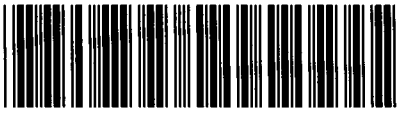

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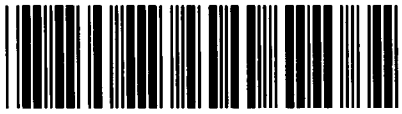

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SOAH DOCKET NO. 473-19-3864
PUC DOCKET NO. 49421

APPLICATION OF CENTERPOINT	**§**	**BEFORE THE STATE OFFICE**
ENERGY HOUSTON ELECTRIC, LLC	**§**	**OF**
FOR AUTHORITY TO CHANGE RATES	**§**	**ADMINISTRATIVE HEARINGS**

REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

ON BEHALF OF

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC

June 2019

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REBUTTAL TESTIMONY OF ROBERT B. HEVERT

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND AFFILIATION.

A. My name is Robert B. Hevert. I am a Partner at ScottMadden, Inc. ("ScottMadden"). My business address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts 01581.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this testimony (referred to throughout as my "Rebuttal Testimony") before the Public Utility Commission of Texas ("Commission") on behalf of CenterPoint Energy Houston Electric, LLC ("CenterPoint Houston" or the "Company").

Q. ARE YOU THE SAME ROBERT B. HEVERT WHO PREVIOUSLY SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

II. PURPOSE AND OVERVIEW OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my Rebuttal Testimony is to respond to the Direct Testimony of the following witnesses (collectively, "Opposing Witnesses") as their testimonies relate to the Company's Return on Equity ("ROE") and capital structure:

- Mr. Jorge Ordonez, who testifies on behalf of Commission Staff ("Staff");
- Ms. Anjuli Winker, who testifies on behalf of the Office of Public Utility Counsel ("OPUC");

- Mr. Michael P. Gorman, who testifies on behalf of Texas Industrial Energy Consumers ("TIEC");
- Dr. J. Randall Woolridge, who testifies on behalf of Texas Coast Utilities Coalition ("TCUC"); and
- Mr. Steve W. Chriss, who testifies on behalf of Walmart Inc.

Q. HAVE YOU UPDATED THE ANALYSES CONTAINED IN YOUR DIRECT TESTIMONY?

A. Yes. I have updated the Constant Growth Discounted Cash Flow ("DCF") model, Capital Asset Pricing Model ("CAPM"), Bond Yield Risk Premium, and Expected Earnings analyses based on data through May 17, 2019. In response to Dr. Woolridge, I have included the Empirical form of the CAPM. Those analyses rely on the proxy group applied in my Direct Testimony.

Q. PLEASE PROVIDE A SUMMARY OVERVIEW OF THE RECOMMENDATIONS CONTAINED IN YOUR REBUTTAL TESTIMONY.

A. It is important to keep in mind that no one financial model is more reliable than others at all times and under all market conditions. At times, certain models' assumptions become incompatible with market conditions, and their results do not make practical sense. Consequently, we cannot always take model results as given, and assume their results are reasonable measures of the Cost of Equity. Rather, we should apply reasoned judgment in vetting model assumptions, and in assessing the reasonableness of their results. That judgment may lead to the conclusion that the

emphasis applied to a particular method in a prior proceeding or under different market conditions is not appropriate in the current instance.

Regarding the Company's Cost of Equity, none of the analyses provided or positions taken by the Opposing Witnesses have caused me to revise my recommended range (10.00 percent to 10.75 percent), or my specific recommendation (10.40 percent). For example, certain of the Opposing Witnesses support their recommendations by reference to authorized ROEs, suggesting those returns have trended downward over time. If we consider individual cases over a relevant timeframe (rather than annual averages over long periods), there is no downward trend.

As to the Company's capital structure, certain of the Opposing Witnesses recommend capitalization ratios that include more leverage (that is, contain more debt) than those in place at utility operating companies. As discussed below (*see* Section IV.F), the capital structure ratios in place at the at electric utility operating companies continue to support the Company's proposed capital structure of 50.00 percent Common Equity, and 50.00 percent Long-Term Debt.

Q. PLEASE NOW PROVIDE AN OVERVIEW OF YOUR RESPONSE TO THE ROE RECOMMENDATIONS MADE BY THE OPPOSING WITNESSES.

A. In this proceeding, certain of the Opposing Witnesses give considerable weight to the DCF method, even though it produces ROE estimates 275 basis points (and more) below the returns authorized for other electric utilities.[1] For example, Mr.

[1] For example, the low end of Ms. Winker's DCF range is 6.76 percent, which is 292 basis points below the 9.68 percent average ROE authorized for electric utilities since 2014 (excludes limited-issue riders and Illinois formula rate proceedings). *See,* Direct Testimony of Anjuli Winker, at 40.

Gorman's 9.25 percent recommendation gives 50.00 percent weight to his 9.50 percent DCF result, Dr. Woolridge sets the high end of his range by reference to his 8.65 percent DCF result.[2] Ms. Winker and Mr. Ordonez also develop their recommendations by reference to their DCF results.

Figure 1:
Summary of ROE Recommendations

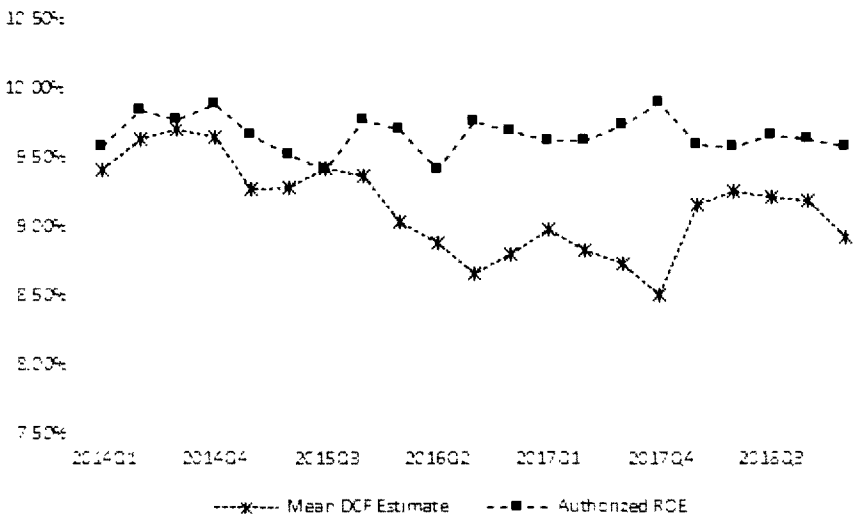
WITNESS	ROE RANGE		ROE RECOMMENDATION
	LOW	HIGH	
Mr. Ordonez (Staff)	8.34%	9.79%	9.45%
Ms. Winker (OPUC)	6.76%	9.92%	9.15%
Mr. Gorman (TIEC)	9.00%	9.50%	9.25%
Dr. Woolridge (TCUC)	7.30%	8.65%	9.00%
Mr. Hevert (CenterPoint Houston)	10.00%	10.75%	10.40%

Figure 1 (above) summarizes the Opposing Witnesses' ROE recommendations. Because the Opposing Witnesses give considerable weight to their DCF-based results, it is not surprising that their recommendations fall well below currently authorized returns. As Figure 2 (below) demonstrates, since 2014 the Constant Growth DCF model has produced ROE estimates notably below the returns then authorized by regulatory commissions.[3]

[2] I note that Dr. Woolridge recommends a 9.00 percent ROE which he states takes into account "Gradualism". However, because his 9.00 percent is based in part on his 8.65 percent DCF result, it should be given little to no weight in determining the Company's ROE.

[3] See, Direct Testimony of Robert B. Hevert, at 6, Chart 1. Figure 2 updated to include Q1 2019.

Figure 2: Authorized ROEs vs. DCF Estimates[4]

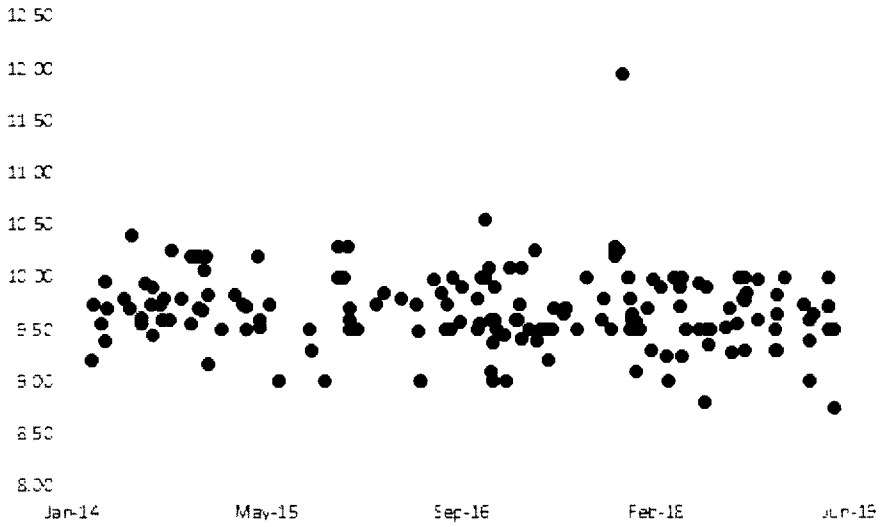


Given their common dependence on the DCF method, it also is not surprising that the Opposing Witnesses' recommendations generally fall within a narrow range. But the fact that their recommendations are similar does not mean their approaches and conclusions are reasonable. Even the highest of their recommendations (Mr. Ordonez's 9.45 percent) is 23 basis points below the average return for electric utilities since 2014 (*see* Figure 3, below). Dr. Woolridge's 8.65 percent calculated DCF result (the basis of his 9.00 percent recommendation) is below any authorized ROEs for electric utilities since 2014.[5]

[4] DCF results based on quarterly average stock prices, Earnings Per Share growth rates from Value Line, Zacks, and First Call. Authorized ROEs are quarterly averages for electric utilities; source: S&P Global Market Intelligence. Please note that 2015 Q3 included only two ROE decisions. Excludes Illinois formula rate plans.

[5] Source: Regulatory Research Associates ("RRA"). Authorized ROEs from January 2014 through February 2019. Excludes limited-issue riders and Illinois formula rate plans.

Figure 3: Authorized ROEs (2014 – 2019)[6]



Q. IS THE PRINCIPAL USE OF A SINGLE METHOD COMMON IN FINANCIAL THEORY AND PRACTICE?

A. No, it is not. As Dr. Roger Morin notes:

> Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate the theory. The inability of the DCF model to account for changes in relative market valuation, discussed below, is a vivid example of the potential shortcomings of the DCF model when applied to a given company. Similarly, the inability of the CAPM to account for variables that affect security returns other than beta tarnishes its use.
>
> No one individual method provides the necessary level of precision for determining a fair return, but each method provides useful evidence to facilitate the exercise of an informed judgment. Reliance on any single method or preset formula is inappropriate when dealing with investor expectations because of possible measurement difficulties and vagaries in individual companies' market data.[7]

Professor Eugene Brigham recommends the CAPM, DCF, and Bond Yield Plus

[6] Source: Regulatory Research Associates ("RRA"). Authorized ROEs from January 2014 through May 2019. Excludes limited-issue riders and Illinois formula rate plans.

[7] Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 428.

Risk Premium approaches:

> Three methods typically are used: (1) the Capital Asset Pricing Model (CAPM), (2) the discounted cash flow (DCF) method, and (3) the bond-yield-plus-risk-premium approach. These methods are not mutually exclusive – no method dominates the others, and all are subject to error when used in practice. Therefore, when faced with the task of estimating a company's cost of equity, we generally use all three methods and then choose among them on the basis of our confidence in the data used for each in the specific case at hand.[8]

Similarly, Dr. Morin (quoting, in part, Professor Stewart Myers), stated:

> Use more than one model when you can. Because estimating the opportunity cost of capital is difficult, only a fool throws away useful information. That means you should not use any one model or measure mechanically and exclusively. Beta is helpful as one tool in a kit, to be used in parallel with DCF models or other techniques for interpreting capital market data.
>
> ***
>
> While it is certainly appropriate to use the DCF methodology to estimate the cost of equity, there is no proof that the DCF produces a more accurate estimate of the cost of equity than other methodologies. Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity. It is not a superior methodology that supplants other financial theory and market evidence. The broad usage of the DCF methodology in regulatory proceedings in contrast to its virtual disappearance in academic textbooks does not make it superior to other methods. The same is true of the Risk Premium and CAPM methodologies.[9]

[8] *Ibid.*, at 430 – 431, citing Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed., 1994, at 341.

[9] Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 430–431.

Q. HAVE OTHER REGULATORY COMMISSIONS RECOGNIZED THE IMPORTANCE OF CONSIDERING MULTIPLE METHODS IN SETTING AUTHORIZED ROES?

A. Yes. For example, in Baltimore Gas and Electric Company's 2016 rate case, the Maryland Public Service Commission discussed the importance of considering multiple analytical methods given the complexity of determining the investor-required ROE:

> The ROE witnesses used various analyses to estimate the appropriate return on equity [...] including the DCF model, the IRR/DCF, the traditional CAPM, the ECAPM, and risk premium methodologies. Although the witnesses argued strongly over the correctness of their competing analyses, we are not willing to rule that there can be only one correct method for calculating an ROE. Neither will we eliminate any particular methodology as unworthy of basing a decision. The subject is far too complex to reduce to a single mathematical formula. That conclusion is made apparent, in practice, by the fact that the expert witnesses used discretion to eliminate outlier returns that they testified were too high or too low to be considered reasonable, even when using their own preferred methodologies.[10]

In its November 15, 2018 *Order Directing Briefs*, FERC found that "in light of current investor behavior and capital market conditions, relying on the DCF methodology alone will not produce a just and reasonable ROE".[11] In its October 16, 2018 *Order Directing Briefs*, FERC found that although it "previously relied solely on the DCF model to produce the evidentiary zone of reasonableness...", it is "...concerned that relying on that methodology alone will not produce just and

[10] *In the matter of the application of Baltimore Gas and Electric Company for adjustments to its electric and gas base rates, Public Service Commission of Maryland*, Case No. 9406, Order No. 87591, at 153. Citations omitted.

[11] Docket Nos. EL14-12-003 and EL15-45-000, *Order Directing Briefs*, 165 FERC ¶ 61,118 (November 15, 2018) at para. 34.

reasonable results."[12] As FERC explained, it is important to understand "how investors analyze and compare their investment opportunities."[13] FERC also explained that, although certain investors may give some weight to the DCF approach, other investors "place greater weight on one or more of the other methods..."[14] Those methods include the CAPM and the Risk Premium method, which I have applied in this proceeding. FERC most recently addressed its concerns with the DCF approach in its *Notice of Inquiry*.[15]

Q. HAVE OTHER STATE REGULATORY COMMISSIONS EXPRESSED CONCERN WITH DCF MODEL RESULTS?

A. Yes. For example, in its July 2017 *Order Accepting Stipulation* in which it authorized a 9.90 percent ROE for Duke Energy Carolinas, the North Carolina Utilities Commission ("NCUC") noted it "carefully evaluated the DCF analysis recommendations" of the ROE witnesses (which ranged from 8.45 percent to 8.80 percent) and determined that "all of these DCF analyses in the current market produce unrealistically low results."[16]

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[12] Docket No. EL11-66-001, *et al.*, *Order Directing Briefs* 165 FERC ¶ 61,030 (October 16, 2018) at para. 30.

[13] *Ibid.*, at para. 33.

[14] *Ibid.*, at para. 35.

[15] *See*, FERC Docket No. PL19-4-000, *Inquiry Regarding the Commission's Policy for Determining Return on Equity*, March 21, 2019.

[16] State of North Carolina Utilities Commission, Docket No. E-7, Sub 1146, *In the Matter of Application of Duke Energy Carolinas, LLC, for Adjustment of Rates and Charges Applicable to Electric Utility Service in North Carolina*, Order Accepting Stipulation, Deciding Contested Issues, and Requiring Revenue Reduction, July 25, 2017.

Q. ARE THERE ASPECTS OF THE DCF MODEL THAT MAY EXPLAIN WHY REGULATORY COMMISSIONS CURRENTLY DO NOT RELY PRINCIPALLY ON IT WHEN DETERMINING THE COST OF EQUITY?

A. Yes, the model's fundamental structure and underlying assumptions may become far removed from actual market conditions and financial practice. For example, the model assumes there will be no change, ever, in growth rates, dividend yields, Price/Earnings ratios, Market/Book ratios, or in the economic and market conditions that support those variables. As explained in my response to Ms. Winker and Mr. Gorman, those assumptions currently do not hold.

The DCF model's assumptions become further removed from practice when current capital market conditions are influenced by monetary policy that is likely to change. Since the 2008/2009 financial crisis, Federal monetary policy has had a significant, intentional effect on capital markets, reducing interest rates and dampening equity market volatility. Those effects, however, eventually will reverse with the "normalization" of monetary policy.[17] Consequently, neither the Federal Reserve's unconventional monetary policy initiatives nor the market conditions they support will remain in place in perpetuity, as the Constant Growth DCF model requires. On that basis alone we should be cautious about the weight given the DCF method.

[17] As the Federal Reserve explains: "The global financial crisis that began in 2007 had profound effects on the U.S. economy and other economies around the world. To support a return to the Federal Reserve's statutory goals of maximum employment and price stability, the Federal Open Market Committee ("FOMC") reduced short-term interest rates to nearly zero and held them at that exceptionally low level for seven years. The FOMC also undertook large-scale open-market purchases of longer-term U.S. Treasury securities and mortgage-backed securities to put downward pressure on longer-term interest rates. The term "normalization of monetary policy" refers to plans for returning both short-term interest rates and the Federal Reserve's securities holdings to more normal levels." *See* https://www.federalreserve.gov/faqs/what-does-federal-reserve-mean-when-it-talks-about-normalization-of-monetary-policy.htm.

Q. IS IT YOUR VIEW THAT THE DCF MODEL SHOULD BE GIVEN NO WEIGHT IN DETERMINING THE COMPANY'S COST OF EQUITY?

A. No, it is not. It is my view, however, that we should carefully consider the range of results all models produce. As discussed later in my Rebuttal Testimony, doing so fully supports my ROE range and recommendation.

Q. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY ORGANIZED?

A. The balance of my Rebuttal Testimony is organized as follows:

Section III – provides my response to Staff Witness Mr. Jorge Ordonez;

Section IV – responds to OPUC Witness Ms. Anjuli Winker;

Section V – responds to TIEC Witness Mr. Michael P. Gorman;

Section VI – responds to TCUC Witness Dr. J. Randall Woolridge;

Section VII – responds to Walmart Witness Mr. Steve W. Chriss;

Section VIII – addresses the Company's proposed Capital Structure and Overall Rate of Return; and

Section IX – summarizes my updated results and provides my overall conclusion

III. RESPONSE TO STAFF WITNESS ORDONEZ

Q. PLEASE SUMMARIZE STAFF'S ROE RECOMMENDATION.

A. Mr. Ordonez recommends an ROE range of 8.34 percent to 9.79 percent, with a point estimate of 9.45 percent reflecting the midpoint of the upper half of the range.[18] The low end of Mr. Ordonez's range (8.34 percent) approximately equals the average of his proxy group average Constant Growth and Multi-Stage DCF

[18] See, Direct Testimony of Mr. Jorge Ordonez, at 7.

results, and the high end is set by reference to his Risk Premium analysis.[19] Although he performs a CAPM analysis, which produces an ROE estimate of 6.50 percent, Mr. Ordonez gives that result no weight.[20]

Q. PLEASE BRIEFLY SUMMARIZE YOUR RESPONSE TO MR. ORDONEZ ON THOSE ISSUES.

A. As a general matter, I strongly disagree that estimates of 8.34 percent should be given any weight in determining the Company's ROE. As noted earlier, the average authorized return for electric utilities since 2014 has been about 9.68 percent;[21] the low end of Mr. Ordonez's range falls 134 basis points below that level. Regarding his Risk Premium analysis, I agree with Mr. Ordonez that the Equity Risk Premium is inversely related to interest rates.[22] Nonetheless, because Mr. Ordonez's analysis does not consider forward-looking interest rates, his Risk Premium-based ROE estimate is lower than it reasonably should be, thereby lowering the upper end of his recommended range.

Because Mr. Ordonez's ROE range and point estimate depend on his DCF and Risk Premium models, my response focuses on: (1) the method by which Mr. Ordonez determined his ROE range and recommendation; (2) his application of the Multi-Stage DCF method; and (3) his Risk Premium analysis. Lastly, I review Mr. Ordonez's recommended capital structure of 60.00 percent long-term debt relative to the capital structures in place at operating utility companies.

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[19] *Ibid.*, at 28.

[20] *Ibid.* at 25-28. Since Mr. Ordonez did not rely on the results of his CAPM analysis, I do not address his application of that model.

[21] Source: RRA. Excludes Limited Issue Riders and Illinois Formula Rate proceedings. Exhibit R-RBH-8.

[22] *See,* Direct Testimony of Jorge Ordonez, at 25. *See,* Direct Testimony of Robert B. Hevert, at 70.

A. Determination of the ROE Range and Recommendation

Q. PLEASE BRIEFLY DESCRIBE THE METHOD BY WHICH MR. ORDONEZ ESTABLISHED HIS ROE RANGE AND POINT ESTIMATE.

A. As Mr. Ordonez points out, his recommendation lies "lies in the middle of the upper half of the range of [his] estimates".[23] In effect, Mr. Ordonez's ROE recommendation gives approximately 77.00 percent weight to his Risk Premium results (9.79 percent), and approximately 23.00 percent weight to the approximate average of his two DCF results (8.34 percent; *see*, Figure 4, below).

Figure 4: Summary of Mr. Ordonez's ROE Results[24]

Method	Point Estimate	Range
Single-Stage DCF	8.38%	6.09% - 10.95%
Multi-Stage DCF	8.31%	7.51% - 10.22%
Risk Premium	9.79%	NA
Overall Recommendation	9.45%	8.34% - 9.79%

Q. WHAT ARE YOUR SPECIFIC CONCERNS WITH THAT WEIGHTING CONVENTION?

A. My first concern is that a considerable portion of Mr. Ordonez's ROE recommendation (23.00 percent) is based on ROE estimates far below the returns authorized for electric utilities.[25] Second, Mr. Ordonez's Risk Premium analysis is not forward-looking. As explained below, simply adjusting the model to reflect forward-looking estimates of corporate bond yields increases his Risk Premium estimate from 9.79 percent to 10.20 percent. Keeping the same 76.55 percent and

[23] Direct Testimony of Jorge Ordonez, at 29.

[24] *Ibid.*, at 28. Please note, 9.45% = (0.2345 x 8.34%) + (0.7655 x 9.79%)

[25] *See* Figure 3 above. Excludes Limited Issue Rate Rider cases and Illinois Formula Rate proceedings. Mr. Ordonez relies on RRA for the data used in his Risk Premium analysis.

23.45 percent weights, that one reasonable change would increase Mr. Ordonez's calculated ROE estimate to 9.76 percent.[26]

B. Multi-Stage DCF Model

Q. PLEASE PROVIDE A SUMMARY DESCRIPTION OF MR. ORDONEZ'S CONSTANT GROWTH AND MULTI-STAGE DCF MODELS.

A. Mr. Ordonez uses both the Constant Growth and Multi-Stage DCF models. Whereas the Constant Growth DCF model assumes constant dividend growth in perpetuity, the Multi-Stage form calculates the Internal Rate of Return ("IRR") that sets the current stock price equal to the present value of projected dividends.[27] The fundamental difference between Mr. Ordonez's Constant Growth and Multi-Stage DCF models is that the former assumes a constant growth rate in perpetuity, whereas the latter allows for a change from the first stage growth (years one through five) to a long-term growth rate (years six through perpetuity).[28]

As with his Constant Growth DCF model, the first stage of Mr. Ordonez's Multi-Stage DCF model relies on analyst earnings growth rate projections from Zacks and Value Line. The second, or "terminal," stage assumes long-term growth measured by expected growth in nominal Gross Domestic Product ("GDP").[29]

[26] 9.76%= (76.55% x 10.20%) + (23.45% x 8.34%).

[27] The Internal Rate of Return is the resulting Cost of Equity estimate.

[28] Mr. Ordonez's Multi-Stage DCF analyses project dividends for a 150-year period, which is generally consistent with a perpetual dividend assumption. *See*, Direct Testimony of Jorge Ordonez, at 18.

[29] *See*, Direct Testimony of Jorge Ordonez, at 20.

Q. ARE THERE SPECIFIC AREAS IN WHICH YOU DISAGREE WITH MR. ORDONEZ'S MULTI-STAGE DCF MODEL ASSUMPTIONS?

A. Yes, I disagree with Mr. Ordonez's assumptions that (1) quarterly dividends are received at year-end, and (2) growth will change immediately from Stage 1 to Stage 2.

Q. HOW DOES MR. ORDONEZ'S ASSUMPTION REGARDING THE TIMING OF DIVIDEND PAYMENTS AFFECT HIS MULTI-STAGE DCF RESULTS?

A. Mr. Ordonez's model assumes all quarterly dividends are received at year-end. Fundamental to the DCF method, however, is the principle that cash flow has time value.[30] Because utility dividends are paid on a quarterly basis, assuming all dividends are received at year end (rather than during the course of the year) defers the timing of those cash flows and reduces the DCF estimate. A reasonable method of reflecting the timing of quarterly dividend payments is to assume cash flows are received at the mid-point each year (*i.e.*, the "mid-year convention"). As Duff & Phelps notes:

> Common practice in business valuation is to assume that the net cash flows are received on average continuously throughout the year (approximately equivalent to receiving the net cash flows in the middle of the year), in which case the present value factor is generally based on a mid-year convention (e.g., (1+k)0.5).[31]

[30] For example, The Chartered Financial Analyst ("CFA") Institute's program curriculum notes: "Money has time value in that individuals value a given amount of money more highly the earlier it is received. Therefore, a smaller amount of money now may be equivalent in value to a larger amount received at a future date. The time value of money as a topic of investment mathematics deals with equivalence relationships between cash flows with different dates. Mastery of time value of money concepts and techniques is essential for investment analysts." 2011 CFA Curriculum Level I, Volume 1 at 255-256.

[31] Duff & Phelps, 2016 Valuation Handbook, Guide to Cost of Capital at 1-4.

Q. WOULD MR. ORDONEZ'S MULTI-STAGE DCF RESULTS BE DIFFERENT IF HE APPLIED THE MID-YEAR CONVENTION?

A. Yes. Exhibit R-RBH-9, which replicates Mr. Ordonez's Attachment JO-6, demonstrates his model assumes year-end cash flows. As Exhibit R-RBH-9 also demonstrates, simply changing the dividend timing to reflect the mid-year convention increases the mean and median results by approximately 13 basis points (from 8.31 percent to 8.44 percent, and 8.21 percent to 8.34 percent for his average and median results, respectively). Even with that change, however, Mr. Ordonez's model produces results too low to be reasonable estimates of the Company's Cost of Equity.

Q. TURNING TO YOUR SECOND POINT, WHAT IS YOUR CONCERN WITH MR. ORDONEZ'S TWO-STAGE APPROACH?

A. My concern is the model does not reasonably approximate the transition in growth from the first stage to the terminal stage. Whereas Mr. Ordonez's approach assumes growth will change immediately between years five and six, a more reasoned (and very common) approach is to assume growth will transition from the first to the terminal stage over a certain horizon. Morningstar Inc. ("Morningstar"), for example, described a three-stage approach in which growth moves toward the long-term estimate over a five-year transition stage.[32]

[32] Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook at 50.

C. Risk Premium Model

Q. DO YOU HAVE ANY OBSERVATIONS REGARDING MR. ORDONEZ'S 9.79 PERCENT ROE ESTIMATE DERIVED FROM HIS RISK PREMIUM ANALYSIS?

A. Yes, I do. First, Mr. Ordonez recognizes there is a statistically significant inverse relationship between the Equity Risk Premium and interest rates, and that the Cost of Equity is forward-looking.[33] That being the case, Mr. Ordonez's Risk Premium analysis also should consider projected bond yields.[34] *Blue Chip Financial Forecasts*, which provides consensus estimates from over 50 business economists, projects Baa corporate bond yields to rise from their current 4.87 percent level to a long-term consensus level of 5.70 percent.[35] Assuming that 5.70 percent Baa corporate bond yield, Mr. Ordonez's Risk Premium analysis would produce an ROE estimate of 10.20 percent,[36] consistent with my Risk Premium results (see Exhibit R-RBH-5) and within my recommended range.

Applying the revised DCF model results (8.41 percent)[37] with the revised Risk Premium results (10.20 percent) produces a weighted average of 9.78 percent.[38]

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[33] *See*, Direct Testimony of Jorge Ordonez, at 21 and 23.

[34] Blue Chip does not provide projections for utility bond yields; however, as noted in my response to Ms. Winker, there is no material difference in corporate and utility Baa bond yields.

[35] Blue Chip Financial Forecast, Vol. 38, No. 6, June 1, 2019, at 14.

[36] 5.70% + (-0.4392) x (5.70% - 8.46%) + 3.29% = 10.20%. See Attachment JO-7 for Mr. Ordonez's Risk Premium method.

[37] Average of Mr. Ordonez's Constant Growth DCF average value of 8.38% and revised Multi-Stage DCF average value of 8.44% described above.

[38] 9.78% = (23.45% x 8.41%) + (76.55% x 10.20%).

D. Tax Cuts and Jobs Act

Q. MR. ORDONEZ NOTES THAT HIS RECOMMENDATION CONSIDERS THE TAX CUTS AND JOBS ACT ("TCJA"), AND ITS IMPLICATIONS FOR THE COMPANY'S CREDIT PROFILE.[39] DO YOU HAVE ANY OBSERVATIONS REGARDING THAT POINT?

A. Yes, I do. In my Direct Testimony I discussed risks to the utility sector, including the Company, associated with the TCJA. Beyond the risks discussed by rating agencies, I noted that other sectors would benefit from the TCJA in ways utilities could not, and explained that those factors weigh against utility valuations, increasing the returns required by investors.[40]

Mr. Ordonez suggests the TCJA affects all utilities and as such, its effect is reflected in his proxy group.[41] As Mr. Ordonez also explains, his methods create a range of results from which he selected 9.45 percent as his recommended ROE. I agree that an element of judgment is required in doing so, but believe the TCJA should be among the factors considered. As discussed below, it is apparent that in the current market, the TCJA has affected utility stock valuations, and should be reflected in the Company's ROE.[42]

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[39] Direct Testimony of Jorge Ordonez, at 31.

[40] Direct Testimony of Robert B. Hevert, at 16-19.

[41] Direct Testimony of Jorge Ordonez, at 31.

[42] Although several of the Opposing Witnesses discuss the TCJA in the context of credit ratings, it remains important to consider its implications for the Cost of Equity. As discussed in my response to Dr. Woolridge, credit ratings and credit spreads are not full measures of equity risk. Consequently, even if a given company did not experience a credit rating downgrade (or even a downgrade in outlook) due to the TCJA, that does not mean equity investors have been unaffected by it.

Q. ARE THERE EMPIRICAL METHODS THAT CAN BE USED TO ASSESS THE EFFECT OF AN EVENT SUCH AS THE TCJA ON UTILITY STOCK PERFORMANCE?

A. Yes, a method frequently used is an "event study", sometimes referred to as a "cumulative abnormal return" analysis. To understand whether a specific event affected stock prices, it is important to control for factors beyond the event under consideration. The portion of the stock's return that is not attributable to those other factors is considered the "abnormal" or "excess" return; the sum of those excess returns is the "cumulative" abnormal return.

To apply that approach, I defined the abnormal return on a given day as:

$$A_t = R_{i,t} - R_{m,t} \quad [1]$$

where A_t is the Abnormal Return on day t, $R_{i,t}$ is the actual return for the proxy group[43] on day t, and $R_{m,t}$ is the expected return for the proxy group defined in Equation [2] below.

$$R_{m,t} = \alpha_t + \beta_{m,t} \quad [2]$$

The expected return, $R_{m,t}$, (sometimes referred to as the "market-adjusted return") is based on a regression equation in which Mr. Ordonez's proxy group's daily returns[44] are the dependent variable, and the market's daily return (measured by S&P 500 Index) is the explanatory variable. Because it relies on market-adjusted returns, the approach controls for factors that, like the TCJA, affect companies across market sectors. Consistent with Value Line's approach for calculating Beta

[43] Calculated as an index. Source: S&P Global Market Intelligence.
[44] Calculated as an index. Source: S&P Global Market Intelligence.

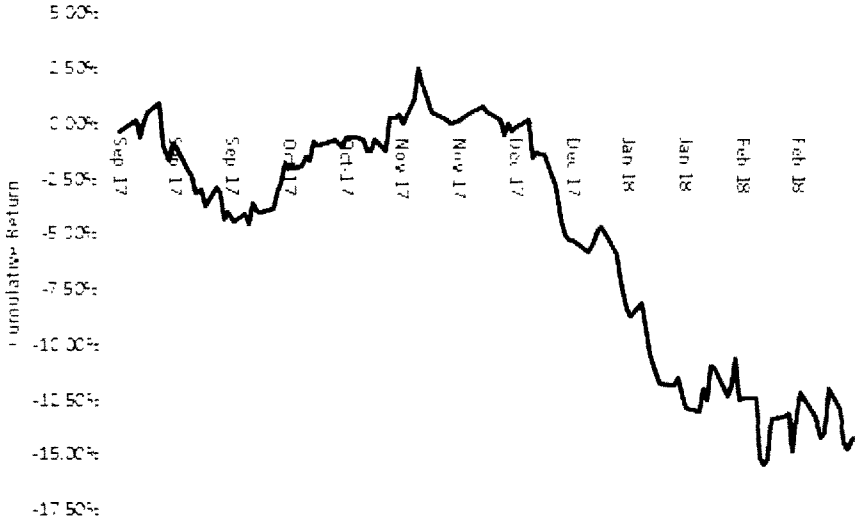
coefficients, I applied the regression (*i.e.*, Equation [2]) over five years, using daily (rather than weekly) returns. The equation and slope coefficient both were statistically significant (*see* Figure 5, below).

Figure 5: Market Model Regression Statistics

	Slope	Intercept
Coefficient	0.3726	.0003
Std. Err.	0.0298	.0003
R-Square	0.1102	
F-Stat	155.9538	
t-Stat	12.4881	1.1396

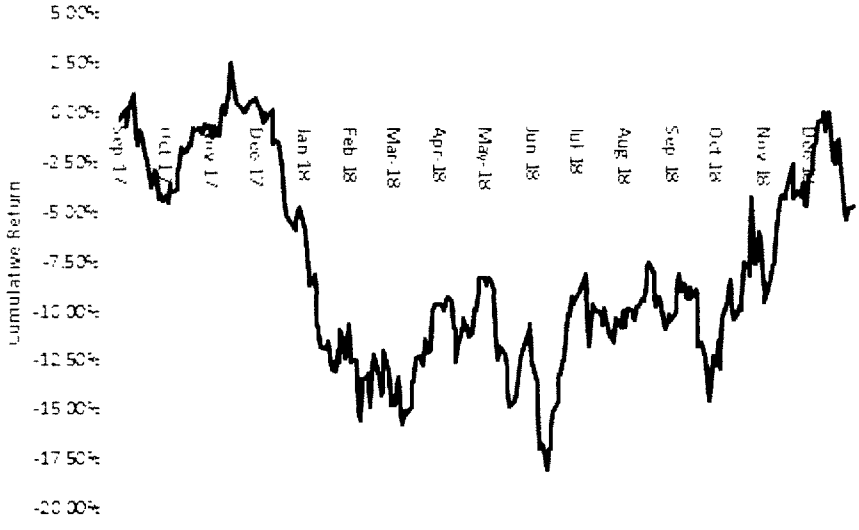
To determine whether the TCJA likely affected the proxy companies' stock valuations, I considered the "event date" to be December 1, 2017. Because it pre-dates the TCJA's enactment, the event date provides for the likelihood that equity investors were aware of, and began to consider how the TCJA may affect utility risks before the TCJA became law. I then calculated the cumulative abnormal return for each day over a window that spanned from September 1, 2017 to March 1, 2018 (that is, approximately three months before and after December 1, 2017). Figure 6 (below) provides the cumulative abnormal return over that period (*i.e.*, negative 12.99 percent).

Figure 6: Cumulative Abnormal Return



I then extended the post-event window to December 31, 2018. Even in that case, with the effect of intervening events, the abnormal return remained well below zero (*see* Figure 7, below).

Figure 7: Cumulative Abnormal Return Extended[45]



[45] Source: S&P Global Market Intelligence. Based on a t-test, the cumulative abnormal returns are significant.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM FIGURES 6 AND 7?

A. Controlling for market-wide events, the TCJA has had a strong negative effect on Mr. Ordonez's proxy group; that effect has continued over time. We therefore reasonably can conclude that aside from actions taken by rating agencies, the TCJA meaningfully – and negatively – affected utility stock prices, and should be considered in determining the Company's ROE.

E. Mr. Ordonez's Proposed Capital Structure

Q. WHAT DOES MR. ORDONEZ PROPOSE FOR THE COMPANY'S CAPITAL STRUCTURE?

A. Mr. Ordonez proposes a capital structure including 60.00 percent Long-Term Debt, and 40.00 percent Common Equity. Mr. Ordonez bases that recommendation largely on the Commission's ruling in Docket No. 22344.[46]

Q. DO YOU AGREE WITH MR. ORDONEZ'S PROPOSED CAPITAL STRUCTURE?

A. No, I do not. Company Witness Mr. McRae discusses several Company-specific concerns regarding Mr. Ordonez's proposal. In addition to those points, Mr. Ordonez's proposed 40.00 percent Common Equity ratio is significantly below those in place at other utility operating companies. As Exhibit R-RBH-7 demonstrates, the average Common Equity ratio over the eight quarters ended December 31, 2018 was 53.25 percent for the proxy group operating companies. Mr. Ordonez's proposal is 1,325 basis points (13.25 percentage points) below that average.

[46] Direct Testimony of Jorge Ordonez, at 36-37.

Utilities are capital intensive enterprises that must finance long-lived assets regardless of capital market conditions. Although no utility is a perfect substitute for another, they tend to have common financing objectives, and face common financing constraints. A common financing practice therefore is to align the average life (or duration) of the securities in the capital structure with the average lives (or duration) of the assets being financed. As discussed in my response to Ms. Winker, utility equity generally has a relatively long duration. That being the case, it is important to have a meaningful proportion of equity in the capital structure. Mr. Ordonez's recommendation would frustrate that objective.

Q. WHAT IS YOUR RESPONSE TO MR. ORDONEZ'S ASSESSMENT THAT DELIVERY-ONLY UTILITIES DO NOT REPRESENT A "GOOD PROXY"[47] FOR CENTERPOINT HOUSTON?

A. Mr. Ordonez suggests that because distribution-only utilities in other jurisdictions purchase and sell electricity, a proxy group consisting of distribution-only utilities does not appropriately reflect CenterPoint Houston's operations.[48] In Mr. Ordonez's view, because other distribution-only utilities purchase and sell electricity (sometimes referred to as providing "default service") their capital structures are not "good" proxies for CenterPoint Houston. He reasons the default service obligation requires equity ratios higher than the Company's capital structure should contain, but does not provide a measure of differences in risk created by the

[47] Direct Testimony of Jorge Ordonez, at 35.
[48] *Ibid*

default service obligation, or how such differences would affect capital structure decisions.

If we consider credit ratings as measures of relative risk, the ratings for the distribution-only operating companies within Mr. Ordonez's proxy group are not substantially different than CenterPoint Houston's (*see* Figure 8). By way of example, Figure 8 also provides the ratings for AEP Texas Inc., and Baltimore Gas and Electric Company (both of which are providers of last resort as is CenterPoint Houston). Again, there is no meaningful difference between those two companies and CenterPoint Houston. In large measure, that may result from distribution companies' ability to recover default service costs in a "reasonably timely" fashion.[49] In any event, the Company's credit ratings are consistent with those of other distribution utilities.

Figure 8: Credit Ratings for CenterPoint Houston, AEP Texas Inc., Baltimore Gas and Electric Company, and Distribution-Only Proxy Companies[50]

	Moody's LT Issuer	S&P LT Issuer	Moody's Corp.	S&P Corp.	Moody's Sr. Unsecured	S&P Sr. Unsecured
CenterPoint Houston	A3	BBB+	A3	BBB+	A3	N/A
Mr. Ordonez's Distribution-Only Proxy Companies	Baa1	A-	A3	A-	A3	A-
AEP Texas Inc.	Baa1	A-	Baa1	A-	Baa1	A-
Baltimore Gas and Electric Company	A3	A	A3	A	A3	A

As discussed earlier, it is the capital-intensive nature of utility operations, which requires continuing and efficient access to long-term capital to finance long-

[49] *See*, Moody's Investors Service, *Rating Methodology, Regulated Electric and Gas Utilities*, June 23, 2017, at 14.

[50] Source: S&P Global Market Intelligence

lived assets, that drives capital structure decisions. Mr. Ordonez may be of the view that default service obligations require substantial increases in common equity, but he has not shown that to be the case. On balance, I see no reason to conclude the Company's proposed equity ratio should be reduced due to default service obligations at other electric distribution utilities.

IV. RESPONSE TO OPUC WITNESS WINKER

Q. PLEASE SUMMARIZE MS. WINKER'S RECOMMENDATION.

A. Ms. Winker recommends an ROE of 9.15 percent, based on her Constant Growth DCF and Bond Yield Plus Risk Premium methods.[51] Although she performs a CAPM analysis, which produces an ROE estimate of 8.20 percent, Ms. Winker gives that result no weight.[52] As to her proxy group, Ms. Winker adopts my original proxy group, but excludes ALLETE, Inc., American Electric Power Company, Inc., NextEra Energy, Inc., and Southern Company.[53] Figure 9 below summarizes Ms. Winker's analytical results. Ms. Winker recommends CenterPoint Houston's actual capital structure consisting of 54.50 percent long-term debt and 45.50 percent common equity.[54]

[51] Direct Testimony of Anjuli Winker, at 40.
[52] *Ibid.* at 39-40.
[53] *Ibid.* at 21.
[54] *Ibid.* at 43.

Figure 9: Summary of Ms. Winker's Analytical Results[55]

Method	Range
Constant Growth DCF	6.76% - 9.92%
Bond Yield Plus Risk Premium	8.98% - 9.04%

Although Ms. Winker discusses her 6.76 percent DCF result, it is unclear how much weight she gives that estimate in arriving at her 9.15 percent ROE recommendation. For example, if we assume Ms. Winker gave the 6.76 percent estimate no consideration, and equally weighted her two Bond Yield Plus Risk Premium estimates with the 9.92 percent DCF estimate given the remainder, her high DCF estimate would receive only 15.38 percent weight.[56] To the extent Ms. Winker gave the 6.76 percent estimate any consideration, it would require additional weight to be given the high DCF estimate; for example, giving 10.00 percent weight to the low DCF estimate would require about 40.00 percent weight be given to the high DCF estimate.[57]

Simply, if Ms. Winker gave no weight to her 6.76 percent ROE estimate, she gave little weight to the far more reasonable 9.92 percent result. But if she gave any weight to the 6.76 percent estimate, Ms. Winker provided no basis to assume it is a sufficiently reasonable ROE estimate that it should be given any consideration in determining the Company's ROE.

[55] *Ibid.* at 40.

[56] (15.38% x 9.92%) + (42.31% x 8.98%) + (42.31% x 9.04%) = 9.15%.

[57] (10.00% x 6.76%) + (40.11% x 9.92%) + (24.95% x 8.98%) + (24.95% x 9.04%) = 9.15%. If the weight given the low DCF result reached 25.00%, the weights given the Bond Yield Plus Risk Premium estimates would be negative.

As to the overall reasonableness of her recommendation, Ms. Winker argues "capital costs will remain at historically low levels due to the FOMC's plan to put a hold on interest rate increases over the next few years" and assumes "an ROE of 9.15% is reasonable and will allow CenterPoint Houston to maintain its financial integrity and continue to attract capital on reasonable terms."[58]

Q. PLEASE NOW SUMMARIZE THE SPECIFIC AREAS IN WHICH YOU DISAGREE WITH MS. WINKER'S ROE ANALYSES AND CONCLUSIONS.

A. The principal areas in which I disagree with Ms. Winker's analyses and conclusions include: (1) the interpretation of current capital market conditions and their effect on the Cost of Equity; (2) the composition of Ms. Winker's proxy group (3) the growth rate assumptions contained in her DCF analysis; (4) her Bond Yield Plus Risk Premium approach; (5) the inputs to the CAPM method; and (6) her proposed capital structure. I discuss those issues in turn, below.

A. Effect of Capital Markets Conditions on the ROE

Q. PLEASE BRIEFLY DESCRIBE THE METHODS AND CONSIDERATIONS BY WHICH MS. WINKER ESTABLISHED HER ROE.

A. Ms. Winker states her ROE recommendation relies on her DCF and Risk Premium analyses and reflects "current market conditions, including the conclusion that capital costs will remain at historically low levels."[59] Ms. Winker argues utility

[58] Direct Testimony of Anjuli Winker, at 40.
[59] *Ibid.*

stocks have performed well, due in large measure to the decline in interest rates. She observes that after the recent increases in the Federal Funds rate, interest rates remained relatively low, and concludes "[f]or investors still seeking dividend yields, this market environment makes electric utility equities, and their above-average dividend yields, more attractive."[60]

Q. DID MS. WINKER ADDRESS THE ISSUE OF EQUITY MARKET VOLATILITY IN HER ASSESSMENT OF MARKET CONDITIONS?

A. Yes, briefly. Ms. Winker suggests the volatility brought about by trade disputes with China, together with central bank policies outside the U.S. "has led investors to view utility bonds as attractive investments."[61] She did not, however, discuss the relationship between market volatility and interest rates, or the implications of that relationship for determining the Company's Cost of Equity. As discussed below, it is important to understand whether sudden changes in Treasury yields are due to fundamental changes in economic factors and investor risk preferences, or whether they are event-driven outcomes that do not necessarily reflect investors' long-term views. As discussed in more detail below, that distinction is important, given the assumptions underlying certain of the models used to estimate the Cost of Equity.

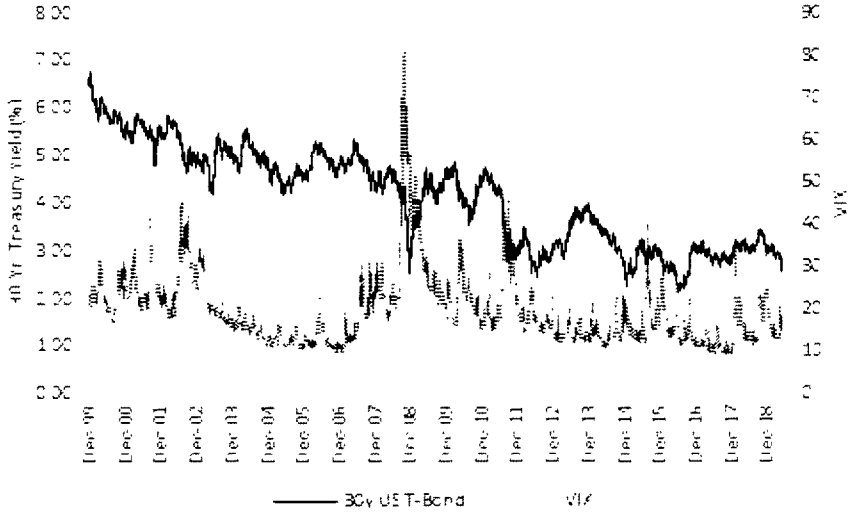
Q. IS THERE A RELATIONSHIP BETWEEN EQUITY MARKET VOLATILITY AND INTEREST RATES?

A. Yes, there is. Significant and abrupt increases in volatility often are associated with declines in Treasury yields. That relationship makes intuitive sense; as investors

[60] *Ibid.*, at 5. [clarification added]
[61] *Ibid.*, at 12 – 13.

see increasing risk, their objectives may shift from growth to capital preservation (that is, avoiding a capital loss). A means of doing so is to re-allocate capital to the relative safety of Treasury securities, in a "flight to safety". Because Treasury yields are inversely related to Treasury prices, as investors bid up the prices of bonds, they bid down the yields, such that decreases in the 30-year Treasury yield are coincident with abrupt increases in volatility, as measured by the VIX.

Figure 10: 30-Year Treasury Yields vs. VIX[62]



In those instances, the reduction in yields does not reflect a reduction in required returns. Rather, it reflects an increase in risk aversion and, therefore, an increase in required equity returns.

[62] Source: S&P Global Market Intelligence, YahooFinance. As Cboe Global Markets ("Cboe") explains, "[v]olatility measures the frequency and magnitude of price movements, both up and down, that a financial instrument experiences over a certain period of time. The more dramatic the price swings in that instrument, the higher the level of volatility. Volatility can be measured using actual historical price changes (realized volatility) or it can be a measure of expected future volatility that is implied by option prices. The VIX Index is a measure of expected future volatility." *See*, http://www.cboe.com/vix.

Q. IS MARKET VOLATILITY EXPECTED TO INCREASE FROM ITS CURRENT LEVELS?

A. Yes, it is. One means of assessing market expectations regarding the future level of volatility is to review Cboe's "Term Structure of Volatility." As Cboe points out:

> The implied volatility term structure observed in SPX options markets is analogous to the term structure of interest rates observed in fixed income markets. Similar to the calculation of forward rates of interest, it is possible to observe the option market's expectation of future market volatility through use of the SPX implied volatility term structure.[63]

Cboe's term structure data is upward sloping, indicating market expectations of increasing volatility. The expected VIX value in June 2020 is about 18.20, suggesting investors see a reversion to long-term average volatility over the coming months.[64]

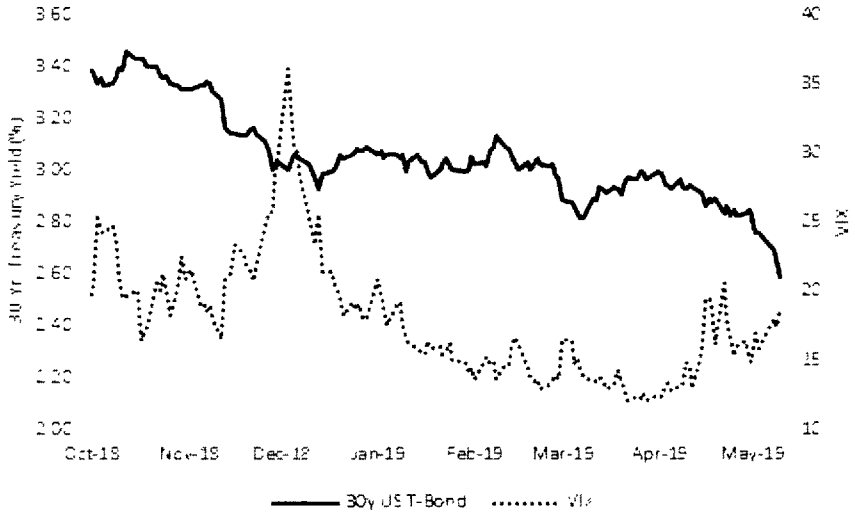
Q. HAVE RECENT DECLINES IN TREASURY YIELDS BEEN ASSOCIATED WITH INCREASES IN MARKET VOLATILITY?

A. Yes, they have. Since November 2018, the periods during which Treasury yields fell coincided with increases in the VIX (see Figure 11, below).

[63] Source: http://www.cboe.com/trading-tools/strategy-planning-tools/term-structure-data.

[64] Source: http://www.cboe.com/trading-tools/strategy-planning-tools/term-structure-data, accessed June 6, 2019.

Figure 11: 30-Year Treasury Yields vs. VIX (11/18 – 5/19)[65]



As Ms. Winker notes, recent trade disputes have been a cause of that volatility, and the resulting fall in Treasury yields. At issue is whether such events are long-lasting economic factors, or whether they are relatively short-lived occurrences.

Q. WHY IS THAT DISTINCTION IMPORTANT?

A. It is important because models such as the DCF method assume current market conditions will remain constant in perpetuity. As explained in my Direct Testimony, the DCF model is given by the equation $k = \frac{D(1+g)}{P_0} + g$, which is derived from the longer-form present value formula $P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_\infty}{(1+k)^\infty}$.[66] The Constant Growth DCF model therefore fundamentally assumes investors use the present value structure to find the "intrinsic value" of common stock. Consequently, the DCF approach will not produce accurate estimates of the market-

[65] Source: S&P Global Market Intelligence, YahooFinance.

[66] Direct Testimony of Robert B. Hevert, at 56. Ms. Winker provides essentially the same equations at page 24 of her Direct Testimony.

required ROE if the market price diverges from the present value-based estimate of intrinsic value. As discussed earlier, differences between market prices and intrinsic valuations may arise when investors take short-term trading positions to hedge risk (*e.g.*, a "flight to safety"), as temporary position to increase current income (*i.e.*, a "reach for yield"), or to speculate based on recent trading patterns (*e.g.*, momentum trades).

The implications of market prices diverging from DCF-based estimates of intrinsic value was studied in an article published in the Journal of Applied Finance. That article, which focused on back-tests of the Constant Growth DCF model, found that even under "ideal" circumstances:

> ... it is difficult to obtain good intrinsic value estimates in models stretching over lengthy periods of time. Shorter horizon models based on five or fewer years show more promise. Any model based on dividend streams of ten years or more, whether as a teaching tool or in practice, should be used with caution since they are likely to produce low-quality estimates. [67]

In short, the DCF model used to estimate the Cost of Equity is derived from a present value model that assumes constancy in perpetuity. That assumed constancy goes beyond factors generally within management control (*e.g.*, payout ratios) to market-based factors including dividend yields, and Price/Earnings valuation multiples. Those factors, however, have not been constant. For example, firms do not pay dividends at a constant dividend yield. Rather, continuous movements in stock prices, together with "sticky" dividend policies create continuous changes in dividend yields, contrary to the DCF model's assumptions.

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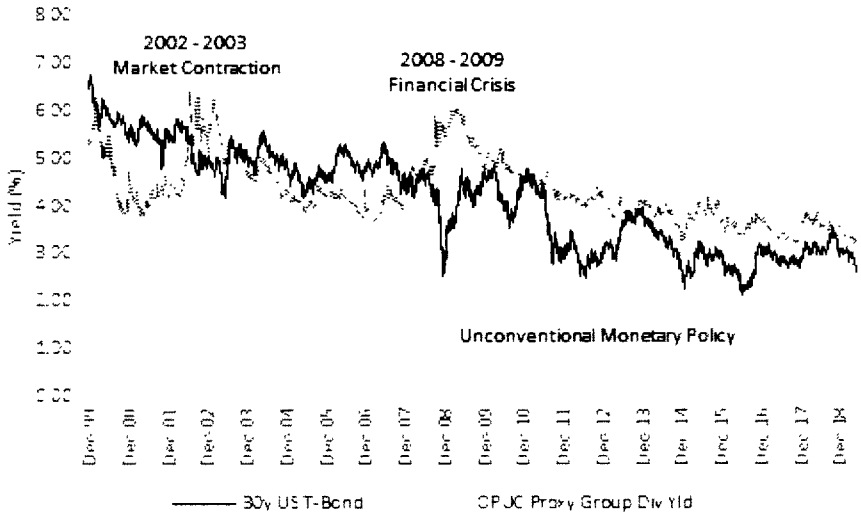
[67] *See* P. McLemore, G. Woodward, and T. Zwirlein, *Back-tests of the Dividend Discount Model using Time-varying Cost of Equity*, Journal of Applied Finance, No. 2, 2015, at 19.

Q. HAVE UTILITY DIVIDEND YIELDS TYPICALLY FOLLOWED LONG-TERM TREASURY YIELDS?

A. Although they have been directionally related over time, the fundamental relationship between Treasury yields and utility dividend yields changed after the 2008/2009 financial crisis. From 2000 through 2008, Treasury yields generally exceeded dividend yields; the exception was the 2002-2003 market contraction. Then, as in 2008-2009, investors sought the safety of Treasury securities, accepting lower yields in exchange for a greater likelihood of capital preservation. Once the market contraction ended (in latter half of 2003), the relationship was restored, and Treasury yields again exceeded dividend yields (see Figure 12, below).

Figure 12: Utility Dividend Yields and 30-Year Treasury Yields[68]



During the 2008/2009 financial crisis, Treasury bond prices increased (yields decreased), and utility stock prices decreased (yields increased) such that the prior relationship inverted. As the Federal Reserve implemented and

[68] Source: S&P Global Market Intelligence

maintained "unconventional" monetary policies (*i.e.,* Quantitative Easing) in reaction to the financial crisis, the inverted relationship between Treasury yields and utility dividend yields persisted.

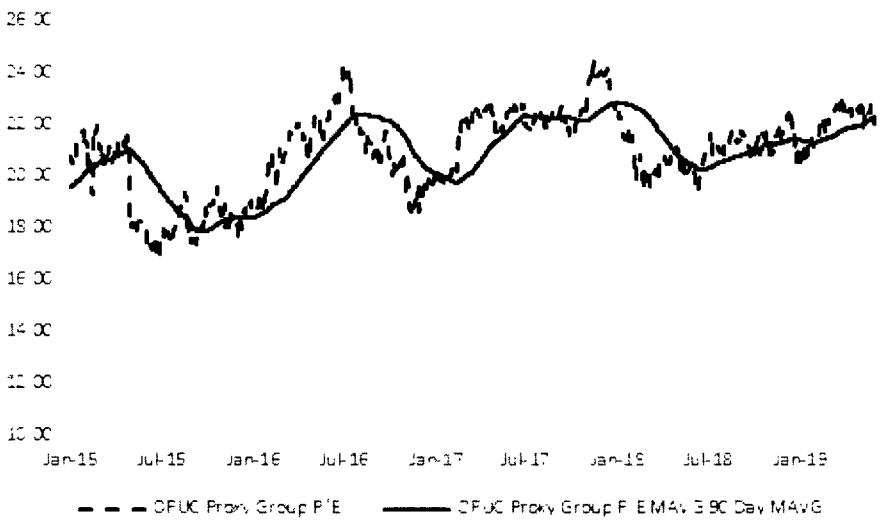
Even though the "yield spread"[69] became inverted after the financial crisis, it has not been static. That is, as Treasury yields fell in response to central bank policies and economic events, dividend yields did not fall to the same degree. Rather, the yield spread widened (see Figure 12, above). That data suggests that, although utility prices are sensitive to long-term Treasury yields, the relationship is not unbounded.

Q. IS THE RELATIONSHIP BETWEEN VALUATION LEVELS AND INTEREST RATES ALSO SEEN IN UTILITY PRICE/EARNINGS RATIOS?

A. Yes, it is. Looking to the period following the Federal Reserve's Quantitative Easing policy, the proxy group P/E ratio has varied, often reverting toward a longer-term level once it largely breached its 90-day moving average.

[69] Defined here as dividend yields less Treasury yields.

Figure 13: Proxy Group Average Price/Earnings Ratio[70]



That data supports the conclusion discussed earlier, that utility stock prices are sensitive to changes in interest rates, but only to a degree. The "reach for yield" that sometimes occurs when interest rates fall has a limit - investors will not accept the incremental risk of capital losses when utility valuation levels become "stretched". That also may be the case when investors see volatility and interest as event-driven, rather than as fundamental changes in the capital market environment, or investor risk tolerances.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSES OF THE CURRENT CAPITAL MARKET ENVIRONMENT, AND HOW DO THOSE CONCLUSIONS AFFECT YOUR ROE RECOMMENDATION?

A. Because certain models used to estimate the Cost of Equity require long-term assumptions, it is important to understand whether those assumptions hold. The current market environment is one in which recent changes in interest rates have

[70] Calculated as an index. Source: S&P Global Market Intelligence.

been associated with events, more so than changes in fundamental economic conditions. Even if that were not the case, utility valuations have a limit, even when investors look to them for an alternate source of income in a declining interest rate environment. On balance, it remains important to consider changes in market conditions, the likely causes of those changes, and how model results are affected by them.

Q. MS. WINKER ARGUES HER 9.15 PERCENT ROE RECOMMENDATION IS REASONABLE "DUE TO THE FOMC'S PLAN TO PUT A HOLD ON INTEREST RATE INCREASES OVER THE NEXT FEW YEARS."[71] WHAT IS YOUR RESPONSE TO MS. WINKER ON THAT POINT?

A. Although the FOMC recently has held the overnight Federal Funds rate constant, it noted that "decisions regarding near-term adjustments of the stance of monetary policy would appropriately remain dependent on the evolution of the outlook as informed by incoming data."[72] I do not read that statement as saying the FOMC has determined it would "put a hold on interest rate increases over the next few years."[73]

[71] Direct Testimony of Anjuli Winker, at 40.

[72] *Minutes of the Federal Open Market Committee*, April 30–May 1, 2019, at 12.

[73] The FOMC's March 2019 *Projection Materials* indicated a slight increase in the range of Federal Funds rates over the "longer run".

Q. AT PAGE 11 OF HER DIRECT TESTIMONY, MS. WINKER SUGGESTS AN INVERTED YIELD CURVE (IN WHICH SHORT-TERM RATES EXCEED LONG-TERM RATES) MAY "LEAD TO A RECESSION". DO YOU HAVE ANY OBSERVATIONS REGARDING THOSE POINTS?

A. Yes. First, if Ms. Winker's position is that an inverted yield curve may cause a recession, the issue of causality is not settled. As the Federal Reserve Bank of Chicago (the "Chicago Fed") observed, the analyses discussed in its recent research on the topic "do not imply that a yield-curve inversion causes a recession." The Chicago Fed further explained that, "[r]ather, it could be that the slope itself fluctuates to reflect changing expectations about the economy, and these expectations are useful predictors of economic downturns."[74] In any event, of the 853 trading days since 2016, there have been only thirteen during which the yield curve was inverted.[75]

Lastly, the yield curve's ability to predict inflation has come under question since the Federal Reserve implemented its policy of Quantitative Easing. A recent article in *Barron's*, for example, observed that by taking Treasury and mortgage-backed securities off the private market, the Federal Reserve "may be depressing the term premium and tilting the yield curve negatively."[76] In that case, an inversion may not be due to the macroeconomic factors that otherwise would suggest an impending recession.

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[74] Chicago Fed Letter, *Why does the yield-curve slope predict recessions?*, Essays on Issues, 2018 Number 404, at 5.

[75] Based on the difference between the ten-year Treasury Bond yield, and the three-month Treasury Bill rate. Source: Federal Reserve Schedule H.15.

[76] Randall W. Forsyth, *An Inverted Yield Curve Is Usually Scary. Not this Time.* *Barron's*, May 31, 2019.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE CURRENT LEVEL OF INTEREST RATES, AND THEIR IMPLICATIONS FOR THE COMPANY'S COST OF EQUITY?

A. Although I understand interest rates recently have fallen, I do not believe the Company's Cost of Equity likewise has declined. To conclude they did, we would have to assume the decline in yields is due to a fundamental change in the long-term economic outlook, and that utility valuations closely follow those yield declines regardless of their cause. For the reasons discussed above, I do not believe that is the case.

Lastly, in her Schedule AW-3, Ms. Winker provides the average authorized ROE in 2016 for electric utilities as 9.60 percent. It was in 2016 that the 30-year Treasury yield reached its cyclical low of 2.11 percent; the low in 2019 has been 2.58 percent. It also was in 2016 that the five and ten-year inflation-indexed Treasury yields fell to negative levels, and the three-month Treasury Bill rate did not exceed 0.55 percent. As Figure 14 (below) indicates, those measures currently are considerably above their 2016 levels. On that basis alone, Ms. Winker's 9.15 percent ROE recommendation should be seen as unduly low.

Figure 14: Treasury Security Yields (%), 2016 and 2019[77]

		Three-Month Treasury Bill Yield	Five-Year Treasury Bond Yield	Five-Year Treasury Bond Yield, Inflation-Indexed	Ten-Year Treasury Bond Yield	Ten-Year Treasury Bond Yield, Inflation-Indexed	30-Year Treasury Bond Yield
2016	Max	0.55	2.10	0.42	2.60	0.74	3.19
2016	Min	0.18	0.94	-0.46	1.37	-0.06	2.11
	Range	0.37	1.16	0.88	1.23	0.80	1.08
2019	Max	2.49	2.62	1.00	2.79	0.97	3.13
2019	Min	2.35	1.93	0.35	2.14	0.40	2.58
	Range	0.14	0.69	0.65	0.65	0.57	0.55

Q. MS. WINKER ALSO ARGUES BECAUSE THEY ARE REGULATED, "U.S. UTILITIES PROVIDE INVESTORS THE OPPORTUNITY TO EARN AN ADDITIONAL YIELD ON TOP OF LONG-TERM U.S. TREASURY BONDS, WITHOUT HAVING TO INCREASE THE LEVEL OF INVESTMENT RISK LIKE OTHER NON-REGULATED CORPORATE PEERS.[FOOTNOTE OMITTED]"[78] WHAT IS YOUR RESPONSE TO MS. WINKER ON THAT POINT?

A. Ms. Winker appears to argue that utility debt investors receive a credit spread over the return available on U.S. Treasury securities without taking on the additional risks facing non-regulated entities. As to whether utility debt yields include a credit spread, I agree. If Ms. Winker's point is that because utilities are regulated, utility debt yields are lower than equivalently rated corporate debt yields, I disagree. As Figure 15 demonstrates, from January 2000 through May 2019 there has been

[77] Source: Federal Reserve Schedule H.15. 2019 data is through May 31st.
[78] Direct Testimony of Anjuli Winker, at 13.

virtually no difference between the two (in both cases, the average difference is less than the standard deviation).

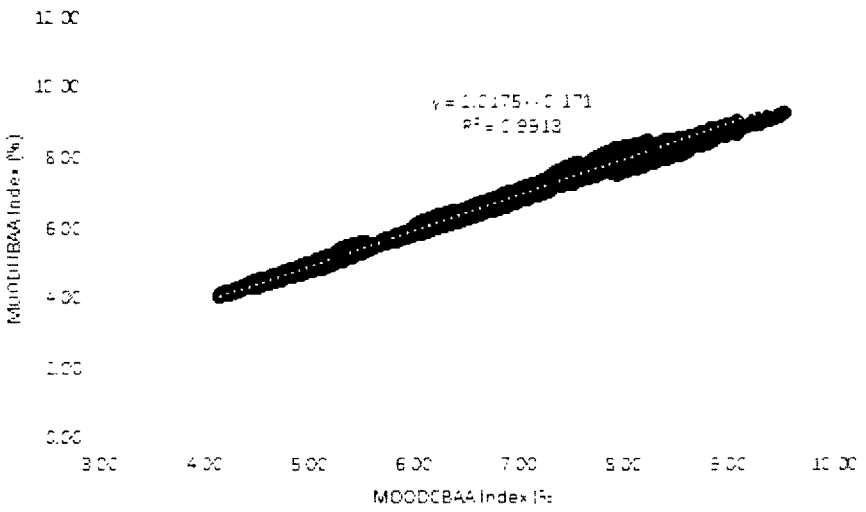
Figure 15: Moody's Utility vs. Corporate Credit Spreads[79]

	Moody's Baa Spread (%, Utility – Corporate)	Moody's A Spread (%, Utility – Corporate)
Average	-0.0638	0.0193
Std. Dev	0.1179	0.0958

Taking a slightly different perspective, I reviewed the Moody's Utility and Corporate Baa Index yields and reviewed the historical relationship between the two (*see*, Figure 16, below). There, corporate yields explained about 99.00 percent of the change in utility yields, and the slope coefficient was about 1.00. Those two statistics indicate that over time, utility and corporate bond yields are highly related, and essentially move in in a one-to-one fashion. If debt investors saw utility debt as less risky than equivalently rated corporate debt, that would not be the case; the degree of explanatory value would be lower, and the slope coefficient would be less than 1.00 (indicating that changes in utility yields are less than changes in corporate bond yields).

[79] Source: Bloomberg Professional.

Figure 16: Moody's Baa Utility vs. Corporate Baa Debt Yields[80]



Q. WHAT CONCLUSIONS DO YOU DRAW FROM THE DATA DISCUSSED ABOVE?

A. The regulated nature of utilities does not cause debt investors to require yields lower than those on equivalently rated corporate debt. From that, we reasonably can conclude investors do not see utilities as less risky than their similarly rated, non-regulated counterparts.

B. Proxy Group Selection

Q. PLEASE DESCRIBE MS. WINKER'S PROXY GROUP SELECTION CRITERIA.

A. Ms. Winker adopts screening criteria substantially similar to mine,[81] but somewhat modifies those relating to recent transaction activity. There, Ms. Winker expresses some concern that I did not "clearly state what type of transactions are

[80] Source: Bloomberg Professional.

[81] Direct Testimony of Anjuli Winker, at 21.

transformative transactions", choosing to exclude companies "that are currently known to be a party to a merger, significant asset sale or acquisition, bankruptcy, or other significant transaction." [82]

Q. DOES MS. WINKER EXCLUDE CERTAIN COMPANIES BASED ON THAT CRITERION?

A. Yes, Ms. Winker excludes, ALLETE, Inc. ("ALLETE"), American Electric Power Company, Inc. ("AEP"), NextEra Energy, Inc.("NextEra"), and Southern Company ("Southern") because in her view, each is "party to an ongoing or recently completed significant transaction."[83] Although Ms. Winker is concerned I did not define "transformative transaction", she did not explain the transactions that, based on her method, excluded those companies.

Q. DO YOU BELIEVE THE TRANSACTION BETWEEN NEXTERA AND SOUTHERN WAS SIGNIFICANT ENOUGH TO WARRANT THEIR REMOVAL FROM THE PROXY GROUP?

A. No, I do not. I assume Ms. Winker excluded those companies due to NextEra's purchase of Gulf Power Company and Florida City Gas from Southern. In my view, that transaction, which was announced on May 21, 2018 and completed on January 1, 2019 was not transformative to the buyer or seller, either in terms of relative market capitalization, or the nature of their operations. As Southern noted, the aggregate cash value of the transaction was about $5.3 billion.[84] Currently, Southern's market capitalization is about $57.25 billion, and NextEra's is about

[82] *Ibid.*
[83] *Ibid.*
[84] Southern Company SEC Form 8-K, dated January 4, 2019.

$98 billion. Consequently, the transaction represents less than 10.00 percent of Southern's market capitalization, and about 5.00 percent of NextEra's market capitalization. In my view, that does not rise to the level of a significant or transformative transaction.

As to ALLETE, the only recently reported transaction of which I am aware is the company's March 2019 sale of its U.S. Water Services subsidiary to Kurita Water Industries, Ltd. for $270 million.[85] Although ALLETE announced the acquisition of the Diamond Spring Wind Farm in May 2019, that asset is in the development stage, and there was no announced transaction value. ALLETE's current market capitalization is about $4.35 billion; the U.S. Water Services transaction therefore represents about 6.00 percent of ALLETE's market value. Again, I do not see that transaction as significant or transformational.

Regarding AEP, I understand that in April 2019, the company acquired Sempra Energy Renewables for approximately $1.05 billion. As AEP explained, the acquired assets support its "long-term strategy to diversify [its] generation fleet."[86] The transaction, which represents about 2.00 percent of AEP's market capitalization, does not appear to be significant or transformative.

[85] ALLETE Inc., press release, dated March 27, 2019.

[86] CISION PR Newswire, *AEP Completes Purchase of Wind Assets from Sempra*, April 22, 2019.

Q. HAVE YOU REVIEWED THE TRADING PATTERNS FOR THOSE FOUR COMPANIES TO UNDERSTAND WHETHER INVESTORS SEE THE TRANSACTIONS AS SIGNIFICANT OR TRANSFORMATIVE?

A. Yes. To do so, I calculated each company's daily price change and compared those changes to the S&P 500 Electric Utility Index. The method of comparison was a regression analysis in which the dependent variable is the subject company's daily price change, and the explanatory variable is the daily change in the S&P 500 Electric Utility index. Similar to the Beta coefficient in the CAPM, the slope coefficient here measures the relationship between the subject company and an index. In this case, if the slope coefficient (the Beta coefficient, based on daily returns from January 2018 through May 2019) is approximately 1.00, we can conclude investors see the companies as comparable to others in the electric utility sector.

As Figure 17 (below) demonstrates, the slope coefficients are approximately 1.00, indicating a high degree of comparability. Those results support my view that all four companies are suitable proxies in this case.

Figure 17: Daily Returns Relative to S&P 500 Electric Utility Index[87]

	ALLETE	Southern	NextEra	AEP
Slope Coefficient	0.99	0.96	0.97	1.01

[87] Source: S&P Global Market Intelligence

C. Constant Growth DCF Model

Q. PLEASE SUMMARIZE THE RESULTS OF MS. WINKER'S CONSTANT GROWTH DCF ANALYSIS.

A. Ms. Winker's DCF-based ROE recommendation ranges from 6.76 percent to 9.92 percent, based on dividend yields of 3.33 percent and 3.45 percent and the range of growth rates discussed below.[88] As discussed earlier, those results suggest Ms. Winker believes estimates as low as 6.76 percent are reasonable, and should be given some weight in setting the Company's ROE.[89]

Q. WHAT GROWTH RATES DID MS. WINKER INCLUDE IN HER DCF CALCULATIONS?

A. Ms. Winker considered the "Sustainable Retained Earnings Growth" rate (that is, the "B x R" form of the "Sustainable Growth" model), which is calculated as the retention ratio ("B") multiplied by the earned return on book equity ("R"),[90] along with the following growth rates, all of which are provided by Value Line: (1) five- and ten-year historical growth rates in earnings, dividends, and book value; and (2) five-year projected growth in earnings, dividends, and book value.[91]

Q. PLEASE SUMMARIZE YOUR CONCERNS WITH MS. WINKER'S USE OF THE SUSTAINABLE GROWTH MODEL.

A. First, the model's underlying premise is that future earnings will increase as the retention ratio increases. That is, because future growth is modeled as "B x R"

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[88] Direct Testimony of Anjuli Winker, at 31.

[89] As noted earlier, recently authorized ROEs have been in the range of 280 basis points above 6.76%. I also note that in her Direct Testimony at 39-40, Ms. Winker rejected her 8.20% CAPM-based estimate, citing it as only a qualitative check on her analyses.

[90] *See,* Direct Testimony of Anjuli Winker, at 27.

[91] *Ibid.*, at 27-31.

(where B is the retention ratio, and R is the earned return on book equity), the model assumes growth will increase as B increases. There are several reasons, however, why that may not be the case. Management decisions to conserve cash for capital investments, to manage the dividend payout to minimize future dividend reductions, or to signal future earnings prospects can and do influence dividend payout (and therefore earnings retention) decisions in the near-term. Consequently, it is appropriate to determine whether the data relied upon by Ms. Winker supports the assumption that higher earnings retention ratios necessarily are associated with higher future earnings growth rates.

Q. DID YOU UNDERTAKE ANY ANALYSES TO TEST THAT ASSUMPTION?

A. Yes, I did. Ms. Winker relied on Value Line data to calculate DCF results for the 20 companies in her proxy group. Value Line provides historical and projected information regarding both earnings and dividends per share ("DPS"). For each company with a consistent history of dividend payments, I calculated (in each year of the historical period) the dividend payout ratio, the retention ratio, and the subsequent five-year average earnings growth rate. I then performed a regression analysis in which the dependent variable was the five-year earnings growth rate, and the explanatory variable was the earnings retention ratio. The purpose of that analysis was to determine whether the data on which Ms. Winker relies supports the assumption that higher retention ratios necessarily produce higher earnings growth rates.

Q. WHAT DID THAT ANALYSIS REVEAL?

A. As shown in Figure 18 below (*see also,* Exhibit R-RBH-10), there was a statistically significant negative relationship between the five-year average earnings growth rate and the earnings retention ratio. That is, based on Ms. Winker's data, earnings growth decreased as the retention ratio increased. Those findings clearly call into question Ms. Winker's substantial reliance on the Sustainable Growth method.

Figure 18: Regression Results - Retention Ratio / Earnings Growth[92]

	Coefficient	Standard Error	t-Statistic
Intercept	0.175	0.019	9.055
Retention Ratio	-0.237	0.288	-8.225

Q. DOES PUBLISHED RESEARCH SUPPORT YOUR FINDINGS?

A. Yes. Two articles in Financial Analysts Journal addressed the theory that high dividend payouts (*i.e.*, low retention ratios) are associated with low future earnings growth.[93] Both articles cite a 2003 study by Arnott and Asness,[94] who found that over 130 years, future earnings growth was associated with high, rather than low, payout ratios.[95] All three studies support my finding that over time, the relationship between retention ratios and future earnings growth has been negative. Given the strong statistical results of my analyses, and the corroborating research discussed

[92] *See also,* Exhibit R-RBH-10.

[93] Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, Financial Analysts Journal, Vol. 62, No. 3, 2006. See also Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas, *International Evidence on the Payout Ratio, Earnings, Dividends and Returns*, Financial Analysts Journal, Vol. 62, No. 1, 2006.

[94] Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

[95] Because the payout ratio is the inverse of the retention ratio, the authors found future earnings growth is negatively related to the retention ratio.

above, I continue to disagree with Ms. Winker's substantial reliance on the "B x R" approach.

Q. ARE VALUE LINE'S PROJECTIONS FOR THE PROXY COMPANIES' GROWTH IN EARNINGS PER SHARE ("EPS") CONSISTENT WITH THE SUSTAINABLE GROWTH ESTIMATE?

A. No, they are not. As shown in Exhibit R-RBH-11, I calculated the Sustainable Growth rate using Value Line's projected financial metrics for each company in Ms. Winker's proxy group for the years 2020 and 2022-2024. I then compared those estimates to Value Line's expected earnings growth for each company. As shown in Exhibit R-RBH-11, Value Line frequently expects actual earnings growth to exceed the growth rate indicated by the Sustainable Growth formula. Consequently, the assumption that the Sustainable Growth estimate accurately reflects future growth may be too limiting.

Q. ASIDE FROM THOSE CONCERNS, DO YOU AGREE WITH MS. WINKER'S SPECIFICATION OF THE SUSTAINABLE GROWTH RATE?

A. No, I do not. The full form of the model assumes growth is a function of expected earnings, and the extent to which earnings are retained and invested in the enterprise. Ms. Winker relies on the model's simplest form, which defines growth as a function of internally generated earnings.

Although I disagree with its use in this proceeding, if Ms. Winker is going to consider a form of Sustainable Growth, she should use the "BR + SV" form of the model, which reflects growth both from internally generated funds (i.e., the "BR" term) and from issuances of equity (i.e., the "SV" term). As noted above, the

first term is the product of the retention ratio (i.e., "B", or the portion of net income not paid in dividends) and the expected ROE (i.e., "R"), which represents the portion of net income that is "plowed back" into the company as a means of funding growth. The "SV" term is represented as

$$\left(\frac{m}{b} - 1\right) x \text{ Common Shares Growth Rate} \quad [3]$$

where $\frac{m}{b}$ is the Market/Book ratio. In that form, the "SV" term reflects an element of growth as the product of: (1) the growth in shares outstanding, and (2) that portion of the market-to-book ratio that exceeds unity.

Q. DO YOU AGREE WITH MS. WINKER THAT DIVIDEND AND BOOK VALUE GROWTH RATES ARE APPROPRIATE MEASURES OF EXPECTED GROWTH IN THE CONSTANT GROWTH DCF MODEL?[96]

A. No. As noted in my Direct Testimony, to reduce growth to a single measure, it is necessary to assume a fixed payout ratio and a constant growth rate for EPS, Dividends Per Share, and Book Value Per Share ("BVPS").[97] Under the Constant Growth DCF model's strict assumptions, earnings, dividends, book value, and stock prices all grow at the same, constant rate in perpetuity.

Simply, earnings are the fundamental driver of both book value and dividend growth. As noted earlier, book value increases with the amount of earnings not distributed as dividends (that is, retained earnings), and the price at which new equity is issued is a function of the EPS and the then-current Price/Earnings ("P/E") ratio. Similarly, the ability to pay dividends depends

[96] *See*, Direct Testimony of Anjuli Winker, at 28.
[97] *See*, Direct Testimony of Robert B. Hevert, at 58.

fundamentally on expected earnings.[98] Because dividend policy contemplates additional factors, including the disproportionately negative effect on prices resulting from dividend cuts, as opposed to dividend increases,[99] in the short-run dividend growth may be disconnected from earnings growth. In the long run, however, dividends cannot be increased without earnings growth.

Lastly, because investors often assess stock values on the basis of P/E ratios, it is important to consider whether the growth rates used in the DCF model are related to those valuations.

Q. DO BOOK VALUE, DIVIDEND, OR SUSTAINABLE GROWTH RATES EXPLAIN ELECTRIC UTILITY P/E RATIOS BETTER THAN EARNINGS GROWTH RATES?

A. No, they do not. Although Ms. Winker argues that "investors place more significance on the past financial results of electric utilities than other sectors of the economy,"[100] she provides no evidence to support that claim. To assess Ms. Winker's position, I performed a regression analysis of growth rates and utility P/E ratios and found earnings growth to be the only growth rate with a statistically strong and theoretically sound ability to explain changes in utility valuations.

Q. PLEASE DESCRIBE THAT ANALYSIS AND ITS RESULTS.

A. My analyses are based on the approach developed by Professors Carleton and Vander Weide, who performed a comparison of the predictive capability of

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[98] Jing Liu, Doron Nissim, and Jacob Thomas, *Is Cash Flow King in Valuations?*, Financial Analysts Journal, Volume 63, Number 2, 2007.

[99] Servaes and Tufano, *Corporate Dividend Policy: The Theory and Practice of Corporate Dividend and Share Repurchase Policy*. Deutsche Bank, February 2006.

[100] *See*, Direct Testimony of Anjuli Winker, at 29.

historical growth estimates and analysts' consensus forecasts of five-year earnings growth for the stock prices of sixty-five utility companies.[101] I structured the analysis to determine whether investors use earnings, dividend, book value, or Sustainable Growth rates when valuing electric utility stocks. In particular, my analyses examine the statistical relationship between the P/E ratios of my electric proxy companies and the projected EPS, projected DPS, and BVPS reported by Value Line, or the "B x R" Sustainable Growth rate calculated using Value Line data. To determine which, if any, of those growth rates are statistically related to electric utility stock valuations, I performed a series of regression analyses in which the projected growth rates were explanatory variables and the P/E ratio was the dependent variable. The results of those analyses are presented in Exhibit R-RBH-12.

In the first set of analyses I considered each growth rate separately (*i.e.*, I performed four separate regressions with P/E as the dependent variable and projected EPS, DPS, BVPS, and Sustainable Growth, respectively, as the independent variable). To ensure those individual analyses did not bias my results, I also performed a single regression analysis that included all four variables as potential explanatory variables. I then reviewed the T and F-Statistics to determine whether the variables and equations were statistically significant.[102]

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[101] Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988 at 81. Please note that while the original study was published in 1988, it was updated in 2004 under the direction of Dr. Vander Weide. The results of this updated study are consistent with Vander Weide and Carlton's original conclusions.

[102] In general, a T-Statistic of 2.00 or greater indicates that the variable is likely to be different than zero, or "statistically significant" (at the 95.00% confidence level, *i.e.*, a p-value less than 0.05). The F-Statistic is used to determine whether the model as a whole has statistically significant predictive capability.

Q. WHAT DID YOUR ANALYSES REVEAL?

A. As shown in Exhibit R-RBH-12, the results demonstrate that the only positive, statistically significant growth rate was the projected EPS growth. That is, neither DPS or BVPS growth rates, nor Sustainable Growth were directly related to valuation levels. Consequently, projected EPS growth rates are the appropriate measure of growth for the purpose of the DCF models.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE USE OF BOOK VALUE GROWTH, DIVIDEND GROWTH AND SUSTAINABLE GROWTH IN THE CONSTANT GROWTH DCF MODEL?

A. The analyses described above demonstrate that Ms. Winker's position (*i.e.*, that Sustainable Growth rates are more appropriate than earnings growth in the DCF formulation) is not supported by data from Value Line, a source on which she relies in this proceeding. Because projected EPS growth is the only variable that has any explanatory value, projected earnings growth should be the only variable used in the DCF analyses. As also noted above, the theoretical basis of Ms. Winker's "B x R" model does not apply to her data.

Lastly (and as discussed earlier), Ms. Winker's Sustainable Growth rate estimates produce average DCF estimates in the range of 6.77 percent to 6.98 percent.[103] Regardless of any fundamental differences I may have with her approach, ROE estimates that low have little, if any meaning in determining the Company's Cost of Equity.

[103] *See,* Exhibit R-RBH-13; *See also,* Direct Testimony of Anjuli Winker at 30, Schedule AW-1 at 1-2.

D. Bond Yield Plus Risk Premium Model

Q. MS. WINKER ASSERTS YOU ADJUST THE RISK PREMIUM IN YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS UPWARD TO ACCOUNT FOR THE RELATIONSHIP BETWEEN RISK PREMIA AND 30-YEAR TREASURY BOND YIELDS.[104] IS THAT ASSERTION CORRECT?

A. No, it is not. Ms. Winker argues I first calculated the average difference between Treasury bond yields and Equity Risk Premia, then "adjusted" the result through my regression analysis. Ms. Winker appears to misunderstand my analysis, and her assertion that I adjust my "risk premium by including an adder" is incorrect. Although the average Equity Risk Premium is provided in Exhibit RBH-5 of my Direct Testimony, it is never used as a basis for my ROE recommendation. Rather, my Equity Risk Premium estimate is based on a regression analysis, which continues to show a statistically significant inverse relationship between the Equity Risk Premium and Treasury bond yields. Applying an average Equity Risk Premium to the current Treasury bond yield, as Ms. Winker does in her Bond Yield Plus Risk Premium analysis, ignores that inverse relationship.

Q. DOES MS. WINKER PERFORM A BOND YIELD PLUS RISK PREMIUM APPROACH?

A. Yes, she does. Using data from the years 2000 to 2018, Ms. Winker performs a Risk Premium analysis using Moody's Investors Service ("Moody's") Average Public Utility Bond Yields rather than the 30-Year Treasury Yield I applied in my

[104] *See*, Direct Testimony of Anjuli Winker, at 36-37.

analysis.[105] As noted above, however, Ms. Winker applies her historical average risk premium of 4.64 percent to the current yield on BBB utility bonds and the average 2018 Moody's utility bond yield. Her Bond Yield Plus Risk Premium results range from 8.98 percent to 9.04 percent.[106]

Q. WHAT ARE YOUR CONCERNS WITH MS. WINKER'S BOND YIELD PLUS RISK PREMIUM ANALYSIS?

A. I disagree with Ms. Winker's shortened data set, and with her application of the historical average risk premium.

Q. WHAT IS YOUR CONCERN WITH MS. WINKER'S SHORTENED DATA SET?

A. Ms. Winker argues that "[t]he shorter time period more effectively captures the trend in authorized ROEs and captures two recessions and two periods of economic growth. The shorter time period, therefore, better reflects current investor expectations and market conditions, than going back approximately four decades."[107] I disagree. Ms. Winker has not provided any evidence to support her shortened data set, nor has she demonstrated that the relationship between Treasury yields and the Equity Risk Premium prior to 2000 is inconsistent with the structure of her model. The data used in my analyses cover several capital market and macroeconomic cycles and captures the relationship between the Equity Risk Premium and interest rates over those cycles. By ignoring those observations, Ms. Winker's analysis unnecessarily makes the model less robust.

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[105] Direct Testimony of Anjuli Winker, at 34-35; Schedule AW-3.
[106] *See, Ibid.*, at 35.
[107] *Ibid.*, at 34.

Q. DO YOU AGREE WITH MS. WINKER'S ASSUMPTION THAT IT IS APPROPRIATE TO RELY ON AN HISTORICAL AVERAGE EQUITY RISK PREMIUM OF 4.64 PERCENT?

A. No, I do not. If Ms. Winker believes it is appropriate to apply the historical average Equity Risk Premium, she also should apply the historical average utility bond yield of 5.68 percent, which would produce an ROE estimate of 10.32 percent.[108] As discussed in my Direct Testimony (and discussed in more detail in my response to Dr. Woolridge), academic research and observable market data support the long-held principle that the Equity Risk Premium varies inversely with changes in interest rates.[109] By applying an average Equity Risk Premium calculated over a period during which interest rates were higher than their current levels, Ms. Winker has underestimated the Cost of Equity. Ms. Winker does so even as she acknowledges that "risk premiums can fluctuate over time".[110] By applying a static, historical average Equity Risk Premium, Ms. Winker disregards that important principle.

Q. DOES THE DATA USED IN MS. WINKER'S BOND YIELD PLUS RISK PREMIUM ANALYSIS SUPPORT THE FINDING THAT THERE IS AN INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND THE EQUITY RISK PREMIUM?

A. Yes, it does. As shown in Figure 19 below, recreating Ms. Winker's Bond Yield Plus Risk Premium analysis clearly captures the observable, inverse relationship

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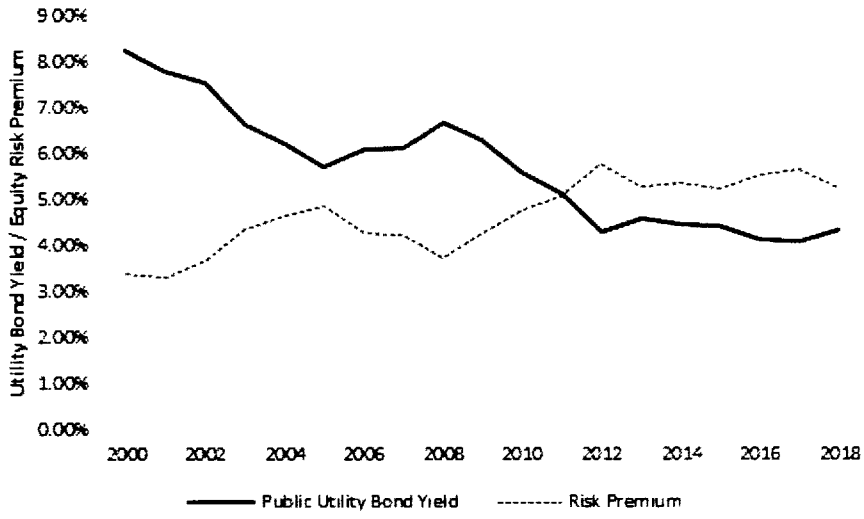
[108] *See,* Exhibit R-RBH-14.
[109] Direct Testimony of Robert B. Hevert, at 70.
[110] Direct Testimony of Anjuli Winker, at 37.

between interest rates and the Equity Risk Premium. The correlation between the two is approximately negative 97.10 percent, indicating they move nearly in lockstep, but in opposite directions.

Figure 19: Ms. Winker's Utility Bond Yields and Electric ROE Risk Premium[111]



Q. HAVE YOU COMPARED THE RELATIVE ACCURACY OF RELYING ON AN AVERAGE EQUITY RISK PREMIUM (AS MS. WINKER DOES), AND THE BOND YIELD PLUS RISK PREMIUM ANALYSIS PROVIDED IN YOUR DIRECT TESTIMONY?

A. Yes, I have. I first calculated the ROE implied by Ms. Winker's 4.64 percent average historical risk premium during her 2000 to 2018 analysis period, and calculated the error between the implied ROE and the observed average ROE. I then calculated the implied (calculated) ROE assuming Ms. Winker's analysis is

[111] *Ibid.*, Schedule AW-3; Exhibit R-RBH-14.

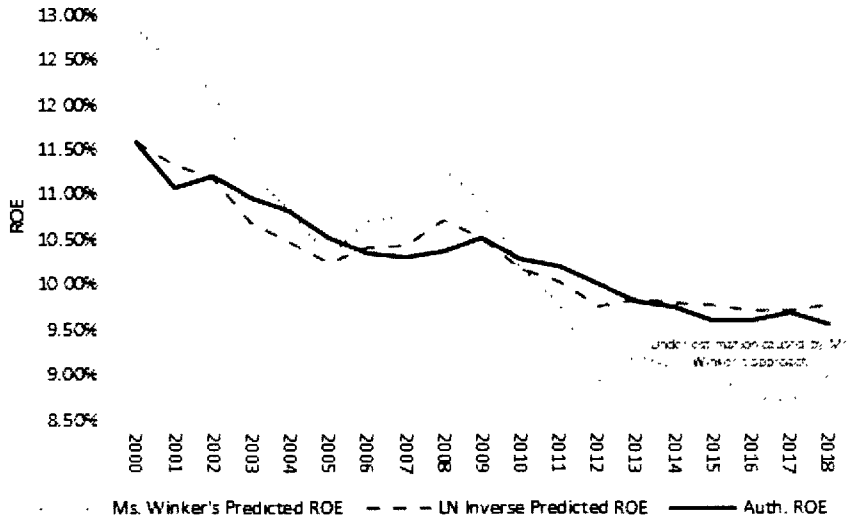
adjusted to reflect the log normal relationship discussed in my Direct Testimony,[112] again calculating the error between the actual and predicted observations.

As shown in Exhibit R-RBH-15, Ms. Winker's Bond Yield Plus Risk Premium method produces results as much as 136 basis points removed from the observed ROE. Adjusting Ms. Winker's approach to reflect the inverse relationship between bond yields and the risk premium reduces the largest error to 33 basis points. Figure 20 below (*see* also Exhibit R-RBH-15) demonstrates that applying the Bond Yield Plus Risk Premium model adjusted for the inverse relationship produces more accurate estimates of observed average authorized ROEs. Ms. Winker's static Risk Premium method, in contrast, produces significant errors, particularly in relatively low (or high) interest rate environments. In fact, the mean absolute error under Ms. Winker's approach is more than four times larger than the rate of error under my approach.[113]

[112] Direct Testimony of Robert B. Hevert, at 71.

[113] *See*, Exhibit R-RBH-15. The Mean Absolute Error measures the average absolute difference between the actual observation and the predicted observation.

Figure 20: Accuracy of Risk Premium ROE Estimates



Q. WHAT WOULD BE THE EFFECT OF MODIFYING MS. WINKER'S BOND YIELD PLUS RISK PREMIUM ANALYSIS TO TAKE INTO ACCOUNT THE INVERSE RELATIONSHIP DESCRIBED ABOVE?

A. As shown in Exhibit R-RBH-14, using the coefficients from a semi-log regression would produce ROE results of 9.77 percent and 9.79 percent.

E. Capital Asset Pricing Model

Q. AS A PRELIMINARY MATTER, DO YOU AGREE WITH MS. WINKER'S CONCLUSION THAT HER CAPM RESULTS ARE TOO LOW TO BE A REASONABLE ESTIMATE OF THE COMPANY'S COST OF EQUITY?

A. Yes, 8.20 percent is far too low to be a reasonable estimate of the Company's Cost of Equity. As explained below, Ms. Winker's CAPM estimates are the result of her unduly low Market Risk Premium ("MRP"), and her risk-free rate estimate.

Q. WHAT IS YOUR CONCERN WITH MS. WINKER'S MARKET RISK PREMIUM ESTIMATE?

A. Ms. Winker relies on the long-term arithmetic average difference between the returns on common stocks and long-term Government bills, as provided in Duff & Phelps' 2018 Valuation Handbook.[114] As Duff & Phelps notes, the long-term return on Large Company Stocks was 12.10 percent, and the total return on long-term Government bills was 3.40 percent; the approximate difference between the two (8.70 percent) is the MRP on which Ms. Winker relies. I have two concerns with that approach. First, Ms. Winker's calculation relies on the return on long-term Government bills. Second, her approach does not consider that the MRP changes with the level of interest rates.

Q. TURNING FIRST TO MS. WINKER'S USE OF THE TOTAL RETURN ON LONG-TERM GOVERNMENT BILLS, WHY DO YOU DISAGREE WITH THAT APPROACH?

A. As noted by Morningstar, the maturity of the risk-free security should approximate the life of the underlying investment:

> The traditional thinking regarding the time horizon of the chosen Treasury security is that it should match the horizon of whatever is being valued. When valuing a business that is being treated as a going concern, the appropriate Treasury yield should be that of a long-term Treasury bond. Note that the horizon is a function of the investment, not the investor. If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years.[115]

[114] *See,* Direct Testimony of Anjuli Winker, at 39.

[115] Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook, at 44.

That view is supported by Pratt and Grabowski, who recommend a similar approach to selecting the risk-free rate, noting that "[i]n theory, when determining the risk-free rate and the matching ERP you should be matching the risk-free security and the ERP with the period in which the investment cash flows are expected."[116]

Put somewhat differently, investors in equity securities commit capital to an asset (common stock) that will produce cash flows over an indefinite period. In determining inputs for the CAPM Cost of Equity, the best practice is to select the term (or maturity) that best matches the life of the investment being valued. The longest maturity risk-free asset available is the 30-year Treasury, so it is the best instrument to use as the risk-free rate in the CAPM.

Q. DOES MS. WINKER'S CONSTANT GROWTH DCF MODEL RECOGNIZE THE PERPETUAL NATURE OF EQUITY?

A. Yes, it does. The Gordon model, which is the basis of the Constant Growth DCF model, assumes cash flows in perpetuity. If the model's underlying assumptions hold, there is no difference between holding the stock and collecting dividends in perpetuity, or selling the stock at the end of a given holding period. The critical point is that the terminal value represents the perpetual claim on cash flows at that time. If the holding period is five years, the only way the DCF result can remain constant (or reasonable) is if the stock is sold at the prevailing market price, as defined by the Gordon Model. If equity was not perpetual, the shares would hold no value at the end of the holding period and the ROE estimates would be

[116] Shannon Pratt and Roger Gabrowski, Cost of Capital: Applications and Examples, 3rd Ed. (Hoboken, NJ: John Wiley & Sons, Inc., 2008), at 92. "ERP" is the Equity Risk Premium.

implausibly low. It is the perpetual nature of equity that defines its duration and, therefore, that informs the appropriate tenor of the risk-free rate in the CAPM.

Q. HAVE YOU CALCULATED THE EQUITY DURATION FOR MS. WINKER'S PROXY GROUP?

A. Yes, I have. Using the stock price, dividend, and growth rate data contained in Schedule AW-1, I calculated the average Equity Duration for each of Ms. Winker's proxy companies. Those results, which are provided in Exhibit R-RBH-16, indicate the average Equity Duration is approximately 31 years. Consequently, the 30-year Treasury yield is the appropriate measure of the risk-free rate. Simply, equity represents ownership in perpetuity, and the 30-year Treasury bond is the longest-lived risk-free security.

Q. PLEASE DESCRIBE MS. WINKER'S CLAIM THAT YOUR CAPM RESULTS ARE EXCESSIVE.

A. In footnote 63 of page 39 of her Direct Testimony, Ms. Winker argues my "CAPM results are significantly higher due to [my] use of long-term growth estimates of 10.94% and 12.32%."[117] She observes that the FOMC Monetary Report projects long-term GDP growth in the range of 3.70 percent to 4.20 percent.

Q. DO YOU AGREE WITH MS. WINKER'S ARGUMENT?

A. No, I do not. As noted in my Direct Testimony[118] and as Ms. Winker observes,[119] the CAPM requires a measure of the expected market return. As noted above, Ms. Winker's calculations rest on the 12.10 percent long-term market return provided

[117] [clarification added] 10.94% and 12.32% represent the average of the "Long-Term Growth Est." Columns in Exhibit RBH-2 as collected by Bloomberg and Value Line, respectively.
[118] Direct Testimony of Robert B. Hevert, at 64.
[119] Direct Testimony of Anjuli Winker, at 38.

in the Duff & Phelps Valuation Handbook; that return includes long-term arithmetic average capital appreciation (growth) of about 7.80 percent, considerably above the long-term (arithmetic average) nominal GDP growth rate of 6.34 percent. On that basis alone, there is no reason to restrict the market-wide growth rate to a measure of expected GDP growth.

Further, if we assume the 4.20 percent growth rate (the higher of the two estimates Ms. Winker cites), the expected market return would be only about 6.20 percent.[120] Because Ms. Winker discards her 8.20 percent CAPM estimate, which explicitly recognizes utility risks relative to overall market risks, it cannot be the case that she would consider 6.20 percent a reasonable estimate of the expected market return.

F. Capital Structure

Q. WHAT DOES MS. WINKER PROPOSE FOR THE COMPANY'S CAPITAL STRUCTURE?

A. Ms. Winker proposes the Company's actual capital structure reflecting 54.50 percent long-term debt and 45.50 percent common equity. Ms. Winker argues "CenterPoint Houston's requested 50/50 debt-to-equity ratio capital structure is weighted more heavily in common equity than is necessary to attract financial capital, and therefore, the capital structure will unjustly inflate the company's revenue requirement and rates charged to customers."[121]

[120] Assuming a 2.00% dividend yield.
[121] Direct Testimony of Anjuli Winker, at 43.

Q. DO YOU AGREE WITH MS. WINKER'S PROPOSED CAPITAL STRUCTURE?

A. No. Company Witness Mr. McRae discusses several Company-specific concerns with Ms. Winker's proposal. As to Ms. Winker's proposed 45.50 percent common equity ratio relative to industry practice, it is significantly below the average common equity ratio in place at other utility operating companies. Exhibit R-RBH-7 demonstrates the average common equity ratio over the eight quarters ended December 31, 2018 was 53.25 percent for the proxy group operating companies. Ms. Winker's proposal is 775 basis points (7.75 percentage points) below the proxy group operating companies' average.

Q. HAVE YOU PERFORMED OTHER ANALYSES OF MS. WINKER'S PROPOSED CAPITAL STRUCTURE?

A. Yes. Although Ms. Winker argues "CenterPoint Houston will continue to be able to attract financial capital on reasonable terms using [her] recommended capital structure"[122], she has provided no analyses to support her position. In her discussion of the TCJA, Ms. Winker refers to "fixed charge coverages", which she observes "is a measure of a company's ability to pay all of its fixed charges or expenses with its income before interest and income taxes."[123] It therefore appears Ms. Winker sees those ratios as meaningful measures of financial condition. As Figure 21 (below) indicates, the average pre-tax interest coverage ratio

[122] Direct Testimony of Anjuli Winker, at 43 [clarification added].
[123] Direct Testimony of Anjuli Winker, at 19.

(EBIT/Interest) over the five years ended 2018 for the operating companies in Ms. Winker's and my proxy groups were 4.07 and 4.14, respectively.

Figure 21: Average EBIT/Interest Coverage Ratio[124]

	2018	2017	2016	2015	2014	Average
Ms. Winker's Proxy Group	3.86 x	4.17 x	4.26 x	4.05 x	4.03 x	4.07x
Mr. Hevert's Proxy Group	3.90 x	4.24 x	4.31 x	4.13 x	4.11 x	4.14x

One method of assessing the implications of Ms. Winker's recommendation is to calculate the pre-tax interest coverage ratio implied by it, and compare that ratio to the Company's proposal, and to the range of ratios observed across her proxy group. As a point of reference, under the Company's proposed capital structure and ROE, its implied pre-tax interest coverage ratio is about 4.01 times (*see* Figure 22, below), which falls in the 52nd percentile of observed ratios among the operating utilities in Ms. Winker's proxy group over the five years ended 2018. Ms. Winker's proposed capital structure (leaving the Company's proposed 10.40 percent ROE) reduces the implied interest coverage ratio from 4.01x to 3.51x, which falls in the bottom 33rd percentile of her proxy group's observed ratios. Reducing the ROE to 9.15 percent brings the coverage ratio down to 3.21x, placing it in the bottom 24th percentile.

[124] Source: SNL Financial.

Figure 22: Implied EBIT/Interest Coverage Ratios

	Company Proposal	Ms. Winker's Proposed Capital Structure and 10.40% ROE	Ms. Winker's Proposed Capital Structure and 9.15% ROE
Debt Ratio	50.00%	54.50%	54.50%
Debt Cost Rate	4.38%	4.38%	4.38%
Weighted Debt Cost	2.19%	2.39%	2.39%
Equity Ratio	50.00%	45.50%	45.50%
Equity Cost Rate	10.40%	10.40%	9.15%
Tax Rate	21.00%	21.00%	21.00%
Pre-Tax Equity Cost	13.16%	13.16%	11.58%
Weighted Pre-Tax Equity Cost	6.58%	5.99%	5.27%
EBIT Coverage	4.01x	3.51x	3.21x

To summarize, the metric Ms. Winker notes in other areas of her testimony makes clear her recommendation would diminish the Company's financial condition. In my view, those findings do not support Ms. Winker's conclusion that her recommended ROE and capital structure will support the Company's ability to "maintain its financial integrity".[125]

V. RESPONSE TO TIEC WITNESS GORMAN

Q. PLEASE SUMMARIZE MR. GORMAN'S RECOMMENDATION REGARDING THE COMPANY'S COST OF EQUITY.

A. Mr. Gorman recommends an ROE of 9.25 percent, within a range of 9.00 to 9.50 percent.[126] Mr. Gorman establishes his recommended ROE by reference to: (1) his constant growth DCF model using both consensus analyst growth rates and a Sustainable Growth rate (with median and average results ranging from 8.11

[125] Direct Testimony of Anjuli Winker, at 5.
[126] Direct Testimony of Michael P. Gorman, at 5.

percent to 9.57 percent);[127] (2) his Multi-Stage DCF method (with median and mean results of 8.17 percent and 8.21 percent, respectively);[128] (3) his Risk Premium study (ranging from 9.20 percent to 9.42 percent);[129] and (4) his CAPM analyses (ranging from 7.40 percent to 8.73 percent).[130] Mr. Gorman's 9.25 percent recommendation represents the midpoint of his range; the low end is set by taking the approximate average of the high end of his CAPM (8.70 percent) and the midpoint of his Risk Premium (9.30 percent), and the high end set by reference to his DCF (9.45 percent).[131]

Q. WHAT ARE THE PRINCIPAL ANALYTICAL AREAS IN WHICH YOU DISAGREE WITH MR. GORMAN?

A. The principal areas in which I disagree with Mr. Gorman include: (1) the effect of market conditions and utility risk profiles on the Company's Cost of Equity; (2) the application of the Constant Growth DCF model, and interpretation of its results; (3) the application of the Multi-Stage DCF model; (4) the Market Risk Premium component of his CAPM analysis, in particular the expected market return from which the Market Risk Premium is calculated; (5) the assumptions and methods underlying Mr. Gorman's Risk Premium analyses; and (6) Mr. Gorman's assessment of the Company's relative risk.

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[127] *Ibid.*, at 54.
[128] *Ibid.*
[129] *Ibid*, at 60.
[130] *Ibid.*, at 66.
[131] *Ibid.*, at 67.

A. Market Conditions and Utility Risk Profiles

Q. WHAT IS YOUR RESPONSE TO MR. GORMAN'S OBSERVATION THAT UTILITIES REPRESENT A "LOW RISK"[132] INVESTMENT?

A. If Mr. Gorman's point is that utilities are less risky than the broad market, I agree. The fact that utilities tend to have Beta coefficients less than 1.00 shows that to be the case. At the same time, the average Beta coefficient for Mr. Gorman's proxy group is 0.70,[133] suggesting a meaningful degree of risk. For example, in 2008, when the market lost about 40.00 percent of its value, the SNL Electric Company index lost about 27.00 percent of its value.[134] In fact, from September through December 2008, when the overall market lost about 28.00 percent of its value, the correlation between the SNL Electric Company Index and the S&P 500 averaged approximately 80.00 percent.[135] That is, when the capital markets became increasingly distressed, much like the overall market utility valuations also decreased, although not to the same extent.

Q. MR. GORMAN REFERS TO SEVERAL RECENT REPORTS BY S&P, MOODY'S, AND FITCH, CONCLUDING THAT THE CURRENT RATING OUTLOOK FOR REGULATED UTILITIES IS STABLE.[136] DO YOU HAVE A RESPONSE TO MR. GORMAN ON THAT POINT?

A. Yes. I recognize that Mr. Gorman referred to certain of the rating agency reports discussed in my Direct Testimony. He notes those reports discuss the uncertainties

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[132] *Ibid.*, at 16.

[133] Source: Exhibit MPG-20, *Ibid.*, at 63.

[134] Source: S&P Global Market Intelligence.

[135] Source: S&P Global Market Intelligence. Based on daily returns. Correlations calculated over rolling three-month periods.

[136] Direct Testimony of Michael P. Gorman, at 14-15.

surrounding the implications of tax reform,[137] a point also discussed in my Direct Testimony.[138]

Q. WHAT ARE SOME OF THE POTENTIAL IMPLICATIONS OF RATING AGENCY COMMENTS REGARDING UTILITY CAPITAL EXPENDITURES?

A. Mr. Gorman's Figure 3 demonstrates utility capital investment has "increased considerably" and is expected to "remain high" in the 2018-2020 forecast period relative to the prior ten-year historical period.[139] All three rating agencies have observed the negative effects of the TCJA on utilities' cash flow and the potential consequences for their credit profiles.[140] It therefore is clear that efficient access to external capital at reasonable rates will be important to fund capital expenditures, as Mr. Gorman observes.[141] It also is clear that the markets in which that capital will be raised reflect greater volatility than those experienced even over the past two years.[142]

Q. DO YOU HAVE ANY OBSERVATIONS REGARDING THE ANNUAL AVERAGE AUTHORIZED RETURNS DISCUSSED ON PAGE 8 OF MR. GORMAN'S DIRECT TESTIMONY?

A. Yes, I do. Average annual data obscures variation in returns and does not address the number of cases or the jurisdictions issuing orders within a given year. For

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[137] *Ibid.*, at 14.

[138] Direct Testimony of Robert B. Hevert, at 16-19.

[139] Direct Testimony of Michael P. Gorman., at 12.

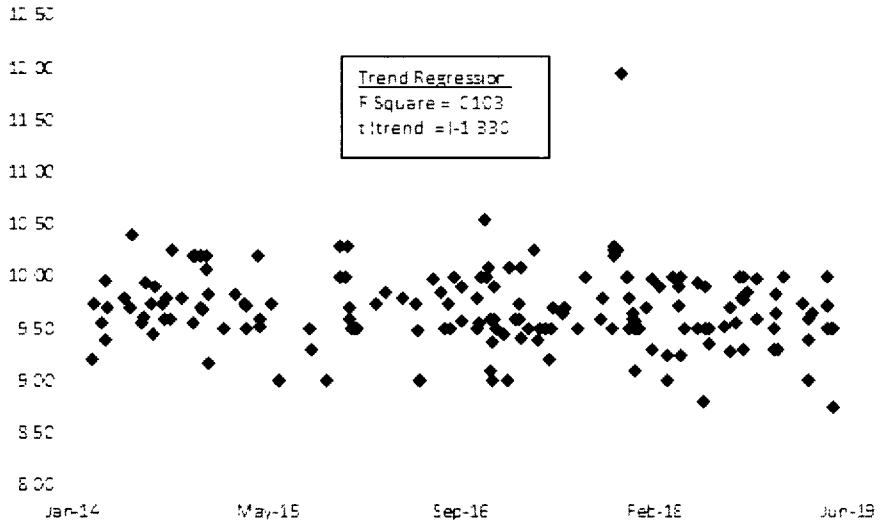
[140] Direct Testimony of Robert B. Hevert, at 16-17.

[141] Direct Testimony of Michael P. Gorman, at 92.

[142] The median value of the VIX, which measures expected market volatility over the coming 30 days, was 10.85 in 2017, and 15.15 in 2019, indicating a significant increase in volatility. By June 2020, the VIX is expected to increase to 18.20. Source: cboe.com, accessed June 6, 2019.

example, one year may have fewer cases decided, and a relatively large portion of those cases decided by a single jurisdiction. As shown in Figure 23, below, if all authorized ROEs are charted, rather than annual averages, there is no meaningful trend since 2014. Rather, time explains only 1.00 percent of the change in ROEs, and the trend variable is statistically insignificant.

Figure 23: Electric Authorized Returns (2014-2019)[143]



From a slightly different perspective, the recent fluctuations around the annual average authorized return data are well within the standard deviation of authorized ROEs, as shown in Figure 24, below.

[143] Source: Regulatory Research Associates. Excludes limited issue rate riders and ROEs authorized as part of the Illinois formula rate proceedings.

Figure 24: Mean and Standard Deviation of Authorized Returns (2014-2019)[144]

Year	Average	Standard Deviation
2014	9.78%	0.30
2015	9.64%	0.38
2016	9.66%	0.35
2017	9.74%	0.48
2018	9.61%	0.31
2019	9.55%	0.35

From that perspective as well, there is no reason to conclude authorized returns have fallen since 2014.

B. Constant Growth DCF Model

Q. AS A PRELIMINARY MATTER, DOES MR. GORMAN GIVE HIS CONSTANT GROWTH DCF RESULTS ANY WEIGHT IN ARRIVING AT HIS 9.25 PERCENT ROE RECOMMENDATION?

A. Yes. As noted earlier, Mr. Gorman's 9.25 percent recommendation represents the approximate midpoint of his 9.00 percent to 9.50 percent recommended range. The lower bound of Mr. Gorman's range (9.00 percent) is based on his CAPM and Risk Premium results, and the upper bound (9.50 percent) is based on his DCF results.[145] To arrive at his DCF-based recommendation, Mr. Gorman gives primary weight to his Constant Growth DCF model results based on analysts' growth rate projections (9.31 percent to 9.57 percent), although he "also considers the results of [his] other DCF models."[146]

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[144] Source: Regulatory Research Associates. Excludes limited issue rate riders and ROEs authorized as part of the Illinois formula rate proceedings.

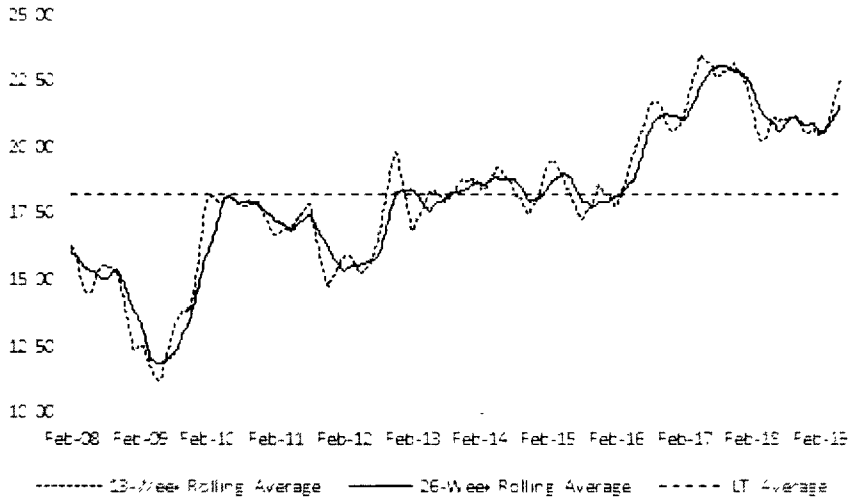
[145] Direct Testimony of Michael P. Gorman, at 67.

[146] *Ibid.*, at 54. Clarification added.

Q. DO YOU HAVE ANY CONCERNS WITH THE CONSTANT GROWTH DCF MODEL IN GENERAL AND THE WEIGHT MR. GORMAN APPLIES TO THOSE RESULTS IN PARTICULAR?

A. Yes, I do. As discussed in my Direct Testimony[147] and in my response to Ms. Winker, the Constant Growth DCF model is based on several underlying assumptions including the constancy of dividend yields and Price/Earnings ratios. Those conditions currently do not hold (*see* Figure 25, below).

Figure 25: Mr. Gorman's Proxy Group Rolling Average P/E Ratio[148]



In short, I disagree with Mr. Gorman's conclusions and continue to believe less weight should be given to the Constant Growth DCF model under current market conditions.

[147] Direct Testimony of Robert B. Hevert, at 61-62.

[148] Source: S&P Global Market Intelligence. Rolling 13-week and 26-week average.

C. Multi-Stage DCF Model

Q. DO YOU AGREE WITH MR. GORMAN'S APPLICATION OF THE MULTI-STAGE DCF MODEL?

A. No, I do not. Mr. Gorman's Multi-Stage DCF model contains several assumptions that produce unreasonably low ROE estimates. In particular, Mr. Gorman's model assumes a perpetual growth rate beginning in the 11th year of his model (that is, beginning in calendar year 2029) based on a GDP growth rate projection that actually ends in 2030.[149] In addition, Mr. Gorman assumes all dividends are received at year-end, rather than over the course of the year.

Q. HOW DOES MR. GORMAN'S ASSUMPTION AS TO THE TIMING OF DIVIDEND PAYMENTS UNREASONABLY DECREASE HIS MULTI-STAGE DCF MODEL RESULTS?

A. Mr. Gorman notes that quarterly dividends in his Constant Growth DCF model were "annualized (multiplied by 4)."[150] Because Mr. Gorman's proxy companies pay dividends on a quarterly basis, assuming (as Mr. Gorman has done) that the entire dividend is paid at the end of that year essentially defers the timing of the quarterly cash flows (that is, the quarterly dividends) until year-end, even though they are paid throughout the year. A reasonable method of reflecting the timing of quarterly dividend payments is to assume cash flows are received in the middle of each year (*i.e.*, the "mid-year convention"). As Duff & Phelps notes:

> Common practice in business valuation is to assume that the net cash flows are received on average continuously throughout the year

[149] *See* Direct Testimony of Michael P. Gorman, at 50, 53 and Exhibit MPG-14; *see also* and Blue Chip Economic Indicators, March 10, 2019, at 14.

[150] Direct Testimony of Michael P. Gorman, at 42. Mr. Gorman applies the same annualized dividend in his Multi-Stage DCF model.

(approximately equivalent to receiving the net cash flows in the middle of the year), in which case the present value factor is generally based on a mid-year convention (e.g., (1+k)0.5).[151]

Q. WOULD MR. GORMAN'S MULTI-STAGE DCF RESULTS BE DIFFERENT IF HE APPLIED THE MID-YEAR CONVENTION?

A. Yes. Exhibit R-RBH-17, which replicates Mr. Gorman's Schedule MPG-14, demonstrates that his model assumes year-end cash flows. As Exhibit R-RBH-17 also demonstrates, simply changing the dividend timing to reflect the mid-year convention increases the mean and median results by approximately 16-17 basis points (from 8.21 percent to 8.38 percent, and 8.17 percent to 8.33 percent, respectively). Even with that change, Mr. Gorman's model produces results too low to be reasonable estimates of the Company's Cost of Equity.

Q. PLEASE FURTHER EXPLAIN YOUR CONCERN WITH THE LONG-TERM GROWTH RATE IN MR. GORMAN'S MULTI-STAGE DCF MODEL.

A. The long-term growth rate represents the expected rate of growth, in perpetuity, as of the beginning of the third, or terminal, stage. It is an important parameter, accounting for more than 68.00 percent of the model's results.[152] Mr. Gorman's assumed terminal growth rates is not consistent with his model's structure, nor is it consistent with measures of growth noted elsewhere in his testimony.

[151] Duff & Phelps, 2016 Valuation Handbook, Guide to Cost of Capital at 1-4.
[152] *See* Exhibit R-RBH-17.

Q. TURNING TO YOUR SECOND POINT, HOW DOES MR. GORMAN'S ASSUMED 4.00 PERCENT GDP GROWTH RATE CONFLICT WITH OTHER ASPECTS OF HIS ANALYSES?

A. In his Table 11, Mr. Gorman presents the results of his various analyses, including his 8.70 percent CAPM estimate. That estimate relies, in part, on a Market Risk Premium of 7.90 percent, which is based on an expected market return of 11.10 percent.[153] As shown in Exhibit R-RBH-2, the current expected market dividend yield is approximately 2.16 percent, suggesting an expected growth rate of about 8.94 percent (11.10 percent – 2.16 percent). At pages 47-48 of his testimony, Mr. Gorman compares utility earnings growth rates to his expected GDP growth rate, concluding one should correlate to the other. If that is the case, Mr. Gorman's CAPM analysis assumes economic growth could be as high as 8.94 percent, well in excess of the 4.00 percent growth rate he uses in his Multi-Stage DCF.

Q. HAVE YOU CONSIDERED HOW MR. GORMAN'S MULTI-STAGE DCF RESULTS WOULD CHANGE IF IT INCLUDED A TERMINAL GROWTH RATE IN THE RANGE OF 8.94 PERCENT?

A. Yes. Rather than assume 8.94 percent, I solved for the terminal growth rate producing mean and median ROE estimates of about 9.57 percent, consistent with the 2019 average authorized ROE provided in Mr. Gorman's Exhibit MPG-16. I then considered that terminal growth rate relative to the 8.94 percent growth rate associated with Mr. Gorman's expected market return. As Exhibit R-RBH-17 demonstrates, using Mr. Gorman's Multi-Stage DCF model (including the mid-

[153] Exhibit MPG-21; Direct Testimony of Michael P. Gorman, at 64.

year convention), a terminal growth rate of 5.53 percent produces mean and median ROE estimates of 9.59 percent and 9.54 percent, respectively (average of 9.57 percent). That growth rate (5.53 percent) falls below the midpoint of the 4.00 percent and 8.94 percent growth rates assumed in Mr. Gorman's other analyses (that midpoint being 6.47 percent). It also falls below the long-term average nominal GDP growth rate of 6.34 percent reported by the Bureau of Economic Analysis. Assuming the 6.47 percent midpoint as the terminal growth rate produces an average ROE estimate of about 10.32 percent, well above Mr. Gorman's 9.25 percent recommendation.

Q. LASTLY, MR. GORMAN SUGGESTS THAT WHEN COMPARING THE LONG-TERM CAPITAL APPRECIATION RATE AND GDP GROWTH RATE, IT IS THE GEOMETRIC AVERAGE (RATHER THAN THE ARITHMETIC AVERAGE) THAT SHOULD BE APPLIED.[154] WHAT IS YOUR RESPONSE TO MR. GORMAN ON THAT POINT?

A. Mr. Gorman's position appears to be that because his assessment compares the two over long periods, the geometric average is appropriate. As Mr. Gorman notes, the geometric average equates a beginning value to an ending value, suggesting no uncertainty in moving from one to the other. Although he did not say as much, his argument is akin to comparing the performance of alternative investments, or investment advisors, over time; the geometric average may be used for that purpose. The issue, however, is that the terminal growth rate in the DCF model is not certain. It is the arithmetic mean, not the geometric mean, that reflects uncertainty.

[154] Direct Testimony of Michael P. Gorman, at 50.

In a variant of his CAPM analysis, Mr. Gorman calculates the real, long-term arithmetic average market return, to which he adds an estimate of inflation.[155] That approach assumes long-term growth (in the form of capital appreciation) is uncertain. In addition, that approach assumes a measure of long-term mean reversion, and reflects the uncertainty reflected in the arithmetic mean.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM THOSE ANALYSES?

A. Adjusting Mr. Gorman's Multi-Stage DCF model to reflect growth rates associated with other aspects of his analyses produces ROE estimates consistent with returns authorized in other jurisdictions, and within my recommended range.

D. Capital Asset Pricing Model

Q. PLEASE BRIEFLY SUMMARIZE MR. GORMAN'S CAPM ANALYSIS AND RESULTS.

A. Mr. Gorman's two CAPM estimates (7.40 percent and 8.73 percent) reflect two measures of principally historical Market Risk Premium estimates, *Blue Chip Financial Forecasts*' projected 30-year Treasury yield of 3.20 percent as the risk-free rate and an average Beta coefficient of 0.70 as reported by Value Line.[156] Based on his assessment of risk premiums in the current market, Mr. Gorman relies on the high end 8.73 percent CAPM.[157] Mr. Gorman's analyses assume Market Risk Premium estimates of 7.90 percent (based on the long-term historical arithmetic average real market return from 1926 through 2018 as reported by Duff & Phelps, adjusted for current inflation forecasts) and 6.00 percent (based on the

[155] *Ibid.*, at 63.
[156] *Ibid.*, at 66 and Exhibit MPG-21.
[157] *Ibid.*

historical difference between the average return on the S&P 500 and the average total return on long-term government bonds).[158] Combining those Market Risk Premium estimates with his projected long-term risk-free rate, Mr. Gorman develops expected market returns in the range of 9.20 percent to 11.10 percent.[159]

Q. TURNING FIRST TO THE EXPECTED TOTAL MARKET RETURN, DO YOU AGREE WITH MR. GORMAN'S 9.20 PERCENT AND 11.10 PERCENT ESTIMATES?

A. No, I do not. As a practical matter, Mr. Gorman's 9.20 percent expected total market return estimate, which is 268 basis points below the long-term average market return, falls outside the range of average returns during the period 1976-2018 using 50-year annual averages; his higher 11.10 percent estimate falls in the 14th percentile of the average return over the last fifty years.[160] A helpful perspective on the historical market return is the rolling 50-year average annual market return. As Mr. Gorman points out, from 1926 through 2018 the arithmetic average market return was 11.90 percent.[161] Over time, the rolling fifty-year mean return has been quite consistent, in the range of approximately 12.00 percent.[162] Taken from that perspective, Mr. Gorman's 9.20 percent expected market return is well below the long-term market experience and, therefore, is not reasonable.

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[158] *Ibid.*, at 64 and Exhibit MPG-21.

[159] *Ibid.*, Mr. Gorman's low Market Risk Premium of 6.00 percent plus his projected risk-free rate of 3.20 percent equals an estimated market return of 9.20 percent.

[160] Rolling average basis.

[161] Direct Testimony of Michael P. Gorman, at 64.

[162] Source: Duff & Phelps 2019 SBBI Yearbook, Appendix A-1.

Q. DO YOU AGREE WITH MR. GORMAN'S USE OF THE HISTORICAL AVERAGE MARKET RISK PREMIUM?

A. No, I do not. The Market Risk Premium represents the additional return required by equity investors to assume the risks of owning the "market portfolio" of equity relative to long-term Treasury securities. As with other elements of Cost of Equity analyses, the Market Risk Premium is meant to be a forward-looking parameter. Relying on a Market Risk Premium calculated using historical returns may produce results that are inconsistent with investor sentiment and current conditions in capital markets. The fundamental analytical issue in applying the CAPM is to ensure that all three components of the model (*i.e.*, the risk-free rate, Beta, and the Market Risk Premium) are consistent with market conditions and investor expectations. As, Morningstar observes:

> It is important to note that the expected equity risk premium, as it is used in discount rates and cost of capital analysis, is a forward-looking concept. That is, the equity risk premium that is used in the discount rate should be reflective of what investors think the risk premium will be going forward.[163]

Longstanding financial research has shown the Market Risk Premium to vary over time and with market conditions. French, Schwert, and Stambaugh, for example, found the Market Risk Premium to be positively related to predictable market volatility.[164] Using forward-looking measures of the expected market return, Harris and Marston found "...strong evidence...that market risk premia change over time and, as a result, use of a constant historical average risk premium

[163] Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook, at 53.
[164] Kenneth R. French, G. William Schwert, Robert F. Stambaugh, *Expected Stock Returns and Volatility*, Journal of Financial Economics 19 (1987), at 27.

is not likely to mirror changes in investor return requirements."[165] Among their findings is that the Market Risk Premium is inversely related to Government bond yields. That is, as interest rates fall, the Market Risk Premium increases. Unlike Mr. Gorman's position, financial researchers have found the Market Risk Premium to be time-varying, and a function of economic parameters including interest rates.[166]

E. Risk Premium Method

Q. PLEASE BRIEFLY DESCRIBE MR. GORMAN'S RISK PREMIUM ANALYSES.

A. Mr. Gorman defines the "Risk Premium" as the difference between average annual authorized equity returns for electric utilities and a measure of long-term interest rates each year from 1986 through 2019.[167] Mr. Gorman's first approach calculates the annual risk premium by reference to the 30-year Treasury yield, and his second approach considers the average A-rated utility bond yield.[168] In each case, Mr. Gorman establishes his risk premium estimate by reference to five-year and ten-year rolling averages. The lower and upper bounds of Mr. Gorman's Risk Premium range are defined by the lowest and highest rolling average, respectively, regardless of the year in which those observations occurred.[169]

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[165] *See,* Robert S. Harris, Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts,* Financial Management, Summer 1992, at 69.

[166] As explained in my Revised Direct Testimony at 36–37, there is a similar negative relationship between interest rates and the Equity Risk Premium.

[167] Direct Testimony of Michael P. Gorman, at 54-55.

[168] *Ibid.*, at 54-55, Exhibit MPG-16 and MPG-17.

[169] *Ibid.*, at 55, Exhibit MPG-16 and MPG-17.

Regarding the period over which he gathers and analyzes his data, Mr. Gorman argues his 34-year horizon is "appropriate"[170] for developing an Equity Risk Premium estimate. On page 57 of his Direct Testimony, Mr. Gorman further states "it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors' expected returns" and concludes his risk premium study is based on "investor expectations, not actual investment returns, and, thus, need not encompass a very long historical time period."[171] Based on those assumptions, Mr. Gorman calculates a range of risk premium estimates of 4.25 percent to 6.72 percent using his Treasury bond analysis, and 2.88 percent to 5.57 percent using his A-rated utility bond analysis.[172]

Combined with a 3.20 percent projected Treasury yield, and a 4.62 percent A-rated utility bond yield estimate, Mr. Gorman's Risk Premium analysis produces results ranging from 7.45 percent to 10.19 percent.[173] To calculate his Risk Premium-based ROE recommended range, Mr. Gorman gives 70.00 percent weight to the high end of his risk premium estimates and 30.00 percent to the low end. The 9.20 percent low end of his Risk Premium-based range reflects his weighted risk premium estimates using the projected Treasury bond yield of 3.20 percent.[174] Applying the same 70.00 percent and 30.00 percent weighting to his high and low utility bond yield estimates, respectively, Mr. Gorman produces the upper bound of

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[170] *Ibid.*, at 56.
[171] *Ibid.*, at 57.
[172] Exhibit MPG-16 and MPG-17.
[173] 4.62% + 2.88% = 7.50%; 4.62% + 5.57% = 10.19%; 3.20% + 4.25% = 7.45%; 3.20% + 6.72% = 9.92%.
[174] Direct Testimony of Michael P. Gorman, at 60. 9.20% = (0.30 x 7.45%) + (0.70 x 9.92%)

his range of 9.42 percent.[175] Mr. Gorman then concludes that the midpoint of his range (9.30 percent) is the appropriate Risk Premium-based ROE estimate.[176]

Q. DO YOU HAVE ANY GENERAL OBSERVATIONS REGARDING MR. GORMAN'S RISK PREMIUM ESTIMATES AND HOW THEY WEIGH IN HIS OVERALL ROE RECOMMENDATION?

A. Yes, I do. In assessing his DCF analyses, Mr. Gorman relied on his highest results, effectively discarding several other results ranging from 8.11 percent to 8.21 percent.[177] In a similar fashion, Mr. Gorman relied on his high end CAPM result, discarding an 7.40 percent estimate.[178] In his Risk Premium analysis, however, Mr. Gorman retained risk premiums that produced ROE estimates below the DCF and CAPM estimates he discarded. Despite their low levels, Mr. Gorman gave those risk premium estimates (producing ROE results of 7.45 percent and 7.50 percent) weights of 30.00 percent in aggregate. Mr. Gorman does not explain why he would exclude DCF results of 8.21 percent and lower, but include Risk Premium results of 7.45 percent and 7.50 percent.

Q. WHAT ARE YOUR SPECIFIC CONCERNS WITH MR. GORMAN'S RISK PREMIUM ANALYSIS?

A. I have three concerns with his analysis: (1) Mr. Gorman's method understates the required risk premium in the current market because it fails to reasonably reflect an important relationship confirmed by his own data, *i.e.*, that the risk premium is

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[175] *Ibid.* 9.38% = (0.30 x 7.50%) + (0.70 x 10.19%) Note, differences due to rounding as discussed on page 60 of Mr. Gorman's Direct Testimony.
[176] *Ibid.*
[177] *Ibid.*, at 54.
[178] *Ibid.*, at 66.

inversely related to the level of interest rates (whether measured by Treasury or utility bond yields); (2) the low end of Mr. Gorman's Risk Premium results is far lower than any ROE authorized since at least 1986 and, as such, is disconnected to the Company's current Cost of Equity; and (3) Mr. Gorman suggests a Market/Book ("M/B") ratio of 1.00 is a relevant benchmark for assessing authorized ROEs.[179]

Q. TURNING FIRST TO THE ISSUE OF M/B RATIOS, DO YOU AGREE WITH MR. GORMAN THAT M/B RATIOS SHOULD BE USED TO ASSESS THE REASONABLENESS OF ROE RECOMMENDATIONS?

A. No. Although Mr. Gorman frames his discussions in the context of authorized returns "sufficient to support market prices that at least exceeded book value,"[180] he does not suggest whether the M/B ratio should exceed some level or even explain the relationship between authorized returns and M/B ratios. As discussed in my response to Dr. Woolridge, I do not agree with Mr. Gorman's reference to M/B ratios as a means to assess ROE recommendations.

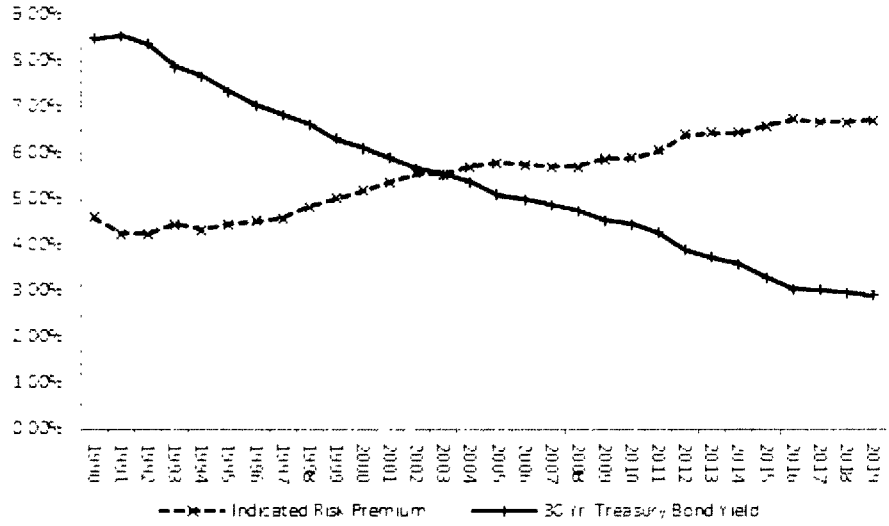
Q. WHAT DID YOUR REVIEW OF MR. GORMAN'S RISK PREMIUM ANALYSES INDICATE?

A. Because Mr. Gorman did not reasonably reflect the inverse relationship between interest rates and the Equity Risk Premium, his Risk Premium ROE estimates are biased downward. Considering first the Treasury yield-based analysis, I plotted the yields and Risk Premia over the 1986 to 2019 period included in Mr. Gorman's

[179] *Ibid.*, at 55.
[180] *Ibid.*

analysis. Figure 26 (below) clearly indicates the inverse relationship between interest rates and the Equity Risk Premium, based on Mr. Gorman's data.

Figure 26: Mr. Gorman's Treasury Yield-Based Risk Premium Data[181]



There are several other points made clear in Figure 26. First, the low end of Mr. Gorman's Risk Premium range, 4.25 percent, was observed in the five-year period ending 1991. There is little question that Risk Premium estimates associated with economic environments 28 years ago have little to do with the current market environment. For example, prior to 2002, Treasury yields exceeded the Risk Premium (on a five-year average basis). As Figure 26 (*see also* Exhibit R-RBH-18) demonstrates, since then the opposite has been true – the Risk Premium has consistently exceeded Treasury yields.

The high end of Mr. Gorman's range, 6.72 percent, occurred more recently; as Exhibit MPG-16 indicates, his Equity Risk Premium estimate averaged approximately 6.71 percent over the more recent period from 2015 through March

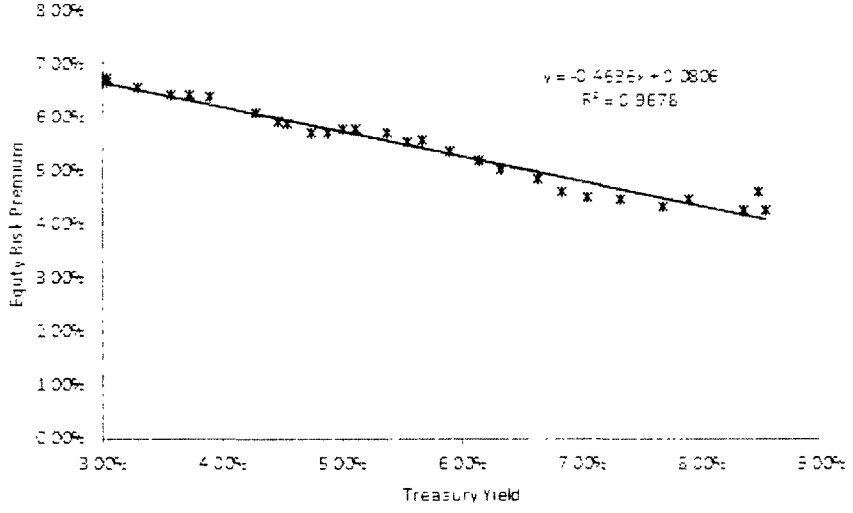
[181] Exhibit MPG-16; based on five-year rolling average.

2019.[182] Adding that 6.71 percent Equity Risk Premium to Mr. Gorman's projected Treasury yield of 3.20 percent produces an ROE estimate of 9.91 percent, only nine basis points below my recommended ROE range.

Q. HAS THE RISK PREMIUM INCREASED AS TREASURY YIELDS DECREASED?

A. Yes, the relationship between the five-year average Equity Risk Premium and Treasury yields is very clear. A simple linear regression demonstrates the two are highly related, with a Coefficient of Determination (R-Square) of approximately 96.78 percent (*see* Figure 27, below).[183]

Figure 27: Treasury Yield vs. Equity Risk Premium (Five-Year Rolling Average)[184]



[182] Based on Indicated Risk Premium.

[183] Those findings are supported in academic studies. For example, Dr. Roger Morin notes that: "... [p]ublished studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates - rising when rates fell and declining when interest rates rose." Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc. *2006* at 128 [clarification added].

[184] *See* Exhibit R-RBH-18. Source: Exhibit MPG-16.

Turning back to Mr. Gorman's data, a bivariate linear regression using annual (rather than the rolling-average data) demonstrates that for every 100-basis point decrease in Treasury yields, the Equity Risk Premium increases by approximately 44 basis points (*see* Exhibit R-RBH-19).[185] Similarly, the Equity Risk Premium increases approximately 45 basis points for every 100-basis point decrease in utility bond yields. Those results are consistent with those reported by Maddox, Pippert, and Sullivan, who determined that the Risk Premium would increase by 37 basis points for every 100-basis point change in the 30-year Treasury yield.[186]

Lastly, contrary to Mr. Gorman's position, accounting for additional factors, such as credit spreads (taken from Mr. Gorman's exhibits), does not meaningfully change the sign, statistical significance, or magnitude of the slope coefficient.[187]

Q. WHAT ARE YOUR CONCLUSIONS REGARDING MR. GORMAN'S RISK PREMIUM ANALYSIS?

A. Mr. Gorman's use of rolling average estimates in his analysis does not negate the effect of his reliance on outdated and unrepresentative data, and the conclusions he draws from that data. Although he argues more variables are at play, Mr. Gorman's data strongly supports the finding that the Equity Risk Premium is inversely related

[185] Serial correlation is not present at the 1.00% significance level.
[186] *See,* Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry, Financial Management, Vol. 24, No. 3, Autumn 1995 at 93.
[187] *See* Exhibit R-RBH-19.

to interest rates. Taking that finding into account leads to ROE estimates of nearly 9.80 percent, relative to his 9.25 percent recommendation.[188]

F. Response to Mr. Gorman's Criticisms of Company Analyses

Q. PLEASE SUMMARIZE MR. GORMAN'S CRITICISMS OF YOUR COST OF EQUITY ANALYSES.

A. Mr. Gorman asserts my estimated ROE is overstated and should be rejected because (1) my Constant Growth DCF results are based on unsustainably high growth rates; (2) my CAPM is based on inflated estimates of the Market Risk Premia; and (3) my Bond Yield Plus Risk Premium is based on an inflated utility Equity Risk Premium.[189] Mr. Gorman further argues CenterPoint Houston's business risks are captured in its credit rating and that a flotation cost adjustment is not appropriate.[190] Mr. Gorman also argues the Expected Earnings approach is not appropriate,[191] disagrees with my assessment of the Constant Growth DCF model results, and questions the information now provided by the Multi-Stage DCF model.[192] Lastly, Mr. Gorman argues the Company's securitization of storm costs is fully compensatory, the effects of the TCJA are fully reflected in the Company's credit ratings and, therefore, in the Company's Cost of Equity, and historical increases in short term interest rates have not affected long term interest rates.[193]

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[188] *See*, for example, Exhibit R-RBH-18, which presents a range of results from 9.77 percent to 9.82 percent.
[189] Direct Testimony of Michael P. Gorman, at 71.
[190] *Ibid.*, at 89-90.
[191] *Ibid.*, at 87.
[192] *Ibid.*, at 75.
[193] *Ibid.*, at 90-96.

Q. DOES MR. GORMAN HAVE ANY CONCERNS WITH YOUR PROXY GROUP?

A. Yes. Although Mr. Gorman adopts the proxy group used in my Direct Testimony[194], he excludes of Avangrid, Inc. ("Avangrid") because its ultimate parent, Iberdrola, S.A. ("Iberdrola"), owns "approximately 83%" of the company.[195]

Q. DO YOU AGREE WITH MR. GORMAN'S EXCLUSION OF AVANGRID FROM THE PROXY GROUP?

A. No, I do not. Avangrid meets my all of my screening criteria. Standard & Poor's and Moody's Investors Service maintain Issuer Credit ratings of BBB+ and Baa1, respectively, for Avangrid, consistent with the other company's in Mr. Gorman's proxy group.[196] Lastly, Avangrid's risk measures, as reported by Value Line, are comparable to the companies in my and Mr. Gorman's proxy groups.[197]

Avangrid is a publicly traded company[198] with two business segments: (1) Avangrid Networks, which represents the U.S. regulated electric and natural gas utility operations that serve 3.20 million customers in New York and New England; and (2) Avangrid Renewables, which owns and operates renewable electricity capacity across 21 states.[199] The regulated utility operations of Avangrid Networks account for 82.00 percent of Avangrid's 2018 operating revenues, and more than

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[194] Direct Testimony of Robert B. Hevert, at 29.
[195] Direct Testimony of Michael P. Gorman, at 39.
[196] *Ibid.*, at 40.
[197] Source: Value Line Investment Survey as of February 28, 2019.
[198] Avangrid is the merged company of Iberdrola USA (formerly Energy East Corporation) and UIL Holdings Corporation. Energy East Corporation and UIL were publicly traded companies on the New York Stock Exchange. *See,* Avangrid, Inc. SEC Form 10-K for the Year Ended December 31, 2018, at 7.
[199] *Ibid.*, at 7, 11.

80.00 percent of its net income.[200] Consequently, Avangrid's regulated operations represent a vast majority of total company operations. Although Iberdrola owns "approximately 83%" of the outstanding common stock, Avangrid's stock price reflects the risks associated with Avangrid's operations, not Iberdrola's. On balance, I continue to believe Avangrid should be included in the proxy group.

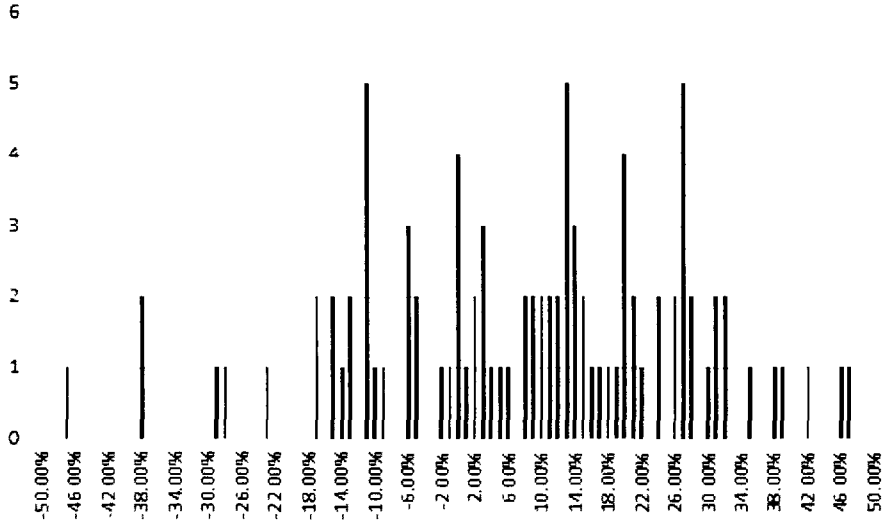
Q. ARE THE GROWTH RATES USED IN YOUR CONSTANT GROWTH DCF ANALYSIS "UNSUSTAINABLY HIGH"?

A. No, they are not. A capital appreciation rate of 5.79 percent (*i.e.*, the average growth rate in the Constant Growth DCF analysis in my Direct Testimony) and higher has occurred quite often (*see* Figure 27 below).[201] That is, Figure 28 provides the frequency with which historical observations have been in certain ranges. The growth rates Mr. Gorman asserts are "unsustainably high" by historical standards represent approximately the 42nd percentile of the actual capital appreciation rates observed from 1926 to 2018.

[200] *Ibid.*, at 59.

[201] Under the Constant Growth DCF model's assumptions, the growth rate equals the rate of capital appreciation.

Figure 28: Frequency Distribution of Capital Appreciation Returns, 1926-2018[202]



Q. PLEASE NOW SUMMARIZE MR. GORMAN'S REVIEW OF THE DCF MODEL COMPONENTS.

A. Mr. Gorman argues utility dividend yields are reasonable by reference to utility bond yields, and growth rates are sensible relative to historical dividend growth, and expected GDP growth rates. He reasons that together, the Constant Growth DCF model components are economically logical,[203] and its results are reliable.[204] In particular, Mr. Gorman suggests the current spread between A-rated utility bonds and utility dividend yields is comparable to the historical average, it therefore should be considered reasonable.[205] Mr. Gorman then compares dividend growth projections to the average dividend growth over the last thirteen years, and earnings

[202] Duff & Phelps, 2019 SBBI Yearbook, at A-3.
[203] Direct Testimony of Michael P. Gorman, at 77.
[204] *Ibid.*
[205] *Ibid.*, at 77-78.

growth projections to current GDP growth projections, and concludes the DCF growth rate component is robust and competitive.[206]

Q. WHAT IS YOUR RESPONSE TO MR. GORMAN ON THOSE POINTS?

A. As to his assessment of dividend yields relative to utility bond yields, I do not agree we can conclude the two are nearly identical. For example, if we look to Mr. Gorman's proxy group and compared its long-term (since 2000) average yield to the average yield on the Moody's Utility A Index, the yield spread has been about 128 basis points; the current (30-day) average is 73 basis points, a difference of 55 basis points. The standard deviation, however, has been 102 basis points. Consequently, it is difficult to draw any meaningful conclusions regarding the long-term relationship between the two.

Even if the current difference between utility bond and dividend yields was definitively comparable to its long-term average, that does not mean the DCF model necessarily produces reasonable and reliable results. The difficulty in drawing conclusions based on the relationship between the two arises from the fundamental point made in my response to Dr. Woolridge: Debt and equity are fundamentally different securities, exposed to fundamentally different risks, acquired by investors with fundamentally different risk tolerances and return objectives. The challenge in comparing the two also is made clear in Figures 29 and 30, below, which provide the relationship between 30-year Treasury yields and the Moody's Utility A Index (Figure 29), and Mr. Gorman's proxy group average dividend yield (Figure 30).

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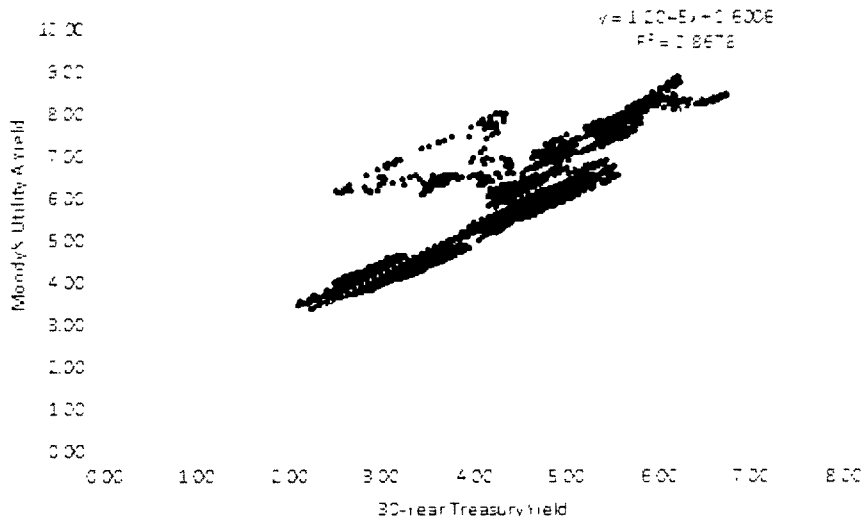
[206] *Ibid.*, at 78.

As Figure 29 demonstrates, there is a strong, positive relationship between the Moody's Utility A yield and the 30-year Treasury yield (the R-Squared is about 87.00 percent). The outlying observations represent periods of credit spread expansions, typically observed during market dislocations.

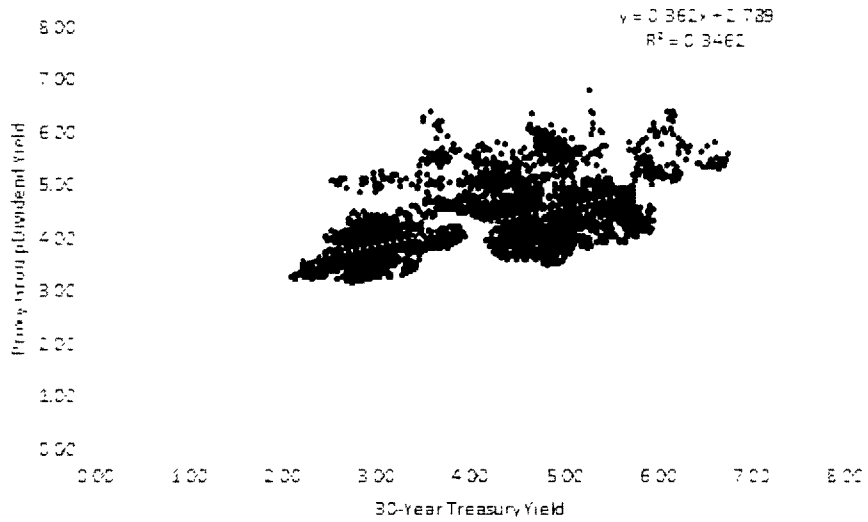
Figure 29: 30-Year Treasury Yield vs. Moody's Utility A Index Yield (2000 – 2019)[207]



The relationship between long-term Treasury yields and Mr. Gorman's proxy group dividend yield is not as robust. Whereas Treasury yields explain about 87.00 percent of the variation in the Moody's A bond yields, they explain only about 35.00 percent of the change in dividend yields. Consequently, at any given point we have less confidence in the ability of Treasury yields to explain dividend yields than in their ability to explain bond yields.

[207] Source: S&P Global Market Intelligence

Figure 30: 30-Year Treasury Yield vs. Proxy Group Dividend Yield (2000 – 2019)[208]



That lower degree of explanatory value makes sense; equity investments are exposed to far more risks than are debt investments, and the relationship between dividend yields and interest rates may be more complex than the relationship between interest rates and bond yields. As discussed in my response to Ms. Winker, for example, low Treasury yields may be associated with increased market volatility, such that investors rotate away from equity investments (including utilities) to the relative safety of Treasury securities. In that case, dividend yields increase as Treasury yields decrease. The same may be true for debt yields, but not to the same degree. Again, debt and equity are fundamentally different securities that may react to changing interest rates in fundamentally different ways.

In summary, given the fundamental differences between the two, I do not agree that a simple comparison of bond yields to dividend yields supports the

[208] Source: S&P Global Market Intelligence

position that the DCF model currently renders reliable estimates of the Company's Cost of Equity.

Regarding Mr. Gorman's comparison of expected and historical dividend growth rates, the relevant issue is whether investors rely on either in pricing utility stocks. As explained in my response to Dr. Woolridge, dividend growth rates have not been statistically related to utility stock valuation levels. That finding is important because (as also discussed in my response to Ms. Winker), the DCF method is based on the fundamental present value formula, assuming the current market price is an accurate measure of long-term intrinsic value. If dividend growth rates have no meaningful ability to explain market valuations, I do not believe they should be relied on to conclude the DCF model currently provides economically logical and reliable results.

Q. PLEASE SUMMARIZE MR. GORMAN'S CONCERNS WITH YOUR CAPM ANALYSIS.

A. Mr. Gorman's concerns with my CAPM analysis lie primarily with my Market Risk Premium estimates.[209] In particular, Mr. Gorman argues my 13.75 percent and 17.14 percent projected returns on the market are "inflated."[210] Mr. Gorman further argues there is a "mismatch" between my calculation of the expected market return and the projected Treasury yields used in my CAPM analyses.[211]

[209] Direct Testimony of Michael P. Gorman, at 79.
[210] *Ibid.*, at 81.
[211] *Ibid.*, at 79.

Q. WHAT IS YOUR RESPONSE TO MR. GORMAN?

A. I disagree. The market return estimates presented in my Direct Testimony, which Mr. Gorman asserts are "inflated,"[212] represent the approximately 50th and 56th percentile of actual returns observed from 1926 to 2018. Moreover, because market returns historically have been volatile, my market return estimates are statistically indistinguishable from the long-term arithmetic average market data on which Mr. Gorman relies.[213]

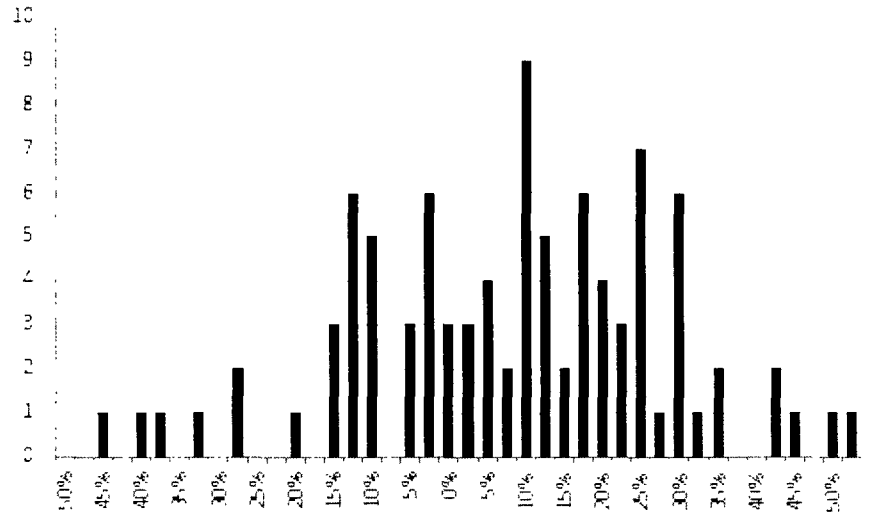
Mr. Gorman also asserts the Market Risk Premia estimated from my projected market returns are "inflated and not reliable."[214] I therefore gathered the annual Market Risk Premia reported by Duff and Phelps and produced a histogram of the observations (recall that Mr. Gorman includes historical data among the methods he uses to estimate the Market Risk Premium). The results of that analysis, which are presented in Figure 31 below, demonstrate Market Risk Premia of at least 14.10 percent (the high end of the range of the Market Risk Premium estimates in my Direct Testimony) occur approximately 38.00 percent of the time.

[212] *Ibid.*, at 81.

[213] Source: Duff & Phelps, 2018 SBBI Yearbook Appendix A-1. Even if we were to look at the standard error, my estimates are within two standard errors of the long-term average.

[214] Direct Testimony of Michael P. Gorman, at 80.

Figure 31: Frequency Distribution of Observed Market Risk Premia, 1926 – 2018[215]



Q. MR. GORMAN ALSO SUGGESTS YOUR EXPECTED MARKET RETURN IS INFLATED BECAUSE THE EXPECTED GROWTH RATES EXCEED THE HISTORICAL RATE OF CAPITAL APPRECIATION.[216] WHAT IS YOUR RESPONSE TO MR. GORMAN ON THAT POINT?

A. Mr. Gorman refers to capital appreciation rates in the range of 5.80 percent to 7.70 percent.[217] To the extent either is meaningful in this context, it is the arithmetic mean. That is because the arithmetic mean reflects uncertainty, whereas the geometric mean (the 5.80 percent rate) equates a beginning value to an ending value, with no uncertainty regarding the path from the beginning to the end. As we are focused on forward-looking estimates, which necessarily reflect uncertainty, the arithmetic average capital appreciation rate is the appropriate measure.

[215] Exhibit R-RBH-20.
[216] Direct Testimony of Michael P. Gorman, at 81.
[217] *Ibid.*