

CORRECTED REBUTTAL TESTIMONY

of

SHEENA KIGHT-GARLISCH

Finance Department

Financial Analysis Division

Illinois Commerce Commission

Illinois-American Water Company

Proposed General Increase in Water and Sewer Rates

Docket No. 07-0507

March 13, 2008

TABLE OF CONTENTS

WITNESS IDENTIFICATION	1
RESPONSE TO MR. JENKINS	1
LONG-TERM DEBT.....	2
ADJUSTMENT TO THE BALANCE OF COMMON EQUITY	3
RESPONSE TO MR. JANOUS.....	4
COST OF EQUITY RECOMMENDATION	9
OVERALL COST OF CAPITAL RECOMMENDATION.....	11
RESPONSE TO MS. AHERN.....	11
RESPONSE TO MR. THOMAS.....	13

1

WITNESS IDENTIFICATION

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

3 A. My name is Sheena Kight-Garlich. My business address is 527 East Capitol
4 Avenue, Springfield, IL 62701.

5 **Q. Are you the same Sheena Kight-Garlich who previously filed testimony in
6 this proceeding?**

7 A. Yes, I am.

8 **Q. Please state the purpose of your rebuttal testimony in this proceeding.**

9 A. The purpose of my rebuttal testimony is to update my balance of common equity,
10 cost of common equity and overall cost of capital recommendation for Illinois-
11 American Water Company ("IAWC" or "Company"). I will also respond to the
12 rebuttal testimony of IAWC witnesses James M. Jenkins (IAWC Exhibit 2.10) and
13 Pauline M. Ahern (IAWC Exhibit 12.10), to the direct testimony of Illinois
14 Industrial Water Consumers ("IIWC") witness Brian A. Janous (IIWC Exhibit 3.0)
15 and to the direct testimony of Citizens Utility Board ("CUB") witness Christopher
16 C. Thomas (CUB Exhibit 1.0).¹

17

RESPONSE TO MR. JENKINS

18 **Q. Please evaluate Mr. Jenkins' rebuttal testimony.**

¹ My decision not to respond to an argument or arguments contained in the testimonies of Mr. Jenkins, Ms. Ahern, Mr. Janous, Mr. Gorman or Mr. Thomas should not be construed as my agreement with those arguments.

19 A. Mr. Jenkins' rebuttal testimony contains information or analysis that changes my
20 opinion regarding the cost of long-term debt and an adjustment to reflect the
21 effect of the proposed increase in rates in the balance of common equity.

22 **Long-Term Debt**

23 **Q. Mr. Jenkins proposes two adjustments to the projected balance of long-**
24 **term debt. Please respond.**

25 A. First, Mr. Jenkins proposes updating the interest rate to December 2007 on the
26 two variable rate debt instruments. I agree with Mr. Jenkins that the embedded
27 cost of long-term debt should reflect the interest rate as of December 2007 for
28 the two variable rate debt instruments. In my direct testimony, I relied on data
29 from October 31, 2007, which was the most recent actual data available at that
30 time. I updated the long-term debt schedule to reflect the December 2007
31 interest rates.

32 Second, Mr. Jenkins proposed a correction to the Unamortized Debt Expense for
33 the Series 6.31% issuance. I also corrected the balance of Unamortized Debt
34 Expense for the Series 6.31% issuance to \$158,578 from \$154,220. Both of Mr.
35 Jenkins' adjustments are reflected in my long-term debt schedule presented in
36 Schedule 14.1.

37 **Q. Are there any other differences between your long-term debt schedule and**
38 **that presented by Mr. Jenkins in IAWC Exhibit 2.12?**

39 A. Yes, there is one difference. With respect to the Variable Series 3.65% issuance
40 shown on Line No. 6 of Schedule 14.1, the Total Expense shown in Column N

41 should be \$939,646, rather than the \$1,091,505 as shown on IAWC Exhibit No.
42 2.12.

43 **Q. What is IAWC's embedded cost of long-term debt?**

44 A. As shown on Schedule 14.1, IAWC's embedded cost of long-term debt for
45 average 2009 is 5.92%.

46 **Adjustment to the Balance of Common Equity**

47 **Q. Did the Company address the concerns you presented in your Direct**
48 **Testimony regarding its adjustment to reflect the effect of the proposed**
49 **increase in rates on the balance of common equity?**

50 A. Yes. Mr. Jenkins revised his adjustments to the common equity balance to
51 reflect the Company's: 1) dividend policy; 2) test year net income as shown in
52 IAWC's revised Part 285 filing on December 5, 2007; and 3) the timing of the rate
53 increase.²

54 **Q. What adjustments did you make to IAWC's proposed balance of common**
55 **equity?**

56 A. Mr. Jenkins' adjustment to the balance of common equity assumes the
57 Commission will grant the Company's proposed rate increase. However, Staff's
58 recommended rate increase differs from IAWC's proposal. Therefore, I modified
59 the Company's average common equity balance to reflect Staff's recommended
60 rate increase. Staff's common equity adjustment is shown on Schedules 14.2
61 and 14.6.

² IAWC Exhibit 2.10, pp. 4-5. Company's response to Staff data request SK 5-01.

62

RESPONSE TO MR. JANOUS

63 **Q. Mr. Janous applies a non-constant growth DCF model to his water sample**
64 **on the grounds that its growth rates are not sustainable over the long-term.**
65 **Is a non-constant growth DCF model an appropriate tool in that situation?**

66 A. Yes. A non-constant growth DCF (“NCDCF”) model is appropriate when the
67 growth rate estimates are not sustainable over the long-term. A NCDCF model
68 employs more than one growth rate estimate, including a near-term growth rate
69 covering the first five years and a sustainable growth rate into perpetuity. In
70 contrast, a single-stage, constant growth DCF model employs a single growth
71 rate estimate, which is assumed to be sustainable to infinity. Thus, the cost of
72 common equity calculation derived from a constant growth estimate DCF is
73 correct only if the near-term growth rate forecast for the sample as a group is
74 expected to approximate its average long-term dividend growth. Neither the
75 estimated 9.58% average 3-5 year growth rate for Mr. Janous’ water sample nor
76 the estimated 9.16% average 3-5 year growth rate for my Water Sample are
77 sustainable over the long-term. Also, the sustainability of the estimated 5.54%
78 average 3-5 year growth for my Utility Sample is questionable over the long-term.
79 Since the current 3-5 year growth rate estimates are not likely to equal long-term
80 growth, I also implemented a multi-stage, NCDCF model.

81 **Q. Do NCDCF models pose difficulties not present in constant growth DCF**
82 **models?**

83 A. Yes. A NCDCF model has additional unobservable growth rate variables, for
84 which published proxies are lacking. Specifically, no observable estimates of
85 investor “transitional” and “steady-state” growth rate expectations for individual

86 companies exist.³ Consequently, NCDCF analysis necessitates greater reliance
87 on rate of return analyst judgment than constant-growth DCF analysis.
88 Nevertheless, under certain circumstances, measurement error associated with a
89 constant-growth DCF analysis exceeds that associated with a NCDCF model,
90 making the latter model preferable.

91 **Q. Why did you conclude that 3-5 year growth rates for the companies in your**
92 **Water Sample and Utility Sample appear to be unsustainable over the long-**
93 **term?**

94 A. As I discussed in my direct testimony (ICC Staff Exhibit 4.0, pp.19-20), the
95 economy is forecasted to grow approximately 5% per year in nominal terms. No
96 company could sustain into infinity a growth rate any greater than that of the
97 overall economy, or it would eventually grow to become the entire economy.
98 Moreover, since utilities in particular are generally below-average growth
99 companies, the sustainability of an above average growth rate is particularly
100 dubious. At 9.16%, the average growth rate for the companies in my Water
101 Sample is approximately 80% greater than that expected for the overall
102 economy. Thus, given the large difference between the growth rates for my
103 Water Sample companies and the overall growth of the economy, the
104 sustainability of the Zacks growth rates for my Water Sample is implausible. The
105 average growth rate for the companies in my Utility Sample, 5.54%, is
106 approximately 10% greater than that expected for the overall economy. Although
107 the difference between the growth rates for my Utility Sample companies and the

³ The “steady-state” is defined as a period of long, indefinite length during which a company’s expected rate of return on new investment does not vary. (A constant growth DCF model assumes a company is already in the “steady-state;” that is, the growth rate is the “steady-state” growth rate.) The “transitional” phase is a bridge between the current, near-term period and the “steady-state” level during which the company’s rate of return on new investment adjusts from the current level to the “steady-state” level.

108 overall growth of the economy is much smaller, the continuous sustainability of
109 the Zacks growth rates for my Utility Sample is questionable.

110 **Q. Please describe how you modeled your NDCDF analysis.**

111 A. I modeled three stages of dividend growth. The first, a near-term growth stage,
112 is assumed to last five years. The second stage is a transitional growth period
113 that spans the five-year period from the end of the fifth year through the end of
114 the tenth year. Finally, the third, or “steady-state,” growth stage, which begins at
115 the end of the tenth year, is assumed to last into perpetuity. An expected stream
116 of dividends is estimated by applying these stages of growth to the current
117 dividend. The discount rate that equates the present value of this expected
118 stream of cash flows to the company’s current stock price equals the investor-
119 required rate of return on common equity. Schedule 14.3 mathematically
120 presents the relationship between the cash flow stream, stock price, and market
121 required rate of return on common equity.

122 **Q. How did you estimate the growth rate parameters?**

123 A. For the first stage, I used the same Zacks growth rate estimates as of December
124 12, 2007 that I used for the constant growth DCF presented in my direct
125 testimony. To estimate the long-term growth expectations for the third, steady-
126 state stage, I utilized the implied 20-year forward U.S. Treasury rate in ten years,
127 which reflects current expectations of the long-term overall economic growth
128 during the steady-state growth stage of my non-constant DCF model.⁴ An

⁴ Excepting a small premium for interest rate risk, the implied 20-year forward U.S. Treasury rate in ten years represents the risk-free rate of return during the 20-year period beginning in 10 years and ending 30 years from today, as implied by current 10- and 30-year U.S. Treasury rates. As I explained in my direct testimony, the overall economic growth rate and the risk-free rate of return should be similar since

129 implied 20-year forward U.S. Treasury rate in ten years of 4.80% was derived
130 from the 4.05% 10- and 4.51% 30-year U.S. Treasury rates as of December 12,
131 2007 using the following formula:

132
$${}_{20}f_{10} = [(1+{}_{30}r_0)^{30} / (1+{}_{10}r_0)^{10}]^{1/20} - 1$$

133 Where ${}_{20}f_{10}$ = the implied 20-year forward U.S. Treasury rate in ten years;

134 ${}_{30}r_0$ = the current 30-year U.S. Treasury rate; and

135 ${}_{10}r_0$ = the current 10-year U.S. Treasury rate

136 The growth rate employed in the intervening, five-year transitional stage (second
137 stage) equals the average of the Zacks growth rate and the steady-state stage
138 growth rate. Schedule 14.4 presents the growth rate estimates for the
139 companies in the Water Sample and Utility Sample.

140 **Q. Why is an estimate of the long-term overall economic growth rate a**
141 **reasonable proxy for the steady-state stage growth for your Samples?**

142 A. Ideally, company-specific growth rate estimates for the very long term are
143 preferable. Unfortunately, company specific long-term growth rate forecasts are
144 not available. Nevertheless, for the reasons presented above, investors cannot
145 reasonably expect utilities to sustain growth over the very long term equal to
146 analysts' current 3-5 year growth rate estimates. Thus, while the overall
147 economic growth rate might be slightly biased upward for generally low-growth
148 companies such as utilities, it is much closer to the growth rate that investors
149 could reasonably expect utilities to sustain over the long term.

both are a function of production opportunities and consumption preferences. (ICC Staff Exhibit 4.0, pp. 19-21.)

150 **Q. How did you measure the stock price?**

151 A. I used the stock price data from December 12, 2007. This data was used in my
152 constant growth DCF analysis presented in my direct testimony. Those stock
153 prices appear on ICC Staff Exhibit 4.0, Schedule 4.6.

154 **Q. How did you estimate the expected future quarterly dividends?**

155 A. I estimated expected future quarterly dividends in the same manner as discussed
156 in my direct testimony. ICC Staff Exhibit 4.0, Schedule 4.6 presents the current
157 quarterly dividends for the prior year. ICC Staff Exhibit 4.0, Schedule 4.7
158 presents the expected quarterly dividends for the coming year. This technique
159 was applied to produce dividend projections for the next 11 years, using the
160 growth rate estimate from the applicable growth stage of my NDCDF analysis.

161 **Q. Based on your NDCDF analysis, what are the estimated required rates of
162 return on common equity for the Water Sample and the Utility Sample?**

163 A. My NDCDF analysis estimated that the required rate of return on common equity
164 for the Water Sample and Utility Sample are 8.58% and 9.34%, respectively, as
165 shown on Schedule 14.5. Those results were derived from the growth rates
166 presented on Schedule 14.4, and the stock prices and dividend payment dates
167 presented on Schedule 4.6.

168 **COST OF COMMON EQUITY RECOMMENDATION**

169 **Q. Based on your entire analysis, what is your updated estimate of the**
170 **required rate of return on the common equity for IAWC?**

171 A. Based on my updated analysis, in my judgment, the investor-required rate of
172 return on common equity for IAWC is 10.38%.

173 **Q. Please summarize how you estimated the investor-required rate of return**
174 **on common equity for the Company.**

175 A. First, I determined the investor-required rate of return from the NCD CF and the
176 CAPM. For the NCD CF, I averaged the investor-required rate of return from the
177 NCD CF for the Water Sample of 8.58% and the Utility Sample of 9.34%, which
178 equals 8.96%. For the CAPM, I gave one-third weight to Water Sample CAPM of
179 12.11% and two-thirds weight to the Utility Sample CAPM of 11.75%, which
180 equals 11.87%. Next, I averaged the results of the NCD CF and CAPM analyses
181 to estimate the investor-required rate of return on common equity for the
182 Samples, which equals 10.42%.

183 Finally, I adjusted the Samples' investor-required rate of return downward four
184 basis points to reflect the lower risk of the Company relative to the two Samples.
185 Thus, the average of the results for the Samples adjusted for risk is 10.38%. The
186 analysis of the risk of the Company and of the Samples was explained in my
187 direct testimony. (ICC Staff Exhibit 4.0.) Table 1 below presents the updated
188 benchmark ratios.

189

190

Table 1 – Updated Benchmark Ratios

	AA	A
<u>Financial Guideline Ratios</u>		
FFO/IC	3.0-4.0X	2.0-3.0X
FFO/Debt	20-25%	12-20%
Staff Proposal – IAWC 2009		
FFOIC	4.4X	
FFO/Debt		19.9%
Utility Sample (Average 2004-2006)		
FFOIC	4.2X	
FFO/Debt		19.4%
Water Sample (Average 2004-2006)		
FFOIC	3.94X	
FFO/Debt		19.2%

191 The ratios for the Water Sample and Utility Sample imply a slightly higher level of
 192 financial risk than IAWC’s ratios indicate. From the analysis of relative business
 193 risk described in my direct testimony (ICC Staff Exhibit 4.0, pp. 25-26) and this
 194 analysis of relative financial risk, I conclude that Staff’s revenue requirement
 195 recommendations, including my cost of common equity recommendation,
 196 indicate a level of financial strength that is commensurate with a credit rating that
 197 is one notch higher than the Utility Sample’s credit rating.⁵ Thus, I made the
 198 same one notch adjustment (four basis points) as in my direct testimony. (ICC
 199 Staff Exhibit 4.0.)

⁵ Credit ratings are only available for two of the seven companies in the Water Sample. Therefore, I determined the adjustment based upon the average credit rating of the Utility Sample.

200 **Q. Why did you weight the CAPM derived cost of common equity estimates**
201 **from your Water Sample and Utility Sample to estimate IAWC's cost of**
202 **common equity?**

203 A. In my judgment some of the beta estimates for the Water Sample companies
204 used in the CAPM analysis are unrealistically high. This was fully addressed in
205 my direct testimony. (ICC Staff Exhibit 4.0, p. 30.) Therefore, I gave the Utility
206 Sample CAPM results twice the weight as the Water Sample CAPM results in
207 developing my recommend cost of common equity.

208 **OVERALL COST OF CAPITAL RECOMMENDATION**

209 **Q. What are the overall costs of capital for IAWC?**

210 A. As shown on Schedule 14.6, IAWC's overall cost of capital is 7.85%. The
211 estimate incorporates a cost of common equity of 10.38%.

212 **RESPONSE TO MS. AHERN**

213 **Q. Ms. Ahern argues that the results of "Mr. Janous' two stage DCF analysis**
214 **should be rejected"... "as they are woefully inadequate relative to recently**
215 **authorized ROEs for electric and gas utilities against which IAWC, through**
216 **AWCC, must compete for capital in the capital markets."⁶ Please respond.**

217 A. I disagree for two reasons. First, Ms. Ahern focuses on just the results of Mr.
218 Janous' two stage DCF analysis and not on his overall recommended return on
219 equity ("ROE"). There is a large degree of measurement error inherent in any
220 estimate of a company's cost of common equity, which is exacerbated further

⁶ IAWC Exhibit 12.10, p. 33.

221 when only one model is employed in that analysis. Consequently, Ms. Ahern,
222 Mr. Janous, and I all measure cost of common equity with both the DCF and
223 CAPM models. Applying the logic inherent in Ms. Ahern's approach focusing on
224 each model's cost of common equity estimates would lead to the elimination of
225 my non-constant DCF estimate for the Water Sample (8.58%) and both of my
226 CAPM estimates (11.75% for the Utility Sample and 12.11% for the Water
227 Sample), since they fall outside the range of authorized ROE's of 9.1% to 11.5%
228 presented by Ms. Ahern.⁷ That would leave me only with my Public Utility
229 Sample non-constant growth DCF estimate of 9.34% for my ROE
230 recommendation.

231 Second, Ms. Ahern's testimony fails to specify critical factors that influenced the
232 allowed returns in those 69 proceedings.⁸ For instance, Ms. Ahern only presents
233 the common equity ratio. She does not identify the relative risk, as exemplified
234 by credit rating or any other metric, of the utilities involved in those return
235 decisions. Nor does she identify the amount of the common stock flotation cost
236 adjustment, if any, that was included in each of those decisions. Without such
237 data, any evaluation of the rate of return recommendations in this proceeding via
238 comparison to the returns authorized in the 69 cases Ms. Ahern cites is useless
239 since we have insufficient basis for assessing comparability.

⁷ IAWC Exhibit 12.0, p. 33.

⁸ IAWC Exhibit 12.10, Schedule 12.20.

RESPONSE TO MR. THOMAS

240

241 **Q. Mr. Thomas states that “[i]f we accept that (1) current stock prices reflect**
242 **all available information, and (2) the empirical research has found a pattern**
243 **of upwardly biased analyst growth rate forecasts...[u]sing analyst**
244 **forecasts as the only estimates of growth will overstate the cost of**
245 **[common equity] capital...”⁹ Do you agree?**

246 A. The appropriate answer depends on the benchmark used to determine if analyst
247 growth rates are too high. If analysts’ growth rate estimates are too high relative
248 to investors’ true growth expectations, Mr. Thomas’s statement is correct. That
249 is, if analyst growth rates overstate investor expectations of future growth, use of
250 those analyst growth rates will produce an overstated cost of common equity.
251 However, Mr. Thomas’s statement is made in the context of a discussion of
252 whether or not analysts’ growth estimates are too high relative to achieved
253 growth, as measured after the fact. This suggests that he is assessing analyst
254 growth rates on their ability to accurately predict future growth, not on their value
255 as estimates of investors’ ex ante expectations. If so, the study does not support
256 the validity of his position. As noted above, the rationality of investors’ true
257 growth expectations is not at issue. Indeed, given that investors’ growth
258 expectations are forecasts of the future, they may differ significantly from the ex
259 post achieved growth. A cost of common equity witness should estimate
260 investors’ growth expectations. To the extent that analyst growth rates reflect the
261 investors’ true growth expectations, use of analyst growth rates will provide an
262 accurate estimate of the cost of common equity, if properly applied in a correctly
263 specified DCF model, whether or not the predicted growth is ultimately realized.

⁹ CUB Exhibit 1.0, pp.27-28.

264 Mr. Thomas has presented no evidence to demonstrate that analyst growth rates
265 are poor proxies for investor growth expectations.

266 **Q. Mr. Thomas claims that “[t]here is a disconnect between the way that**
267 **investors actually receive cash flows and the way the Commission sets**
268 **rates” ... which allows a company to “recover its approved cost of equity**
269 **over an entire year”... even though “investors receive dividend payments**
270 **on a quarterly basis” and concludes that the quarterly DCF model is not**
271 **appropriate for rate setting purposes.¹⁰ Do you agree?**

272 A. No. Mr. Thomas has raised a working capital issue, not a cost of common equity
273 issue. His argument implicitly assumes that working capital is not correctly
274 measured. A working capital allowance compensates a utility for any delay
275 between the time it expends cash to provide service and the time it receives cash
276 from its customer for that service.¹¹ If a utility is authorized an appropriate
277 working capital allowance, by definition, it will receive cash to pay for all costs of
278 service as they come due. Consequently, if one assumes an appropriate
279 working capital allowance is authorized, Mr. Thomas’s argument is invalid
280 because the working capital allowance will eliminate any surplus or deficit in
281 earnings created by the timing of the utility’s cash collections and disbursements.
282 Since utility companies pay cash flows (i.e., dividends) over the course of a year
283 and not all at the end of the year, use of a quarterly DCF model is not only
284 appropriate for rate setting purposes, it is necessary for a utility to recover its true
285 cost of common equity.

¹⁰ CUB Exhibit 1.0, p. 38.

¹¹ Hahne and Aliff, Accounting for Public Utilities, Mathew Bender, 1991, p. 5-2.

286 **Q. Please evaluate Mr. Thomas's market to book value analysis.**¹²

287 A. Mr. Thomas's market to book value analysis is based on the premise that one
288 should expect a utility company to precisely earn its cost of capital on a
289 continuing basis.¹³ That premise is oversimplified. There are many utility
290 ratemaking practices (e.g., deferred taxes and depreciation) that could result in a
291 utility's market value exceeding its book value. That is, the authorized return for
292 each company in his sample is not the only factor influencing its earnings. Thus,
293 a market to book ratio in excess of one does not necessarily mean the authorized
294 rate of return is too high.

295 **Q. Mr. Thomas notes that the "Nagel Paper" rejected "the version of the CAPM**
296 **traditionally used by the Commission."**¹⁴ **Please respond.**

297 A. Mr. Thomas is wrong. The Nagel Paper does not apply to Staff's CAPM,
298 because it does not evaluate a CAPM that utilizes adjusted betas. As a matter of
299 fact, the Nagel Paper found that a CAPM using raw betas was less accurate in
300 predicting realized rate of returns than a forecast model that assumed future
301 returns would equal the market average (beta equals 1.0).¹⁵ Interestingly, Mr.
302 Thomas relied on the version of the CAPM that used raw betas as a check to his
303 DCF analysis.

¹² CUB Exhibit 1.0, pp. 22-23.

¹³ CUB Exhibit 1.0, pp. 22-23.

¹⁴ CUB Exhibit 1.0, p. 5.

¹⁵ Gregory L. Nagel, David R. Peterson, and Robert S. Prati, The Effect of Risk Factors on Cost of Equity Estimation, Quarterly Journal of Business and Economics, Vol. 46 No. 1, p. 67.

304 **Q. Mr. Thomas criticizes the use in the CAPM of betas adjusted for reversion**
305 **to the market mean of 1.0.¹⁶ Why did you adjust your raw beta estimates?**

306 A. I adjusted the raw (i.e., historical) betas for the companies in my sample to
307 improve the accuracy of my beta estimates. Ex post empirical tests of the CAPM
308 suggest that the linear relationship between risk, as measured by raw beta, and
309 return is flatter than the CAPM predicts.¹⁷ That is, securities with raw betas less
310 than one tend to realize higher returns than the CAPM predicts. Conversely,
311 securities with raw betas greater than one tend to realize lower returns than the
312 CAPM predicts. Adjusting the raw beta estimate towards the market mean of 1.0
313 results in a linear relationship between the beta estimate and realized return that
314 more closely conforms to the CAPM prediction. Securities with betas less than
315 one are adjusted upwards thereby increasing the predicted required rate of return
316 towards observed realized rates of return. Conversely, securities with betas
317 greater than one are adjusted downwards thereby decreasing the predicted rate
318 of return towards observed realized rates of return. Thus, adjusted betas
319 surpass raw betas as predictors of future returns and are, therefore, superior
320 forward-looking betas. Consistently, Seth Armitage in his text, "The Cost of
321 Capital," with regard to this argument, notes that studies have shown that such
322 adjustments result in appreciably better forecasts, finding that the reduction in
323 both bias and inefficiency is greater the further away from one the beta in
324 question is.¹⁸

¹⁶ CUB Exhibit 1.0, pp. 11-15.

¹⁷ Litzenberger, Ramaswamy and Sosin, "On the CAPM Approach to the Estimation of A Public Utility's Cost of Common Equity Capital," *Journal of Finance*, May 1980, pp. 375-376.

¹⁸ Armitage, S., The Cost of Capital: Intermediate Theory, 2005, pp. 284-285.

325 **Q. Mr. Thomas presents academic research indicating that the proper**
326 **expected common equity market risk premium for determining the**
327 **investor-required rate of return is between 3 and 5%.¹⁹ Do you agree?**

328 A. No. The research cited by Mr. Thomas represents various academics' opinions
329 of the common equity risk premium investors should expect, which is not
330 necessarily the same as what the investors truly are expecting.²⁰ Since the
331 relationship between the returns of the stock market and U.S. Treasury bonds is
332 not stable over time, current returns provide the best indication of what investors
333 are expecting going forward. Hence, my estimate of the common equity risk
334 premium, derived by subtracting the current yield on long-term U.S. Treasury
335 bonds from the first quarter return on the S&P 500 provides the actual difference
336 between returns on risk-free and risky securities that exists in today's market.

337 **Q. Does this conclude your prepared rebuttal testimony?**

338 A. Yes, it does.

¹⁹ CUB Exhibit 1.0, pp. 16-19.

²⁰ CUB Exhibit 1.0, pp. 54.

Illinois-American Water Company
 Embedded Cost of Debt
 Average 2009

Debt Issue Type, Coupon Rate (A)	Date Issued (B)	Maturity Date (C)	Original Principal Amount (D)	Face Amount Outstanding (F)	Debt Discount or (Premium) (H)	Unamortized Debt Expense (I)	Carrying Value (J)	Coupon Interest Expense (K)	Amortization of Debt Discount or (Premium) (L)	Amortization of Debt Expense (M)	Total Expense (N)	
1 General Mortgage Bonds												
2 Series	6.073%	12/31/2008	12/31/2038	26,500,000	14,354,167		71,219	14,282,948	871,729	2,209	873,938	
3 Series	6.310%	7/1/2008	7/1/2038	28,500,000	28,500,000		158,578	28,341,422	1,798,350	5,376	1,803,726	
4 Series	6.593%	10/22/2007	9/30/2037	94,000,000	94,000,000		900,827	93,099,174	6,197,420	31,243	6,228,663	
5 Series	9.220%	12/15/1998	12/1/2009	6,000,000	875,000		4,978	870,022	80,675	5,432	86,107	
6 Variable Series	3.650%	3/28/2002	9/1/2032	24,860,000	24,860,000		747,266	24,112,734	907,390	32,256	939,646	
7 Series	9.625%	3/15/1989	2/1/2019	6,000,000	6,000,000		30,205	5,969,796	577,500	2,995	580,495	
8 Series	5.150%	9/23/1993	8/1/2023	6,000,000	5,745,000		234,232	5,510,768	295,868	16,062	311,930	
9 Tax Exempt	5.500%	12/19/1996	12/1/2026	7,000,000	6,990,000		323,870	6,666,130	384,450	18,076	402,526	
10 Series	5.000%	2/24/1998	2/1/2028	12,000,000	11,975,000		542,165	11,432,835	598,750	28,410	627,160	
11 Tax Exempt	5.000%	2/25/1998	2/1/2028	6,000,000	5,875,000		277,341	5,597,660	293,750	14,533	308,283	
12 Tax Exempt	5.100%	6/23/1999	6/1/2029	30,645,000	30,645,000		1,208,981	29,436,020	1,562,895	59,215	1,622,110	
13 Variable Series	4.300%	5/1/1997	5/1/2032	23,325,000	23,325,000		209,254	23,115,746	1,002,975	8,968	1,011,943	
14 Total General Mortgage Bonds				270,830,000	253,144,167	-	4,708,914	248,435,253	14,571,751	-	224,775	14,796,526
15 Docket Nos 06-0650/0651												
16 Series	5.520%	5/16/2007	12/21/2016	2,500,000	2,500,000		11,740	2,488,260	138,000	1,437	139,437	
17 Series	5.620%	5/16/2007	12/21/2018	13,500,000	13,500,000		65,707	13,434,293	758,700	6,463	765,163	
18 Series	5.770%	5/16/2007	12/21/2021	23,000,000	23,000,000		115,873	22,884,127	1,327,100	8,801	1,335,901	
19 Series	5.390%	5/16/2007	12/21/2013	13,000,000	13,000,000		55,297	12,944,703	700,700	10,702	711,402	
20 Series	5.620%	5/16/2007	3/23/2019	22,000,000	22,000,000		106,984	21,893,016	1,236,400	10,270	1,246,670	
21 Series	5.620%	6/12/2007	12/21/2018	30,000,000	30,000,000		84,070	29,915,930	1,686,000	8,337	1,694,337	
22 Total Docket Nos 06-0650/0651				104,000,000	104,000,000	-	439,671	103,560,329	5,846,900	-	46,010	5,892,910
23 Notes Payable												
24 Series	2.570%	5/15/2004	5/15/2024	1,586,381	1,329,514			1,329,514	34,169		34,169	
25								-				
26 Series	9.870%	7/31/2002	12/1/2013	6,485,642	958,941			958,941	94,647		94,647	
27 Total Notes Payable				8,072,023	2,288,455	-	-	2,288,455	128,816	-	128,816	
28 Required Debt												
29	6.100%	24-Nov-87	30-Sep-22				361,172	(361,172)		\$26,267	\$26,267	
30	6.100%	24-Nov-87	30-Sep-22				210,656	(210,656)		\$15,320	\$15,320	
31	6.150%	24-Nov-87	31-Aug-24				481,685	(481,685)		\$30,746	\$30,746	
32	6.900%	25-Aug-04	28-Feb-21				251,303	(251,303)		20,655	20,655	
33 Total--Required Debt							\$1,304,815	(1,304,815)		\$92,988	\$92,988	
34					\$359,432,622		\$6,453,400	\$352,979,222	\$20,547,467	\$363,773	\$20,911,240	

Illinois-American Water Company

Average Common Equity Balances

	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Common Stock													
BOM	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157
Additions													
EOM	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157	\$ 199,061,157
Paid in Capital	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616	\$ 2,347,616
Retained Earnings													
BOM	\$ 82,621,931	\$ 83,349,257	\$ 84,777,153	\$ 89,146,284	\$ 92,325,854	\$ 94,872,071	\$ 95,021,237	\$ 88,358,474	\$ 89,114,641	\$ 89,889,459	\$ 88,428,782	\$ 88,871,293	\$ 90,553,612
Additions	\$ 727,326	\$ 1,427,896	\$ 1,406,370	\$ 1,219,311	\$ 819,596	\$ 48,015	\$ (686,824)	\$ (683,279)	\$ (700,133)	\$ (769,297)	\$ (399,857)	\$ 541,518	\$ 506,759
Rate Case NI*	\$ -	\$ -	\$ 2,962,761	\$ 2,568,689	\$ 1,726,621	\$ 101,151	\$ 1,446,912	\$ 1,439,446	\$ 1,474,951	\$ 1,620,656	\$ 842,368	\$ 1,140,801	\$ 1,067,575
Total NI	\$ 727,326	\$ 1,427,896	\$ 4,369,131	\$ 3,788,000	\$ 2,546,217	\$ 149,166	\$ 760,088	\$ 756,167	\$ 774,818	\$ 851,359	\$ 442,511	\$ 1,682,319	\$ 1,574,334
Dividends**				\$ (608,430)			\$ (7,422,851)			\$ (2,312,036)			\$ (1,825,292)
EOM	\$ 83,349,257	\$ 84,777,153	\$ 89,146,284	\$ 92,325,854	\$ 94,872,071	\$ 95,021,237	\$ 88,358,474	\$ 89,114,641	\$ 89,889,459	\$ 88,428,782	\$ 88,871,293	\$ 90,553,612	\$ 90,302,653
Total Common Equity	\$ 284,758,030	\$ 286,185,926	\$ 290,555,057	\$ 293,734,627	\$ 296,280,844	\$ 296,430,010	\$ 289,767,247	\$ 290,523,414	\$ 291,298,232	\$ 289,837,555	\$ 290,280,066	\$ 291,962,385	\$ 291,711,426
Average Monthly Equity		\$ 285,471,978	\$ 288,370,492	\$ 292,144,842	\$ 295,007,736	\$ 296,355,427	\$ 293,098,629	\$ 290,145,330	\$ 290,910,823	\$ 290,567,893	\$ 290,058,810	\$ 291,121,225	\$ 291,836,906
Average 2009 Common Equity Balance													\$ 291,257,508

Notes:

Staff's Rate Case NI is calculated by taking Staff's ROE deficiency * 11/12 (number of months Rate increase is effective) divided by the Company's total Rate Case NI and multiplying each month by this proportion.

ROE Deficiency = Staff Weighted Rate of Return on Common Equity X Staff Rate Base - (Company Operating Income under Present Rates - (Company Weighted Costs of Debt and Preferred Stock X Company Rate Base))

** The Sept. 2008 and Dec. 2008 dividends are based on the Company's updated response to Staff data request SK 4-01, and reflect dividend paid on earnings before the rate increase.

The March 09 dividend is equal to 75% of the increased earnings for October to December rounded down to the nearest penny.

The dividend June 09 is equal to 75% to the increased earnings for October to March minus the March dividend rounded down to the nearest penny.

Sources: Company response to deficiency No. 2

ICC Staff data request SK 4-01

IAWC Exhibit No. 2.14

Illinois-American Water Company

The Non-Constant Growth Discounted Cash Flow Model

The formula for measuring the cost of common equity, k , when growth, g , does not become constant until period φ , is as follows:

$$k = \left[\frac{D_{1,1}(1+k)^{\varphi-0.25} + D_{1,2}(1+k)^{\varphi-0.50} + D_{1,3}(1+k)^{\varphi-0.75} + \dots + D_{\varphi,4} + P_{\varphi,4}}{P} \right] \left(\frac{1}{x+\varphi-0.25} \right) - 1.$$

where: P \equiv the current market value;

$D_{\varphi,q}$ \equiv the expected dividend at the end of quarter q in year φ , where $q = 1$ to 4 and $\varphi =$ the number of periods until the steady-state growth period;

k \equiv the cost of common equity;

x \equiv the elapsed time between the stock observation and first dividend payment dates, in years; and

$P_{\varphi,4}$, the market value at the beginning of the steady-state growth stage, is calculated from the following equation:

$$P_{\varphi,4} = \frac{\sum_{q=1}^4 D_{\varphi,q}(1+g_l)(1+k)^{1-[x+0.25(q-1)]}}{k - g_l}$$

where: $D_{\varphi,q}$ \equiv the dividend paid in quarter q during the last year of the transitional growth stage; and

g_l \equiv the steady-state growth rate.

Illinois-American Water Company

Growth Rate Estimates

Water Sample		Growth Rates		
Company	Stage 1 ¹	Stage 2 ²	Stage 3 ³	
1 Aqua America	10.80%	7.80%	4.79%	
2 Artesian	5.00%	4.90%	4.79%	
3 California Water	8.00%	6.40%	4.79%	
4 Middlesex	8.00%	6.40%	4.79%	
5 SJW	10.00%	7.40%	4.79%	
6 SWWC	11.00%	7.90%	4.79%	
7 York	11.33%	8.06%	4.79%	

Utility Sample		Growth Rates		
Company	Stage 1 ¹	Stage 2 ²	Stage 3 ³	
1 Atmos	5.75%	5.27%	4.79%	
2 Centerpoint Energy	9.50%	7.15%	4.79%	
3 Consolidated Edison Inc	3.67%	4.23%	4.79%	
4 Nicor	4.00%	4.40%	4.79%	
5 Northwest Natural Gas	5.25%	5.02%	4.79%	
6 Nstar	6.50%	5.65%	4.79%	
7 Piedmont Natural Gas Co	5.67%	5.23%	4.79%	
8 WGL Holding Inc	4.00%	4.40%	4.79%	

1 Zacks 3-5 year earnings per share growth rate estimates. (Zacks Investment Research, Inc.)

2 Equals the average of Stage 1 and Stage 3 growth rates.

3 The implied 20-year forward U.S. Treasury rate in ten years (20f10), based on the 10- and 30-year U.S. Treasury rates as of December 12, 2007. (The Federal Reserve Board, Federal Reserve Statistical Release: H.15, Selected Interest Rates, Weekly Update, www.federalreserve.gov/releases/H15/update/, December 13, 2007.

Illinois-American Water Company

DCF- Cost of Common Equity Estimate

Water Sample

	<u>Company</u>	<u>Cost of Equity Estimate</u>
1	Aqua America	8.24%
2	Artesian	8.62%
3	California Water	8.81%
4	Middlesex	9.49%
5	SJW	7.46%
6	SWWC	7.79%
7	York	9.68%
	Average	<u><u>8.58%</u></u>

Utility Sample

	<u>Company</u>	<u>Cost of Equity Estimate</u>
1	Atmos	10.15%
2	Centerpoint Energy	10.24%
3	Consolidated Edison Inc	9.52%
4	Nicor	9.26%
5	Northwest Natural Gas	8.16%
6	Nstar	9.17%
7	Piedmont Natural Gas Co	9.12%
8	WGL Holding Inc	9.10%
	Average	<u><u>9.34%</u></u>

Illinois-American Water Company

Staff's Proposed Weighted Average Cost of Capital

<u>Class of Capital</u>	<u>Amount at Present Rates</u>	<u>Adjustment</u>	<u>Balance</u>	<u>Percent of Total Capital</u>	<u>Cost</u>	<u>Weighted Cost</u>
Short-Term Debt	\$ 21,696,082		\$ 21,696,082	3.26%	5.28%	0.17%
Long-Term Debt	\$ 352,979,222		\$ 352,979,222	53.01%	5.92%	3.14%
Common Equity	\$ 283,375,383	\$ 7,882,125	\$ 291,257,508	43.74%	10.38%	4.54%
Total	<u>\$ 636,354,605</u>		<u>\$ 665,932,811</u>	<u>100.0%</u>		<u>7.85%</u>