

REBUTTAL TESTIMONY

of

MICHAEL McNALLY

Finance Department

Financial Analysis Division

Illinois Commerce Commission

Commonwealth Edison Company

Proposed General Increase In Rates For Delivery Service

Docket No. 07-0566

April 8, 2008

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## WITNESS IDENTIFICATION

2 **Q1. Please state your name and business address.**

3 A1. My name is Michael McNally. My business address is 527 East Capitol Avenue,  
4 Springfield, IL 62701.

5 **Q2. Are you the same Michael McNally who testified previously in this**  
6 **proceeding?**

7 A2. Yes, I am.

8 **Q3. Please state the purpose of your rebuttal testimony.**

9 A3. The purpose of my rebuttal testimony is to respond to the rebuttal testimony of  
10 Commonwealth Edison Company ("ComEd") witnesses Robert K. McDonald  
11 (ComEd Ex.28.0) and Samuel C. Hadaway (ComEd Ex. 29.0) and to the direct  
12 testimony of Citizens Utility Board ("CUB") witness Christopher Thomas (CUB  
13 Exhibit 1.0). I will also respond to Mr. Thomas's and IIEC Witness Gorman's  
14 (IIEC Exhibit 2.0) proposals to reduce ComEd's cost of capital if Rider SMP is  
15 adopted.

16

## RESPONSE TO MR. MCDONALD

17 **Q4. Mr. McDonald proposes three adjustments to your debt schedule.<sup>1</sup> Do you**  
18 **accept Mr. McDonald's proposals?**

19 A4. Yes. As Mr. McDonald notes, ComEd wrote off the unamortized losses on  
20 required debt in 1997 as a result of its discontinuance of SFAS No. 71 for the

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<sup>1</sup> ComEd Ex. 28.0, pp. 11-12.

21 generation portion of its business. At the time my direct testimony was prepared,  
22 I could not verify the amortization of the write-off (shown on Line 120 of Staff  
23 Schedule 4.2) because, as the Company's response to Staff data request MGM  
24 3.06 explains, "[f]or ILCC Form 21 reporting purposes, on an individual issue  
25 basis, for issues refunded prior to January 1, 1998, the balances included on  
26 pages 24a -24c are presented before the reduction due to the write-off and the  
27 write-off is presented as a separate line at the end of the schedule."<sup>2</sup> Thus, I  
28 adopted the same annual amortization Staff used in Docket No. 05-0597,  
29 ComEd's previous rate case. However, after reviewing the information provided  
30 in the Company's response to Staff data request MGM 3.06 and ComEd Exhibit  
31 28.03, I agree that the amortization of the write-off presented on Line 120 of Staff  
32 Schedule 4.2 is understated. Thus, I accept Mr. McDonald's proposed  
33 adjustment, which increases my cost of debt, weighted cost of debt, and overall  
34 cost of capital recommendations to 6.77%, 3.72%, and 8.36% respectively.

35 With respect to Mr. McDonald's two other adjustment proposals, although I  
36 disagree with his amortization calculations, I will accept them for the purposes of  
37 limiting the contested issues in this proceeding, as they have no further effect on  
38 my weighted cost of debt or overall cost capital recommendations. Thus, my  
39 final cost of debt, weighted cost of debt, and overall cost of capital  
40 recommendations are 6.78%, 3.72%, and 8.36%, respectively, as shown on  
41 Exhibit 17.1.

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<sup>2</sup> I received the Company's response to data request MGM 3.06 one business day before my direct testimony was filed and, thus, was unable to incorporate that information into my direct testimony.

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## RESPONSE TO DR. HADAWAY

43 **Q5. Dr. Hadaway claims that the methodology you used to derive your GDP**  
44 **growth rate estimate is flawed.<sup>3</sup> Please respond.**

45 A5. Dr. Hadaway suggests that my use of an implied forward U.S. Treasury Bond as  
46 an estimate of long-term GDP growth should be rejected, as it lacks academic or  
47 empirical support.<sup>4</sup> Ironically, the same can be said of the approach Dr.  
48 Hadaway recommends for estimating GDP growth. In fact, the lack of studies  
49 examining a specific approach does not necessarily render its use improper.

50 Regardless, the theory underlying my approach is sound. As explained in my  
51 direct testimony, the risk-free rate and the GDP growth rate should be similar.<sup>5</sup>  
52 Thus, I used a risk-free rate estimate as a proxy for GDP growth. I estimated the  
53 risk-free rate with the yield on U.S. Treasury bonds from 10 to 30 years hence  
54 (“ ${}_{20}f_{10}$ ”), implied by the observable 10- and 30-year rates. I excluded the first ten  
55 years of the 30-year U.S. Treasury yield since it precedes the start of the terminal  
56 stage of my DCF model, which begins in 10 years.<sup>6</sup>

57 Dr. Hadaway also argues that my approach is “volatile because it depends on the  
58 absolute level of interest rates and the shape of the U.S. Treasury bond yield  
59 curve.”<sup>7</sup> First, I disagree with Dr. Hadaway’s characterization of the  ${}_{20}f_{10}$  rate as  
60 “volatile,” much less “extremely volatile.” Volatility is a relative term, as anything  
61 that fluctuates in the least exhibits some degree of volatility. Thus, the  
62 assessment of the degree of volatility is subjective, and is meaningless without

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<sup>3</sup> ComEd Ex. 29.0, pp. 9-12.

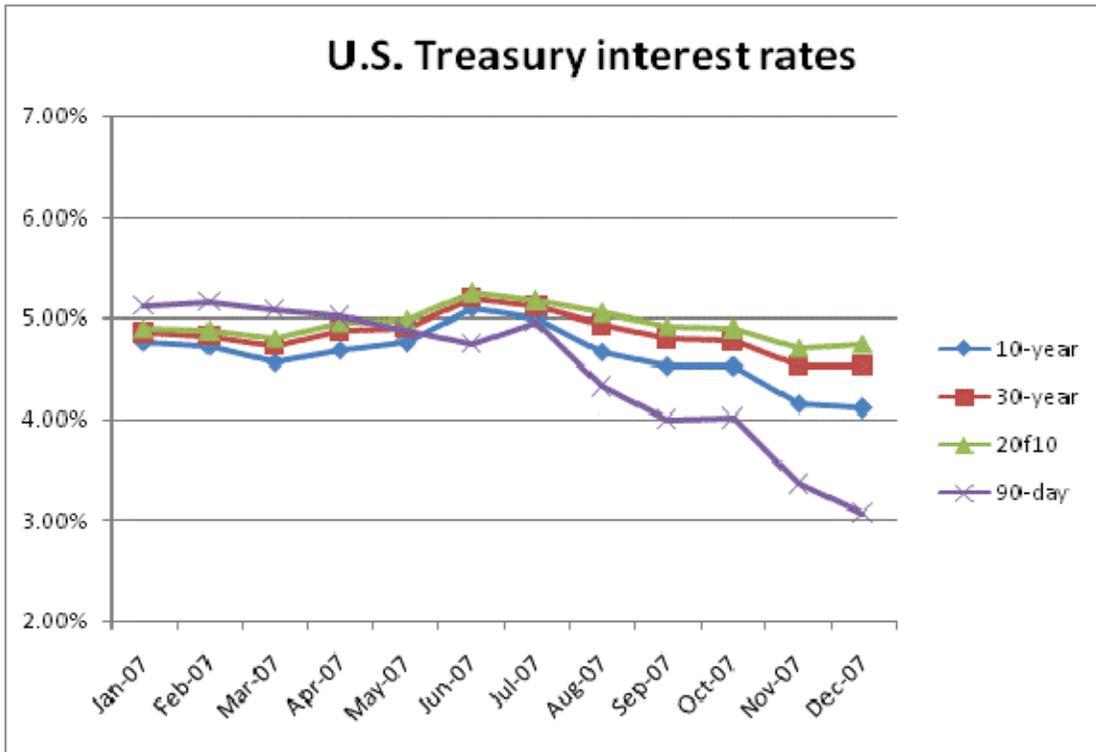
<sup>4</sup> ComEd Ex. 29.0, p. 9.

<sup>5</sup> ICC Staff Exhibit 4.0, p. 23.

<sup>6</sup> ICC Staff Exhibit 4.0, p. 15.

<sup>7</sup> ComEd Ex. 29.0, p. 10.

63 context. In fact, as indicated in my direct testimony, my use of long-term U.S.  
 64 Treasury bonds in my GDP growth rate estimate greatly reduces the volatility  
 65 relative to the use of U.S. Treasury bills, which, incidentally, Dr. Hadaway found  
 66 acceptable for use in his CAPM analysis.<sup>8,9</sup> As Table 3 on page 11 of his direct  
 67 testimony shows, the implied  ${}_{20f10}$  rate stayed within a relatively narrow range of  
 68 4.71% to 5.25% throughout 2007 (i.e., a variance of less than  $\pm 5.5\%$  from the  
 69 midpoint). The chart below graphically illustrates the actual interest rate data  
 70 presented in Table 3 of Dr. Hadaway's direct testimony, as well as the  
 71 corresponding 90-day Treasury bill rates.<sup>10</sup> The graph shows that the  ${}_{20f10}$  rate is  
 72 actually relatively stable, and much less volatile than the 90-day U.S. Treasury  
 73 bill yield, which Dr. Hadaway used in his CAPM analysis.



<sup>8</sup> ICC Staff Exhibit 4.0, p. 21.

<sup>9</sup> ComEd Ex. 10.0, p. 34.

<sup>10</sup> The Federal Reserve Board, *Federal Reserve Statistical Release: H.15, Selected Interest Rates, Historical Data*, [www.federalreserve.gov/releases/h15/data.htm](http://www.federalreserve.gov/releases/h15/data.htm).

74 Second, the fact that the GDP growth rate estimate my approach produces  
75 depends on interest rates and the shape of the yield curve, both of which  
76 change, is actually an advantage my approach has over the use of historical  
77 growth. It means that the estimate reflects investors' current long-term  
78 expectations, which vary over time. In contrast, Dr. Hadaway's argument implies  
79 that investors' expectations of the long-term economic growth are essentially  
80 static. They are not. For instance, recent forecasts from Global Insight and EIA  
81 indicate a long-term GDP growth of 4.4% and 4.5%, respectively;<sup>11</sup> however,  
82 approximately one year earlier Global Insight and EIA forecasts indicated a long-  
83 term GDP growth of 4.7% and 4.9%, respectively.<sup>12</sup>

84 Finally, Dr. Hadaway attempts to associate the use of forward rates with hedging  
85 and commodity trading strategies and concludes that it is "beyond the pale to  
86 believe that they are a reasonable proxy for investors' long-term growth  
87 expectations."<sup>13</sup> Because of this, one may be tempted to infer, due to the  
88 complexity and potential risk often associated with hedging and commodity  
89 trading strategies, that my approach is risky or complicated. To be clear, my use  
90 of a forward rate is neither risky nor complicated; rather, as noted above, it is  
91 simply an estimate of the risk-free rate from 10 to 30 years hence. It is only  
92 "complicated" in that it had to be derived algebraically from observable 10- and  
93 30-year interest rates, and is far less complex than the DCF analysis into which it  
94 is input. In fact, Dr. Hadaway acknowledges the simplicity of the concept.<sup>14</sup>  
95 Nevertheless, if the Commission is concerned that calculating a forward rate is

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<sup>11</sup> ICC Staff Exhibit 4.0, p. 22.

<sup>12</sup> Global Insight, *The U.S. Economy: The 30-Year Focus, Third Quarter 2006*, Table 1: Summary of the U.S. Economy; Energy Information Administration, *Annual Energy Outlook 2007*, Table A19, Macroeconomic Indicators, [www.eia.doe.gov/oiaf/aeo/](http://www.eia.doe.gov/oiaf/aeo/), February 2007.

<sup>13</sup> ComEd Ex. 29.0, p. 10.

<sup>14</sup> ComEd Ex. 29.0, p. 10.

96 too complex, I would recommend estimating the long-term, steady-state growth  
97 rate with the current yield on 30-year U.S. Treasury bonds, which produces a  
98 non-constant DCF cost of equity estimate of 9.07% rather than the 9.35%  
99 estimate I originally recommended.

100 Nevertheless, I continue to support my 4.73% GDP growth estimate. That  
101 estimate is corroborated by the 4.3% Global Insight and 4.5% EIA long-term  
102 forecasts over a similar period.<sup>15</sup> In addition, my cost of equity and the retention  
103 rates for my sample suggest a sustainable growth of 4.31%.

104 **Q6. Dr. Hadaway criticizes your use of the sustainable growth implied by his**  
105 **cost of equity and the retention rates for his sample, as an assessment of**  
106 **his long-term growth estimate.<sup>16</sup> Is his criticism valid?**

107 A6. No. My analysis was not an attempt to re-impose the “b x r” sustainable growth  
108 argument. In fact, I did not recommend that a “b x r” growth rate be used in  
109 developing ComEd's cost of equity. Nonetheless, the model is theoretically  
110 sound. My only objection to the use of the “b x r” model to directly estimate  
111 growth rates arises from the difficulty in estimating the inputs, retention rate (“b”  
112 and rate of return on new investment (“r”). Thus, the model can be used to test  
113 the reasonableness of growth rate estimates with reasonable estimates of “b”  
114 and “r.” While one can debate whether the retention rate for a particular utility  
115 should be, for example, 30% or 40%, the 61.4% retention rate Dr. Hadaway's  
116 6.5% growth rate implies is, to use his words, “beyond the pale.” Similarly, while  
117 one can debate whether the rate of return on new investment for a particular

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<sup>15</sup> These estimates represent the long-term nominal GDP growth indicated by Global Insight forecasts of real GDP growth and inflation for the 2017-2037 period and EIA real GDP growth and inflation forecasts for the 2015-2030 period. Those periods closely correspond with the period over which the  $_{20f_{10}}$  rate was measured (i.e., 10 to 30 years hence).

<sup>16</sup> ComEd Ex. 29.0, pp. 13-14.

118 utility should be, for example, 10% or 11%, the 21.62% rate of return on new  
119 investment Dr. Hadaway's 6.5% growth rate implies is also "beyond the pale."

120 **Q7. What is your response to Dr. Hadaway's contention that your ROE**  
121 **recommendation produces a b x r growth rate estimate of 3.45%, which he**  
122 **suggests is too low?**<sup>17</sup>

123 A7. The counter example he provides mismatches my cost of equity estimate with  
124 the average retention rate for his sample. If the retention rates for my sample are  
125 properly combined with my cost of equity estimate, the indicated sustainable  
126 growth rate is 4.31%. That result is quite consistent with my overall GDP growth  
127 estimate of 4.73%.

128 **Q8. Dr. Hadaway dismisses your criticism of his bond yield plus risk premium**  
129 **analysis as irrelevant, since his bond yield plus risk premium analysis is**  
130 **only offered "for general perspective."**<sup>18</sup> **Please comment.**

131 A8. In Docket No. 05-0597, Dr. Hadaway acknowledged that his risk premium  
132 analysis, which is the same as that which he uses in this proceeding, suffers from  
133 "statistical deficiencies."<sup>19</sup> In that proceeding, Dr. Hadaway used a DCF analysis  
134 as his "primary" analysis and used his risk premium results merely as a "check of  
135 reasonableness."<sup>20</sup> Staff data request MGM 2.01 sought an explanation as to  
136 why Dr. Hadaway had changed his methodology from that used in Docket No.  
137 05-0597 to fully incorporating his risk premium results (excluding the  
138 Ibbotson/Morningstar and Harris & Marston studies) in his final cost of equity  
139 estimate in the instant proceeding. As ICC Staff Ex. 17.2 shows, the Company's

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<sup>17</sup> ComEd Ex. 29.0, p. 14.

<sup>18</sup> ComEd Ex. 29.0, p. 12.

<sup>19</sup> Docket No. 05-0597, ComEd Ex. 21.0, p. 10.

<sup>20</sup> Docket No. 05-0597, ComEd Ex. 8.0, p. 23.

140 response provided several citations to Dr. Hadaway's direct testimony indicating  
141 that his bond-yield-plus-risk-premium approach and CAPM were, in fact, not  
142 intended to be used merely for general perspective as he now claims, but were  
143 "given explicit weight" in the instant docket, in contrast to his approach in Docket  
144 No. 05-0597.<sup>21</sup>

## 145 RESPONSE TO MR. THOMAS

146 **Q9. In his discussion of the proper growth rate to use in a DCF analysis, CUB**  
147 **witness Thomas cites several studies and concludes that "[a]nalysts tend**  
148 **to be optimistic about future growth and produce forecasts that are**  
149 **upwardly biased."<sup>22</sup> Do you agree with his implication that those studies**  
150 **can be applied to utility growth rates?**

151 A9. No. The studies he cites tend to report generalized findings and do not  
152 specifically suggest that growth rates for utilities are overstated relative to  
153 achieved growth. In contrast, a study by Chan, Karceski, and Lakonishok  
154 indicates that analyst growth rate estimates for utilities are not overstated. The  
155 authors of that study sorted by growth rate all domestic firms with available IBES  
156 long-term growth rate estimates, forming value-weighted portfolios in each  
157 quintile after each year, and found that the growth rates for portfolios of  
158 companies falling in the highest quintiles (i.e., having the highest growth rates)  
159 tend to be overstated relative to the growth achieved over the five years post  
160 ranking.<sup>23</sup> However, that study also indicates that the growth rates for portfolios  
161 of companies falling in the lowest quintile show no such tendency. That study

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<sup>21</sup> MGM 2.01 are attached to this testimony as ICC Staff Exhibit 17.1.

<sup>22</sup> CUB Exhibit 1.0, pp. 24-26.

<sup>23</sup> Chan, Karceski, and Lakonishok, "The Level and Persistence of Growth Rates," *Journal of Finance*, April 2003, pp. 671-676.

162 further notes that the bottom quintile portfolios predominantly comprise firms in  
163 mature industries, with approximately 25% of those firms being utilities. Thus,  
164 utility growth rates do not appear to be upwardly biased estimators of achieved  
165 growth five years ex post.

166 **Q10. Mr. Thomas argues that “[i]f we accept that (1) current prices reflect all**  
167 **available information, and (2) empirical research has found a pattern of**  
168 **upwardly biased analyst growth rate forecast, then it is reasonable to**  
169 **conclude that the Commission cannot rely on analysts’ growth forecasts**  
170 **alone.”<sup>24</sup> Do you agree?**

171 A10. The appropriate answer depends on the benchmark used to determine if analyst  
172 growth rates are too high. It is true that if analyst growth rates overstate investor  
173 expectations of future growth, use of those analyst growth rates will produce an  
174 overstated cost of equity. However, the financial literature Mr. Thomas cites  
175 relates to whether or not analysts’ growth estimates are too high relative to  
176 achieved growth, as measured after the fact. That is, they are ex post  
177 assessments of analyst growth rates’ ability to accurately predict future growth,  
178 not assessments of analyst growth rates’ value as estimates of investors’ ex ante  
179 expectations. Given that investors’ growth expectations are forecasts of the  
180 future, they may differ significantly from the ex post achieved growth. A cost of  
181 equity witness only attempts to estimate what the investors’ true growth  
182 expectations are. To the extent that analyst growth rates reflect the investors’  
183 true growth expectations, use of analyst growth rates will provide an accurate  
184 estimate of the cost of equity, if properly applied in a correctly specified DCF  
185 model, whether or not the expected growth is ultimately realized.

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<sup>24</sup> CUB Exhibit 1.0, p. 26.

186 Unfortunately, Mr. Thomas's argument, within the context of his discussion of the  
187 financial literature he cites, incorrectly implies that analyst growth rates should be  
188 judged on their ability to accurately predict future growth, rather than on their  
189 value as proxies for investors' ex ante expectations. As noted above, with regard  
190 to analyst growth rates' ability to accurately predict achieved growth, I believe Mr.  
191 Thomas's implication that the findings of the generalized studies he cites apply  
192 specifically to utilities is, at best, dubious. Nevertheless, the more significant  
193 question is whether or not analyst growth rates accurately portray investor  
194 expectations of future growth. Mr. Thomas has presented no evidence to  
195 demonstrate that analyst growth rates are poor proxies for investor growth  
196 expectations.

197 The above notwithstanding, Mr. Thomas presents no reason to reject analysts'  
198 growth rates altogether. Indeed, Mr. Thomas's argument is not that analyst  
199 growth rates should be disregarded entirely if they are upwardly biased, but that  
200 they should not be the used *exclusively* in that case. In fact, he repeated that  
201 sentiment at least three times in his testimony.<sup>25</sup> Nevertheless, despite  
202 presenting analyst earnings per share ("EPS") growth rates from four separate  
203 sources, Mr. Thomas ignored them when performing his DCF analysis.<sup>26</sup>  
204 Instead, Mr. Thomas elected to rely solely on a "b x r" growth rate estimate  
205 derived from historical data. That approach produced a growth rate of 3.09%,  
206 which is almost one full percentage point lower than the lowest of the four analyst  
207 EPS growth rates noted in his testimony (i.e., the Value Line EPS growth from  
208 '04-'06 to '10-'12, see CUB Exhibit 1.0, p. 29) and over three percentage points  
209 lower than the Reuters analyst growth rate he presents (see CUB Exhibit 1.0,

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<sup>25</sup> See, CUB Exhibit 1.0, p. 26, lines 645-646, 648-650, and 655-656.

<sup>26</sup> CUB Exhibit 1.0, p. 35.

210 page 35). Obviously, if, as his argument suggests, Mr. Thomas were to have  
211 given any weight to any of those analyst growth rates (i.e., if he had not  
212 disregarded them entirely) in his DCF analysis, the resulting cost of equity would  
213 have been higher than his 7.77% recommendation.

214 **Q11. Mr. Thomas argues that “[i]n circumstances where the dividend payout**  
215 **ratio is expected to change, using this fundamental [b x r] growth formula**  
216 **to estimate expected future growth is superior to analysts’ forecast.”<sup>27</sup> Do**  
217 **you agree?**

218 A11. No. Mr. Thomas notes that Value Line’s earnings per share (“EPS”) and  
219 dividends per share (“DPS”) growth expectations differ and, thus, concludes that  
220 neither correctly measures investor expectations. His solution is to reject both  
221 and use a growth rate that is almost a full percentage point less than either the  
222 EPS or DPS growth projection. First, Mr. Thomas inappropriately extrapolates  
223 from a single source to suggest that investors, generally, are expecting dividend  
224 payout ratios to change. Second, the difference between the Value Line dividend  
225 growth rates and earnings growth rates is not very large; thus, they do not  
226 indicate changes in dividend payout ratios beyond normal year-to-year  
227 fluctuations. It is unrealistic to expect dividend payout ratios to remain absolutely  
228 constant in the near term. Third, Value Line’s growth normalization technique for  
229 calculating forecasted growth rates is too mechanistic to ensure proper  
230 normalization. Specifically, it takes a simple three-year average of the base line  
231 data, such as EPS and DPS, to approximate the results of normal operations.  
232 However, if that three-year base is abnormally high, the growth rate indicated by  
233 the forecasted EPS or DPS will be lower than appropriate. Conversely, if that

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<sup>27</sup> CUB Exhibit 1.0, pp. 28-29.

234 three-year base is abnormally low, the growth rate indicated by forecasted EPS  
235 or DPS will be greater than appropriate.

236 Even if one were to agree that the divergence of DPS and EPS growth  
237 disqualifies either for use in a DCF analysis, his solution is inappropriate. When  
238 DPS grows more slowly than EPS, sustainable growth must be higher than DPS  
239 growth, not lower. The b x r growth rate formula is:

240 
$$g = (1 - \text{DPS/EPS}) \times \text{ROE}$$

241 That formula shows that the b x r sustainable growth rate is bounded by 0% on  
242 the low end (when the company pays all earnings out in dividends) and the ROE  
243 on the high end (when the company pays no dividends). That is, if DPS growth  
244 exceeds EPS growth over an extended period, the fraction DPS/EPS in the  
245 above equation will approach 1 and sustainable growth will approach 0%.<sup>28</sup>  
246 Conversely, if EPS growth exceeds DPS growth over an extended period, the  
247 fraction DPS/EPS will approach zero and sustainable growth will approach the  
248 ROE. According to Mr. Thomas's Value Line data the latter example applies;  
249 that is, EPS growth exceeds DPS growth. Therefore, even if one assumes that  
250 the difference in the Value Line growth projections for DPS and EPS is sufficient  
251 for rejecting them both, which I dispute, the long-term steady state growth rate is  
252 higher than the DPS growth rate rather than lower as Mr. Thomas has estimated.

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<sup>28</sup> For the purpose of this example, DPS is assumed to be less than EPS because a DPS greater than EPS indicates a liquidation of the company, a condition which cannot be sustained over an extended period of time. Also, ROE is assumed to be constant and thus, sustainable growth occurs when the fraction DPS/EPS reaches its long-run steady state. At this point, DPS and EPS will grow at the same rate.

253 In addition, numerous studies have shown that analyst growth rate estimates are  
254 the best proxy for investor expectations. A text by Michael Erhardt summarizes  
255 the research, stating:<sup>29</sup>

256 There are many studies showing that analysts' forecasts are better  
257 predictors of actual growth rates than are predictors based solely  
258 on historical information. Also, the results of valuation models,  
259 such as the dividend growth model, are typically more accurate  
260 when the growth rate comes from analyst forecasts. Therefore, you  
261 should use analyst forecasts as an estimate of your company's  
262 expected dividend growth rate, if such forecasts are available.

263 **Q12. Do you have any other concerns with the b x r growth rate that Mr. Thomas**  
264 **employed?**

265 A12. Yes. Mr. Thomas used historical dividend payout ratios and returns on equity to  
266 derive his b x r growth estimate, which he then added to the current dividend  
267 yield of each company in his sample to derive his cost of equity estimate. It is  
268 inconsistent to apply a growth rate that reflects historical dividend payout ratios  
269 with dividend yields that reflects current dividend payout ratios. First, growth  
270 rates derived from historical data are inconsistent with the prospective nature of  
271 the cost of common equity. While a historical perspective has value in  
272 forecasting the future, one cannot reasonably forecast the future by looking  
273 exclusively to the past, as Mr. Thomas does. That is, the same historical data  
274 Mr. Thomas used is also available to security analysts who have the added  
275 benefit of current information that can be incorporated to improve their forecasts  
276 of future growth relative to forecasts based on historical data alone.

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<sup>29</sup> Erhardt, Michael, The Search for Value, 1994, p. 39, citing Chatfield, Hein, and Moyer (1990), Vander Weide and Carleton (1987-1988), and Brown and Rozeff (1978, 1979-1980).

277 Second, as Mr. Thomas notes, Value Line earnings per share and dividend per  
278 share growth data indicate that the average dividend payout ratio for his sample  
279 is expected to fall from 2004-2006 to 2010-2012.<sup>30</sup> This indicates that the  
280 retention ratios (i.e., retention ratio = 1 – dividend payout ratio) were lower during  
281 the period from which Mr. Thomas derived his b x r growth rate (i.e., 2002-2006)  
282 than expected going forward, making Mr. Thomas' derived 2002-2006 growth  
283 rate lower than would be expected going forward, all else equal. Conversely, it  
284 indicates that Value Line projects lower dividend payouts going forward, which  
285 would produce a lower dividend yield, all else equal. Thus, Mr. Thomas  
286 combines the lower growth rates from 2002-2006 with the lower current dividend  
287 yields, which understates the cost of equity.

288 **Q13. Mr. Thomas concludes that the quarterly DCF model is not appropriate for**  
289 **rate setting purposes because utility companies recover their approved**  
290 **cost of equity over an entire year while their investors receive dividend**  
291 **payments on a quarterly basis.<sup>31</sup> Do you agree?**

292 A13. No. Mr. Thomas has raised a working capital issue, not a cost of equity issue.  
293 His argument implicitly assumes that working capital is not correctly measured.  
294 A working capital allowance compensates a utility for any delay between the time  
295 it expends cash to provide service and the time it receives cash from its customer  
296 for that service.<sup>32</sup> If a utility is authorized an appropriate working capital  
297 allowance, by definition, it will receive cash to pay for all costs of service as they  
298 come due. Consequently, if one assumes an appropriate working capital  
299 allowance is authorized, Mr. Thomas's argument is invalid because the working

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<sup>30</sup> CUB Exhibit 1.0, pp. 28-29.

<sup>31</sup> CUB Exhibit 1.0, pp. 36-39.

<sup>32</sup> Hahne and Aliff, Accounting for Public Utilities, Mathew Bender, 1991, p. 5-2.

300 capital allowance will eliminate any surplus or deficit in earnings created by the  
301 timing of the utility's cash collections and disbursements. Thus, contrary to Mr.  
302 Thomas's argument, since utility companies pay cash flows (i.e., dividends) over  
303 the course of a year and not all at the end of the year, use of a quarterly DCF  
304 model is not only appropriate for rate setting purposes, it is necessary for a utility  
305 recover its true cost of capital. In fact, the Commission has explicitly rejected the  
306 use of an annual DCF model in previous proceedings.<sup>33</sup>

307 **Q14. Mr. Thomas claims that a paper by Gregory L. Nagel et al. (the "Nagel**  
308 **paper") "rejects the version of the CAPM traditionally used by the**  
309 **Commission."**<sup>34</sup> **Please respond.**

310 A14. Mr. Thomas is wrong. The Nagel paper did not evaluate and, thus, did not reject  
311 the version of the CAPM traditionally used by the Commission. Specifically, the  
312 Nagel paper does not apply to Staff's CAPM, because it does not evaluate a  
313 CAPM that utilizes adjusted betas. Rather, the Nagel Paper found that a CAPM  
314 using raw betas was less accurate in predicting realized rates of return than a  
315 naïve model that assumes the same cost of equity, equal to the risk-free rate  
316 plus a risk premium, applies to all stocks (i.e., all betas equal 1.0).<sup>35</sup> Ironically,  
317 after asserting that the CAPM can only be used if the Commission "carefully  
318 selects the appropriate beta," Mr. Thomas recommended the use of raw betas in  
319 the CAPM analysis he presented as a check of his DCF analysis, despite his own  
320 sources' explicit rejection of such an approach.

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<sup>33</sup> See Commonwealth Edison Company, Order, Docket No. 94-0065, January 9, 1995, p. 93 citing Northern Illinois Gas Company, Order, Docket No. 87-0032 et al., January 20, 1988, p. 36 and Commonwealth Edison Company, Order, Docket No. 83-0537, p. 34.

<sup>34</sup> CUB Exhibit 1.0, p. 6.

<sup>35</sup> 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.

321 **Q15. Mr. Thomas criticizes the use in the CAPM of betas adjusted for reversion**  
322 **to the market mean of 1.0.<sup>36</sup> Why did you adjust your raw beta estimates?**

323 A15. The beta parameter is generally derived from historical data, but, in theory,  
324 should be a forward-looking number. Thus, I adjusted the raw (i.e., historical)  
325 betas for the companies in my sample to improve the accuracy of my beta  
326 estimates. Ex post empirical tests of the CAPM suggest that the linear  
327 relationship between risk, as measured by raw beta, and return is flatter than the  
328 CAPM predicts.<sup>37</sup> That is, securities with raw betas less than one tend to realize  
329 higher returns than the CAPM predicts. Conversely, securities with raw betas  
330 greater than one tend to realize lower returns than the CAPM predicts. Adjusting  
331 the raw beta estimate towards the market mean of 1.0 results in a linear  
332 relationship between the beta estimate and realized return that more closely  
333 conforms to the CAPM prediction. Securities with betas less than one are  
334 adjusted upwards thereby increasing the predicted required rate of return  
335 towards observed realized rates of return. Conversely, securities with betas  
336 greater than one are adjusted downwards thereby decreasing the predicted rate  
337 of return towards observed realized rates of return. Thus, adjusted betas  
338 surpass raw betas as predictors of future returns and are, therefore, superior  
339 forward-looking betas. Consistently, the Armitage text Mr. Thomas cites in his  
340 direct testimony notes that studies have shown that such adjustments result in  
341 appreciably better forecasts, finding that the reduction in both bias and  
342 inefficiency is greater the further away from one the beta in question is.<sup>38</sup>  
343 Armitage states that the observed flatness of the Securities Market Line  
344 discussed above is due to two factors: 1) error in the estimation of true betas

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<sup>36</sup> CUB Exhibit 1.0, pp. 11-15.

<sup>37</sup> 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.

<sup>38</sup> Armitage, S., The Cost of Capital: Intermediate Theory, 2005, pp. 284-285.

345 (i.e., the further above (or below) the mean an observed beta is, the more likely it  
346 is that the estimate error is positive (or negative)) and 2) regression toward the  
347 mean (i.e., moderation in risk over time).<sup>39</sup>

348 **Q16. Mr. Thomas claims that the assumption of a mean reversion makes little**  
349 **sense for utilities with betas below 1.0, citing a study by Gombola and**  
350 **Kahl.<sup>40</sup> Do you agree with Mr. Thomas's conclusion that use of an adjusted**  
351 **beta for utilities with betas below 1.0 is wrong?**

352 A16. Mr. Thomas cites the Gombola and Kahl article and notes that they suggest that  
353 utility betas actually revert to a utility average beta rather than the market mean  
354 of 1.0. However, the derivation of the true industry mean beta is problematic.  
355 Not only is any estimate of the true industry portfolio beta mean dubious, as  
356 betas change over time, but, as noted above, the farther below the market mean  
357 a raw beta is, the more likely its estimate error is to be negative. Thus, the  
358 average of a portfolio of low betas, each of which is likely to be biased  
359 downward, will, itself, likely be biased downward. Regardless, as noted  
360 previously, Mr. Thomas's proposal to ignore beta reversion altogether and use an  
361 unadjusted beta was explicitly rejected in the Nagel paper he cites.

362 **Q17. Mr. Thomas presents academic research indicating that the proper**  
363 **expected common equity market risk premium for determining the**  
364 **investor-required rate of return is between 3 and 5%.<sup>41</sup> Do you agree?**

365 A17. No. The research cited by Mr. Thomas represents various academics' opinions  
366 of the common equity risk premium investors should expect, which is not

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<sup>39</sup> Armitage, S., *The Cost of Capital: Intermediate Theory*, 2005, p. 283.

<sup>40</sup> CUB Exhibit 1.0, pp. 12-13.

<sup>41</sup> CUB Exhibit 1.0, pp. 16-19.

367 necessarily the same as what the investors truly are expecting. Since the  
368 relationship between the returns of the stock market and U.S. Treasury bonds is  
369 not stable over time, current returns provide the best indication of what investors  
370 are expecting going forward. Hence, my estimate of the common equity risk  
371 premium, derived by subtracting the current yield on long-term U.S. Treasury  
372 bonds from the required return on the S&P 500 provides the actual difference  
373 between returns on risk-free and risky securities that exists in today's market.

374 **PROPOSED RIDER**

375 **Q18. CUB witness Thomas and IIEC witness Gorman both argue that the**  
376 **Company's proposed riders would reduce risk and, thus, propose**  
377 **adjustments to ComEd's cost of capital if ComEd's proposed riders are**  
378 **adopted.<sup>42</sup> How would Rider SMP affect ComEd's risk and cost of capital?**

379 A18. If adopted, Rider SMP would effectively create two classes of assets from a risk  
380 perspective: rate base and Rider SMP assets. Rider SMP assets would not  
381 affect the risk of rate base assets; therefore, I do not recommend any adjustment  
382 to the authorized rate of return on rate base assets. However, since the riskiness  
383 of Rider SMP assets could be substantially different from that of rate base  
384 assets, I would recommend that the Commission authorize a different rate of  
385 return for Rider SMP assets than it authorizes for rate base, should the  
386 Commission approve Rider SMP. This is the approach Mr. Thomas advocates.  
387 Mr. Gorman, however, apparently advocates applying a single adjusted return on  
388 equity to all of ComEd's utility assets.

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<sup>42</sup> CUB Exhibit 1.0, pp. 45-46 and IIEC Exhibit 2.0, p. 35.

389 **Q19. Have you quantified an adjustment to ComEd's cost of common equity if**  
390 **the Commission approves Rider SMP?**

391 A19. No. Quantifying and pricing the risk differential between Rider SMP projects and  
392 rate base is problematic; Staff has not yet found an appropriate means through  
393 which to do so. Moreover, Rider SMP's effect on the Company's risk (and thus  
394 its cost of capital) is a function of how the rider would operate. Staff is proposing  
395 modifications to Rider SMP in the event the Commission approves such an  
396 infrastructure rider. Nevertheless, I will discuss how certain elements of the rider  
397 would affect risk. A downward adjustment to the Company's cost of common  
398 equity would be appropriate for each Rider SMP component the Commission  
399 adopts that would reduce risk. An upward adjustment to the Company's cost of  
400 common equity would be appropriate for each Rider SMP component the  
401 Commission adopts that would increase risk.

402 First, in comparison to rate base cost recovery, the recovery of the capital costs  
403 of projects run through Rider SMP would be more timely. All else equal, this  
404 reduction in regulatory lag reduces the risk of Rider SMP projects. Second, Staff  
405 witness Hathhorn (ICC Staff Exhibit 10.0) is proposing that the rider include a  
406 true-up. All else equal, a true-up increases the probability that the utility will  
407 recover all of SMP costs, including a return on the capitalized costs, relative to  
408 rate base costs. This increased certainty of more timely cost recovery would  
409 decrease the risk of Rider SMP projects. Third, nothing in Rider SMP would  
410 require the Companies to share operating cost savings with customers. This  
411 also reduces the risk of Rider SMP. Finally, Ms. Hathhorn is also proposing that  
412 the SMP rate be capped so that recovery of the SMP adjustment is discontinued  
413 if the utility is earning above the authorized rate of return. This feature would  
414 increase the risk to ComEd attributable to Rider SMP projects because it

415 effectively constrains upside earnings variability on rate base; that is, positive  
416 earnings deviations from the authorized rate of return on rate base would be  
417 used to recover Rider SMP project costs.

418 The risk implications of the four Rider SMP components I discuss above are  
419 cumulative. Therefore, should the Commission 1) adopt Rider SMP; 2) include a  
420 true-up mechanism; 3) not include a pass-through of operating cost savings; and  
421 4) include an earnings cap, four separate adjustments to the Rider SMP cost of  
422 common equity would be appropriate. The first three adjustments would each  
423 reduce the Rider SMP cost of common equity. The last adjustment would  
424 increase the Rider SMP cost of common equity.

425 **Q20. Do you agree with Mr. McDonald's contention that a downward adjustment**  
426 **to the cost of equity if Rider SMP is approved would penalize ComEd?**<sup>43</sup>

427 A20. No. If implemented appropriately, an adjustment would not penalize ComEd, but  
428 rather would fairly compensate ComEd through an accurate reflection of its true  
429 cost of capital in rates. Indeed, if Rider SMP were adopted and ComEd's risk  
430 fell, rate payers would be penalized if no adjustment were made. Of course, as  
431 noted above, determining the proper risk adjustment is problematic. However, to  
432 suggest that an adjustment would necessarily penalize ComEd is inaccurate.

433 **Q21. Does this conclude your rebuttal testimony?**

434 A21. Yes, it does.

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<sup>43</sup> ComEd Ex. 28.0, p. 25.

## Commonwealth Edison Company

### Weighted Average Cost of Capital

#### Company Proposal December 31, 2006

	<u>Amount</u>	<u>Percent of Total Capital</u>	<u>Cost</u>	<u>Weighted Cost</u>
Long-term Debt	\$4,397,545,509	54.96%	6.78%	3.73%
Common Equity	<u>\$3,604,115,000</u>	<u>45.04%</u>	<u>10.75%</u>	<u>4.84%</u>
Total Capital	\$8,001,660,509	100.00%		
<b>Weighted Average Cost of Capital</b>				<b>8.57%</b>

Source: ComEd Ex. 28.02, p. 2.

#### Staff Proposal December 31, 2006

	<u>Amount</u>	<u>Percent of Total Capital</u>	<u>Cost</u>	<u>Weighted Cost</u>
Long-term Debt	\$4,397,545,509	54.96%	6.78%	3.72%
Common Equity	<u>\$3,604,115,000</u>	<u>45.04%</u>	<u>10.30%</u>	<u>4.64%</u>
Total Capital	\$8,001,660,509	100.00%		
<b>Weighted Average Cost of Capital</b>				<b>8.36%</b>

**Commonwealth Edison Company's Response to  
Staff's (MGM) Data Requests 2.01 – 2.10  
Dated: December 7, 2007**

**REQUEST NO. MGM 2.01:**

On page 22 of ComEd Exhibit 10.0, Dr. Hadaway states, "A combination of the DCF model and a review of risk premium data provides the most reliable cost of equity estimate" and "For these reasons, I will rely on a combination of the DCF model and a risk premium analysis in the cost of equity studies that are summarized below." Dr. Hadaway made nearly identical statements on page 23 of his direct testimony (ComEd Ex. 8.0) in ICC Docket No. 05-0597. However, Dr. Hadaway did not use the same "combination of the DCF model and a risk premium analysis" in 05-0597 as he proposes in the instant proceeding. That is, in 05-0597, he used his DCF analysis as his "primary" analysis and used his risk premium results merely as a "check of reasonableness," based on which he eliminated certain of his DCF estimates. In contrast, Dr. Hadaway fully incorporates his risk premium results (excluding the Morningstar and Harris & Marston studies, which he does not recommend as direct estimates of ComEd's cost of equity) in his final cost of equity estimate in the instant proceeding, and eliminated none of his estimates. Please explain the basis for the change in Dr. Hadaway's methodology for estimating ComEd's cost of equity.

**RESPONSE:**

The change is a matter of degree. In the present case, beginning on page 3, Dr. Hadaway explains: "Under present market conditions, I believe that this combination of approaches [DCF, CAPM, and Risk Premium] is the most reliable method for estimating ComEd's cost of equity." On page 4, he explains further that he has modified his approach since Docket No. 05-0597 because the Commission did not accept his alternative approaches to the DCF model in that case. On page 4, he states: "In this testimony I give more weight to the CAPM and other risk premium results and, in addition to my long-term growth rate approaches in the DCF model, I provide an additional constant growth DCF analysis based on growth rate estimates similar to those the Commission used in the 2005 case." Also, at pages 31 and 32, Dr. Hadaway explains that the traditional constant growth DCF model no longer "fits" utilities' changing dividend policies and more volatile growth rates. On page 31, he states: "Recent dividend yields have been at historically low levels and for the past several years analysts' growth rate forecasts have fluctuated widely. Under these circumstances, other approaches in the DCF model are required." Finally, in Docket No. 05-0597, Mr. McNally for the Staff specifically stated that his recommended ROE was "a simple average of the 9.36% DCF-derived results and the 11.01% risk premium results for the Comparable Sample." (McNally Direct Testimony, at 17-18). Given all these factors, in recent cases Dr. Hadaway has given explicit weight to both his bond-yield-plus-risk-premium approach and to the CAPM and has attempted to find other analysts' growth forecasts that do not rely on the long-term GDP growth rate.