**REBUTTAL TESTIMONY OF  
JAMES H. VANDER WEIDE, PH.D.  
ON BEHALF OF  
GEORGIA POWER COMPANY  
  
DOCKET NO. 42516**

# INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

1. My name is James H. Vander Weide. I am President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to business clients. My business address is 3606 Stoneybrook Drive, Durham, North Carolina 27705.

Q. are you the same james h. vander weide who previously submitted direct testimony in this proceeding?

1. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

1. I have been asked by Georgia Power Company (“Georgia Power” or “the Company”) to review the direct testimonies and return on equity recommendations of Mr. Michael P. Gorman, Ms. Maureen L. Reno, and Mr. Jeffrey Pollock. Mr. Gorman’s testimony is presented on behalf of the Georgia Public Service Commission Public Interest Advocacy Staff (“PIAS” or “Staff”), Ms. Reno’s testimony is presented on behalf of The United States Department of Defense and all other Federal Executive Agencies, and Mr. Pollock’s testimony is presented on behalf of the Georgia Association of Manufacturers and Georgia Industrial Group.

Q. What rates of return on equity do Mr. Gorman and Ms. Reno recommend for Georgia Power in this proceeding?

A. Mr. Gorman recommends that Georgia Power be allowed to earn a rate of return on equity equal to 9.2 percent. Ms. Reno recommends an allowed rate of return on equity of 9.1 percent.

Q. Does Mr. Pollock recommend a specific allowed rate of return on equity for georgia power based on his own cost of equity studies in this proceeding?

A. No. Mr. Pollock does not recommend an allowed rate of return on equity for Georgia Power. Rather, he recommends that the Commission not accept the Company’s requested return on equity, arguing that the Company’s requested return on equity exceeds average authorized returns on equity and that the requested return on equity is excessive due to flotation costs and the financial risk adjustment.

# REBUTTAL OF MR. GORMAN

Q. How does Mr. Gorman estimate GEORGIA POWER’s cost of equity?

1. Mr. Gorman estimates Georgia Power’s cost of equity by applying several cost of equity methods to a proxy group of electric utilities. His cost of equity methods include applications of the Discounted Cash Flow (DCF) Model, Risk Premium Model, and the Capital Asset Pricing Model (CAPM).

Q. What areas of Mr. Gorman’s testimony will you address in your rebuttal testimony?

A. I will address Mr. Gorman’s proxy companies, DCF analysis, risk premium analysis, CAPM analysis, and his comments on my direct testimony.

## MR. GORMAN’S PROXY COMPANY GROUP

Q. What proxy companies does Mr. Gorman use to estimate Georgia Power’s cost of equity?

A. Mr. Gorman uses the same electric utility proxy group of Value Line electric utilities that I employed in my direct testimony, with the exclusion of two companies, Avangrid and El Paso Electric.

Q. Why does Mr. Gorman eliminate Avangrid and El Paso Electric from his proxy group?

A. Mr. Gorman eliminates Avangrid because it is “majority owned by Iberdrola (approximately 83% according to Value Line) where less than 20% of its stock is publicly traded.” (Gorman at 34) Mr. Gorman also excludes El Paso Electric because “it is involved in merger and acquisition activity. On June 3, 2019, JP Morgan Investment Management Co. announced that it had reached an agreement to acquire El Paso Electric.” (Gorman at 34)

Q. Do you agree with Mr. Gorman’s opinion that avangrid should be eliminated because it is “majority owned by Iberdrola”?

1. No. Iberdrola’s high percentage of ownership interest in Avangrid would only impact Mr. Gorman’s DCF analysis if the agreement had a measurable impact on the company’s stock price and earnings growth expectations. Because Mr. Gorman presents no evidence that Iberdrola’s ownership affects Avangrid’s stock price or growth expectations, there is no justification for removing Avangrid from the proxy electric utility group. Thus, Mr. Gorman has unnecessarily eliminated Avangrid from his proxy group.

Q. How does avangrid describe its business operations?

1. Avangrid operates through two primary lines of business, Avangrid Networks and Avangrid Renewables., and most income is produced through its Networks subsidiary, which Avangrid describes as follows:

Through Networks, we own electric generation, transmission and distribution companies and natural gas distribution, transportation and sales companies in New York, Maine, Connecticut and Massachusetts, delivering electricity to approximately 2.2 million electric utility customers and delivering natural gas to approximately 1.0 million natural gas public utility customers as of December 31, 2018. The interstate transmission and wholesale sale of electricity by these regulated utilities is regulated by the Federal Energy Regulatory Commission, or FERC, under the Federal Power Act, or FPA, including with respect to transmission rates. Further, Networks’ electric and gas distribution utilities in New York, Maine, Connecticut and Massachusetts are subject to regulation by the New York State Public Service Commission, or NYPSC, the Maine Public Utilities Commission, or MPUC, the Connecticut Public Utilities Regulatory Authority, or PURA, and the Massachusetts Department of Public Utilities, or DPU, respectively. Networks strives to be a leader in safety, reliability and quality of service to its utility customers. [Avangrid 2018 Form 10-K at 6]

Q. Do you agree with Mr. Gorman’s decision to eliminate el paso electric because it is to be acquired by JP Morgan investment management co.?

A. Yes. Although the pending acquisition announcement occurred months after the time of my direct studies, I agree that El Paso Electric should not be included in a proxy group at this time.

**Q.** What is the impact of Mr. Gorman’s decision to eliminate Avangrid from his proxy group on his cost of equity results?

A. It is difficult to assess the impact because Mr. Gorman does not report results for Avangrid. However, one can calculate a DCF result for Avangrid using Mr. Gorman’s study period and DCF model. Making such a calculation produces a DCF result for Avangrid equal to 10.7 percent, a result which is well above Mr. Gorman’s average DCF model result.

## MR. GORMAN’S DCF STUDIES

**Q.** What DCF model does Mr. Gorman use to estimate Georgia Power’s cost of equity?

A. Mr. Gorman uses an annual DCF model to estimate Georgia Power’s cost of equity.

**Q.** Do you agree with Mr. Gorman’s use of an annual DCF model to estimate Georgia Power’s cost of equity?

1. No. As discussed in my direct testimony, the DCF model is based on the assumption that a company’s stock price reflects the present value of the dividends investors expect to receive from their ownership of the stock. Because the companies in Mr. Gorman’s analysis all pay dividends quarterly, these companies’ stock prices reflect the present value of a quarterly stream of dividends. Hence, the quarterly DCF model is the only DCF model that is consistent with the basic assumption that stock prices are equal to the expected present value of future dividends.

**Q.** What DCF cost of equity does Mr. Gorman recommend?

1. Mr. Gorman concludes that his DCF studies “support a return on equity of 9.0%,” which Mr. Gorman states “reflects consideration of both the constant growth DCF model with analysts’ growth projections and also the range of constant growth using sustainable growth.” Mr. Gorman also notes that his recommended DCF cost of equity estimate reflects the “current market environment and today’s historically low capital market costs.” (Gorman at 48)

**Q.** Does Mr. Gorman acknowledge that the current market environment could change during the period in which rates will be in effect in this proceeding?

1. Yes. Mr. Gorman states, “Contemporary market conditions ***could change dramatically*** during the period that rates determined in this proceeding will be in effect.” (Emphasis added. Gorman at 50)

**Q.** Does Mr. Gorman include an allowance for flotation costs in his DCF analysis?

1. No.

**Q.** Do you agree with Mr. Gorman’s failure to include flotation costs in his DCF analysis?

1. No. As I discuss in my direct testimony and in my rebuttal response to Mr. Gorman’s comments on my direct testimony, flotation costs are a cost of issuing securities that must be reflected in a cost of equity analysis for investors to earn a return that is commensurate with returns on other investments of the same risk.

## MR. GORMAN’S RISK PREMIUM MODEL

**Q.** How does Mr. Gorman estimate the required risk premium for investing in his electric utility proxy group?

1. Mr. Gorman estimates the required risk premium for investing in his proxy electric utilities by comparing the average authorized electric utility rate of return on equity for each year from January 1986 through June 2019 to both the average interest rate on long-term Treasury bonds and the average interest rate on A-rated utility bonds in each year. Mr. Gorman finds that the risk premium over the yield on long-term Treasury bonds falls in the range 4.25 percent to 6.73 percent, and the risk premium over the yield on long-term A-rated utility bonds falls in the range 2.88 percent to 5.57 percent. (Gorman at 49) Mr. Gorman suggests that “more weight” be given to the high-end risk premium estimates than to low-end estimates. However, he does not specify a mathematical weighting of risk premium results. (Gorman at 53)

**Q.** What risk premium cost of equity estimates does Mr. Gorman obtain from his analysis of the relationship between allowed ROEs and the interest rates on Treasury bonds and utility bonds?

1. Adding his high-end 6.73 percent estimated risk premium over long-term Treasury bond yields to his estimated Treasury bond yield of 2.6 percent, Mr. Gorman obtains a risk premium cost of equity of 9.3 percent. Adding his low-end 4.25 percent risk premium estimate to the Treasury bond yield of 2.6 percent, Mr. Gorman obtains a risk premium cost of equity of 6.85 percent. Adding his high-end 5.57 percent estimated risk premium over utility bonds to an average 13-week utility bond yield of 3.82 percent (see Gorman at 31), Mr. Gorman obtains a risk premium cost of equity of 9.39 percent. Adding his low-end 2.88 percent estimated risk premium over utility bonds to an average 13-week utility bond yield of 3.82 percent, Mr. Gorman obtains a risk premium cost of equity of 6.70 percent. Based on his evidence, Mr. Gorman concludes that the risk premium cost of equity range is 6.7 percent to 9.4 percent. (Gorman at 53)

**Q.** Do you agree with Mr. Gorman’s method of estimating the required risk premium on electric utility stocks?

1. No. First, I disagree with Mr. Gorman’s use of *allowed* rates of return on equity to estimate the *required* rate of return on equity. The allowed rate of return on equity may differ from the required rate of return on equity because an allowed rate of return may reflect stale capital market information and political judgments as well as economic reasoning. Second, I disagree with Mr. Gorman’s estimate of the relationship between the required equity risk premium and interest rates because he bases his estimate on an arbitrary and unspecified weighting of the high- and low-end values of the risk premium range rather than on reasoned statistical analysis of the relationship between the allowed equity risk premium and interest rates using the entire database of risk premium values.

**Q.** Did you perform a statistical analysis to estimate the relationship between the market required equity risk premium and interest rates in your direct testimony?

1. Yes. In my direct testimony, I performed a regression analysis of the relationship between the DCF-estimated required equity risk premium and the interest rate on long-term utility bonds for proxy groups of electric utilities in each month over a 233-month period from September 1999 through January 2019. My regression analysis produced a required equity risk premium equal to 5.14 percent. To estimate the ex ante risk premium cost of equity, I then added the estimated 5.14 percent market required equity risk premium obtained from my regression analysis to the forecasted interest rate on A-rated utility bonds. My statistical analysis produced a cost of equity estimate equal to 10.54 percent.

**Q.** Although you disagree with Mr. Gorman’s use of *allowed* rates of return to estimate the risk premium cost of equity, have you nonetheless studied the statistical relationship between the risk premiums implied by historical allowed rates of return on equity and the yields on long-term Treasury bonds and utility bonds over the period 1986 to the present reported by Mr. Gorman?

1. Yes. To evaluate Mr. Gorman’s risk premium estimates, I perform regression analyses of the relationship between the risk premiums implied by the allowed rates of return on equity issued by regulatory commissions and the level of interest rates. In his risk premium analyses, Mr. Gorman examines historical data on the spreads between allowed ROEs and the yields on both 30-year Treasury bonds and A-rated utility bonds. Thus, I have performed statistical regression analyses of the relationship between the historical allowed equity risk premiums and the yields on 30-year Treasury bonds and A-rated utility bonds.

**Q.** What does your statistical regression analysis of the relationship between historical allowed equity risk premiums and Treasury bond yields show?

1. My regression analysis demonstrates that the relationship between the risk premium implied by historical allowed ROEs and the yield on 30-year Treasury bonds is given by the following equation:

RPAUTHORIZED = 7.98 – 0.44 x TB

t-statistic = 39.65 (12.67)

where:

RPAUTHORIZED = the risk premium implied by utility commission authorized rates of return on equity,

7.98 and 0.44 = estimated regression coefficients with t-statistics shown in parentheses; and

TB = the yield on long-term Treasury bonds.

**Q.** What is the meaning of the negative 0.44 coefficient on the Treasury bond variable?

1. The negative 0.44 coefficient on the Treasury bond variable indicates that the authorized risk premium increases by approximately 44 basis points for every one hundred basis point decrease in interest rates.

**Q.** What is the meaning of the 12.67 t-statistic in the above equation?

1. The 12.67 t-statistic indicates that the strong negative relationship between the risk premium and the yield on 30-year Treasury bond is statistically significant.

**Q.** What risk premium is indicated by your statistical analysis of the relationship between the implied allowed equity risk premiums and the interest rate on long-term Treasury bonds?

1. Using Mr. Gorman’s 2.9 percent average interest rate on long-term Treasury bonds for the six-month period January through June 2019 shown on his Exhibit MPG-14, this analysis indicates a risk premium of 6.7 percent over the Treasury bond yield. This 6.7 percent risk premium estimate is 120 basis points higher than the 5.57 percent average risk premium over U.S. Treasury bonds estimated by Mr. Gorman.

**Q.** Does this regression equation support the conclusion that the allowed equity risk premium tends to increase when interest rates decline?

1. Yes. The negative coefficient associated with the interest rate variable, TB, indicates that the allowed equity risk premium moves in the opposite direction as the interest rate on long-term Treasury bonds, thus verifying the conclusion that the risk premium increases when the yield on long-term Treasury bonds declines.

**Q.** Have you also studied the relationship between the implied allowed equity risk premium and the yield on utility bonds, as reported by Mr. Gorman?

1. Yes. Using the data found in Mr. Gorman’s Exhibit MPG-15, the implied allowed equity risk premium compared to the yield on utility bonds is given by the relationship:

RPAUTHORIZED = 7.31 – 0.454 x AB

t-statistic = (32.42) (14.32)

where:

RPAUTHORIZED = the risk premium implied by utility commission authorized rates of return on equity,

7.31 and 0.454 = estimated regression coefficients with t-statistics shown in parentheses; and

AB = the yield on Moody’s A-rated utility bonds.

**Q.** What is the meaning of the negative 0.454 coefficient on the A-utility bond yield variable?

1. The negative 0.454 coefficient on the A-utility bond yield variable indicates that the allowed equity risk premium increases by approximately 45 basis points for every one hundred basis point decrease in the yield on A-rated utility bonds.

**Q.** What is the meaning of the negative 14.32 t-statistic in the above equation?

1. The negative 14.32 t-statistic indicates that the strong negative relationship between the allowed equity risk premium and utility bond yields is statistically significant.

**Q.** What risk premium is indicated by your statistical analysis of the relationship between implied allowed equity risk premiums and the interest rate on utility bonds?

1. Using Mr. Gorman’s 3.82 percent interest rate on utility bonds, this analysis indicates a risk premium of 5.57 percent. This risk premium estimate is 269 basis points higher than Mr. Gorman’s low-end risk premium equal to 2.88 percent, and 135 basis points higher than the 4.23 percent average of the highest and lowest risk premium values shown on Mr. Gorman’s Exhibit MPG-15.

**Q.** Why are the estimated risk premiums from your regression analyses higher than the average risk premium over the period January 1986 through June 2019?

1. The risk premiums from my regression analyses are higher than the average risk premiums over the period of Mr. Gorman’s studies because, as discussed above, allowed equity risk premiums generally increase when interest rates decline, and interest rates have declined over the period of Mr. Gorman’s studies. My regression analyses correctly take into account the inverse relationship between allowed equity risk premiums and interest rates. (Gorman at 53)

**Q.** What cost of equity estimates would Mr. Gorman have obtained from his risk premium analyses if he had correctly calculated the inverse relationship between allowed equity risk premiums and interest rates, as you have done in your regression analyses?

1. Adding the calculated risk premiums of 6.7 percent over Treasury bonds and 5.57 percent over utility bonds to the average 2.9 percent yield on long-term Treasury bonds shown on Mr. Gorman’s Exhibit MPG-14 and to Mr. Gorman’s 3.82 percent observed utility bond yield produces risk premium costs of equity estimates equal to 9.6 percent and 9.4 percent. These cost of equity estimates are 40 basis points and 20 basis points higher than Mr. Gorman’s recommended 9.2 percent cost of equity. (*See* Table 1 and Table 2 below.)

**Table 1  
Statistical Analysis of Mr. Gorman’s Treasury Bond  
Risk Premium Cost of Equity**

|  |  |
| --- | --- |
| Intercept | 0.0798 |
| Slope | (0.440) |
| Treasury Bond Yield | 2.90% |
| Bond Yield x Slope Coefficient | (0.0128) |
| Risk Premium | 6.7% |
| Cost of Equity | 9.6% |

**Table 2  
Statistical Analysis of Mr. Gorman’s Utility Bond  
Risk Premium Cost of Equity**

|  |  |
| --- | --- |
| Intercept | 0.0731 |
| Slope | (0.454) |
| Bond Yield | 3.82% |
| Bond Yield x Slope Coefficient | (0.017) |
| Risk Premium | 5.57% |
| Cost of Equity | 9.4% |

**Q.** Mr. Gorman’s allowed equity risk premium estimates are based on his 2.6 percent estimate of the yield on long-term Treasury bonds and his 3.82 percent estimated utility bond yield. Could Mr. Gorman reasonably have used higher interest rates in his allowed equity risk premium cost of equity analyses?

1. Yes. Mr. Gorman consulted EIA forecasts to estimate GDP growth and he could reasonably have used EIA forecast data to develop projections of long-term Treasury and utility bond yields. EIA projects a yield of 3.69 percent on ten-year Treasury notes and a yield on AA-rated utility bonds equal to 5.75 percent. (*See* EIA, Table 20, Macroeconomic Indicators, released January 24, 2019.) Because Baa-rated utility bonds are riskier than AA-rated utility bonds, these data suggest that Mr. Gorman could reasonably have used a forecasted yield on long-term Treasury bonds of approximately 4.0 percent and a yield on Baa-rated utility bonds of approximately 6.2 percent.

**Q.** What costs of equity would Mr. Gorman have obtained from his risk premium analyses if he had used these estimates of the yields on long-term Treasury bonds and Baa-rated utility bonds?

1. Using the regression coefficients shown above and a Treasury bond yield of 4.0 percent, Mr. Gorman would have obtained a cost of equity estimate equal to 10.2 percent (see Table 3). Using the regression coefficients shown above and a Baa-rated utility bond yield of 6.2 percent, Mr. Gorman would have obtained a cost of equity estimate equal to 10.7 percent (see Table 4).

**Table 3  
Mr. Gorman’s Treasury Bond Risk Premium Cost of Equity  
using Forecasted Treasury Bond Yield Based on EIA Forecasts**

|  |  |
| --- | --- |
| Intercept | 0.0798 |
| Slope | (0.440) |
| Treasury Bond Yield | 4.00% |
| Bond Yield x Slope Coefficient | (0.0176) |
| Risk Premium | 6.21% |
| Cost of Equity | 10.2% |

**Table 4  
Mr. Gorman’s Utility Bond Risk Premium Cost of Equity  
using EIA Forecasted Utility Bond Yield Based on EIA Forecasts**

|  |  |
| --- | --- |
| Intercept | 0.0731 |
| Slope | (0.454) |
| Bond Yield | 6.2% |
| Bond Yield x Slope Coefficient | (0.028) |
| Risk Premium | 4.49% |
| Cost of Equity | 10.7% |

**Q.** In your direct testimony, you obtained forecasted yields based on averaging data from both EIA and Value Line. What cost of equity estimates are produced using the most recent EIA and Value Line interest rate forecast data?

1. Examining the most recent EIA and Value Line data (Value Line Selection & Opinion, August 31, 2019) and the same method as detailed in my direct testimony produces a forecasted yield on long-term Treasury bonds equal to 3.8 percent and a forecasted yield on long-term utility bonds equal to 5.45 percent.

**Q.** What costs of equity would Mr. Gorman have obtained from his risk premium analyses using these reasonable estimates of the yields on long-term Treasury bonds and long-term utility bonds?

1. Using the regression coefficients shown above and a long-term Treasury bond yield of 3.8 percent, Mr. Gorman would have obtained a cost of equity estimate equal to 10.1 percent (see Table 5). Using the regression coefficients shown above and a long-term utility bond yield of 5.45 percent, Mr. Gorman would have obtained a cost of equity estimate equal to 10.3 percent (see Table 6).

**Table 5  
Mr. Gorman’s Treasury Bond Risk Premium Cost of Equity  
using Forecasted Treasury Bond Yield**

|  |  |
| --- | --- |
| Intercept | 0.0798 |
| Slope | (0.440) |
| Treasury Bond Yield | 3.8% |
| Bond Yield x Slope Coefficient | (0.0167) |
| Risk Premium | 6.3% |
| Cost of Equity | 10.1% |

**Table 6  
Mr. Gorman’s Utility Bond Risk Premium Cost of Equity  
using Forecasted Utility Bond Yield**

|  |  |
| --- | --- |
| Intercept | 0.0731 |
| Slope | (0.454) |
| Bond Yield | 5.45% |
| Bond Yield x Slope Coefficient | (0.021) |
| Risk Premium | 4.83% |
| Cost of Equity | 10.3% |

**Q.** Why are the cost of equity estimates from your regression analyses shown in **Table 1** through **Table 6** significantly higher than the risk premium cost of equity range Mr. Gorman presents?

1. The cost of equity estimates derived from my regression analyses are higher than the cost of equity estimates Mr. Gorman presents because Mr. Gorman’s analysis considers only the lowest and highest data points, uses unreasonable interest rates, and fails to accurately capture the inverse relationship between the required rate of return on equity and interest rates.

Q. Please summarize the corrected risk premium cost of equity estimates you obtain based on Mr. Gorman’s allowed risk premium data.

1. Statistical analyses of these data produce cost of equity estimates in the range 9.4 percent to 10.7 percent, which includes a 20-basis point flotation cost allowance (see Table 7).

Table 7  
Summary Costs of Equity  
Mr. Gorman’s Corrected Risk Premium Studies

|  |  |  |
| --- | --- | --- |
| Risk Premium Cost of Equity Based on T Bond | Risk Premium Cost of Equity Based on Utility Bond | Source of Yields |
| 9.6% | 9.4% | Gorman observed |
| 10.2% | 10.7% | EIA |
| 10.1% | 10.3% | Value Line, EIA |

## MR. GORMAN’S CAPM

**Q.** **The CAPM requires estimates of the risk-free rate, the company-specific risk factor, or beta, and either the required return on an investment in the market portfolio, or the risk premium on the market portfolio compared to an investment in risk-free government securities. How does Mr. Gorman estimate these CAPM inputs?**

1. For the risk-free rate, Mr. Gorman uses a 2.6 percent estimated yield on 30-year U.S. Treasury bonds. (Gorman at 55) For the company-specific risk factor or beta, Mr. Gorman uses an “historical average” 0.70 Value Line beta for his proxy utilities. (Gorman at 56) For his estimate of the expected risk premium on the market portfolio, Mr. Gorman uses both a forward-looking risk premium estimate equal to 8.3 percent and an historical risk premium estimate equal to 6.0 percent. (Gorman at 58 – 59)

**Q. How does Mr. Gorman arrive at his 8.3 percent and 6.0 percent estimates of the market risk premium?**

1. Mr. Gorman derives his forward-looking risk premium estimate (8.4 percent) from the difference between an expected market return (10.98 percent) and a risk-free rate (2.6 percent). Mr. Gorman derives his historical risk premium estimate (6 percent) from the 6 percent difference between the historical arithmetic average of achieved total return on the S&P 500 (11.9 percent) and the total return on long-term Treasury bonds (5.9 percent). (Gorman at 56 - 57)

**Q. What CAPM cost of equity estimate does Mr. Gorman obtain from his CAPM analyses?**

1. Mr. Gorman obtains a high CAPM estimate of 8.41 percent (8.41 = 2.6 + 0.70 x 8.4) and a low CAPM estimate of 6.75 percent (6.75 = 2.6 + 0.70 x 6). Mr. Gorman states that he places “primary reliance on” his high-end CAPM return estimate. (Gorman at 58) (I note that correctly calculating a CAPM result using these data would produce values equal to 8.5 percent and 6.8 percent rather than the value stated in Mr. Gorman’s testimony. The values stated in Mr. Gorman’s testimony are apparently based on a calculation using a beta equal to 0.69.)

**Q.** Do you agree with Mr. Gorman’s CAPM analysis of the cost of equity?

1. No. I disagree with his: (1) 2.6 percent estimate of the risk-free rate; (2) 0.70 beta estimate; (3) use of a 5.9 percent total return on long-term Treasury bonds to calculate one of his estimates of the historical risk premium on the market portfolio; and (4) his failure to acknowledge the substantial evidence that the CAPM tends to underestimate the cost of equity for companies such as his comparable companies with betas less than 1.0.

**Q.** Why do you disagree with Mr. Gorman’s 2.6 percent estimate of the risk-free rate?

1. I disagree with Mr. Gorman’s 2.6 percent estimate of the risk-free rate because the analysis presented in my direct testimony (see pp. 37-38 Vander Weide direct) indicates that the forecasted yield on long-term 20-year Treasury bonds was approximately 3.8 percent at the time of my direct testimony, and a current analysis based on updated Value Line forecasts and published EIA data indicates that the forecasted yield on 30-year Treasury bonds is approximately 4.0 percent (see Value Line Selection & Opinion, August 30, 2019).

**Q.** Why do you disagree with Mr. Gorman’s use of a 0.70 beta estimate?

1. I disagree with Mr. Gorman’s use of a 0.70 beta estimate because I present evidence in my direct testimony that supports the conclusion that a reasonable beta based on long-run returns on utility stocks compared to the returns on the S&P 500 is 0.89 (see Vander Weide direct at 41 – 42 and Schedule 6).

**Q.** Can you summarize the evidence from your direct testimony that a CAPM analysis based on value line’s short-term betas underestimates the cost of equity for utilities with average betas less than 1.0?

1. Yes. As shown in Georgia Power Exhibit No. \_\_\_ (JVW-1), Schedule 1, over the period 1937 to 2019, investors in the S&P Utilities Stock Index have earned a risk premium over the yield on long-term Treasury bonds equal to 5.46 percent, while investors in the S&P 500 have earned a risk premium over the yield on long-term Treasury bonds equal to 6.11 percent. According to the CAPM, investors in utility stocks should expect to earn a risk premium over the yield on long-term Treasury securities equal to the average utility beta times the expected risk premium on the S&P 500. Thus, the ratio of the risk premium on the utility portfolio to the risk premium on the S&P 500 should equal the utility beta. However, the average Value Line utility beta at the time of my studies was approximately 0.66, whereas the historical ratio of the utility risk premium to the S&P 500 risk premium is 0.89 (5.46 ÷ 6.11 = 0.89). In short, using either the 0.66 average Value Line beta for electric utilities at the time of my direct studies or the current 0.60 average Value Line beta for electric utilities underestimate the CAPM cost of equity for electric utilities, providing further support for the conclusion that the CAPM underestimates the cost of equity for electric utilities at this time.

**Q.** Why do you disagree with Mr. Gorman’s use of a 5.9 percent total return on long-term Treasury bonds in his historical risk premium analysis?

1. I disagree with Mr. Gorman’s use of a 5.9 percent total return on long-term Treasury bonds as one indicator of the market risk premium because the CAPM requires an estimate of the difference between the expected return on the market portfolio and the risk-free rate, and the total return on Treasury bonds is not risk free. The total return on Treasury bonds is not risk free because the total return is subject to interest rate risk whereas the income return is not. Thus, it is only the income return that is risk free.

**Q.** Does Mr. Gorman acknowledge the evidence that the CAPM tends to underestimate the cost of equity for companies, such as his proxy companies, that have betas less than 1.0?

1. No.

**Q.** Do you cite evidence that the CAPM tends to underestimate the cost of equity in your direct testimony?

1. Yes. I cite this evidence in my direct testimony (see Vander Weide direct at pp. 39 – 42).

**Q.** What CAPM result would Mr. Gorman have obtained for the Value Line electric utility group if he had used a beta of 0.89, a forecasted Treasury bond yield equal to 3.8 percent, his average market risk premium equal to 7.2 percent, and a flotation cost allowance of 20 basis points?

1. Using a utility beta of 0.89 for the Value Line electric utilities, a forecasted Treasury bond yield equal to 3.8 percent, his average market risk premium equal to 7.2 percent, and a flotation cost allowance of 20 basis points, Mr. Gorman would have obtained a CAPM estimate of Georgia Power’s cost of equity equal to 10.4 percent. (3.8 + 0.89 x 7.2+0.20 = 10.4)

**Q.** What CAPM cost of equity would Mr. Gorman have obtained if he had used a beta of 0.89, a forecasted Treasury bond yield equal to 3.8 percent, his market risk premium equal to 8.4 percent, and a flotation cost allowance of 20 basis points?

1. Using a beta of 0.89, a forecasted Treasury bond yield equal to 3.8 percent, his market risk premium equal to 8.4 percent, and a flotation cost allowance of 20 basis points, Mr. Gorman would have obtained a CAPM estimate of Georgia Power’s cost of equity equal to 11.5 percent. (3.8 + 0.89 x 8.4 + .20= 11.5)

Q. Please summarize the CAPM cost of equity Mr. Gorman would have obtained based on these analyses.

1. Mr. Gorman would have obtained CAPM costs of equity equal to 10.4 percent and 11.5 percent. These results are shown below (see Table 8).

Table 8  
Summary Costs of Equity  
Mr. Gorman’s Adjusted CAPM Analyses

|  |  |  |  |
| --- | --- | --- | --- |
| Risk-Free Rate | 3.8% | 3.8% | Value Line, EIA forecast data |
| Market Risk Premium | 8.4% | 7.2% | Gorman Exhibit MPG-19 |
| Historical Beta | 0.89 | 0.89 | Vander Weide Schedule 6 Direct |
| Flotation allowance | 0.20% | 0.20% | Vander Weide Schedule 1 Direct |
| Cost of Equity | 11.5% | 10.4% |  |

Q. You have identified reasonable changes in inputs to Mr. Gorman’s cost of equity studies. Please summarize the cost of equity results Mr. Gorman would have obtained based on your analysis of his studies.

1. Mr. Gorman would have obtained a DCF cost of equity equal to 9.2 percent, a Risk Premium cost of equity equal to 10.1 percent, and a CAPM cost of equity equal to 10.9 percent.
2. Mr. Gorman provides DCF, Risk Premium, and CAPM cost of equity analyses to estimate Georgia Power’s cost of equity, but he did not provide a Comparable Earnings analysis, as you did. Did you conduct a comparable earnings analysis in your direct testimony?
3. Yes. I obtained an average expected rate of return on book equity for my large group of comparable-risk utilities equal to 10.7 percent (see Vander Weide Direct, Schedule 9). (I note that Ms. Reno also presents a Comparable Earnings analysis, obtaining results in the range 10.1 percent to 10.9 percent, shown on her Exhibit MLR-8e.)

# RESPONSE TO MR. GORMAN’S COMMENTS ON DR. VANDER WEIDE’S TESTIMONY

**Q.** What are Mr. Gorman’s primary criticisms of your cost of equity analyses?

1. Mr. Gorman disagrees with my financial risk adjustment, DCF analysis (use of quarterly DCF model and flotation cost adjustment), risk premium analysis, CAPM analyses, and Comparable Earnings analysis.

## FINANCIAL RISK ADJUSTMENT

**Q.** What is the meaning of the term, “financial risk”?

1. Economists use the term, “financial risk” to refer to the contribution of the firm’s capital structure, that is, its debt to equity ratio, to the forward-looking variance of return on the firm’s stock.

**Q.** Does financial risk depend on the market values of debt and equity in a company’s capital structure or the book values of debt and equity in a company’s capital structure?

1. Financial risk measures the contribution of the company’s capital structure to the forward-looking variance of return on the company’s stock, and the forward-looking variance of return depends on the market values of debt and equity in the company’s capital structure, not the book values. (*See,* for example*,* Richard A. Brealey, Stewart C. Myers, and Franklin Allen, Principles of Corporate Finance, 8th ed., McGraw-Hill, 2006, pp. 452 - 456) Thus, financial risk reflects the market values of debt and equity in a company’s capital structure, not the book values.

**Q.** Do financial economists and market participants agree that the variance of an equity investor’s return on investment depends on the company’s market value debt to equity ratio?

1. Yes. Financial economists and market participants agree that the variance of an equity investor’s return on investment depends on the company’s market value debt to equity ratio. Indeed, the relationship between an equity investor’s return on investment and the market value debt to equity ratio is the cornerstone of the Modigliani-Miller theorem, which posits that the investor’s required return increases with increasing financial risk as measured by a company’s market value debt to equity ratio. The Modigliani-Miller theorem is a universally accepted cornerstone of financial theory.

**Q.** Is the financial risk associated with Georgia Power’s book value capital structure measured in the same way as the actual financial risk experienced by equity investors in the proxy electric utilities in the capital markets?

1. No. The financial risk experienced by equity investors in my proxy companies in the marketplace is reflected in the proxy companies’ market value capital structures. However, consistent with regulatory practice, Georgia Power is using a book value capital structure to estimate its revenue requirement in this proceeding. Thus, the financial risk experienced by equity investors in my proxy companies is measured by the proxy companies’ market value capital structures, while Georgia Power’s book value capital structure is being used to estimate its revenue requirement in this proceeding.

**Q.** How does the average market value capital structure of the proxy group of electric utilities you use to estimate Georgia Power’s cost of equity compare to Georgia Power’s book value capital structure?

1. The average market value capital structure of my proxy electric utilities currently contains approximately 67 percent equity, whereas Georgia Power’s revenue requirement is based on a book value capital structure containing only 56.08 percent equity.

**Q.** Do you adjust your cost of equity results for your comparable companies to reflect the difference between the market’s perception of the financial risk of your proxy companies and the financial risk reflected in Georgia Power’s book value capital structure?

1. Yes. As described in my direct testimony, I adjust the cost of equity results for my comparable companies by equating the after-tax weighted average market cost of capital of my proxy companies to the after-tax weighted average book cost of capital of Georgia Power. In this procedure, I use market-value capital structure weights for my comparable companies because the cost of capital for these companies is based on market values, and I use book value weights for Georgia Power because the recommended cost of capital for Georgia Power in this proceeding is based on book values. I note that my financial risk adjustment is conservative because I use a five-year average market value capital structure for the Value Line electric utilities containing 60 percent equity rather than the Value Line electric utilities’ current average market value capital structure, which contains approximately 67 percent equity.

**Q.** Does Mr. Gorman agree with your financial risk adjustment?

1. No. Mr. Gorman claims that my financial risk adjustment is “flawed and produces an unjust result for Georgia Power ratepayers.” (Gorman at 66)

**Q.** Why do you adjust the cost of equity results for your proxy companies to reflect the average difference between the financial risk experienced by equity investors in your proxy companies in the capital markets and the financial risk reflected in Georgia Power’s book value capital structure?

1. I adjust my cost of equity results for my proxy companies because the proxy companies’ average market value capital structure reflects a higher degree of financial risk than Georgia Power’s recommended capital structure. In making this assessment, I recognize that investors measure the financial risk of investing in the equity of my proxy companies based on these companies’ market value capital structures, while Georgia Power is using a book value capital structure with less equity than the proxy companies’ average market value capital structure to calculate its revenue requirement. Because investors demand a higher return for bearing greater risk, an adjustment is required to the cost of equity result for the proxy companies in order to give investors an opportunity to earn their required return on equity in the marketplace when allowed rates of return on equity are based on book value capital structures.

**Q.** You note that investors measure the financial risk of investing in the equity of your proxy companies based on these companies’ market value capital structures. Why do equity investors measure the financial risk of the proxy companies based on their market value capital structures?

1. Equity investors measure financial risk based on market value capital structures because, from the equity investor’s point of view, risk is measured by the forward-looking variance of return on their equity investment; and the forward-looking variance of return on an equity investment depends on a company’s market value capitalization, not its book value capitalization.

**Q.** How does Mr. Gorman define financial risk?

1. Mr. Gorman defines financial risk as the ability of a company to meet its financial obligation to pay the interest and principal on its debt: “The market’s assessment of GPC’s investment risk is best described by credit rating analysts’ reports.” (Gorman at 21)

**Q.** Does Mr. Gorman’s definition of financial risk reflect the point of view of equity investors?

1. No. Mr. Gorman’s definition of financial risk reflects the point of view of debt investors, not the point of view of equity investors. Whereas debt investors are justifiably concerned with a company’s ability to cover the interest and principal payments on its debt, equity investors are primarily concerned with the forward-looking variance of return on their investment. As noted above, the forward-looking variance of return on an equity investment depends on a company’s market value capital structure, not its book value capital structure. Indeed, equity investors generally cannot buy a company’s stock at book value.

**Q.** In summary, do you agree with Mr. Gorman’s criticism of your financial risk adjustment?

1. No. Mr. Gorman fails to recognize that equity investors measure financial risk by the forward-looking variance of return on their equity investment in the company, and the forward-looking variance of return on an equity investment in a company reflects the company’s market value capital structure. Mr. Gorman’s criticism of my financial risk adjustment depends on his incorrect opinion that financial risk reflects book value capitalization ratios rather than market value capitalization ratios. While his opinion may have some relevance from the bond investor’s point of view, it is certainly not relevant from the equity investor’s point of view. The equity investor’s point of view is the only point of view that is relevant for determining the cost of equity.

## DCF ANALYSIS

**Q.** What issues does Mr. Gorman have with regard to your DCF analysis?

1. Mr. Gorman disagrees with my use of a quarterly DCF model and my inclusion of a flotation cost adjustment. (Gorman at 68)

**Q.** Why do you estimate Georgia Power’s cost of equity using a quarterly rather than an annual DCF model?

1. I use a quarterly DCF model rather than an annual DCF model because the DCF model assumes that a company’s stock price is equal to the present discounted value of all expected future dividends. The annual DCF model is only a correct expression of the present discounted value of future dividends if dividends are paid annually at the end of each year. Because the companies in my comparable group pay dividends quarterly, the current market price that investors are willing to pay for stock in these companies reflects the present discounted value of the expected quarterly receipt of dividends. It is unreasonable to apply an annual DCF model to companies that pay dividends quarterly because: (1) the DCF model is based on the assumption that a company’s stock price is equal to the present value of the expected future dividends associated with investing in the company’s stock; and (2) the annual DCF model cannot be derived from this assumption when dividends are paid quarterly.

**Q.** Why does Mr. Gorman disagree with your use of a quarterly DCF model?

1. A. Mr. Gorman disagrees with my use of a quarterly DCF model because, in his opinion, “the return available to investors from reinvesting dividends is not a cost to the utility.” (Gorman at 68)

**Q.** Is Mr. Gorman correct when he argues that “the return available to investors from reinvesting dividends is not a cost to the utility?”

1. No. Mr. Gorman fails to recognize that the cost of equity is defined as the return investors expect to receive on other investments of comparable risk. The return available to investors from reinvesting dividends is a cost to the utility because investors will expect to earn a higher return on an investment in comparable utilities that pay dividends quarterly rather than annually.

**Q.** What impact does your use of a quarterly rather than an annual DCF model have on your estimated DCF result for your proxy utilities?

1. Although the quarterly DCF model more accurately captures the timing of the proxy companies’ dividend payments, in this case, applying my quarterly DCF model has little impact on my DCF result (10.03 percent annual model versus 10.10 percent as quarterly model).

## FLOTATION COSTS

**Q.** Why do you include an adjustment for flotation costs in your DCF analysis?

1. I include an adjustment for flotation costs because, without such an adjustment, Georgia Power’s equity investors would not be able to earn a return on their investment in Georgia Power that is commensurate with returns they could earn on other investments of comparable risk.

**Q.** Does Georgia Power issue equity in the capital markets?

1. No. Although Georgia Power does not issue equity in the capital markets, its ultimate parent must issue equity to provide Georgia Power the necessary financing to make investments in Georgia Power’s plant and equipment. If equity flotation costs are not recovered through the allowed returns on the parent’s equity investments in Georgia Power and its other subsidiaries, investors in Southern Company cannot expect to earn a return commensurate with returns on other investments of similar risk.

**Q.** Does Mr. Gorman agree with your flotation cost adjustment?

1. No. Mr. Gorman claims that a flotation cost adjustment is inappropriate because the flotation cost adjustment: (1) “is not a known and measurable cost for Georgia Power”; (2) “is not based on Georgia Power’s actual costs”; and (3) “overstates Georgia Power’s revenue requirement” because it allows for recovery of an expense not incurred by Georgia Power. (Gorman at 67—69)

**Q.** Is Mr. Gorman correct when he asserts that flotation costs are not a “known and measurable” cost for Georgia Power? (Gorman at 69)

1. No. Flotation costs are a known cost for Georgia Power because Georgia Power obtains its equity from Southern Company, and Southern Company finances its investment in Georgia Power, at least in part, by issuing equity in the capital markets. The flotation costs Southern Company incurs to finance its investment in Georgia Power is properly included in my estimate of Georgia Power’s required return because its parent will not be able to recover its required equity return on its investment in Georgia Power if flotation costs are not included in Georgia Power’s revenue requirement. In Appendix 3 of Exhibit JVW-1 to my direct testimony, I present evidence that *all companies* incur flotation costs when they issue new equity securities, that flotation costs represent approximately five percent of the company’s pre-issue stock price, and that the company will not be able to earn a fair rate of return on its investment if it does not recover its flotation costs.

**Q.** What is the economic basis of your recommended flotation cost allowance?

1. My recommended flotation cost allowance is based on the fundamental economic and regulatory principles that: (1) a company should only invest in a new project if it can earn a return on its investment that is equal to or greater than its cost of capital; and (2) the time pattern of expense recovery should match the time pattern of benefits resulting from the expense. Because equity flotation costs are a legitimate expense of raising capital, a company has no incentive to invest in new capital projects if equity flotation costs are not included in the cost of capital estimate. In addition, because the proceeds of an equity issuance are invested in assets that provide benefits over a long time period, the costs of an equity issuance should be recovered over a long period of time.

**Q.** Can you illustrate how this economic principle supports your recommended flotation cost allowance?

1. Yes. Suppose that a company incurs a five percent flotation cost expense on each equity issuance. As a result of the five percent flotation cost expense, the company will only be able to invest $95 in new projects for each $100 of equity it issues in the capital markets. If investors require a ten percent return on their $100 equity investment in the company, the company will have to earn $10 on its $95 investment in new projects in order to earn a ten percent return for its investors. Thus, the presence of flotation costs has increased the required return on new projects from ten percent to 10.53 percent ($10/$95 = 10.53 percent).

## RISK PREMIUM ANALYSIS

**Q.** What issues does Mr. Gorman have with regard to your risk premium analysis?

1. Mr. Gorman argues that my forecasted utility bond yield is “overstated” and that my study comparing DCF returns and interest rates is “unreasonable.” (Gorman at 71)

**Q.** What specific criticisms does Mr. Gorman have with regard to your forecasted utility bond yield?

1. Mr. Gorman argues that “caution should be used when including forecasted interest rates in developing a fair return on equity” because observable current interest rates “have been a more accurate predictor of future interest rates than economists’ consensus projections.” (Gorman at 72) Mr. Gorman further argues that the estimates I use from Value Line and EIA reflect “projected outlooks for capital market costs that are many years out into the future, that range 10 years in the future.” (Gorman at 72)

**Q.** Do you agree with Mr. Gorman’s argument that forecasted interest rates should not be used in a risk premium analysis because, in his opinion, current interest rates have more accurately predicted future rates than forecasted interest rates?

1. No. Georgia Power will only be able to attract capital if it offers investors an *expected* return that is commensurate with returns they *expect* to earn on other investments of comparable risk at the time they make their investment. If investors do not use interest rate forecasts to make investment decisions, as Mr. Gorman suggests, they would not pay for the interest rate forecasts of financial and economic advisory firms.

**Q.** What specific criticisms does Mr. Gorman have with regard to the design of your ex ante risk premium analysis?

1. Mr. Gorman argues that my ex ante risk premium study depends on a “simplistic inverse relationship between equity risk premiums and interest rates without any regard to differences in investment risk.” (Gorman at 73)

**Q.** Is Mr. Gorman correct when he argues that your study relies on a “simplistic inverse relationship between equity risk premiums and interest rates?”

1. No. My ex ante risk premium study does not *assume* an inverse relationship between the cost of equity and interest rates. Rather, my study *demonstrates* that there is, in fact, a statistically significant inverse relationship between the DCF cost of equity and interest rates.

**Q.** Is Mr. Gorman correct when he argues that your study does not take “differences in investment risk” into account?

1. No. My ex ante risk premium study compares the DCF cost of equity for a proxy group of electric utilities to the average interest rate on A-rated utility bonds for each month in my 233-month study period. Thus, the risk of investing in electric utilities is implicitly included in the DCF estimates of the electric utilities’ cost of equity at each point in time of the 233 months in my ex ante risk premium study.

**Q.** Does Mr. Gorman himself cite studies that demonstrate a statistically significant inverse relationship between the EQUITY RISK PREMIUM and interest rates?

1. Yes. Mr. Gorman himself cites studies by Harris and Marston and Brigham, Shome and Vinson (Gorman at 73), which, similar to my ex ante risk premium studies, demonstrate a statistically significant inverse relationship between the risk premium and interest rates.

**Q.** Mr. Gorman also argues that your risk premium analysis should not be relied on because equity risk premiums in the 1980s were likely attributable to “extreme” interest rate volatility;” and, in “today’s marketplace, “interest rate volatility is not as extreme as it was in the 1980s.” (Gorman at 74) Does your study include equity risk premium data from the 1980s?

1. No. My ex ante risk premium study compares monthly stock and bond data beginning in September 1999.

**Q.** Mr. Gorman also claims that “the relevant factor needed to explain changes in equity risk premiums is the relative changes between the risk of equity versus debt investments, and not simply changes in interest rates.” (Gorman at 74) Does your study implicitly include changes in relative risk of equity and debt investments?

1. Yes. Relative changes in the risk of equity and debt investments is strongly influenced by changes in interest rates. When interest rates are relatively high, the measured risk premium is relatively low because investors are expecting that the value of their debt investment will increase when interest rates go lower. Similarly, when interest rates are low, investors demand a higher risk premium because the value of their debt investments will decline when interest rates increase. Thus, changes in the relative risk of equity and debt investments are implicitly included in my ex ante risk premium analysis.

Q. Mr. Gorman attempts to revise your ex ante risk premium study “to produce a reasonable estimate of Georgia Power’s current cost of common equity.” (Gorman at 74) Is Mr. Gorman’s proposed revision to your risk premium analysis logically consistent with your ex ante risk premium analysis?

1. No. There are several errors in Mr. Gorman’s attempted revision of my ex ante risk premium study. First, Mr. Gorman mistakenly adds an estimated risk premium of 5.3 percent that applies only to a bond yield equal to 5.4 percent to lower bond yields equal to 3.5 percent and 3.8 percent. Second, Mr. Gorman misstates the estimated equity risk premium produced by my study, 5.14 percent, not 5 percent. Third, Mr. Gorman himself has acknowledged that the required equity risk premium increases when interest rates decline. Thus, Mr. Gorman should have used my regression coefficients to obtain equity risk premium estimates that actually correspond to Mr. Gorman’s assumed 3.5 percent and 3.8 percent bond yields. Had Mr. Gorman correctly used the regression equation described in my testimony to identify the required equity risk premium corresponding to bond yields equal to 3.5 percent and 3.8 percent, he would have found that his estimates of the risk premium cost of equity were equal to 9.83 percent and 9.94 percent, respectively. (See Table 9 below.)

**Table 9  
Ex Ante Risk Premium Cost of Equity Corresponding to  
Mr. Gorman’s Interest Rates**

|  |  |  |  |
| --- | --- | --- | --- |
| Constant coefficient | 0.0851 | 0.0851 |  |
| Bond coefficient | -0.6238 | -0.6238 |  |
| Gorman bond yield = | 3.50% | 3.80% |  |
| Bond coefficient x Bond yield = | (0.0218) | (0.0237) | Line 2 (bond coefficient) x Line 3 (bond yield) |
| Ex Ante Risk Premium | 6.33% | 6.14% | Line 1+Line 4 |
| Forecast bond yield = | 3.50% | 3.80% |  |
| Ex Ante Risk Premium Cost of Equity = | 9.83% | 9.94% | Expected risk premium + bond yield |

**Q.** Is Mr. Gorman correct when he claims that the estimates on which you relied to develop your interest rate forecasts “have no basis” and reflect outlooks that “range 10 years in the future”? (Gorman at 72)

1. No. The information on which I relied is publicly available from reputable sources, including Value Line and EIA. Furthermore, as is clearly shown in the source documents from which I obtain my data, the years to which these data apply are the years 2019, 2020, and 2021—2022, not ten years in the future.

**Q.** Why do you use forecasted interest rate data rather than current interest rates in your risk premium analysis?

1. I use a forecasted interest rate because the fair rate of return standard requires that Georgia Power have an opportunity to earn its cost of equity during the period when rates are in effect, and the rates approved in this case will likely not come into effect until 2020.

**Q.** What are Mr. Gorman’s criticisms of your ex post risk premium analysis?

1. Mr. Gorman disagrees with my use of: (1) a forecasted interest rate on A-rated utility bonds rather than a currently observable interest rate; (2) the historical equity risk premium based on returns on the S&P 500 in addition the historical risk premium on utility stocks; and (3) a flotation cost adjustment. (Gorman at 74--75)

**Q.** Have you already discussed your use of forecasted interest rates and the reasons for a flotation cost adjustment in both your direct and your rebuttal testimonies?

1. Yes.

**Q.** Did you explain why you use the historical equity risk premium based on returns on the S&P 500 in addition the historical risk premium on utility stocks in your direct testimony?

1. Yes. I explain that I use the historical equity risk premium based on returns on the S&P 500 in addition the historical risk premium on utility stocks because I believe electric utilities today face risks that are somewhere in between the average risk of the S&P Utilities and the S&P 500 over the years 1937 to 2019. Thus, I use the average of the two historically-based risk premiums as my estimate of the required risk premium in my ex post risk premium method. I also note that the risk premiums that I obtain from these analyses are conservative, and lower than the risk premiums that Mr. Gorman uses in his own risk premium studies.

## CAPITAL ASSET PRICING MODEL

**Q.** Mr. Gorman criticizes your CAPM analyses, arguing that you incorrectly “adjusted” a Value Line beta that was already adjusted. (Gorman at 77) Has Mr. Gorman correctly characterized how you arrive at the 0.89 beta you use in one of your CAPM analyses?

1. No. The beta coefficient in the CAPM measures the ratio of the risk premium on an individual company’s stock compared to the risk premium on the market portfolio. In my direct testimony, I present evidence that the ratio of the risk premium on utility stocks compared to the risk premium on the S&P 500 has been approximately 0.89 over the years 1937 to the present (see Vander Weide direct testimony at pp. 41 - 42 and Schedule 6). Thus, the 0.89 beta that I use in one of my CAPM analyses provides a correct estimate of utility beta. Contrary to Mr. Gorman’s claim, my analysis does not involve any adjustment to Value Line betas, but rather is an independent calculation of the utility beta.

**Q.** Did you address above Mr. Gorman’s criticisms of your use of forecasted interest rates in your response to Mr. Gorman’s concerns about your risk premium analyses?

1. Yes. As I discuss above, it is reasonable to use forecasted interest rates because the fair rate of return standard requires that: (1) investors have an opportunity to earn a return on their investment in Georgia Power that is commensurate with returns they *expect* to earn on other investments of comparable risk; and (2) Georgia Power have an opportunity to earn its cost of equity during the period when rates are in effect, and the rates approved in this case will likely not come into effect until 2020.

## COMPARABLE EARNINGS

**Q.** What is the comparable earnings approach for estimating the required rate of return on equity for a public utility such as Georgia Power?

1. The comparable earnings method estimates the required rate of return on equity by calculating the expected rate of return on book equity for a group of comparable risk companies.

**Q.** Does Mr. Gorman agree with your use of a comparable earnings analysis to estimate the required rate of return on equity?

1. No. Mr. Gorman claims that my comparable earnings analysis “should be rejected” because it measures the historical book accounting return, not the market required return. (Gorman at 80)

**Q.** Do you agree with Mr. Gorman’s criticisms that your comparable earnings approach inappropriately measures the comparable companies’ historical book accounting return rather than the regulated companies’ required rate of return on equity?

1. No. Mr. Gorman fails to distinguish between the regulated companies’ historical accounting rates of return on equity and the financial analysts forecasted accounting rates of return on equity. Historical accounting rates of return on book equity may not measure a regulated company’s required rate of return on equity. However, analysts’ forecasts of accounting rates of return on book equity are generally a reasonable measure of a regulated company’s required rate of return on book equity because they measure the returns on book equity that investors expect to earn on other investments of comparable risk.

**Q.** Why are historical accounting rates of return on book equity generally a poor measure of a regulated company’s required rate of return on book equity?

1. Historical accounting rates of return on equity are generally a poor measure of a regulated company’s required rate of return on equity because they often reflect the impact of accounting items such as one-time gains or losses as well as accounting results of discontinued operations and/or assets.

**Q.** Why may forecasted future returns on book equity be a reasonable estimate of a regulated company’s required rate of return on book equity?

1. Forecasted future returns on book equity may be a reasonable estimate of a regulated company’s required rate of return on equity because forecasted future returns do not include accounting items that distort historical returns on book equity. For example, forecasted future returns on book equity do not include results of discontinued operations but do include anticipated results from new investments and operational efficiencies.

**Q.** Does your comparable earnings method rely on the average historical rate of return on equity for your proxy group of electric utilities or forecasted rates of return on book equity for the proxy group of electric utilities?

1. My comparable earnings method relies on forecasted rates of return on book equity for the proxy group of electric utilities published by Value Line.

**Q.** Does the comparable earnings method provide a precise estimate of the required rate of return on equity?

1. No. The comparable earnings method only provides an estimate of a company’s required rate of return. I have used the comparable earnings method along with my DCF, risk premium, and CAPM analyses to arrive at my estimate of Georgia Power’s required rate of return on equity in this proceeding. I further note that in this proceeding, the comparable earnings method result is the same as the average result from my other cost of equity methods.

# REBUTTAL OF MS. RENO

Q. wHAT OVERALL RATE OF RETURN does Ms. Reno RECOMMEND FOR GEORGIA POWER IN THIS PROCEEDING?

1. Mr. Reno recommends an overall rate of return of 6.92 percent based on a cost of equity of 9.1 percent, a cost of debt of 4.14 percent, and a capital structure containing 43.92 percent debt and 56.08 percent equity.

Q. How does Ms. Reno arrive at her recommended 4.14 percent cost of debt and 43.92 percent debt/56.08 percent equity capital structure?

1. Mr. Reno accepts the cost of debt and capital structure values Georgia Power used to estimate its revenue requirement in this proceeding.

Q. how does Ms. Reno arrive at her recommended 9.1 percent cost of equity for Georgia Power?

1. Ms. Reno’s arrives at her recommended 9.1 percent cost of equity by applying the DCF, CAPM, and Comparable Earnings methods to a proxy group of Value Line electric utilities. However, Ms. Reno states that she relies on the results of her DCF analysis to estimate Georgia Power’s cost of equity: “Although I employ the DCF, CAPM and the CEM models for estimates, my recommended ROE is based on estimates derived using the DCF model.” (Reno at 40).

## MS. RENO’S PROXY ELECTRIC UTILITY GROUP

Q. How does Ms. Reno select her proxy group of electric utilities?

1. Mr. Reno selects the electric utilities followed by Value Line that satisfy the following criteria: “have an investment-grade bond rating; paid dividends during every quarter of the last two years; did not decrease dividends during any quarter of the last two years; have a positive I/B/E/S long-term growth forecast; and are not the subject of a merger offer that has not been completed.” (Reno at 22)

Q. Are these the same criteria that you used to select a proxy group for the purpose of estimating Georgia Power’s cost of equity?

A. Yes.

Q. Does Ms. Reno agree that you applied your selection criteria correctly?

A. No. Ms. Reno believes that Evergy should not be included in my proxy group because Evergy did not pay dividends in every quarter of the last two years, and that El Paso Electric should not be included because it has accepted a takeover offer. (Reno at 22-23)

Q. Do you agree with Ms. Reno that Evergy should not be included in the proxy group of electric utilities because Evergy did not pay dividends in every quarter of the last two years?

A. No. Although Ms. Reno correctly notes that Evergy was formed through the merger of Westar Energy and Great Plains Energy in June 2018, she fails to note that Westar and Great Plains both paid dividends consistently for many years prior to the merger; and Evergy announced their dividend payout plans in advance of the completion of the merger. Thus, there was every reason for investors to believe that the successor company, Evergy, would continue to pay dividends in the future.

Q. Do you agree with Ms. Reno’s conclusion that El Paso Electric should have been eliminated from your proxy group because it has received a takeover offer from the Infrastructure Investment fund Advised by J.P. Morgan?

A. No. Ms. Reno fails to recognize that the cost of equity studies reported in my direct testimony were conducted before the June 3, 2019 takeover offer was announced.

Q. do you agree that it is reasonable for Ms. Reno to exclude El Paso Electric from an electric utility proxy group at this time?

A. Yes. Now that a takeover offer has been announced, I agree with Ms. Reno’s decision to exclude El Paso Electric from an electric utility proxy group.

## MS. RENO’S COST OF EQUITY ESTIMATE

Q. What methods does Ms. Reno use to estimate GEORGIA POWER’s cost of equity?

1. As noted above, Mr. Reno estimates Georgia Power’s cost of equity by applying the DCF Model, the CAPM, and Comparable Earnings methods to a proxy group of electric utilities. However, as noted above, Ms. Reno states that her cost of equity recommendation is based on the results of her DCF analysis.

### DCF Model

1. Please describe the DCF model.
2. As I discuss in my direct testimony, the DCF model is based on the assumption that investors value an asset because they expect to receive a sequence of cash flows from owning the asset. Assuming that dividends are paid annually and grow at a constant annual rate, *g*, the DCF model can be solved for *k*, the cost of equity. The resulting cost of equity equation is *k = D1/Ps + g*, where *k* is the cost of equity, *D1* is the expected next period annual dividend, *Ps* is the current price of the stock, and g is the constant annual growth rate in earnings, dividends, and book value per share. The term *D1/Ps* is called the expected dividend yield component of the annual DCF model, and the term *g* is called the expected growth component of the annual DCF model.

Q. How does Ms. Reno estimate the dividend yield component of the annual DCF model?

A. Ms. Reno estimates the dividend yield component of the annual DCF model by multiplying the current annualized dividend by the factor (1 + g), where g is the investor’s expected growth rate, and dividing the result by both the company’s 90-day average stock price and the company’s 180-day average stock price.

Q. Do you agree with Ms. Reno’s estimate of the dividend yield component of the DCF model?

A. Ms. Reno’s annual DCF model is based on the assumption that companies pay dividends annually. Because Ms. Reno’s proxy companies all pay dividends quarterly, these companies’ stock prices reflect the present value of a quarterly stream of dividends. Thus, the quarterly DCF model is the only DCF model that is consistent with the basic assumption that stock prices are equal to the expected present value of future dividends. Ms. Reno should have used the quarterly DCF model to estimate Georgia Power’s cost of equity.

Q. What average dividend yield does Ms. Reno estimate from her proxy group of electric utilities?

A. Ms. Reno obtains dividend yield estimates in the range 3.37 percent to 3.44 percent (Reno at 27).

Q. How does Ms. Reno estimate the growth component of her annual dCF model?

A. Ms. Reno estimates the growth component of the annual DCF model in three ways: (1) averaging analysts’ earnings per share (EPS) growth; (2) averaging Value Line’s dividend per share (DPS) and book value share (BPS) growth estimates with Ms. Reno’s estimate of EPS growth; and (3) estimating “sustainable” growth for each company. From these three methods, Ms. Reno obtains DCF growth estimates of 5.42 percent, 5.20 percent, and 5.36 percent to 5.42 percent. (Reno at 28-29)

Q. What does Ms. Reno conclude from her DCF analysis of Georgia Power’s cost of equity?

A. Ms. Reno concludes from her DCF analysis that Georgia Power’s cost of equity is 9.1 percent.

Q. Do you agree with Ms. Reno’s conclusion that Georgia Power’s cost of equity is 9.1 percent?

A. No. Although the DCF method is a reasonable method for estimating a utility’s cost of equity when used along with other cost of equity methods such as the Risk Premium, CAPM, and Comparable Earnings, it is unreasonable to rely solely on the result of the DCF model because the cost of equity can only be estimated with uncertainty. Because of the uncertainty associated with all cost of equity estimates, it is more reasonable to use the results of more than one cost of equity method, including the Risk Premium, CAPM, and Comparable Earnings, to estimate a company’s cost of equity. The use of multiple cost of equity methods is especially important in times like the present, when economic and political uncertainty is high. Changes in capital market conditions at points in time may cause particular methods to produce unusually high or unusually low results either for specific companies or for models. Thus, using the results from several methods with the largest reasonable set of proxy companies generally provides a more reasonable estimate of a company’s cost of equity.

### CAPM

**Q.** **As discussed above, the CAPM requires estimates of the risk-free rate, the company-specific risk factor, or beta, and either the required return on an investment in the market portfolio, or the risk premium on the market portfolio compared to an investment in risk-free government securities. How does Ms. Reno estimate the risk-free Rate component of the CAPM?**

1. For the risk-free rate, Ms. Reno uses the average 2.42 percent yield on 30-year U.S. Treasury bonds over the 90-day period ending August 31, 2019. (Reno at 33)

Q. Do you agree with ms. Reno’s use of the 2.42 percent average yield on 30-year Treasury bonds over the 90-day historical period ending August 31, 2019, as her estimate of the risk-free rate component of the CAPM?

A. No. Because the CAPM is a forward-looking estimate of the investor’s required return on equity, Ms. Reno should have used a forecasted yield to maturity on long-term Treasury bonds in her CAPM calculations. As I note in my rebuttal of Mr. Gorman, the forecasted yield on 20-year Treasury bonds was approximately 3.8 percent at the time of my direct testimony, and a current analysis based on updated Value Line forecasts and published EIA data indicates that the forecasted yield on 30-year Treasury bonds is approximately 4.0 percent (see Value Line Selection & Opinion, August 30, 2019).

Q. How does Ms. Reno estimate the beta component of her CAPM analysis

A. Ms. Reno uses the 0.59 average Value Line beta for her proxy electric utility group. (Reno at 34)

Q. Do you agree with Ms. Reno’s use of the average 0.59 beta to estimate georgia Power’s cost of equity?

A. No. As I discuss in my direct testimony, over the period 1937 to 2019, investors in utilities stocks have earned a risk premium over the yield on long-term Treasury bonds equal to 5.46 percent, while investors in the S&P 500 have earned a risk premium over the yield on long-term Treasury bonds equal to 6.11 percent. According to the CAPM, investors in utility stocks should expect to earn a risk premium over the yield on long-term Treasury securities equal to the average utility beta times the expected risk premium on the S&P 500. Thus, the ratio of the risk premium on the utility portfolio to the risk premium on the S&P 500 should equal the utility beta, and the historical ratio of the utility risk premium to the S&P 500 risk premium is 0.89 (5.46 ÷ 6.11 = 0.89). Thus, the current average 0.59 measured beta for Ms. Reno’s electric utility group significantly underestimates the cost of equity for the utilities, providing further support for the conclusion that the CAPM underestimates the cost of equity for utilities now. (See Vander Weide direct testimony at 39 – 41 and Schedule 6.)

Q. How does Ms. Reno measure the market risk premium component of the CAPM?

A. Ms. Reno’s uses three estimates of the market risk premium: (1) the historical 6.91 percent arithmetic average risk premium reported by Duff & Phelps; (2) a 9.48 percent risk premium estimated by subtracting Ms. Reno’s 2.42 percent Treasury bond yield from Duff & Phelps’ 11.90 percent market return over the period 1926 – 2018; and (3) the historical 5.50 percent geometric mean risk premium reported by Duff & Phelps. (Reno at 34)

Q. Do you agree with Ms. Reno’s market risk premium estimates equal to 6.91 percent, 9.48 percent, and 5.5 percent?

A. No. Although I agree with Ms. Reno’s 6.91 percent historical arithmetic average risk premium and 9.48 percent estimated risk premium, I disagree with her historical 5.5 percent geometric mean risk premium. As I demonstrate in my direct testimony and in Schedule 5, the risk premium on the market portfolio should be estimated using the arithmetic mean return on the S&P 500 because, for an investment which has an uncertain outcome, the arithmetic mean is the best historically-based measure of the return investors expect to receive in the future.

Q. What CAPM result would Ms. Reno have obtained if she had used a 3.8 percent estimate of the risk-free rate based on a forcasted yield on long-term Treausry Bonds, a beta of 0.89, market risk premiums equal to 6.91 percent and 9.48 percent, and a flotation cost allowance of 20 basis points?

A. Using a 3.8 percent forecasted yield on long-term Treasury bonds as the risk-free rate, the historical 0.89 beta described in my direct testimony and calculated on Schedule 6, market risk premiums equal to 6.91 percent and 9.48 percent, and a flotation cost allowance of 20 basis points, Ms. Reno would have obtained CAPM costs of equity equal to 10.15 percent and 12.44 percent. (3.8 +0.89 x 6.91 + 0.20 = 10.15, and 3.8 + 0.89 x 9.48 + 0.20 = 12.44) (See Table 10 below.)

Table 10  
Summary Costs of Equity  
Ms. Reno’s Corrected CAPM Analyses

|  |  |  |  |
| --- | --- | --- | --- |
| Risk-Free Rate | 3.8% | 3.8% | Value Line, EIA forecast data |
| Market Risk Premium | 6.91% | 9.48% | Reno Exhibit\_\_(MLR-7) |
| Historical Beta | 0.89 | 0.89 | Vander Weide Schedule 6 Direct |
| Flotation allowance | 0.20% | 0.20% | Vander Weide Schedule 1 Direct |
| Cost of Equity | 10.15% | 12.44% |  |

### Comparable Earnings Model

**Q.** What is the comparable earnings approach for estimating the required rate of return on equity for a public utility such as Georgia Power?

1. As discussed in my direct testimony and above in my rebuttal of Mr. Gorman, the comparable earnings method estimates the required rate of return on equity by calculating the expected rate of return on book equity for a group of comparable risk companies.

Q. How does Ms. Reno calculate the expected rate of return on book equity for her comparable companies?

A. Ms. Reno calculates the average realized ROEs over the years 2010 through 2018 and the average forecasted ROEs for her proxy utilities. (Reno at 39-40)

Q. What average historical and forecasted ROEs does Ms. Reno report for her proxy utility group?

A. Ms. Reno reports that the average historical ROE for her proxy group is 10.1 percent and the average forecasted ROE for her proxy utility group is 10.7 percent. (Reno at 40)

Q. Do you agree with Ms. Reno’s use of both historical and forecasted ROEs in her comparable earnings analysis to estimate the return investors expect to earn on companies of comparable risk?

1. I agree with Ms. Reno’s use of the 10.7 percent forecasted ROE to estimate the expected rate of return on equity in her comparable earnings analysis, but I do not agree with her use of the 10.1 percent historical return on equity to estimate the expected rate of return on equity. As I discuss in my rebuttal of Mr. Gorman, the historical rates of return on book equity are generally a poor measure of a regulated company’s required rate of return on equity because they often reflect the impact of accounting items such as one-time gains or losses as well as accounting results of discontinued operations and assets.

Q. Does Ms. Reno give any weight to her comparable earnings estimates of Georgia Power’s cost of equity?

A. No. As I note above, Ms. Reno states that her recommended 9.1 percent allowed return on equity for Georgia Power “is based on estimates derived using the DCF model.” (Reno at 40)

Q. You have identified reasonable changes in inputs to Ms. Reno’s cost of equity studies. Please summarize cost of equity results you believe Ms. Reno could reasonably have relied on to estimate Georgia Power’s Cost of equity.

1. Based on my analysis of Ms. Reno’s studies, in addition to considering the results of her DCF studies, I believe Ms. Reno could reasonably have relied on a range of results from her studies including a DCF cost of equity equal to 9.1 percent, CAPM costs of equity in the range 10.15 percent to 12.44 percent, and her forecasted Comparable Earnings Model result equal to 10.7 percent (see Table 11 below).

Table 11  
Summary Reno Adjusted Cost of Equity Results

|  |  |  |
| --- | --- | --- |
| Model | Model Result | Source |
| DCF | 9.10 | Reno recommended DCF ROE |
| CAPM | 10.15 – 12.44 | See Table 10 above |
| Comparable Earnings | 10.70 | Reno Exhibit MLR 8e |

# REBUTTAL OF MR. POLLOCK

Q. Does Mr. Pollock recommend a specific return on equity for Georgia Power in this proceeding based on an independent economic analysis of Georgia Power’s cost of equity?

1. No. Mr. Pollock simply offers two rebuttal comments on my testimony.

Q. What specific rebuttal comments does Mr. Pollock offer on your studies of Georgia Power’s cost of equity?

1. Mr. Pollock claims that: (1) my flotation cost allowance should be rejected because I did not present any evidence that Georgia Power’s parent, Southern Company, incurs flotation costs on its equity investments in Georgia Power; and (2) my financial risk adjustment should be rejected because, in his opinion, Georgia Power does not have greater financial risk than other electric utilities. (Pollock at 12—17)

Q. Did you present any evidence on the flotation costs Southern Company incurs to make equity investments in Georgia Power?

1. No. I did not present specific evidence on the flotation costs Southern Company incurs when it invests in Georgia Power because Southern Company has made equity investments in more than one subsidiary for many years, and it is difficult, if not impossible, to trace to any one company the specific flotation costs associated with Southern Company’s equity issuances.

Q. Did you provide other evidence to support your recommended flotation cost allowance for Georgia Power?

A. Yes. I provide evidence in my direct testimony at pp. 28––29 and in Appendix 3 of my direct testimony to support the conclusion that a five percent flotation cost allowance is reasonable.

Q. You note that Mr. Pollack recommends that your financial risk adjustment be rejected because, in his opinion, Georgia Power does not have greater financial risk than other electric utilities. is your financial risk adjustment based on a comparison of Georgia Power’s book value capital structure to the book value capital structures of other electric utilities?

A. No. As discussed on pp. 46 – 47 of my direct testimony (and above in my rebuttal of Mr. Gorman), my financial risk adjustment is based on a proper comparison of the financial risk reflected in my 10.4 percent cost of equity result for my proxy group of electric utilities to the financial risk reflected in Georgia Power’s rate making capital structure. Specifically, I note that the 10.4 percent average cost of equity result from my application of several cost of equity methods to market data for a group of publicly-traded electric utilities reflects the financial risk associated with the *average market value capital structure* of the proxy group, whereas, consistent with regulatory practice, Georgia Power is recommending that rates be set based on a book value capital structure which contains less equity than the average market value capital structure of the proxy group used to estimate the cost of equity. Because the financial risk reflected in my cost of equity estimates is less than the financial risk reflected in Georgia Power’s book value capital structure, I properly adjust my cost of equity estimate to reflect this difference in financial risk.

Q. Why does your cost of equity estimate depend on the average market value capital structure of your proxy group of publicly-traded electric utilities?

A. My cost of equity estimate depends on the average market value capital structure of my proxy group of publicly-traded electric utilities because equity investors measure financial risk based on their estimate of the variance of return on the market value of their equity investment, and the variance of return on the market value of the investment depends on the market values of debt and equity in the proxy companies’ capital structures.

Q. Is your conclusion that the variance of return on an equity investment depends on the market values of debt and equity in a company’s capital structure a widely-accepted concept in the financial community?

A. Yes. In my more than 40 years of teaching finance, I have never encountered any disagreement with the principles that: (1) equity investors measure financial risk by the expected variance of return on the market value of their equity investment; and (2) the expected variance of return on the market value of an equity investment in a market-traded company depends on the market values of debt and equity in the company’s capital structure.

Q. In summary, is Mr. Pollock’s objection to your financial risk adjustment based on a proper understanding of the purpose of your financial risk adjustment?

A. No. Mr. Pollock fails to understand that the purpose of my financial risk adjustment is to provide an opportunity for equity investors to earn a fair rate of return on the market value of their equity investment when Georgia Power’s rates are based on Georgia Power’s book value capital structure.

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

1. Yes, it does.