⁸ which it does not,
 235 Aqua is not riskier than my utility sample. Thus, adding an investment risk
 236 premium to my utility sample’s cost of equity estimate is not necessary.

237 **13. Q. Are NAIC debt ratings and issuer ratings from Nationally Recognized**
 238 **Statistical Rating Organizations (“NRSROs”) such as S&P and**
 239 **Moody’s equivalent measures of credit risk?**

¹⁸ Standard & Poor's modifies its rating categories (i.e., AA, A, BBB, etc.) with “+” and “-”. Moody’s Investors Service modifies its rating categories (i.e., Aa, A, Baa, etc.) with “1”, “2”, and “3”. The NAIC does not add modifiers to its designations.

240 A. No. The *Purposes and Procedures Manual of NAIC Securities Valuation*
241 *Office* (the “*NAIC Manual*”) confirms NAIC debt ratings are not equivalent
242 to NRSRO issuer credit ratings in its “Disclosure Statement,” which states:

243 NAIC Designations are not intended to be and should not be
244 used as if they were the functional equivalent of the ratings
245 of nationally recognized statistical rating organizations or
246 other rating organizations whose ratings are intended to be
247 used as predictive opinions of default risk.¹⁹

248 Thus, Aqua’s NAIC-2 rating does not justify adding thirty-two (32)
249 basis points to Aqua’s cost of equity because NAIC Designations
250 are inappropriate substitutes for NRSRO credit ratings.

251 **14. Q. Are there other important differences between NAIC debt ratings and**
252 **NRSRO issuer ratings?**

253 A. Yes. S&P issuer credit ratings provide an overall assessment of a
254 company’s creditworthiness whereas NAIC ratings reflect security-specific
255 factors. According to S&P:

256 [Issuer credit rating opinions are] not specific to any
257 particular financial obligation, because it does not take into
258 account the specific nature or provisions of any particular
259 obligation. Issuer credit ratings do not take into account
260 statutory or regulatory preferences, nor do they take into
261 account the creditworthiness of guarantors, insurers, or other
262 forms of credit enhancement that may pertain to a specific
263 obligation.²⁰

264 In contrast, the NAIC assigns debt ratings based on
265 security-specific terms, including covenants, structure, collateral,

¹⁹ *Purposes and Procedures Manual of the Securities Valuation Office of the National Association of Insurance Commissioners*, July 2006, “Disclosure Statement,” p. 1.

266 credit enhancements and any other credit-related factor specific to
267 the security under review.²¹ Hence, Aqua's NAIC-2 designation
268 might not reflect a higher degree of credit risk but instead could
269 reflect loan covenants or other security-specific factors that merit an
270 NAIC-2 designation.

271 **15. Q. What is the connection between NAIC debt ratings and NRSRO**
272 **ratings?**

273 A. The only connection between NAIC debt ratings and NRSRO issuer
274 ratings is that the NAIC's Securities Valuation Office ("SVO") uses
275 NRSRO ratings, whenever available, as a starting point for its analysis, as
276 explained in the following excerpt from the *NAIC Manual*:

277 The NAIC uses NRSRO ratings in order to conserve limited
278 regulatory resources and to obtain publicly available high
279 quality credit opinions. While NAIC Designations reflect the
280 staff's opinion about credit risk, the staff must address
281 concerns unique to the regulatory community. **Nothing in**
282 **this Manual should be interpreted as implying that the**
283 **methodologies by which traditional or special NRSRO**
284 **ratings are produced are identical to the manner in**
285 **which the SVO considers credit risk for regulatory**
286 **purposes.** (Emphasis added.)²²

287 However, the SVO may assign a debt issue a lower rating than its NRSRO
288 rating would suggest due to security-specific factors, as noted in the
289 following excerpt from the *NAIC Manual*, which confirms NAIC debt ratings
290 are not equivalent to NRSRO issuer credit ratings:

²⁰ *Standard & Poor's Corporate Ratings Criteria 2006*, p. 9.

²¹ Aqua Exhibit 8.10, p. 6.

²² *Purposes and Procedures Manual of the Securities Valuation Office of the National Association of Insurance Commissioners*, July 2006, PART SEVEN, pp. 2-3.

291 Alpha numeric methodologies are usually granted automatic
292 translation into NAIC designations by the SVO. However,
293 the SVO even in these cases reserves the right to
294 downgrade any translation when deemed necessary
295 (emphasis added).²³

296 **16. Q. Does Ms. Ahern substantiate her claim that investors are aware of**
297 **the comprehensive analysis undertaken by the SVO in assigning**
298 **NAIC debt ratings?²⁴**

299 A. No. Ms. Ahern supports her contention by referencing the *NAIC Manual*,
300 which states:

301 Financial analysis shall culminate in the calculation of such
302 financial ratios as the analyst feels highlight appropriate
303 aspects of the financial performance of the issuer that bear
304 on its ability to meet the obligations owed to the insurance
305 company.²⁵

306 Contrary to Ms. Ahern's claim that investors are aware of the
307 comprehensive analysis by the NAIC's SVO, the financial ratios used by
308 the NAIC's SVO in its analysis are not specified in the *NAIC Manual*.²⁶ In
309 fact, each analyst determines which financial ratios are appropriate for
310 evaluating a given issuer. Thus, we don't know if the NAIC reviews the
311 same financial ratios as S&P or any other NRSRO. In contrast, S&P
312 provides details regarding its rating process and methodology that allow
313 investors to not only understand the S&P rating process but to also make
314 educated inferences regarding a company's level of risk in comparison to
315 companies rated by S&P. Specifically, S&P defines certain ratios used in
316 its credit analysis and publishes benchmarks for those ratios that vary

²³ Aqua Exhibit 8.8, p. 5.

²⁴ Aqua Exhibit 8.0, p. 21, lines 482-483.

²⁵ Aqua Exhibit 8.10, p. 4.

317 according to business profile score.²⁷ S&P also provides the rationale
318 behind its issuer ratings in publicly available reports, monitors rated
319 utilities on an ongoing basis, and publishes updates regarding rating
320 changes and affirming ratings as necessary.²⁸ On the other hand, it is
321 unknown whether NAIC ratings reports even exist for the companies
322 comprising either Ms. Ahern's or my samples.²⁹ In fact, Aqua does not
323 even know the rationale for its own NAIC-2 debt rating.³⁰ Thus, the
324 substitutability of NAIC designations for NRSRO ratings remains doubtful
325 at best due to lack of publicly available information regarding the NAIC
326 rating methodology and review process.

327 **17. Q. What is the basis for Ms. Ahern's opinion that "the phrase 'not**
328 **suitable for use by anyone other than NAIC members' is confusing**
329 **as state regulated insurance companies, who like the parties to this**
330 **proceeding, are not members of the NAIC, utilize these designations**
331 **when investing in both debt and equity securities"?**³¹

332 A. Ms. Ahern illogically argues that investors will disregard the NAIC's
333 disclaimer that its ratings are not suitable for anyone other than NAIC
334 members and purchase the NAIC securities designations to estimate
335 Aqua's investor-required rate of return on equity. She bases her opinion
336 on her interpretation of Aqua Exhibit 8.9 (*i.e.* a copy of the NAIC website
337 home page) and the EMH.³² However, Ms. Ahern could not specify the

²⁶ Company response to Staff data request FD 4.12.

²⁷ Standard & Poor's, "Research: New Business Profile Scores Assigned for U.S. Utility and Power Companies; Financial Guidelines Revised," June 2, 2004.

²⁸ *Standard & Poor's Corporate Ratings Criteria 2006*, p. 10.

²⁹ Company responses to Staff data requests FD 4.15 and 4.16.

³⁰ Company response to Staff data request FD 1.20.

³¹ Aqua Exhibit 8.0, p. 20, lines 452-456.

³² Company response to Staff data request FD 4.11.

338 extent to which state regulated insurance companies use NAIC debt
339 ratings in making investment decisions or the difference between the way
340 state regulated insurance companies use those debt ratings vis-à-vis
341 NAIC members. Thus, Ms. Ahern has failed to provide a sound basis for
342 her opinion and it should not be given any weight in this proceeding.

343 **Sufficiency of a 10.45% Cost of Equity for Aqua**

344 **18. Q. Is Ms. Ahern's claim that your 10.45% cost of equity estimate for**
345 **Aqua provides an insufficient equity risk premium correct?³³**

346 A. No. The relevant data do not support Ms. Ahern's contention. As such,
347 she rests her argument on irrelevant data. Specifically, Ms. Ahern
348 compares my 10.45% cost of equity estimate for Aqua to Aqua's 7.12%
349 embedded cost of long-term debt, and alleges that my cost of equity
350 estimate implies a 3.33% risk premium for Aqua.³⁴ Putting aside her
351 assertion that 3.33% is insufficient for a risk premium for Aqua, Ms. Ahern
352 inappropriately compares my cost of equity estimate to Aqua's embedded
353 cost of debt, which reflects interest rates that Aqua locked into as long ago
354 as 1988, rather than the interest rate Aqua would pay on new debt capital.
355 Specifically, Aqua's embedded cost of debt includes the 10.4% Series M
356 issued in December 1988; 9.69% Series N issued March 1991; and 8.0%
357 Aroma Park series. In comparison, during years 2000 through 2004, Aqua
358 issued debt ranging from 4.90% to 5.40%. Specifically, Aqua's most
359 recent debt issuance, Series W, which occurred during December 2004,

³³ Aqua Exhibit 8.0, p. 5, lines 91-107.

³⁴ Company response to Staff data request FD 4.18.

360 has a much lower rate of 5.32%.³⁵ In contrast, at the time my equity
361 analysis was performed, the yield on A-rated utility long-term debt was
362 6.15%.³⁶

363 Ms. Ahern's reliance on a common equity risk premium calculated with
364 Aqua's embedded cost of debt to criticize my recommended rate of return
365 on common equity is inconsistent with her own risk premium analyses.
366 That is, Ms. Ahern subtracted my cost of common equity recommendation
367 for Aqua from its embedded cost of debt, Ms. Ahern's beta-adjusted risk
368 premiums of 3.7% to 4.5% and historical holding period risk premium of
369 4.4% were calculated from concurrent equity and bond investor returns.³⁷
370 When based upon a proper comparison of my cost of equity
371 recommendation for Aqua vis-à-vis the concurrent yield on A-rated
372 corporate bonds, my cost of equity recommendation reflects an equity risk
373 premium of 4.30% (*i.e.* 10.45% - 6.15%), which falls within Ms. Ahern's
374 range of "appropriate risk premiums".³⁸

375 **19. Q. Does Aqua Exhibit 8.4 suggest your cost of equity recommendation**
376 **for Aqua is too low in comparison to the authorized returns for Aqua**
377 **America, Inc.'s other operating subsidiaries as Ms. Ahern alleges?**

378 A. No. Ms. Ahern argues that my 10.45% cost of equity recommendation for
379 Aqua "represents a much lower opportunity cost to Aqua America, Inc.
380 than investment in the operating subsidiaries shown on Aqua Exhibit 8.4

³⁵ ICC Staff Exhibit 3.0, Schedule 3.03.

³⁶ ICC Staff Exhibit 3.0, p. 31, lines 595-597.

³⁷ Aqua Exhibit 8.0, p. 5, lines 94-100 and Aqua Exhibit 8.2.

³⁸ For the purpose of illustration, I will assume Ms. Ahern's risk premium estimates provided in Aqua Exhibit 8.2 are reasonable. In reality, those risk premium estimates contain critical flaws that diminish

381 which could affect its decision-making process regarding investment in
382 Aqua.”³⁹ Ms. Ahern’s claim is baseless. Seven of the fifteen returns on
383 equity presented on Aqua Exhibit 8.4 are lower than my 10.45% estimate
384 for Aqua. Moreover, Ms. Ahern failed to provide any context for the
385 authorized returns on equity presented on Aqua Exhibit 8.4. Specifically,
386 the following information has not been provided in connection with the
387 Aqua America, Inc. divisions outside of Illinois: the docket number and
388 date of the commission’s final order; the authorized capital structure for
389 each operating subsidiary; a description of the cost of equity analysis used
390 to estimate the authorized returns on common equity for each company;
391 and a description of any risk adjustments reflected in the authorized
392 returns on common equity for each company. Consequently, there is no
393 indication that those operating divisions are similar to Aqua or whether the
394 law in those jurisdictions is similar to the requirements of the Illinois Public
395 Utilities Act. Thus, Aqua Exhibit 8.4 should not be given any weight in this
396 proceeding.

397 **Ms. Ahern’s Updated Cost of Equity Analysis**

398 **20. Q. Does Ms. Ahern’s updated analysis improve her cost of equity**
399 **estimate for Aqua?**

400 A. No. With one minor exception,⁴⁰ Ms. Ahern’s updated analysis uses
401 identical methodologies and proxies as her original cost of equity analysis.
402 Thus, Ms. Ahern’s updated cost of equity analysis contains the same

their usefulness in cost of equity analysis.

³⁹ Aqua Exhibit 8.0, pp. 15-16, lines 341-344.

⁴⁰ In her updated analysis, Ms. Ahern relied upon the median DCF results rather than the average DCF results. Company response to Staff data request FD 4.04.

403 errors that led her to over-estimate Aqua's cost of common equity in direct
404 testimony.⁴¹

405 **21. Q. Does this conclude your rebuttal testimony?**

406 A. Yes, it does.

⁴¹ The flaws in Ms. Ahern's cost of equity analysis are described at length in ICC Staff Exhibit 3.0, pp. 35-54.

Actual Interest Rates Versus Projected Interest Rates for U.S. Treasury Bonds and
 Aaa-Rated Corporate Bonds

Quarter	U.S. Treasury Long-Term Average		Aaa-Rated Corporate Bond Yields	
	Actual	Projected	Actual	Projected
2003-Q2	4.68%	5.30%	5.31%	5.90%
2003-Q3	5.21%	5.40%	5.70%	6.00%
2003-Q4	5.20%	5.50%	5.66%	6.10%
2004-Q1	4.94%	5.60%	5.46%	6.30%
2004-Q2	5.34%*	5.80%	5.93%	6.40%
2004-Q3	N/A*	5.90%	5.64%	6.60%

Quarter	20-Year U.S. Treasury Bond Yields		Aaa-Rated Corporate Bond Yields	
	Actual	Projected	Actual	Projected
2004-Q4	4.87%	5.10%	5.49%	5.80%
2005-Q1	4.76%	5.40%	5.32%	6.00%
2005-Q2	4.55%	5.50%	5.15%	6.20%
2005-Q3	4.51%	5.60%	5.09%	6.40%
2005-Q4	4.77%	5.70%	5.38%	6.50%
2006-Q1	4.76%	5.80%	5.39%	6.60%

*On June 1, 2004, the U.S. Treasury ceased publication of its long-term average nominal yield, which the Treasury commenced publishing on February 19, 2002, coinciding with the discontinuance of its 30-year constant maturity rate. (See *Federal Reserve Statistical Release*, "Discontinuance of Treasury Long-Term Average Nominal Rate," June 2, 2004.)

Source: Actual interest rates are available at the Federal Reserve website, www.federalreserve.gov/releases/H15. The first set of projections, beginning the second quarter of 2003 and ending the third quarter of 2004, were published in the October 1, 2003, edition of *Blue Chip Financial Forecasts*. The second set of projections, beginning the fourth quarter of 2004 and ending the first quarter of 2006, were published in the October 1, 2004, edition of *Blue Chip Financial Forecasts*.