

STATE OF ILLINOIS  
ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY )  
 )  
 )  
Proposed general increase in electric rates )

Docket No. 10-0467

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DIRECT TESTIMONY OF CHRISTOPHER C. THOMAS  
ON BEHALF OF  
THE PEOPLE OF THE STATE OF ILLINOIS  
AND THE CITIZENS UTILITY BOARD

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AG/CUB Exhibit 4.0

October 26, 2010

**OFFICIAL FILE**

Rev AG <sup>cc</sup> Admitted ILL. DOCKET NO. 10-0467  
Exhibit No. 4.0

Witness \_\_\_\_\_

Date 11/8/11 Reporter \_\_\_\_\_

**ICC DOCKET NO. 10-0467**  
**DIRECT TESTIMONY OF CHRISTOPHER C. THOMAS**

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1           **I.       INTRODUCTION AND PURPOSE OF TESTIMONY**

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

3   A.       My name is Christopher C. Thomas. My business address is 309 W. Washington, Suite  
4           800, Chicago, IL 60606.

5   **Q.       What is your present occupation?**

6   A.       I am employed by the Citizens Utility Board (“CUB”) as the Director of Policy. My  
7           duties include filing expert testimony before the Illinois Commerce Commission (“ICC”  
8           or “Commission”) on behalf of CUB and in this instance, on behalf of the People of the  
9           State of Illinois represented by Attorney General Lisa Madigan (“AG”). I also provide  
10          oversight of the testimony filed by external expert witnesses on CUB’s behalf, and  
11          management of the Policy Department.

12 **Q.       Please summarize your professional experience.**

13 A.       My professional career includes more than ten years as a utility regulatory economist. I  
14          started my career as a regulatory economist in the Telecommunications Department of  
15          the Missouri Public Service Commission. I became a CUB employee in September 2004,  
16          and have filed testimony before the ICC in numerous dockets. AG/CUB Exhibit 4.1,  
17          attached to this testimony, is a list of the dockets in which I have filed testimony and a  
18          brief description of the nature of each docket.

19 **Q.       Please describe your educational background.**

20 A.       I have a Bachelor's degree in Business Administration with a concentration in Finance  
21          and a minor in Economics from Truman State University, and a Master’s degree in  
22          Economics and Finance from Southern Illinois University, Edwardsville.

23

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

25 A. The purpose of my testimony is to present my analysis and propose the appropriate cost  
26 of common equity for Commonwealth Edison (“ComEd” or “the Company”). I also  
27 respond to the Direct Testimony filed by ComEd witnesses Dr. Hadaway, Mr. Seligson,  
28 Mr. Trpik, Dr. Tierney and Ms. Abbott.

29 **Q. Please summarize your findings.**

30 A. The Commission’s decision regarding the rate of return on common equity (ROE) in this  
31 proceeding should be guided by the following principles:

- 32 1) Utilities are generally less risky than other firms in the economy;
- 33 2) To an investor, “risk” is the probability that an investor will not receive a  
34 sufficient return on their investment;
- 35 3) Risk is important because of the correlation between the riskiness of an  
36 investment and the expected payout that investors require for making that  
37 investment — low risk investments require lower rates of return to entice  
38 investors;
- 39 4) Despite the alarmist testimony filed by the Company, ComEd is not a relatively  
40 risky investment. Furthermore, the company has made requests in this case that  
41 would further reduce investors’ risk by increasing fixed cost recovery; and
- 42 5) Therefore, based upon my analysis the appropriate ROE for ComEd is 8.94%

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47           **II.     COST OF EQUITY**

48   **Q.     What is the “cost of equity”?**

49   A.     For any company, the cost of equity is the return that investors require to choose an  
50           investment in the Company over other available investment options. This return is a cost  
51           of doing business. The Company needs to attract investors in order to maintain access to  
52           capital on reasonable terms. This is why the terms “cost of equity” and “return on  
53           equity” (or “ROE”) are often used interchangeably by analysts. I use “ROE” throughout  
54           my testimony, but it should not be confused with the “rate of return,” which incorporates  
55           not only the ROE but the cost of a Company’s debt, both short term and long term.

56   **Q.     What is the importance of the return on equity to ComEd?**

57   A.     The cost of equity is important to ComEd’s management and investors because it is  
58           directly related to the Company’s ability to attract and retain equity from investors.  
59           ComEd is a wholly-owned subsidiary of Exelon Corporation, so ComEd’s single equity  
60           shareholder is Exelon. A publicly traded company would have many different equity  
61           investors.

62   **Q.     What is the importance of the return on equity in a rate case?**

63   A.     The Commission must determine what ROE investors would require in order to invest in  
64           a company facing risks similar to those of ComEd. Since ComEd is not a publicly traded  
65           company, the Commission must attempt to approximate an ROE it expects investors  
66           might demand if ComEd were publicly traded. To do this, the Commission relies on a  
67           defined set of financial models. The Commission has typically relied on two well-known  
68           models, the Discounted Cash-Flow (DCF) model and the Capital Asset Pricing Model  
69           (CAPM), that strive to represent as closely as possible true market conditions. This is not

70 a simple mathematical exercise. There are many different factors that must be balanced  
71 in the Commission's analysis

72 **Q. Please describe the factors that the Commission has to balance in determining the**  
73 **appropriate return on equity for the Company.**

74 A. The Commission is tasked with equitably balancing the needs of the company—that is,  
75 what investors require—with the requirement that rates be affordable for customers. 220  
76 ILCS 5/1-102. Therefore, the Commission must be very careful not to award a higher  
77 ROE than would actually be required in true market circumstances so it does not unfairly  
78 burden ratepayers.

79 **Q. ComEd witness Susan Abbott testifies about the Company's desire for a**  
80 **"supportive" decision by the Commission in this case in order to bolster ComEd's**  
81 **credit ratings. Do you have an opinion on that?**

82 A. Yes, I do. I believe that Ms. Abbott's testimony is of little practical use to the  
83 Commission. Determining what constitutes a "supportive" regulatory decision is a very  
84 subjective standard. More importantly, it is not one of the Commission's mandated  
85 considerations in setting rates, 220 ILCS 5/9-201, and therefore is not appropriate for  
86 discussion here. Obviously, investors and company management would prefer a return  
87 that exceeds that company's true cost of equity, but the Commission is clearly bound to  
88 balance the needs of investors with the needs of customers. Fundamentally, Ms. Abbott's  
89 testimony is alarmist and so non-specific that it is of no value to the Commission. For  
90 instance, she invokes the Commission's decision in the last Ameren rate cases (Docket  
91 No. 09-0306-0311 consolidated), claiming that it "seems to presage a return to a less  
92 supportive regulatory climate which could have serious adverse consequences for utilities

93 in Illinois and their ability to access capital, certainly on reasonable terms.” ComEd Ex.  
94 5.0 at 59-61. The decision in that docket was based on the evidence in that proceeding and  
95 the application of the Commission’s test year rule. Second guessing the decision is  
96 speculative and not helpful for this proceeding. Finally, it is not the Commission’s obligation  
97 to be “supportive” of management, but rather to discern fair rates for both the Company and  
98 consumers.

99 **Q. Please describe current capital market conditions.**

100 A. Since the Commission’s Final Order in ComEd’s last rate case, issued September 10,  
101 2008 in ICC Docket No. 07-0566, the capital markets have been rather chaotic. In fact,  
102 some have referred to this market turmoil as the worst since the 1929 Great Depression.  
103 During the last few years the collapse of inflated housing values along with  
104 corresponding problems in the financial and mortgage markets undermined investor  
105 confidence. By March 9, 2009, the S&P 500 had declined by more than 56% from its  
106 high point on October 9, 2007. There have been dramatic declines in equity valuations,  
107 numerous bankruptcies (especially in the financial sector), and an overall instability in  
108 the economy during the last two years.

109 Currently, the economy has begun to recover, with the S&P 500 regaining a little  
110 more than half of the value it lost at its low point. This recovery has been slow and it is  
111 projected to remain slow, as there is still a significant degree of uncertainty in the  
112 economy. On October 15, 2010, Federal Reserve Board of Governors Chairman Ben  
113 Bernanke, at a conference hosted by the Boston Federal Reserve, made the following  
114 statement:

115 "Although output growth should be somewhat stronger in 2011  
116 than it has been recently, growth next year seems unlikely to be  
117 much above its longer-term trend. If so, then job creation may not

118 exceed by much the increase in the size of the labor force,  
119 implying that the unemployment rate will decline only slowly."<sup>1</sup>  
120

121 **Q. Can you explain how the risk associated with an investment affects the rate of**  
122 **return it must offer?**

123 A. It is a well accepted fact that investors will take on additional risk only if they expect to  
124 receive a higher rate of return. As Dr. Hadaway discusses, literally dozens of textbooks  
125 and hundreds of academic articles have addressed the issue. ComEd Ex. 11, p. 7. As a  
126 general rule, low-risk securities, such as U.S. Treasury bills, have the lowest returns;  
127 returns from longer-term Treasury bonds and corporate bonds are higher as risks  
128 increase; and returns from common stocks and other more risky investments are even  
129 higher. ComEd Ex. 11, p. 7. It is also well accepted that returns on common stock are  
130 closely correlated with the risk of the underlying business, and that utility stocks are less  
131 risky than many other common stocks.

132 **Q. How have utility companies performed during this period?**

133 A. Utility companies have generally fared better than the overall economy. AG/CUB Ex.  
134 4.2 compares the stock price of the companies in the comparable utility sample selected  
135 by ComEd Witness Hadaway (the "sample utilities") to the S&P 500. ComEd Ex. 11.1.  
136 The results of this comparison can be seen in the table below:

<i>% Change in Stock Price</i>	<b>S&amp;P 500 High to Low</b>	<b>S&amp;P 500 High to 10/8/2010</b>
<b>Sample Utility Average</b>	-34.4%	10.1%
<b>S&amp;P 500</b>	-56.8%	-25.6%

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<sup>1</sup> Taken on 10/15/10 from: <http://thehill.com/blogs/on-the-money/801-economy/124369-bernanke-forecasts-slow-recovery-hints-at-further-fed-action>

138 During the crisis, the sample utilities declined by 34.4%, while the S&P 500 declined by  
139 56.8%. To date, the sample utilities have actually regained all the value they lost and  
140 increased by 10.1%, while the S&P 500 is still 25.6% below where it was at its high  
141 point.

142 **Q. How is utilities' performance in the market relevant to the Company's cost of**  
143 **equity?**

144 A. The relatively strong performance of the sample utilities relative to the market is a clear  
145 indication that investors correctly perceive utilities to be less risky than the overall  
146 market. This implies that the cost of equity for a utility should be correspondingly lower  
147 than other industrial firms.

148 **Q. Why are public utility investments less risky than other investments?**

149 A. Public utilities have a relatively unique status in the economy. Utilities like  
150 ComEd are granted exclusive franchises to provide utility service in their service  
151 territories, but in exchange their rates are regulated by public utility commissions  
152 like the ICC. This structure affords utilities the opportunity to earn a fair return  
153 on their prudent and reasonable investment that is commensurate with the returns  
154 earned by other firms of comparable risk, as established by the *Hope* and  
155 *Bluefield* decisions, discussed in more detail at lines 403-423 of my testimony.

156 As ComEd founder Samuel Insull argued in 1891:

157 In most European countries public-service operations enjoy exclusive  
158 franchises, under proper control, and are able to obtain capital for their  
159 undertakings at the lowest commercial rates, thus materially affecting the  
160 cost of their product, of which interest, as I have already stated, is  
161 necessarily so great a part. In order to protect the public, exclusive  
162 franchises should be coupled with the conditions of public control,  
163 requiring all charges for services fixed by public bodies to be based on

164 cost plus a reasonable profit. It will be found that this cost will be reduced  
165 in direct proportion to the protection afforded the industry.

166 The more certain this protection is made, the lower the rate of interest and  
167 the lower the total cost of operation will be, and, consequently, the lower  
168 the price of the service to public and private users. If the conditions of our  
169 particular branch of public service are studied in places where there is a  
170 definite control, whether by com- mission or otherwise, it will be found  
171 that the industry is in an extremely healthy condition, and that users and  
172 taxpayers are correspondingly well served.<sup>2</sup>

173 The protection afforded by public utility regulation reduces the risk of utility investments  
174 and allows them to access capital at cost lower than the costs incurred by other firms. Of  
175 course, this is not a risk free arrangement. Utility investments are still subject to some  
176 degree of risk; utilities often cite the after-the-fact prudence review as a risk to their  
177 ability to recover their investments.

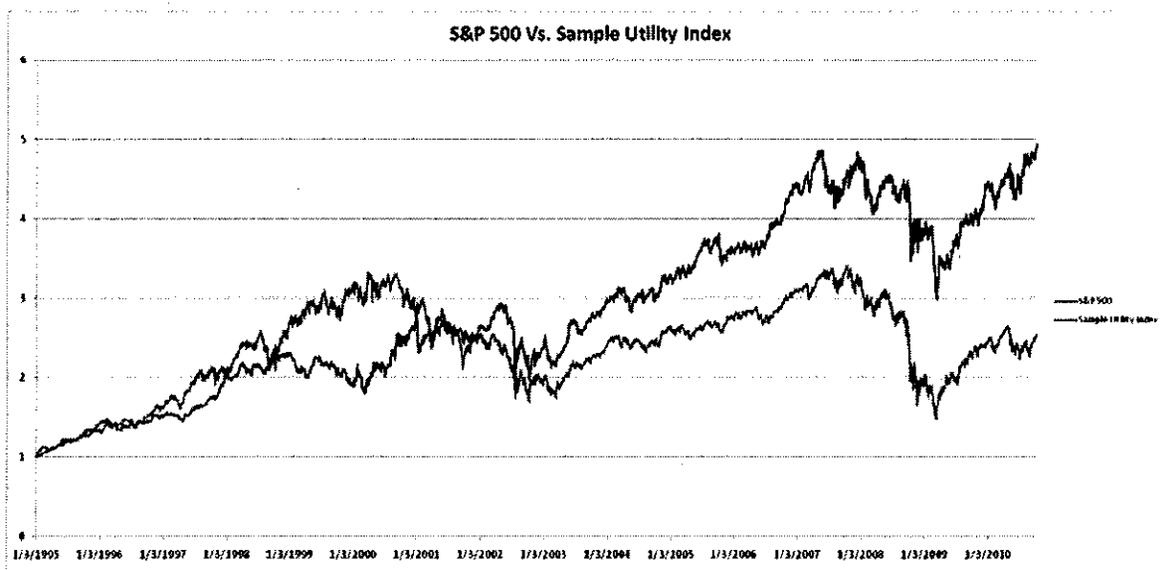
178 **Q. Is there further evidence that investors have viewed the sample utilities as less risky**  
179 **than the general economy?**

180 A. Yes. Using the sample utilities, I constructed a simple price index for the group assuming  
181 that an investor would own one share of each utility<sup>3</sup> (“sample utility index”). This index  
182 allows the Commission to see the performance of the sample utilities as a group. To  
183 compare this index to the S&P 500, I converted both to a base of 1, meaning that all  
184 changes in index value are shown relative to their respective values on January 3, 1995  
185 (near the beginning of what has been commonly called the dot-com bubble).

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<sup>2</sup> Insull, Samuel. “Standardization, Cost System of Rates, and Public Control” (1898). Reprinted in S. Insull, *Central-Station Electric Service*, 34–47. Chicago: Privately Printed, 1915.

<sup>3</sup> The sample utility index is the sum of each sample utilities daily stock price, adjusted to account for splits and dividends. Both Portland General (POR) and Sempra Energy (SRE) were omitted because historical data is not available over the entire time period being examined.



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As this chart demonstrates, utility companies have outperformed the S&P 500 by more than 94% since January of 1995. This means that investors have continued to invest in utilities, and the sample utilities' stock prices have grown more quickly than the general economy. This observation is confirmed by an article published by Value Line on August 26, 2010:

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As of August 17, 2010, the average yield on electric utility equities was 4.5%. This was more than twice the median of all dividend-paying stocks under Value Line coverage.

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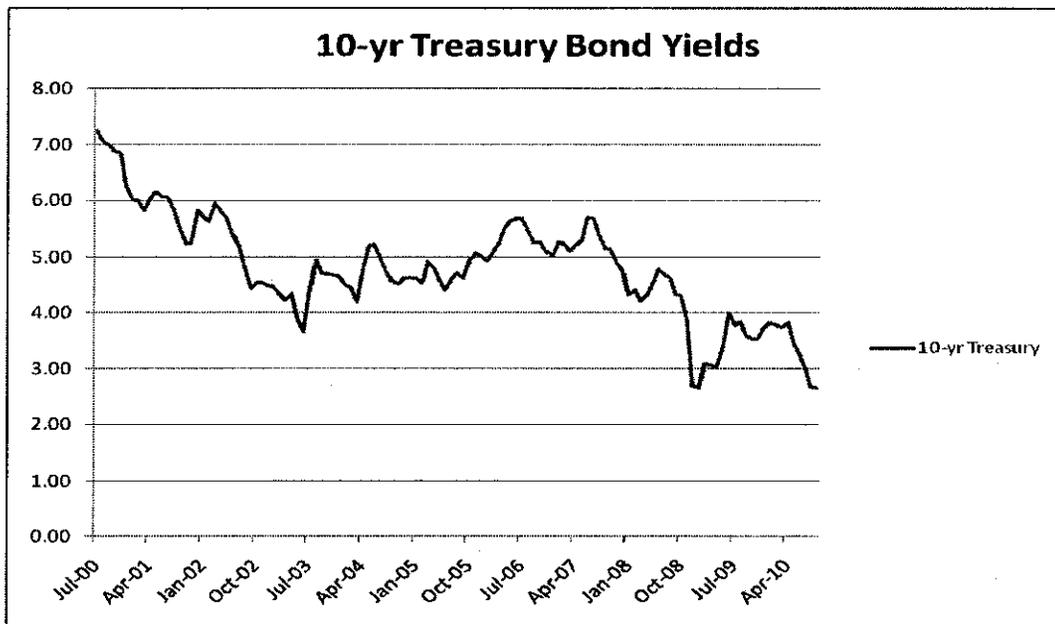
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With the Federal Reserve keeping interest rates historically low, and reluctant to raise them anytime soon, investors seeking income don't have a lot of appealing options. Interest rates on savings accounts and money-market funds are minuscule. Rates on certificates of deposit aren't much higher. So, some investors are turning to electric utility equities. As of August 17, 2010, the Value Line Utility Average (which includes other kinds of utilities in addition to electric companies) was up 2.7% year to date. That's not much, but it compares favorably with the Value Line Composite Average, which was virtually unchanged over that span. When dividends are factored in, the relative advantage of utility stocks so far this year is even greater.<sup>4</sup>

<sup>4</sup> Investing in Electric Utility Stocks, Paul E. Debbas, CFA, August 26, 2010, available at: <http://www.valueline.com/Stocks/Commentary.aspx?id=9382>

207 **Q. How does the relatively low risk of investment in the Company impact the cost of**  
208 **equity that the Commission should allow in this case?**

209 A. The cost of equity for companies like ComEd is relatively low. Investor confidence in  
210 the sample utilities remains strong relative to the general economy. In fact, it seems that  
211 investors actually perceive utilities as less risky than other companies in the economy.  
212 Investor demand for shares of low-risk companies such as the sample utilities has  
213 actually increased, and the sample's average stock price has continued to rise. This is  
214 due to the fact that during the crisis utility value declined less than the value of other  
215 firms in the economy and that to date utilities have actually increased in value. This  
216 same phenomenon can also be seen in the downward trend of treasury bond returns,  
217 which are at a low point, as investors seek to reduce their exposure to risk and invest in  
218 low risk securities. The following chart demonstrates this phenomenon:



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222 **Q. What risks has the Company identified as facing utilities?**

223 A. ComEd witness Carl H. Seligson identifies the fact that utilities spend a higher amount of  
224 their cash flow on capital expenditures (“capex”) as a significant risk. ComEd Ex. 12.0,  
225 at p. 4-5. He argues that this capex spending makes utility liquidity positions more  
226 fragile than non-utilities’. This implies that utilities have a lower percentage of their  
227 firm’s value in cash, and they rely on bank-provided liquidity for more of their total  
228 liquidity than do large industrial firms.

229 **Q. Is the Company correct that utilities spend a higher amount of their cash flow on**  
230 **capital expenditures?**

231 A. Generally, yes. Utilities do generally spend more of their cash flow on capex than other  
232 industrial firms. However, while this is a risk, I do not believe that it poses the  
233 significant risk that Mr. Seligson suggests because of other factors unique to utilities  
234 which mitigate that risk..

235 **Q. What are the factors that mitigate these risks?**

236 A. As I mentioned before, utilities are in a very unique position. Significantly, electric  
237 utilities like ComEd are monopolies and are the only entity with the ability to deliver  
238 electricity, an essential service in our society. The general rate-making process allows  
239 utilities the opportunity to request an increase in rates in proceedings like this one and in  
240 the event of a rate increase, consumers do not have the option to use another company or  
241 entity to deliver electricity to them. These protections afforded by public utility  
242 regulation significantly reduce utility investment risk relative to other industrial firms,  
243 even though utilities do spend more of their cash flow on capex. Industrial firms that are  
244 not price regulated are not able to simply increase their prices without concern that they

245 will lose customers, but are subject to market forces driving the price of their products.  
246 Accordingly, an investors' risk of recovering his or her investments is much higher for  
247 non-regulated, non-monopoly firms.

248 In addition to the ability to raise prices without the fear of losing customers, there  
249 are other mechanisms which further reduce the risks facing public utilities in Illinois.  
250 Specifically, utilities in Illinois are entitled to recover various costs through a rider  
251 mechanism. For example, ComEd passes through to consumers the price of electricity  
252 supply purchased by the Illinois Power Agency, 220 ILCS 5/16-111.5, and can recover  
253 their uncollectible expenses through a rider mechanism, 220 ILCS 5/16-111.8. These  
254 rate mechanisms increase utilities' ability to recover expenses and stabilize cash flow.

255 **Q. Is there anything else in ComEd's proposal that would further mitigate the risks**  
256 **facing investors?**

257 A. Yes. ComEd is proposing a rate design mechanism that will further reduce its risk of  
258 failing to recover its fixed costs. According to ComEd witness Ross Hemphill "[A  
259 straight fixed-variable ("SFV")] rate design establishes fixed and variable charges that  
260 track the fixed and variable costs of serving each customer or customer class." ComEd  
261 Ex. 14.0 at 182-184. AG/CUB witness Scott Rubin will address the company's SFV  
262 proposal in his upcoming testimony. However, for purposes of my testimony, any  
263 increase in the amount of fixed cost recovery for the Company reduces the likelihood that  
264 the company will not recover its costs which further decreases risk for investors.  
265 Therefore, any increase from the current amount of fixed cost recovery should result in a  
266 lower ROE. My calculations here assume no change to the Company's current rate  
267 design and methods of fixed cost recovery. Adjustments to my recommendations are

268 necessary if the Commission determines that the additional fixed cost recovery is  
269 necessary appropriate.

270 **Q. Does the prudence review involved in rate cases affect the risk of utility**  
271 **investments?**

272 A. To some degree. I do not believe that the prudence review has a significant effect on the  
273 risk of utility investments. In a rate case, the utility must show that its investments and  
274 expenses are reasonable. As the Commission recently stated a utility “largely controls the  
275 outcome of any such prudence review so long as it acts prudently in attempting to recover  
276 unpaid amounts.” ICC Docket 09-0306 Final Order at 218. The risk that a utility will not  
277 recover its expenses is mitigated by the expectation that the utility will act reasonably.

278 **Q. How does the presence of an uncollectibles rider affect ComEd’s perceived**  
279 **investment risk?**

280 A. The uncollectibles rider, 220 ILCS 5/16-111.8, allows an electric utility to recover  
281 through an automatic adjustment clause tariff incremental differences in its uncollectible  
282 accounts. The Commission has stated that there is a benefit to electric utilities with the  
283 adoption of the uncollectible riders, and that a portion of that benefit should accrue to  
284 ratepayers through a reduction in the cost of common equity. 09-0306(consolidated)  
285 Final Order at 218. ComEd faces less risk of recovering its expenses, since the cost of  
286 any uncollectible accounts is shared amongst all ComEd customers and recovered  
287 through an automatic adjustment charge. Just as with a modification to ComEd’s rate  
288 design, this rider has the effect of making ComEd a less risky investment: investors could  
289 rest assured that ComEd’s chances of recovering its costs – and thus providing a  
290 reasonable return on an investment – are good.

291 **Q. What Cost of Equity has ComEd requested in this case?**

292 A. ComEd witness Trpik testifies that ComEd is requesting that the Commission approve a  
293 base return on equity of 11.5%. The Company reached that calculation by requesting an  
294 11.1% “base return on equity” and a 0.40% adjustment to the allowed return on equity  
295 related to the implementation of energy efficiency and demand response programs.  
296 ComEd Ex. 4.0 at 389-385. ComEd’s requested return on equity is supported by the  
297 testimony of Samuel C. Hadaway (ComEd Ex. 11.0) and Carl H. Seligson (ComEd Ex.  
298 12.0). The Hadaway and Seligson testimonies contain cost of equity estimates for  
299 ComEd that range from 10.6% to 12.2%. ComEd witness Susan Teirney (ComEd Ex.  
300 13.0) proposes increasing the cost of equity by 40 basis points due to the existence of  
301 energy efficiency programs.

302 **Q. How should the Commission determine the appropriate Cost of Equity for ComEd?**

303 A. Two key U.S. Supreme Court decisions established the framework used to determine an  
304 appropriate, or fair, cost of equity for regulated companies. The first is *Bluefield Water*  
305 *Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679  
306 (1923) (“*Bluefield*”). The second is the *Federal Power Commission et. al. v. Hope*  
307 *Natural Gas Co.*, 320 US 591 (1944) (“*Hope*”). Together, the *Hope* and *Bluefield*  
308 decisions establish that utilities are entitled to the opportunity to earn a fair return on their  
309 prudent and reasonable investment that is commensurate with the returns earned by other  
310 firms of comparable risk. The Commission’s task, therefore, is to ensure that the cost of  
311 equity capital used to develop rates compensates investors for their investment risk, while  
312 assuring that customers do not pay an excessive or unreasonable return in those rates.  
313 The Commission should base its determination of a fair return on the relative riskiness of

314 the regulated company. The measure of a fair return will change over time, as the  
315 fundamentals of the equity markets change and evolve.

316 **Q. What cost of equity did the Commission grant the Company in their last rate case?**

317 A. In ComEd's last rate case, the Commission stated: "We find and conclude that Staff's  
318 estimate of the cost of common equity of 10.3% is supported by the evidence and  
319 consistent with IIEC's calculation (minus the Risk premium analysis)." 07-0566 Final  
320 Order at 99.

321 **Q. How do the changes in the economy change the cost of equity for the company?**

322 A. Overall, I think the cost of equity for the company is lower than the cost of equity  
323 approved by the Commission in ComEd's last rate case. Using the same methodologies  
324 that the Commission has relied on in the past, an appropriate cost of equity today is well  
325 below the previously approved ROE.

326 **Q. What methods has the Commission used in determining the cost of equity?**

327 A. The Commission has used both the Discounted Cash Flow (DCF) and the Capital Asset  
328 Pricing model (CAPM) approaches.

329 **Q. Have you performed your own analyses?**

330 A. Yes. I have performed both DCF and CAPM analyses using the sample of comparable  
331 utilities identified by Dr. Hadaway.

332 **Q. Why did you use DCF and CAPM models?**

333 A. I chose to use these models because as the Commission has found that they represent  
334 useful tools to examine the cost of equity for a utility company.

335 **Q. What have you estimated the appropriate cost of equity to be?**

336 A. Based upon my analysis, using both the DCF and CAPM models, the appropriate ROE  
337 for ComEd is 8.94%.

338 **Q. What methodologies did the Company use to estimate their requested cost of**  
339 **equity?**

340 A. The Company witnesses use several approaches. ComEd witness Hadaway uses the DCF  
341 model and checks his results using a risk premium analysis based on utility bond yields.  
342 ComEd Ex. 11. Mr. Seligson uses different risk premium and comparable earnings tests.  
343 ComEd Ex. 12.

344 **Q. Did ComEd give an explanation for why it chose to use only the DCF model and not**  
345 **the CAPM model as well?**

346 A. Yes. Dr. Hadaway argues that he chose not to perform a CAPM analysis “due to  
347 continuing abnormal market conditions and artificially low yields on U.S.Treasury  
348 securities.” ComEd Ex. 11.0 at 14-17.

349 **Q. Are these reasons sufficient to justify departure from the CAPM?**

350 A. They are not. It makes little sense for the Commission to not use the model only because  
351 in Dr. Hadaway’s opinion its inputs “tend to understate ROE” and produce results that  
352 the company doesn’t like. ComEd Ex. 11.0 at 534.

353 **Q. Have the methodologies that the Company uses been accepted by the Commission in**  
354 **previous rate cases?**

355 A. The only model ComEd relies on that the Commission has typically accepted is the DCF  
356 approach. The Commission has explicitly denied the various risk premium and  
357 comparable earnings tests proposed by the company.

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**III. DCF ANALYSIS**

**Q. Is a DCF analysis appropriate for determining the Company’s cost of equity?**

A. Yes. The DCF model has strong theoretical underpinnings and has been widely recognized by utility Commissions as an important tool in setting an appropriate ROE regulated utility companies.

**Q. Please describe how the model works.**

A. The DCF model works by assuming that investors who purchase stock are paying a price that reflects the present value of the cash flows they expect to receive from the stock in the future. Using information about the current stock price and expected future cash flows from dividend payments and earnings growth, the model, which is based on the relationships among those and other factors, estimates the return that investors expect to receive on their investment.

There are two fundamental financial principles underpinning the DCF. The first principle is that the current market price of a financial asset, such as a share of common stock or equity, is efficient and equal to the present value of all future cash flows that investors expect to receive from the asset. This means that the rate of return investors require for the risk they take in their investment is the discount rate at which the present value of all future cash flows from an asset are equivalent to the current market price of the asset. (Future cash flows to investors come from either future dividend payments or the sale of the stock.)

The second principle is that a dollar received today is more valuable than a dollar received at some point in the future, what is known as the “time value of money.” The basic idea is that because an investor could realize a return in future periods by investing

382 that same dollar today. If the investor receives that dollar in the future, she will have  
383 missed the opportunity to invest today. The investor's required rate of return, or a  
384 company's cost of capital, is the return on the deferred payment that would induce the  
385 investor to wait. That return, when used as the discount rate in a present value  
386 calculation, makes the present value of a dollar received today equal to the present value  
387 of a dollar (plus the return) received at some point in the future.

388 **Q. What form of the DCF model did you use to perform your analysis?**

389 A. I performed an analysis using both constant growth and non-constant growth DCF  
390 models, using sustainable growth factors. I also relied on forecasts of future earnings to  
391 produce another set of DCF estimates. In situations where expected future growth is  
392 highly uncertain, I typically prefer to use a non-constant version of the DCF analysis,  
393 (Cite Commission 09-0306 order at 215). However, in order to provide a complete  
394 picture of expectations, I chose to perform the constant growth version of the analysis as  
395 well.

396 **Q. Why use both DCF models here?**

397 A. There is turmoil in the credit markets, which creates uncertainty for investors. This  
398 uncertainty results from the inability of existing valuation models to predict deep, broad-  
399 scale declines in value, like the one that has recently occurred. Investors are focused on  
400 short-term changes in the equity markets because the long-term valuation models may not  
401 be able to predict returns in a market which is in turmoil. This means both forecasted and  
402 historical growth rate information become highly subjective measures of expected future  
403 growth for individual firms. In an uncertain future, we can't be sure if history or

404 forecasts are a better predictor. It's difficult to predict with accuracy a sustainable  
405 constant growth rate for companies.

406 In recent years, the Commission has begun using a non-constant growth model as  
407 analysts projected growth rates for utilities have exceeded the projected growth rate of  
408 the U.S. economy as a whole. 09-0306 (cons.) Final Order at 215. However, the non-  
409 constant growth model could overstate the true cost of equity, as utilities are less risky  
410 than the overall economy and could reasonably be expected to grow at a lower rate than  
411 other firms. While the current turmoil affects expectations for different companies, there  
412 are still expectations that over the long run the entire U.S. economy will continue to grow  
413 at a reasonable rate.

414 **Q. Please explain the DCF Model that you used.**

415 A. The DCF analysis is a method of valuing a company or asset using the concept of the  
416 time value of money. All future cash flows are estimated and discounted to give their  
417 present values—the sum of all future cash flows, both incoming and outgoing, is the net  
418 present value (NPV), which is taken as the value of the cash flows in question. In its  
419 most basic form, the constant growth DCF model can be represented by the following  
420 equation:

421  $k = D_0(1+g)/ P_0 + g$  where

422  $k$  = Investors required “rate of return”, or the “cost of equity capital”

423  $D_0$  = The current dividend payment

424  $P_0$  = The current stock price

425  $D_0(1+g)/ P_0$  = The expected dividend yield

426  $g$  = The expected sustainable growth rate

427

428 The non-constant growth assumption enters the model through the specification of “g”,  
429 the expected sustainable growth rate input. The multi-stage model comprises the  
430 combination of repeated calculations of the basic form of the DCF model, shown above,  
431 using distinct growth rates over discrete periods of time.

432 **Q. Please describe your DCF analysis.**

433 A. I performed four (4) different DCF analyses. I performed two (2) different analyses  
434 using the constant growth DCF model at the historic and projected internal growth rate  
435 for the sample utilities. I also performed two (2) different analyses using the non-  
436 constant growth DCF model starting at the historic and projected internal growth rates for  
437 the sample utilities.

438 **Q. How did you determine the most appropriate inputs to use in the model?**

439 A. The actual return required to induce investors to make a particular investment is not a  
440 directly observable number – that is why estimates are necessary. Similarly, investors’  
441 requirements for future dividends and rates of growth cannot be found in the pages of the  
442 Wall Street Journal and plugged into the model. The DCF model uses current and  
443 forecast measures of a company’s financial performance to estimate the value of the  
444 company, and to find the rate of return that investors require.

445 In this case, the analysis is further complicated by the current market upheaval  
446 and by the fact that the Company does not have publicly traded stock, which would  
447 provide current, objective dividend and price information. These factors create a number  
448 of potential problems in the selection of inputs into the model.

449 Current stock price and dividend information is readily available for the sample  
450 utilities, and current information is commonly accepted as the most relevant to determine

451 investor expectations in the DCF. The growth rate in the DCF model represents the  
452 sustainable growth that investors expect in their investment resulting from expected  
453 increases in a company's earnings. That growth rate must be consistent with, and  
454 supported by, the economic conditions and dividend payout policies expected to occur.

455 **Q. How did you choose growth rates for your DCF analysis?**

456 A. I believe the growth rate decision must be approached carefully, in light of the recent  
457 financial turmoil and the failure of analyst's ability to predict it. To ensure that the cost  
458 of equity determined in this proceeding is reasonable in light of this discontinuity, the  
459 Commission should base its analysis on three basic supplemental criteria:

- 460 1) Earnings growth rate inputs must be reasonable in light of anticipated  
461 growth in GDP;
- 462 2) The long term growth rate must not implicitly require continued earnings  
463 above the regulated firm's cost of equity, as derived in the analysis; and
- 464 3) The long term growth rates must not require dividend payout ratios that  
465 are not consistent with the capital expenditure growth rate and the return  
466 on equity.

467  
468 The Commission has traditionally accepted a DCF analysis methodology that relies  
469 heavily on analysts' forecasts of growth in the DCF Calculation. As I will discuss below,  
470 current analysts' 3 to 5 year growth projections do not meet these simple common sense  
471 tests. This is not a new revelation. In fact, the financial literature has looked at analysts'  
472 growth rates dubiously for a number of years.<sup>5</sup>

473 **Q. Why is it important to accurately reflect the growth that investors are expecting?**

---

<sup>5</sup> For example, see:

- Tim Koller et al., *Valuation: Measuring and Managing the Value of Companies* 305 (2005)..
- Enrique Arzac, *Valuation for Mergers, Buyouts, and Restructuring*, John Wiley and Sons, 42 (2005)..
- James Claus and Jacob Thomas, *Equity Premia as Low as Three Percent?*, 56 *J. Finance* 1662 (Oct. 2001)
- Louis K. C. Chan et al., *The Level and Persistence of Growth Rates*, 58 *J. Finance* 672 (2003).
- Eugene F. Fama and Kenneth R. French, *The Equity Premium*, 57 *J. Finance* 651 (April 2002).

474 A. The models used by financial professionals are used for only one purpose: to provide an  
475 estimate of the expectations that investors have for the investments they have made. The  
476 purpose of the DCF model is to model investors' expectations based on expected future  
477 growth and dividend payouts. Because of this, is it critical that the growth component of  
478 the DCF model provide an accurate representation of the underlying fundamentals of the  
479 sample companies and their business activities.

480 **Q. What measure of growth do you think is most relevant for the Commission to**  
481 **consider?**

482 A. I think that the Commission should be looking at the internal growth of the sample  
483 utilities. Evaluating a company's internal growth can help the Commission to avoid the  
484 type of upward bias produced by the use of analysts' growth estimates.

485 **Q. How can the Commission evaluate internal growth?**

486 A. Management is expected to retain some of the company's earnings within the business.  
487 Such retained capital is commonly referred to as "retained earnings." Retained earnings  
488 are used by management to fund operations and to grow the business by investing in new  
489 facilities or more efficient processes that will produce greater future returns. This type of  
490 growth is known as "internal" growth because it comes from the capital retained within  
491 the business

492 To evaluate internal growth, I used the following fundamental growth rate  
493 formula:

494 **Earnings Growth = b x r** where

495 **b** = the fraction of earnings not paid out as dividends (the "retention rate"), *i.e.*  
496 one minus the dividend payout ratio, and

497 **r** = the expected rate of return on common equity

498 Two examples explain how this formula captures internal growth. First, look at  
499 the extreme cases. If the dividend payout ratio is 100%, then the retention rate is zero. In

500 that case, the earnings of the company do not grow, because no earnings are retained to  
501 reinvest in the business. If the dividend payout ratio is zero, then the retention rate is one,  
502 and every dollar of earnings gets reinvested into the business. These reinvested earnings  
503 become equity on the company's balance sheet. This in turn increases income, because it  
504 is calculated as the return on equity multiplied by the amount of equity invested in the  
505 company. Since the number of shares outstanding has not changed, the earnings per  
506 share will increase. Using the earnings growth formula above, in such circumstances all  
507 growth will come from retained earnings.

508 Second, look at situations where the dividend payout and retention rate are  
509 between zero and one -- *i.e.*, only a portion of total earnings are reinvested in the  
510 business. Here, the growth rate in earnings is the return on equity multiplied by the  
511 retention rate (the remainder being paid out as dividends). For example, if a firm retains  
512 70% of its earnings and earns 12%, then its earnings growth will be 8.4% ( $70\% \times 12\% =$   
513  $8.4\%$ ). Thus, the growth rate in a company's earnings is determined by the earnings  
514 retained in the business, increasing invested equity, and the return on that equity. In  
515 circumstances where the dividend payout ratio is expected to decline, using the  
516 fundamental growth formula to estimate expected future growth is superior to the  
517 analysts' forecast complications, because the formula captures the effects of those  
518 changes.

519 **Q. Please describe your growth rate analysis.**

520 A. I used two growth rates, the first calculated the historic internal growth rate for each of  
521 the sample utilities over the period from 2004 to 2009. In addition, based on the  
522 Commission's historic preference for analysts' expectations, I calculated the anticipated

523 internal growth for each sample utility, based upon expectations from Value Line. I have  
 524 also looked at the growth rate in GDP and am convinced that the last 20 year average  
 525 GDP growth is the most appropriate measure of GDP growth to use in this instance,  
 526 given the current state of the economy and the fact that the last 40 years of GDP growth  
 527 was disproportionately weighted by the first 20 years of that period. AG/CUB Ex. 4.3  
 528 details my results. The data show:

	Hadaway Analysts' Growth	Historic Internal Growth	Projected '13-15 Internal Growth
Sample Average	5.59%	3.74%	4.42%

529

530 GDP growth was the following:

- 531 • 40 Year Average (2009 – 1969): 6.93%
- 532 • 20 Year Average (1009-1989): 4.86%
- 533 • Prior 20-Yr. Average (1989-1969): 8.99%

534 This analysis shows that the internal growth rates for the sample utilities:

- 535 1) Are reasonable in light of anticipated growth in GDP;
- 536 2) Do not require continued long-run earnings above the cost of capital; and
- 537 3) The internal growth method calculates long term growth rates based on  
 538 historical and projected dividend payout ratios that are consistent with the  
 539 capital expenditure growth rate and the return on equity.

540 **Q. How does the internal growth method ensure consistency between dividend payout**  
 541 **rates and capital expenditure growth rates and the return on equity?**

542 A. The DCF model assumes that a certain relationship between earnings and dividends.  
 543 Also, recall that growth is a function of capital retained by a business. If a company  
 544 chooses to retain less capital and pay out greater dividends, or retain more capital and

545 retain payout smaller dividends, there is a definite effect on both dividends and growth.  
546 This is particularly important since the sample utilities are expected to pay out less capital  
547 as dividends in the future, with earnings projected to grow at 5.4% while dividends are  
548 projected to grow at 4.3%. AG-CUB Ex. 4.4 provides greater detail.

549 **Q. Can you illustrate the effect that a changing dividend payout ratio has on DCF**  
550 **results?**

551 A. Yes. Consider the following simple example:

552  
553 • A company whose stock sells for \$25 has earnings of \$2 per share and is paying out  
554 100% of those earnings as dividends. If the 100% payout ratio is expected to remain  
555 constant, then all future earnings will come from dividends. Investors will earn an  
556 annual return of 8% on their \$25 investment in the stock ( $\$2/\$25 = 8\%$ ).

557 • Now, assume that everything in the above scenario is constant, but the dividend  
558 payout ratio is changed to a constant 50%. This means that investors now see \$1 in  
559 dividends per share, and the company retains the other \$1 to reinvest in its business.  
560 Because the stock's total value (dividend plus appreciation) does not change,  
561 investors still expect to receive a total return of 8% on their investment. Under the  
562 discounted cash flow model of value, investors are now receiving a 4% return from  
563 dividends ( $\$1/\$25 = 4\%$ ). To retain investors, who expect an 8% return, management  
564 must show that it will reinvest the other \$1 in the business to generate earnings  
565 growth of an additional 4%.

566 However, where the dividend payout ratio is not constant, the DCF model will  
567 produce inaccurate results. As the table below demonstrates, using dividends at the  
568 current dividend payout ratio along with expected future earnings growth in a declining

569 payout environment results in an upward bias to the DCF results – even though the firm’s  
 570 relevant financial circumstances are unchanged.

**The Impact of Declining Dividend Payouts on DCF Results**

	<b>100% Dividend Payout</b>	<b>50% Dividend Payout</b>	<b>Declining Dividend Payout</b>
<b>ROE</b>	8%	8%	8%
<b>Earnings</b>	\$2	\$2	\$2
<b>Payout Ratio</b>	100%	50%	100% Declining to 50%
<b>Current Dividend</b>	\$2	\$1	\$2
<b>Share Price</b>	\$25	\$25	\$25
<b>Yield</b>	8%	4%	8%
<b>Earnings Growth</b>	0%	4%	4%
<b>DCF Results</b>	8%	8%	12%

571  
 572 When dividend payout ratios decline, investors will expect more growth to come from  
 573 earnings, because more capital has been retained for internal investment in the business.  
 574 This will result in the DCF overstating the cost of equity. Similarly, an increasing  
 575 dividend payout ratio will cause investors to expect less growth from earnings, and the  
 576 DCF will understate the cost of equity. Assuming that both dividends and earnings will  
 577 grow at the same rate and at the same time, the DCF model simply does not account for  
 578 the expected change in the dividend payout ratio.

579 **Q. Please describe your non-constant growth DCF analysis.**

580 A. My non-constant growth DCF analysis was performed using a multi-stage growth  
 581 analysis that assumes that for the short-term, the companies in the sample will grow at  
 582 their (average historic and projected) internal growth rate. However, I have also assumed  
 583 that over the long-term, growth for companies in the sample will trend towards the

584 historical average GDP growth rate over the last 20 years. I also included a transition  
585 period linking the long-term with the short-term.

586 I have assumed that short-term growth will persist for a period of five years. After  
587 the end of the initial five year period, I have assumed that there will be an additional five  
588 year period of transition, where growth slows from its historic levels before eventually  
589 settling at a long term level that is equivalent to the historic growth in GDP over the last  
590 20 years. Effectively, I have created a three-stage DCF model, similar to methods used  
591 by Staff in prior cases. My results can be found in AG/CUB Ex. 4.5, and are summarized  
592 in the chart below:

<b>DCF Results</b>				
	<b>Multi-Stage DCF</b>		<b>Constant Growth DCF</b>	
	<i>Historical BxR</i>	<i>Projected BxR</i>	<i>Historical BxR</i>	<i>Projected BxR</i>
<b>Sample Average</b>	8.98%	9.65%	8.22%	8.92%
	<b>Wtd Avg</b>	<b>8.94%</b>		

593 **Q. Based on your analyses what is the appropriate ROE for ComEd?**

594 A. Based upon the analysis I have described in this testimony, the DCF model produces an  
595 8.94% rate of return on Common Equity.

596

597 **IV. CAPITAL ASSET PRICING MODEL (“CAPM”)**

598 **Q. Please describe the CAPM Model**

599 A. The CAPM is an alternative analytical tool commonly used in regulatory proceedings to  
600 estimate investors’ required rate of return, or the cost of equity capital for the firm. The  
601 CAPM can be represented by the following equation:

602  $k = R_f + B(R_m - R_f)$  where  
603  $k =$  Investors' required rate of return, or the cost of equity capital  
604  $R_f =$  The risk-free rate of return  
605  $B =$  Beta, a representation of the relative correlation between the market  
606 and the security or industry being analyzed, where 1.0 is perfect  
607 correlation  
608  $R_m =$  The market return  
609  $(R_m - R_f) =$  The expected market risk premium ("EMRP"), or the market return  
610 in excess of the risk-free rate.

611 For a utility, the investors' required rate of return is the risk-free rate plus the value of the  
612 non-diversifiable risk that investors take on by investing in the utility. Non-diversifiable  
613 risk is essentially the risk that is inherent in the marketplace. Like the DCF, the CAPM is  
614 predicated on two key assumptions: (1) that in the market, investors are compensated  
615 only for non-diversifiable risk, quantifiable as a uniform EMRP, and (2) that beta is an  
616 accurate measure of the relative risk of an individual security when compared with the  
617 overall market.

618 **Q. Why have you chosen to use the CAPM Model?**

619 A. In recent cases, the Commission has made clear that in determining the cost of equity, it  
620 prefers to use the mid-point of both the CAPM and DCF models (See ICC Docket 09-  
621 0319 Final Order at 113, ICC Docket 09-0306 Final Order at 220). While there are  
622 problems, CAPM can be useful to verify the results of independently performed DCF  
623 analyses.

624 **Q. Did the Company witnesses use a CAPM analysis?**

625 A. No, no ComEd witness undertook a CAPM analysis.

626 **Q. How did you determine the most appropriate inputs to use in this model?**

627 A. The risk free rate of return is readily available from the Federal Reserve Bank. The chart  
628 below demonstrates current yields on long-term (30-yr) treasury bonds.

**FEDERAL RESERVE STATISTICAL RELEASE**  
**H.15 (519) SELECTED INTEREST RATES**  
**Taken on October 11, 2009**

	Treasury constant maturities					Week ending		Sep-10
	10/4/10	10/5/10	10/6/10	10/7/10	10/8/10	10/6/10	10/1/10	
10-Yr.	2.50	2.50	2.41	2.41	2.41	2.45	2.52	2.65
20-Yr.	3.39	3.41	3.34	3.38	3.39	3.38	3.38	3.47
30-Yr.	3.71	3.74	3.67	3.72	3.75	3.72	3.69	3.77

629

630

Based upon this data, I have selected a risk-free rate of 3.72%.

631

632

633

634

635

The actual return required to induce investors to make a particular investment is not a directly observable number – that is why estimates are necessary. The CAPM model uses current and forecast measures of a company’s financial performance relative to the overall market to estimate the value of the company, and to find the rate of return that investors require.

636

**Q. What does the beta represent in the CAPM?**

637

638

639

640

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643

644

A. The beta coefficient (B) represents the degree to which the price of a stock moves with the overall market, or the volatility of an individual stock compared to the volatility of the market. A beta of 1.0 represents a stock that moves in complete unison with the overall market. Thus, the stock has exactly the same risk as the overall market. If the beta is less than 1.0, then the stock is less volatile than the overall market, indicating that returns are more stable and presumably less risky. If the beta is greater than 1.0, then the stock is more volatile than the overall market, which indicates that its price changes more dramatically than prices in the overall market, and the stock is riskier than the market.

645

**Q. How did you calculate your beta estimates?**

646

647

A. The Commission has traditionally accepted raw beta estimates, adjusted for mean reversion, as valid CAPM inputs. Commonly relied on by Value Line, this adjustment

648 for an assumed reversion is one of the principal sources of the upward bias in Value Line  
 649 betas.<sup>6</sup> AG/CUB Ex. 4.6 presents the results of my beta collection. The results are  
 650 summarized below:

**Beta Analysis**

	VALUE LINE		YAHOO	ZACKS	GOOGLE
	Reported	Unadjusted			
<b>Sample Average</b>	0.70	0.55	0.56	0.56	0.56

Average (VL Adjusted)            0.59  
 Average (VL Unadjusted)        0.56

651

652 The beta estimates reported by Value Line are much higher than the beta estimates  
 653 reported by the other financial sources. I have incorporated the Value Line adjustments  
 654 into my analysis because the Commission has traditionally relied upon them. Based on  
 655 this analysis, I have selected a beta of 0.59.

656 **Q. What does the expected market risk premium (“EMRP”) represent in the CAPM?**

657 A. The EMRP represents the premium, above the risk-free rate, that investors expect when  
 658 they take on the risk of an investment in the market portfolio, or the universe of potential  
 659 investment opportunities available to investors. There are two main approaches to  
 660 specifying the EMRP input to CAPM analyses – using EMRP estimates derived from the  
 661 academic studies of market performance or using EMRP estimates calculated for  
 662 particular situations or cases. I have chosen to use several different EMRPs because of  
 663 the problems inherent in its calculation:

- 664            1) An EMRP based upon the financial literature, as I have proposed in
- 665                        various cases before the Commission.

---

<sup>6</sup> For example see Michael J. Gambola and Douglas R. Kahl, *Time Series Processes of Utility Betas: Implications for Forecasting Systematic Risk*, Financial Management 92 (autumn, 1990).

- 666 2.) An EMRP based upon the decision the Commission made in the recent  
 667 Ameren rate case; and,  
 668  
 669 3) An EMRP based upon the testimony of Mr. Seligson (ComEd Ex. 12.0 at  
 670 207).  
 671

672 These three methods produce the following results:

**CAPM RESULTS**

	Literature	Seligson*	09-0306 Final Order #
<b>RF</b>	3.72%	3.72%	3.72%
<b>EMRP</b>	5.00%	6.70%	8.98%
<b>b</b>	0.59	0.59	0.59
<b>CAPM</b>	<b>6.69%</b>	<b>7.69%</b>	<b>9.05%</b>

\* ComEd Ex. 12.0 at 207  
 # Staff Ex. 6.0, Schedule 6.7

673

674 **Q. What are the results of you CAPM analysis?**

675 A. My CAPM analysis demonstrates that the appropriate ROE for a company like ComEd is  
 676 in the range of 6.69% to 9.05%.

677

678 **V. RESPONSE TO THE COMPANY'S WITNESSES**

679 **Q. What models did ComEd's witnesses use in this case?**

680 A. ComEd witness Dr. Hadaway used both constant and non-constant growth DCF models.  
 681 Mr. Seligson used risk premium and comparable earnings methods.

682 **Q. Has the Commission accepted use of a DCF model as Dr. Hadaway uses it?**

683 A. Yes, but not by itself. The Commission's analysis in recent cases has relied on  
 684 combinations of DCF and CAPM analyses.

685 **Q. How does your analysis differ from Dr. Hadaway's?**

686 A. The primary difference in my analysis and the analysis performed by Dr, Hadaway is that  
687 I performed both DCF and the CAPM analyses, while Dr. Hadaway relies on only the  
688 DCF. Moreover, Dr. Hadaway inappropriately relies on growth rates that are not  
689 sustainable over the long run which means his model will overestimate the Company's  
690 ROE. I have corrected these errors in my analysis.

**Comparing Results**

	<b>Thomas</b>	<b>Hadaway Average</b>
<b><u>Non-Constant Growth DCF</u></b>		
Analysts' Growth		11.10%
Historic Internal Growth	8.98%	
Projected Internal Growth	9.65%	
<b><u>Constant Growth DCF</u></b>		
Analysts Growth Rates		10.70%
Long-term GDP		11.10%
Historic Internal Growth	8.22%	
Projected internal Growth	8.92%	
<b>Recommendations</b>	<b>8.94%</b>	<b>11.10%</b>
<b>CAPM Range</b>	6.69- 9.05%	

691

692 Dr. Hadaway's proposed growth rates would require that the companies in the  
693 sample groups exceed their own historic growth, and also exceeded growth in GDP. He  
694 has not supported this inflated level of growth with any meaningful analysis. The  
695 Commission cannot rely on this analysis because it relies on growth expectations that are  
696 not sustainable in light of expected growth in GDP, expected dividend payout ratios, and  
697 would require sustained earnings in excess of the true cost of capital.

698 **Q. Has the Commission ever adopted the version of the risk premium analysis**  
699 **presented by Dr. Hadaway and Mr. Seligson?**

700 A. No. The Commission has historically rejected risk premium analysis other than the CAPM,  
701 and I do not believe that there is any reason the Commission should reconsider this decision.  
702 Dr. Hadaway looks at historic utility Commission decisions compared to utility bonds  
703 and projects out into the future. ComEd Ex. 11.0 at 766-787. Mr. Seligson looks at  
704 returns of all common stocks over a projected risk free rate. ComEd Ex. 12.0 at 203-  
705 218. As the Commission stated in a recent Peoples Gas rate order:

706 The Commission will not consider the results of the Utilities Risk  
707 Premium model that only the Companies have employed. We have  
708 repeatedly rejected this model as a valid basis on which to set return on  
709 equity. Our view remains unchanged.

710  
711 ICC Docket 09-0166, Final Order at 128 (January 21, 2010).

712  
713 **Q. How do you respond to Mr. Seligson's comparable earnings analysis?**

714 A. The Commission has appropriately rejected the comparable earnings method in the past, and  
715 there is no reason to reconsider that decision. Mr. Seligson's comparable earnings analysis  
716 looks at utility operating companies reported by Regulatory Research Associates: 34  
717 companies whose earned return on equity in 2009 averaged 12.2%. ComEd Ex. 12.0 at  
718 185-193. Such comparisons add little value to this proceeding. The Commission's task is to  
719 set rates for ComEd based on the specific risks facing the Company. In previously  
720 addressing this issue, the Commission has stated;

721 At several places in their evidence and briefs, the Utilities compare the ROE's  
722 recommended here with the ROEs approved in previous cases by this and  
723 other commissions. E.g., NS-PGL Ex. PRM-2.0 at 3-6. They assert that  
724 previously approved ROEs serve as "guideposts" for our analysis in these  
725 cases and insist that they "are not arguing that their returns should be based  
726 on the authorized returns of other utilities." NS-PGL BOE at 25. The  
727 Commission doubts that the Utilities' return comparisons were offered  
728 without the expectation that our decision-making would be affected by them.

729 The Utilities are presumably reluctant to directly press for comparison-based  
730 ratemaking because of our previous rejection of that approach. In  
731 Commonwealth Edison's most recent rate case, we said:

732 ComEd asserts its cost of equity should reflect the costs of  
733 equity recently approved for electric utilities in the United  
734 States. The cost of equity appropriate to ComEd, however, is  
735 specific to that utility. ComEd may not simply adopt the cost  
736 of equity set for other utilities scattered around the country,  
737 for which the factors and circumstances are not necessarily  
738 similar. Rather, pursuant to Section 9-201 of the Act, ComEd  
739 must prove that its proposed cost of equity is just and  
740 reasonable. Commonwealth Edison, Docket. No. 05-0597,  
741 1181 Order, at 153 (June 6, 2006).

742  
743 Commission final Order in Docket Nos. 07-0242 at 89-90. Thus, the Commission has  
744 previously – and correctly – expressly rejected similar comparable earnings analyses and it  
745 should likewise do so here.

746 **Q. Are you familiar with the ROE adjustment proposed by Ms. Tierney?**

747 A. Yes. Mr. Tierney proposes a 0.40% adjustment based on ComEd's implementation of  
748 demand response and energy efficiency programs. Ms. Tierney speculates that this  
749 adjustment would mitigate the effects of implementing demand-side programs, such as  
750 those mandated by the Act.

751 **Q. Is an ROE adjustment appropriate for energy efficiency and demand response**  
752 **goals?**

753 A. No. The effects of both programs are more accurately reflected in the rate-making  
754 process through appropriate billing units or the use of a future test year. Assuming the  
755 Company has presented appropriate load forecasts that incorporate energy efficiency and  
756 demand response programs, the 0.40% increase to ComEd's requested ROE constitutes  
757 double counting. There is no need to arbitrarily increase the ROE simply because the  
758 Company has chosen to avoid using more accurate mechanism to incorporate any impact  
759 that results from these programs.

760

761 VI. CONCLUSION

762 Q. What is your overall recommendation for the cost of equity for the Company?

763 A. Based upon my analysis, an 8.94% return on common equity is appropriate for ComEd.

764 Q. How did you reach that conclusion?

765 A. I relied on my DCF results, double checked with my CAPM results.

Non-Constant Growth DCF

Historic Internal Growth 8.98%

Projected Internal Growth 9.65%

Constant Growth DCF

Historic Internal Growth 8.22%

Projected internal Growth 8.92%

6.69-

CAPM Range 9.05%

**Recommendations 8.94%**

766 Q. What is the weighted average cost of capital for ComEd?

767 A. Using the capital structure and other information proposed by ComEd, the weighted  
768 average cost of capital, using by ROE is: [REDACTED]

**Weighted Average Cost of Capital**

CAPITAL	AMOUNT	WEIGHT	COST	WEIGHTED COST
Long-Term Debt	\$ 4,772,707	52.56%	6.53%	3.43%
Short-Term Debt	\$ 9,736	0.11%	0.73%	0.001%
Common Equity	\$ 4,297,923	47.33%	8.94%	4.23%
Credit Facility Costs				0.12%
<b>TOTAL</b>	<b>\$ 9,080,366</b>			<b>7.79%</b>

All data but ROE from ComEd Ex 6.1 Schedule D-1

769

770 Q. Does this conclude your testimony?

771 A. It does.

## **Docket Summary for Christopher C. Thomas**

### **Illinois Commerce Commission Docket No. 10-0467**

Commonwealth Edison Company, Proposed general increase in electric rates

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 10-0385**

Application for authorization under Section 4-101 of the Illinois Public Utilities Act ("Act"), 220 ILCS § 5/4-101, or alternatively, for a Certificate of Public Convenience and Necessity, pursuant to Section 8-406 of the Act, to install, operate and maintain two new 345,000 volt electric transmission lines in Cook County, Illinois.

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 10-0138**

Commonwealth Edison Company, Proposal to Establish Rider PORCB (Purchase of Receivables with Consolidated Billing) and to other related tariffs (Tariffs filed January, 20, 2010)

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 09-0319**

Illinois-American Water Company, Proposed General Increase in Water and Sewer Rates

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket Nos. 09-0306 (cons.)**

Central Illinois Light Company, d/b/a Ameren CILCO; Central Illinois Public Service Company, d/b/a Illinois Public Service Company, d/b/a Ameren CIPS; and Illinois Power Company, d/b/a AmerenIP, Proposed general increase in rates for delivery

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket Nos. 09-0166 (cons.)**

North Shore Gas Company and Peoples Gas Light and Coke Company Proposed general increase in natural gas rates

**On Behalf of:** The Citizens Utility Board and the City of Chicago

### **Illinois Commerce Commission Docket Nos. 08-0619 (cons.)**

Central Illinois Light Company, d/b/a Ameren CILCO; Central Illinois Public Service Company, d/b/a Illinois Public Service Company, d/b/a Ameren CIPS; and Illinois Power Company, d/b/a AmerenIP, Proposal to implement a combined Utility Consolidated Billing (UCB) and Purchase of Receivables (POR) service.

**On behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 08-0363**

Northern Illinois Gas Company, d/b/a Nicor Gas Company, Proposed general increase in natural gas rates.

## **Docket Summary for Christopher C. Thomas**

**On behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket Nos. 07-0585 (cons.)**

Central Illinois Light Company, d/b/a Ameren CILCO; Central Illinois Public Service Company, d/b/a Illinois Public Service Company, d/b/a Ameren CIPS; and Illinois Power Company, d/b/a AmerenIP, Proposed general increase in rates for delivery

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket No. 07-0566**

Commonwealth Edison Company, Proposed General Increase in Electric Rates

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket No. 07-0507**

Illinois-American Water Company, Proposed General Increase in Water and Sewer Rates

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket No. 07-0540**

Commonwealth Edison Company, Approval of the Energy Efficiency and Demand-Response Plan.

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket No. 07-0539**

Central Illinois Light Company, d/b/a Ameren CILCO; Central Illinois Public Service Company, d/b/a Illinois Public Service Company, d/b/a Ameren CIPS; and Illinois Power Company, d/b/a AmerenIP, Approval of the Energy Efficiency and Demand-Response Plan.

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket Nos. 07-0528 (cons.)**

Commonwealth Edison Company, Petition for Approval of Initial Procurement Plan

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket No. 07-0527**

Central Illinois Light Company, d/b/a Ameren CILCO; Central Illinois Public Service Company, d/b/a Illinois Public Service Company, d/b/a Ameren CIPS; and Illinois Power Company, d/b/a AmerenIP, Petition for Approval of Initial Procurement Plan

**On Behalf of:** The Citizens Utility Board

**Illinois Commerce Commission Docket Nos. 07-0242 (cons.)**

North Shore Gas Company and Peoples Gas Light and Coke Company Proposed general increase in natural gas rates

**On Behalf of:** The Citizens Utility Board and the City of Chicago

## **Docket Summary for Christopher C. Thomas**

### **Illinois Commerce Commission Docket No. 07-0166**

Commonwealth Edison Company Investigation pursuant to Section 9-250 of the Public Utilities Act of Rate Design

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 07-0165**

Central Illinois Light Company, d/b/a Ameren CILCO; Central Illinois Public Service Company, d/b/a Illinois Public Service Company, d/b/a Ameren CIPS; and Illinois Power Company, d/b/a AmerenIP Investigation pursuant to Section 9-250 of the Public Utilities Act of Electric Rate Design

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 06-0800**

Investigation of Rider CPP of Commonwealth Edison Company, and Rider MV of Central Illinois Light Company d/b/a AmerenCILCO, of Central Illinois Public Service Company d/b/a AmerenCIPS, and of Illinois Power Company d/b/a AmerenIP, pursuant to Commission Orders regarding the Illinois Auction

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket Nos. 06-0691 (cons.)**

Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company, d/b/a Ameren CIPS, Illinois Power Company d/b/a AmerenIP, Proposal to establish a new rider entitled Rider PRP – Price Response Program, (tariffs filed September 29, 2006)

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 06-0617**

Commonwealth Edison Company Proposed Revisions to Rate BES-H Basic Electric Service Hourly Energy Pricing

**On Behalf of:** The Citizens Utility Board and The City of Chicago

### **Illinois Commerce Commission Docket Nos. 06-0379 (cons.)**

Citizen's Utility Board And the People of the State of Illinois Petition To Initiate Rulemaking With Notice and Comment for Approval of Certain Amendments to Illinois Administrative Code Part 280.

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 06-0270**

Commonwealth Edison Company Petition of Commonwealth Edison Company For Approval Pursuant to Section 7-102 of the Public Utilities Act of the Entry into Certain Contracts Relating to Wind Generation and Approval Under Section 9-201 of a Tariff

## **Docket Summary for Christopher C. Thomas**

Concerning the Governor's Sustainable Energy Plan and the Illinois Commerce Commission's Resolution in Docket No. 05-0437.

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket Nos. 06-0070 (cons.)**

Central Illinois Light Company, d/b/a Ameren CILCO, Central Illinois Public Services Company, d/b/a AmerenCIPS, and Illinois Power Company, d/b/a AmerenIP, Proposed General Increase For Delivery Services

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 06-0027**

Illinois Commerce Commission Vs. Illinois Bell Telephone Company - Investigation of specified tariffs declaring certain services to be competitive Telecommunications services.

**On Behalf of:** The Citizens Utility Board

### **Illinois Commerce Commission Docket No. 05-0597**

Commonwealth Edison Company Proposed general increase in electric rates, general restructuring of rates, price unbundling of bundled service rates, and revision of other terms and conditions of service.

**On Behalf of:** The Citizens Utility Board and The City of Chicago

### **Illinois Commerce Commission Docket No. 04-0779**

Nicor Inc. Proposed General Increase in Rates

**On Behalf of:** The Citizens Utility Board and the Cook County States Attorney

### **Illinois Commerce Commission Docket No. 04-0476**

Illinois Power Company and Ameren Corp Proposed General Increase in Gas Rates

**On Behalf of:** The Citizens Utility Board

### **Missouri Public Service Commission Docket No. TR-2002-251**

In the Matter of the Tariffs Filed by Sprint Missouri, Inc., d/b/a Sprint, to Reduce the Basic Rates by the Change in the CPI-TS as Required by Section 392.245(4), Updating Its Maximum Allowable Prices for Non-basic Services and Adjusting Certain Rates as Allowed by Section 392.245(11), and Reducing Certain Switched Access Rates and Rebalancing to Local Rates, as Allowed by Section 392.245(9) (Affidavit)

**On Behalf of:** Staff of the Missouri Public Service Commission

### **Missouri Public Service Commission Docket No. TO-2004-0207**

In the Matter of a Commission Inquiry into the Possibility of Impairment without Unbundled Local Circuit Switching When Serving the Mass Market

**On Behalf of:** Staff of the Missouri Public Service Commission

## **Docket Summary for Christopher C. Thomas**

### **Missouri Public Service Commission Docket No. IT-2004-0015**

In the Matter of Southwestern Bell Telephone Company, d/b/a SBC Missouri's Proposed Revised Tariff Sheet Intended to Increase by Eight Percent the Rates for Line Status Verification and Busy Line Interrupt as Authorized by Section 392.245, RSMo, the Price Cap Statute

**On Behalf of:** Staff of the Missouri Public Service Commission

### **Missouri Public Service Commission Docket No. TT-2002-472/473**

In the Matter of Southwestern Bell Telephone Company's Tariff Filing to Initiate Residential Customer Winback Promotion / In the Matter of Southwestern Bell Telephone Company's Tariff Filing to Extend Business Customer Winback Promotions

**On Behalf of:** Staff of the Missouri Public Service Commission

### **Missouri Public Service Commission Docket No. TO-2002-222**

In the Matter of the Petition of MCImetro Access Transmission Services LLC, Brooks Fiber Communications of Missouri, Inc., and MCI WorldCom Communications, Inc., for Arbitration of an Interconnection Agreement With Southwestern Bell Telephone Company Under the Telecommunications Act of 1996.

**On Behalf of:** Staff of the Missouri Public Service Commission

### **Missouri Public Service Commission Docket No. TA-2001-475/TA-99-47**

In the Matter of the Application of Southwestern Bell Communications Services, Inc., d/b/a SBC Long Distance, for a Certificate of Service Authority to Provide Interexchange Telecommunications Services within the State of Missouri / In the Matter of the Application of Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long-distance, for a Certificate of Service Authority to Provide Interexchange Telecommunications Services within the State of Missouri.

**On Behalf of:** Staff of the Missouri Public Service Commission

### **Missouri Public Service Commission Docket No. TO-2001-455**

In the Matter of the Application of AT&T Communications of the Southwest, Inc., TCG St. Louis, Inc., and TCG Kansas City, Inc., for Compulsory Arbitration of Unresolved Issues With Southwestern Bell Telephone Company pursuant to Section 252(b) of the Telecommunications Act of 1996

**On Behalf of:** Staff of the Missouri Public Service Commission

### **Missouri Public Service Commission Docket No. TO-2001-439**

In the Matter of the Determining of Prices, Terms and Conditions of Conditioning for xDSL-capable Loops

**On Behalf of:** Staff of the Missouri Public Service Commission

## **Docket Summary for Christopher C. Thomas**

**Missouri Public Service Commission Docket No. TT-2001-298**

In the Matter of Southwestern Bell Telephone Company's Proposed Tariff PSC Mo. No. 42 Local Access Service Tariff, Regarding Physical and Virtual Collocation

**On Behalf of:** Staff of the Missouri Public Service Commission

**Missouri Public Service Commission Docket No. TT-2000-527/513**

In the Matter of the Application of Allegiance Telecom of Missouri, Inc., CCMO, Inc. d/b/a Connect!, DSLnet Communications, LLC, KMC Telecom III, Inc. and New Edge Network, Inc. for an Order Requiring Southwestern Bell Telephone Company to File a Collocation Tariff / In the Matter of the Joint Petition of Birch Telecom of Missouri, Inc. for a Generic Proceeding to Establish a Southwestern Bell Telephone Company Collocation Tariff Before the Missouri Public Service Commission

**On Behalf of:** Staff of the Missouri Public Service Commission

**Missouri Public Service Commission Docket No. TO-98-329** In the Matter of an Investigation into Various Issues Related to the Missouri Universal Service Fund

**On Behalf of:** Staff of the Missouri Public Service Commission

## Sample Utility Stock Price Change

Company	Symbol	10/9/2007	10/9/2007
		to	to
		10/8/2010	5/9/2009
Allele	ALE	-6.1%	-44.8%
Alliant Energy	LNT	6.2%	-44.5%
American Electric Power	AEP	-13.8%	-46.5%
Avista Corp.	AVA	12.9%	-37.1%
Black Hills Corp	BKH	-13.1%	-64.0%
Cleco Corp.	CNL	27.3%	-21.5%
Con. Edison	ED	19.5%	-25.6%
DPL inc.	DPL	15.9%	-19.5%
DTE Energy	DTE	11.1%	-49.7%
Duke Energy	DUK	8.0%	-33.9%
Edison Int'l	EIX	-31.9%	-56.9%
Empire District	EDE	6.3%	-44.5%
Entergy Corp	ETR	-26.9%	-44.7%
NextEra Energy (formerly FPL Group, Inc.)	NEE	-4.3%	-31.1%
Hawaiian Electric	HE	18.4%	-41.4%
IDACORP, inc.	IDA	17.8%	-35.9%
N.W. Nat'l Gas	NWN	15.5%	-13.9%
NICOR, Inc.	GAS	23.6%	-34.2%
Northeast Utilities	NU	15.2%	-30.4%
NSTAR	NST	26.7%	-17.5%
PG&E Corp.	PCG	8.0%	-23.7%
Piedmont Nat'l	PNY	24.5%	-16.3%
Pinnacle West Capital	PNW	19.0%	-39.6%
Portland General	POR	-16.1%	-39.7%
Progress Energy	PGN	13.2%	-28.3%
SCANA Corp.	SCG	19.6%	-28.2%
Sempra Energy	SRE	-0.4%	-35.6%
Southern Co.	SO	17.9%	-22.7%
Southwest Gas	SWX	31.4%	-37.1%
TECO Energy	TE	26.2%	-40.1%
UIL Holdings Co.	UIL	4.3%	-44.7%
Vectren Corp.	VVC	8.6%	-30.9%
Westar Energy	WR	10.4%	-38.1%
Wisconsin Energy	WEC	36.9%	-18.0%
Xcel Energy Inc.	XEL	22.3%	-22.5%

<b>Average</b>	<b>10.12%</b>	<b>-34.37%</b>
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<b>S&amp;P 500</b>	<b>-25.6%</b>	<b>-56.8%</b>
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## Growth Rate Comparison

Company	Symbol	Midway Analysts Growth*	Historical Internal Growth	Projected 2015 Internal Growth
ALLETE	ALE	4.52%	4.29%	2.78%
Alliant Energy	LNT	5.53%	4.35%	5.37%
American Electric Power	AEP	3.53%	5.18%	4.57%
Avista Corp.	AVA	5.32%	2.84%	3.15%
Black Hills Corp	BKH	6.83%	2.21%	2.88%
Cleco Corp.	CNL	7.00%	3.69%	4.96%
Con. Edison	ED	2.92%	2.17%	3.43%
DPL inc.	DPL	5.32%	6.91%	12.75%
DTE Energy	DTE	5.67%	2.09%	3.46%
Duke Energy	DUK	4.74%	1.98%	2.40%
Edison Int'l	EIX	3.51%	7.31%	5.14%
Empire District	EDE	6.50%	-1.13%	2.40%
Entergy Corp	ETR	5.18%	7.19%	6.27%
NextEra Energy (formerly FPL Group, Inc.)	NEE	7.14%	6.18%	5.98%
Hawaiian Electric	HE	8.12%	-0.18%	0.39%
IDACORP, Inc.	IDA	4.83%	3.27%	4.66%
N.W. Nat'l Gas	NWN	5.40%	4.37%	5.58%
NICOR, Inc.	GAS	3.50%	3.90%	4.18%
Northeast Utilities	NU	7.57%	2.97%	4.56%
NSTAR	NST	5.74%	4.62%	5.17%
PG&E Corp.	PCG	7.12%	6.66%	5.60%
Piedmont Nat'l	PNY	5.77%	3.60%	4.31%
Pinnacle West Capital	PNW	5.67%	1.59%	3.09%
Portland General	POR	5.10%	3.70%	3.40%
Progress Energy	PGN	4.07%	1.12%	2.73%
SCANA Corp.	SCG	4.71%	4.34%	4.29%
Sempra Energy	SRE	6.50%	10.40%	6.20%
Southern Co.	SO	5.46%	3.94%	3.90%
Southwest Gas	SWX	6.10%	3.75%	5.07%
TECO Energy	TE	6.71%	2.37%	5.28%
UIL Holdings Co.	UIL	3.91%	0.10%	2.60%
Vectren Corp.	VVC	5.10%	2.56%	3.50%
Westar Energy	WR	5.67%	2.69%	3.21%
Wisconsin Energy	WEC	8.86%	6.56%	7.06%
Xcel Energy Inc.	XEL	6.13%	3.20%	4.25%

<b>Average</b>	<b>5.59%</b>	<b>3.74%</b>	<b>4.42%</b>
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### GDP Growth

<b>40-yr Average</b>	<b>6.93%</b>
<b>20-yr Average</b>	<b>4.86%</b>
<b>Prior 20-yr</b>	<b>8.99%</b>

## Earnings and Dividend Growth Expectations

Company	Symbol	ValueLine Expectations	
		Earnings	Dividends
ALLETE	ALE	1.0%	1.5%
Alliant Energy	LNT	7.0%	5.5%
American Electric Power	AEP	3.0%	2.5%
Avista Corp.	AVA	8.5%	11.0%
Black Hills Corp	BKH	6.5%	2.5%
Cleco Corp.	CNL	9.5%	8.5%
Con. Edison	ED	2.5%	1.0%
DPL inc.	DPL	7.0%	5.5%
DTE Energy	DTE	6.5%	4.0%
Duke Energy	DUK	5.0%	2.5%
Edison Int'l	EIX	0.5%	3.5%
Empire District	EDE	7.5%	1.0%
Entergy Corp	ETR	4.5%	6.5%
NextEra Energy (formerly FPL Group, Inc.)	NEE	5.0%	5.0%
Hawaiian Electric	HE	11.5%	1.0%
IDACORP, inc.	IDA	5.5%	2.5%
N.W. Nat'l Gas	NWN	4.5%	4.0%
NICOR, Inc.	GAS	1.0%	nil
Northeast Utilities	NU	6.0%	7.5%
NSTAR	NST	7.0%	6.0%
PG&E Corp.	PCG	7.0%	7.5%
Piedmont Nat'l	PNY	3.5%	3.5%
Pinnacle West Capital	PNW	6.0%	1.5%
Portland General	POR	3.0%	3.5%
Progress Energy	PGN	3.5%	1.0%
SCANA Corp.	SCG	3.5%	1.5%
Sempra Energy	SRE	2.0%	6.5%
Southern Co.	SO	4.5%	4.0%
Southwest Gas	SWX	7.5%	5.0%
TECO Energy	TE	8.0%	3.0%
UIL Holdings Co.	UIL	3.0%	nil
Vectren Corp.	VVC	4.5%	2.5%
Westar Energy	WR	7.5%	3.5%
Wisconsin Energy	WEC	9.5%	13.0%
Xcel Energy Inc.	XEL	5.5%	3.5%
<b>Average</b>		<b>5.4%</b>	<b>4.3%</b>

# DCF Results

Company	Symbol	Multi-Stage DCF		Constant Growth DCF	
		Historical BxR	Projected BxR	Historical BxR	Projected BxR
ALLETE	ALE	9.47%	8.07%	9.13%	7.58%
Alliant Energy	LNT	9.16%	10.09%	8.84%	9.88%
American Electric Power	AEP	9.65%	9.08%	9.98%	9.35%
Avista Corp.	AVA	9.00%	9.30%	7.55%	7.87%
Black Hills Corp	BKH	8.68%	9.29%	6.71%	7.40%
Cleco Corp.	CNL	7.97%	9.06%	7.06%	8.36%
Con. Edison	ED	9.10%	10.29%	7.17%	8.47%
DPL inc.	DPL	9.99%	15.86%	11.59%	17.59%
DTE Energy	DTE	8.91%	10.21%	6.89%	8.31%
Duke Energy	DUK	9.59%	10.00%	7.61%	8.04%
Edison Int'l	EIX	9.07%	7.19%	11.06%	8.84%
Empire District	EDE	9.23%	12.88%	5.05%	8.72%
Entergy Corp	ETR	9.92%	9.07%	11.75%	10.80%
NextEra Energy (formerly FPL Group, Inc.)	NEE	8.87%	8.69%	9.96%	9.76%
Hawaiian Electric	HE	8.95%	9.50%	5.33%	5.91%
IDACORP, inc.	IDA	7.90%	9.09%	6.64%	8.06%
N.W. Nat'l Gas	NWN	8.16%	9.20%	7.81%	9.04%
NICOR, Inc.	GAS	8.58%	8.83%	7.89%	8.17%
Northeast Utilities	NU	7.91%	9.28%	6.41%	8.03%
NSTAR	NST	8.94%	9.44%	8.82%	9.38%
PG&E Corp.	PCG	9.26%	8.31%	10.71%	9.63%
Piedmont Nat'l	PNY	8.44%	9.07%	7.50%	8.22%
Pinnacle West Capital	PNW	9.08%	10.51%	6.73%	8.27%
Portland General	POR	9.63%	9.35%	8.87%	8.56%
Progress Energy	PGN	9.35%	10.94%	6.73%	8.39%
SCANA Corp.	SCG	9.44%	9.39%	9.13%	9.08%
Sempra Energy	SRE	8.99%	5.52%	13.49%	9.21%
Southern Co.	SO	9.48%	9.45%	8.88%	8.84%
Southwest Gas	SWX	7.59%	8.69%	6.69%	8.04%
TECO Energy	TE	8.91%	11.67%	7.09%	10.09%
UIL Holdings Co.	UIL	9.43%	11.98%	6.13%	8.73%
Vectren Corp.	VVC	9.40%	10.31%	7.79%	8.77%
Westar Energy	WR	9.32%	9.82%	7.80%	8.34%
Wisconsin Energy	WEC	7.98%	8.38%	9.42%	9.93%
Xcel Energy Inc.	XEL	8.81%	9.77%	7.60%	8.68%

Average	8.98%	9.65%	8.22%	8.92%
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Wtd Avg	8.94%
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# Beta Estimates

ICC Docket No. 10-0467  
AG CUB Ex. 4.6

Company	Symbol	Value Line				
		Report	Industry	Yahoo	Zacks	Goobi
ALLETE	ALE	0.70	0.55	0.66	0.66	0.66
Alliant Energy	LNT	0.70	0.55	0.59	0.57	0.57
American Electric Power	AEP	0.70	0.55	0.59	0.57	0.57
Avista Corp.	AVA	0.70	0.55	0.75	0.74	0.74
Black Hills Corp	BKH	0.80	0.70	1.13	1.09	1.09
Cleco Corp.	CNL	0.65	0.48	0.49	0.52	0.52
Con. Edison	ED	0.65	0.48	0.32	0.30	0.30
DPL inc.	DPL	0.60	0.40	0.65	0.65	0.61
DTE Energy	DTE	0.75	0.63	0.66	0.69	0.69
Duke Energy	DUK	0.65	0.48	0.44	0.46	0.42
Edison Int'l	EIX	0.80	0.70	0.64	0.71	0.71
Empire District	EDE	0.70	0.55	0.66	0.65	0.65
Entergy Corp	ETR	0.70	0.55	0.61	0.65	0.65
NextEra Energy (formerly FPL Group, Inc.)	NEE	0.75	0.63	0.60	0.61	0.61
Hawaiian Electric	HE	0.70	0.55	0.61	0.54	0.54
IDACORP, inc.	IDA	0.70	0.55	0.47	0.46	0.46
N.W. Nat'l Gas	NWN	0.60	0.40	0.29	0.34	0.34
NICOR, Inc.	GAS	0.75	0.63	0.43	0.45	0.46
Northeast Utilities	NU	0.70	0.55	0.51	0.52	0.52
NSTAR	NST	0.65	0.48	0.28	0.31	0.31
PG&E Corp.	PCG	0.55	0.33	0.26	0.33	0.34
Piedmont Nat'l	PNY	0.65	0.48	0.25	0.28	0.28
Pinnacle West Capital	PNW	0.75	0.63	0.58	0.59	0.59
Portland General	POR	0.75	0.63	0.70	0.70	0.70
Progress Energy	PGN	0.60	0.40	0.39	0.41	0.41
SCANA Corp.	SCG	0.70	0.55	0.63	0.61	0.61
Sempra Energy	SRE	0.85	0.78	0.55	0.60	0.60
Southern Co.	SO	0.55	0.33	0.35	0.36	0.36
Southwest Gas	SWX	0.75	0.63	0.76	0.72	0.72
TECO Energy	TE	0.85	0.78	0.87	0.83	0.83
UIL Holdings Co.	UIL	0.70	0.55	0.79	0.79	0.79
Vectren Corp.	VVC	0.70	0.55	0.42	0.42	0.42
Westar Energy	WR	0.75	0.63	0.66	0.66	0.66
Wisconsin Energy	WEC	0.65	0.48	0.40	0.39	0.39
Xcel Energy Inc.	XEL	0.65	0.48	0.44	0.46	0.46

Average	0.70	0.55	0.56	0.56	0.56
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Average (Adjusted)	0.59
Average (Unadjusted)	0.56