BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF DOMINION ENERGY UTAH TO INCREASE DISTRIBUTION RATES AND CHARGES AND MAKE TARIFF MODIFICATIONS.	)))))))	DOCKET NO. 19-057-02 Exhibit No. DPU 3.0 DIR

FOR THE DIVISION OF PUBLIC UTILITIES
DEPARTMENT OF COMMERCE
STATE OF UTAH

Direct Testimony of

Casey J. Coleman

October 17, 2019

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I. INTRODUCTION

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

A. My name is Casey J. Coleman. I am employed by the Division of Public Utilities (Division) for the State of Utah. My business address is 160 East 300 South Salt Lake City, UT 84114.

Q. BRIEFLY OUTLINE YOUR EMPLOYMENT BACKGROUND.

A. I have worked for the Division for almost nineteen years working as both a Utility Analyst and Utility Technical Consultant. One of my primary responsibilities as Utility Technical Consultant for the Division has been testifying before the Public Service Commission of Utah (Commission) as the Cost of Equity expert for the Water and Telecommunications rate cases.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I received a Bachelor of Science degree in Finance from Weber State University in 1996 and a Masters of Business Administration from Utah State University in 2001.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

A. Yes. I testified before the Commission as an expert witness in Docket Nos. 02-049-82, 03-049-49, 03-049-50, 05-053-01, 05-2302-01, 07-2476-01, 08-2469-01, 10-049-16, 10-2521-01, 10-2526-01, 08-046-01, 15-042-01, 15-2302-01, and 17-098-01.

Q. WERE THESE NATURAL GAS RATE CASES?

A. No. However, the ratemaking principles I applied in those cases and address in this testimony are applicable to any cost of equity analysis.

II. SUMMARY

Q. PLEASE BRIEFLY SUMMARIZE THE WORK AND INVESTIGATIONS THAT YOU HAVE PERFORMED IN THIS MATTER.

A. I have reviewed and analyzed the testimony of Dominion Energy Utah (DEU) witness Mr. Robert B. Hevert. Mr. Hevert provided testimony regarding the cost of debt, cost of equity, and the capital structure of DEU. I have also performed my own independent estimation of cost of capital, particularly with the respect to cost of equity.

Q. PLEASE SUMMARIZE AND DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. The Commission[1] in a cost of equity order discussed how "applying models requires judgement at each important step." The Commission continued to consider the point that each "financial model analysis will provide a good framework for analysis and a useful means of organizing relevant information, but not objective cost-of-equity estimates. Assessments of other, including qualitative information is necessary."[2] The purpose of my testimony is to provide the data and analysis that would provide a good framework for rate making purposes. I will present evidence using generally accepted evaluation methods including: the Capital Asset Pricing Model (CAPM), the Constant

[1] See Utah Public Service Commission Report and Order Docket No. 02-057-02 page 19
[2] See Utah Public Service Commission Report and Order Docket No. 02-057-02 page 19

Growth Discounted Cash Flow (DCF) model, and the Bond Yield plus Risk Premium approach.

My direct testimony also provides additional information, which includes a review of the Return on Equity for Dominion Energy, Inc. (DEI) subsidiaries similar to DEU, a trend of the Return on Equity in other gas distribution companies, and a brief discussion on the appropriate cost of debt and capital structure for DEU.

Finally, I take the data and analysis that I completed and discuss how that information should be applied in current rate making proceedings. My testimony recommends an appropriate capital structure, with an overall rate of return, and return on equity, that DEU should be allowed the opportunity to earn.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. I have concluded that the appropriate cost of equity for DEU is 9.25 percent. The current market conditions support a reasonable range for cost of equity between 8.09 percent to 9.55 percent. The Division does not challenge the Company's requested capital structure at this time. However, the common equity portion of the capital structure will likely require a reduction in coming years after further reviews in future cases.

Generally, I do not dispute the Company's long-term cost of debt calculations with one minor adjustment; In Mr. Hevert's direct testimony DEU Exhibit 2.11 Cost of Debt, he shows two bonds, Series E 3/18 Notes and Series F 4/18 Notes that have a maturity date in 2018. Because those bonds have matured, they should be excluded from the cost of

debt calculation. DPU Exhibit 3.08 DIR shows a corrected cost of debt of 4.25 percent, which excludes the bonds that matured in 2018.

Q. WHAT IS THE COMPANY'S FILED POSITION REGARDING COST OF CAPITAL?

A. In its filing dated July 1, 2019, the Company asked for the following cost of capital rates of return:[3]

Table 1

	Rate	Capital Structure	Weighted Rate
Common Stock	10.50%	55.00%	5.78%
Long-term Debt	4.34%	45.00%	1.95%
WACC		100.0%	7.73%

The cost of equity estimate recommendation by Mr. Hevert is outside a reasonable range, falling outside the high side. The reasonable range for DEU's cost of equity is currently 8.09 percent to 9.55 percent. I recommend that DEU's authorized cost of equity be set at 9.25 percent.

DPU Exhibit 3.03 DIR summarizes the capital structure and cost of capital point estimates supported by the Division. The final weighted average cost of capital is 7.00 percent. The following table summarizes the capital structure and cost of capital point estimates supported by the Division.

[3] See Direct Testimony of Robert B. Hevert Lines 38 - 41.

Table 2

	Rate	Capital Structure	Weighted Rate
Common Stock	9.25%	55.00%	5.09%
Long-term Debt	4.25%	45.00%	1.91%
WACC		100.0%	7.00%

III. PRINCIPLES OF RATE REGULATION AND FAIR RATE OF RETURN

Q. WHAT ARE THE PRINCIPLES GUIDING FAIR RATES OF RETURN IN THE CONTEXT OF RATE REGULATION?

A. In a market system, competition generally determines the price for goods and services. Public utilities are permitted to operate as monopolies or near monopolies because: (1) the services provided by utilities are considered necessities by society; and (2) capital-intensive and long-lived facilities are necessary to provide utility service and the construction of multiple, competitive networks of facilities would cost customers more. Generally, utilities are required to serve all customers in their service territory at reasonable rates determined by regulators. As a result, regulators act as something of a substitute for a competitive free-market system when they authorize rates for utility service.

Although utilities operate in varying degrees as regulated monopolies, they must compete with governmental bodies, non-regulated industries, and other utilities for labor, materials, and capital. Capital is provided by investors who seek the highest return commensurate with the perceived level of risk; the greater the perceived risk, the higher the required return rate. In order for utilities to attract the capital required to

provide service, a fair rate of return should roughly equal an investor required, market-determined rate of return.

Q. WHAT CONSTITUTES A FAIR RATE OF RETURN?

A. Two noted Supreme Court cases define the benchmarks of fair rate of return. In *Bluefield,*[4] a fair rate of return is defined as: (1) equal to the return on investments in other business undertakings with the same level of risks (the comparable earnings standard); (2) sufficient to assure confidence in the financial soundness of a utility (the financial integrity standard); or (3) adequate to permit a public utility to maintain and support a reasonable credit rating, enabling the utility to raise or attract additional capital necessary to provide reliable service (the capital attraction standard). The second case, *Hope,*[5] determined a fair rate of return to be based upon guidelines found in B*luefield* as well as stating that: (1) allowed revenues must cover capital costs, including service on debt and dividends on stock; and (2) the Federal Power Commission was not bound to use any single formula or combination of formulae in determining rates. Utilities are not entitled to a guaranteed return. However, the regulatory-determined price for service must allow the utility a fair opportunity to recover all costs associated with providing service, including a fair rate of return.

Q. CAN YOU BRIEFLY DESCRIBE YOUR POSITION WITH REGARD TO MR. HEVERT'S TESTIMONY LINES 144 – 263 DEALING WITH THE SUMMARY

[4] Bluefield Water Works & Improvement Company v P.S.C. of West Virginia, 262 U.S. 679 (1923).
[5] Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591, 602-603, (1944).

OF ISSUES SURROUNDING COST OF EQUITY ESTIMATION IN REGULATORY PROCEEDINGS?

A. Yes. Generally, Mr. Hevert does an excellent job of describing some of the issues surrounding cost of equity estimation in regulatory proceedings. Mr. Hevert states many times that the "Cost of Equity must be estimated or inferred based on market data and various financial models."[6] He also details how each model is "subject to its own set of assumptions, which may become more, or less, applicable as market conditions change."[7]

I also agree that each of the models are trying to determine a cost of equity that represents an "opportunity cost" for investors. Because there are a variety of inputs, market data, and other elements going into each analysis, as Mr. Hevert asserts, "the interpretation of model results require the application of reasoned judgement."[8]

Mr. Hevert maintains:

> [i]n the end, the estimated Cost of Equity should reflect the return investors require in light of relevant risks, and the returns available on comparable investments. A given utility stock may require a higher return based on the risks to which it is exposed relative to other utilities. That is, although utilities maybe be viewed as a 'sector', that does not mean that all utilities require the same return. The assessment of relative risk and its effect on the Cost of Equity requires the application of reasoned, experienced judgement applied to a variety of data.[9]

I agree with Mr. Hevert that the cost of equity should reflect the return investors require in light of the relevant risks and returns available to comparable companies with reasoned

[6]See Direct Testimony of Robert B. Hevert Lines 168 - 169
[7]See Direct Testimony of Robert B. Hevert Lines 170 - 171
[8]See Direct Testimony of Robert B. Hevert Lines 174 - 175
[9]See Direct Testimony of Robert B. Hevert Lines 178 - 184

assessment of specific company risks that might make that individual company more or less risky than a comparable group of companies.

Q. WHERE DO YOU DISAGREE WITH MR. HEVERT AND HIS OVERALL COST OF EQUITY RECOMMENDATION?

A. Mr. Hevert and I seem to have a fundamental disagreement about the relative riskiness of DEU in relation to the other utility companies in the market. As my testimony will show, the cost of equity approved by other commissions for regulated gas companies has been in the range of 9.00 percent to 9.73 percent over the last year. Additionally, over the last couple of years, the trend for allowed rates of return for utilities has been downward. In the last rate case, the Commission approved a cost of equity of 9.85 percent for Questar Natural Gas, DEU's predecessor.

Mr. Hevert's conclusion that DEU's cost of equity should be in the range of 9.90 percent to 10.75 percent, requires that investors would have to believe DEU is a risky investment relative to other utilities. As stated by Mr. Hevert, where the cost of equity is a driven by the perceived risks of investors, a range of 9.90 percent to 10.75 percent, would mean that DEU's risks have increased since 2013. Additionally, to accept the proposed range suggested by Mr. Hevert, implicitly one to conclude that DEU is currently riskier than the other subsidiaries of DEI and riskier than a comparable group of regulated gas distribution companies. Mr. Hevert did not provide any analysis or discussion as to why DEU's risk profile has increased since 2013 or how it is riskier than other comparable gas distribution companies. DEU is not riskier than other DEI subsidiaries or comparable gas companies. Therefore, the proposed range or rates suggested by Mr. Hevert is not

supported by comparison of known rates of return for comparable alternative investments and not in the public interest.

Furthermore, the cost of equity ranges proposed by Mr. Hevert for DEU are not consistent with published market returns. For example the Company's proposal is significantly higher than the 9.00 percent Duff and Phelps has calculated the returns should be for the total stock market. [10] A rate of return above 9.00 percent suggests that DEU is more risky than average market investments. It is not reasonable to conclude that DEU is riskier than average the market, which comprises many unregulated, far riskier firms and relative few with less risk. I would instead submit that a regulated utility is considerably less risky than the average stock in the market.

My testimony shows that DEU as a regulated utility is less risky than the entire stock market and does not have a higher risk than a comparable set of utility companies.

IV. CONCERNS WITH THE DOMINION ENERGY UTAH ANALYSIS

Q. DO YOU HAVE ANY CONCERNS OR DISAGREEMENTS WITH THE INFORMATION PRESENTED BY THE COMPANY IN THIS RATE CASE RELATED TO THE COST OF CAPITAL CALCULATION?

A. Yes. The approaches used by Mr. Hevert to estimate the cost of equity in this case are consistent with previous general rate cases filed by DEU and some are similar to the approaches used in my analysis. While Mr. Hevert has used similar analytic methods, I

[10] See DPU Exhibit 3.06 DIR

have identified the following areas of concern and disagreement with Mr. Hevert's analysis and testimony.

1. The selection of the comparable companies is important to the analysis process. I agree with the original list of eight companies selected by Mr. Hevert with one exception. A criteria Mr. Hevert used to create his list was the requirement that at least 60.00 percent of operating income must come from the natural gas distribution segment of the business.[11] While I agree with the other seven of the companies used in the proxy group, one company included in DEU's analysis does not meet the minimum operating revenue requirement. Based on the 2018 SEC 10-K report, only 25.1 percent of the operating revenue of New Jersey Resources came from natural gas distribution.[12] New Jersey Resources Corporation has been included in DEU's analysis but should have been eliminated in the first sort. The Division's analysis excludes this company.

2. The DCF model calculation in DEU Exhibit 2.01 Constant Growth DCF does not use the 75 percent earnings growth and 25 percent dividend growth calculation as ordered in the 2002 Questar General Rate Case. Using the 75 percent earnings growth and 25 percent dividend growth calculation as ordered by the Commission gives consideration to the fact that the model is theoretically about dividends and not earnings, but also reflects that dividend growth is related to earnings growth. Implicit as well is the concept that differences between dividend growth and earnings growth

[11] Direct Testimony of Robert B. Hevert, Line 298.
[12] New Jersey Resources Corporation, 2018 Form 10-K, Item 8. Financial Statement and Supplementary Data, p. 123

rates in the near-term have a greater effect on the cost of equity than any such differentials in the far future. Therefore, in addition to being ordered by the Commission this weighting scheme is reasonable. I use it as part of my analysis.

3. The DCF analysis done by Mr. Hevert includes a calculation for a Retention Growth Rate that is used as part of the analysis to establish his range for the cost of equity. In 2002, the Commission indicated a preference to exclude retention growth rates when calculating a cost of equity using a DCF model. The Division believes retention growth rates should still be excluded from any DCF calculation.

4. In establishing the range for high and low rates in DEU Exhibit 2.01 Constant Growth DCF, Mr. Hevert includes the following calculations.

Div. Yld(1.05*(MAX Earnings Growth Estimate) + (MAX Earnings Growth Estimate)
Div. Yld(1.05*(MIN Earnings Growth Estimate) + (MIN Earnings Growth Estimate)

The Division has asked DEU to explain and detail the logic of the formula but has not yet received explanation of the 5 percent adder. From our interpretation of the formula, the low and high ranges have a 105.00 factor included in the calculation that moves the range of the low and high analysis. The Division believes that the calculation is inaccurate and should not be considered. The Median calculation on DEU Exhibit 2.01 Constant Growth DCF does not have any formulaic adjustments.

5. The CAPM model calculation includes an Equity Risk Premium Mr. Hevert calculates. The calculated Equity Risk Premium does not appear to be using a generally accepted methodology that has been published and had the normal peer

review that is common with most other financial theories. The Equity Risk Premium calculated by Mr. Hevert over-estimates the market risk premium leading to higher CAPM cost of equity results for DEU. The Division believes the Commission should use an Equity Risk Premium from established and well known sources.

6. In Mr. Hevert's Direct Testimony attachment 2.01 he provides the Value Line Earnings Growth (column K) in the spreadsheet. The Division has tried to match up the information with what Value Line has published and has been unable to find a Value Line source that matches. In addition, Mr. Hevert uses an earnings growth rate of 25.50 percent for ONE Gas, Inc. Using a growth rate at such an unsustainable level is not a prudent decision. In the Division's analysis, such a significant outlier in the data, should be excluded, leaving the average of all other growth rates to more accurately reflect current market situations.

7. Mr. Hevert discusses a number of "risks" or costs that could affect DEU, such as electrification, flotation costs. Etc. None of these risks are new or unique to DEU and therefore provide no basis for a conclusion that DEU experiences greater risk than other comparable distribution companies. The Division is unaware of any proceeding where the Commission has allowed premiums to be added for these types of costs and risks. Nor has the Commission generally reduced returns to reflect lower, broad risks due to mechanisms like the 191 account and the infrastructure replacement programs Dominion uses. Therefore, in the analysis done by the Division no adjustments have been made for these risks.

IV. CAPITAL STRUCTURE

Q. WHAT IS REQUIRED TO DEVELOP AN OVERALL RATE OF RETURN FOR A PUBLIC UTILITY?

A. The first step in developing an overall rate of return is the selection of capital structure ratios to be employed. Next, the cost or rate for each capital component is determined. The overall rate of return is the product of weighting each capital component by its respective capital cost rate. This procedure results in DEU's overall rate of return being weighted properly to reflect the amount of capital and cost of capital for each type of capital.

Q. WHAT CAPITAL STRUCTURE RATIO IS APPROPRIATE TO BE USED TO DEVELOP DEU'S OVERALL RATE OF RETURN?

A. The Division recommends using a stipulated capital structure of 45 percent debt and 55 percent equity. The Division realizes that DEU's current capital structure is different than this stipulated amount, but accepts this capital structure as the approved amount for the limited purpose of this docket.

Q. IS THERE A SET OF REGULATORY AND FINANCIAL PRINCIPLES USED TO DETERMINE THE APPROPRIATE CAPITAL STRUCTURE FOR COST OF CAPITAL PURPOSES?

A. Yes. There is a general set of regulatory and financial principles used in deciding the capital structure issue for cost of capital purposes that are consistent with both regulatory and financial theories:[13]

1. It is generally preferable to use a utility's actual capital structure in developing its rate of return. However, in deciding whether a departure from this general preference is warranted in a particular case, it is appropriate to first look to the issue of whether the utility is a financially independent entity.[14] In determining whether a utility is a financially independent entity or self-financing, it is important to look to whether the utility: (1) has its own bond rating; (2) provides its own debt financing; and (3) debt financing is not guaranteed by a parent company.

2. When a utility issues its own debt that is not guaranteed by the public or private parent and has its own bond rating, regulatory and financial principles indicate to use a utility's own capital structure, unless the utility's capital structure is not representative of the utility's risk profile or where use of the actual capital structure would create atypical results. Regulatory and financial principles require determining whether the actual capital structure is atypical when compared with the capital structure approved by the Commission for other utilities that operate in the same industry (i.e., water utility, gas distribution utility, telecommunications

[13]See generally Roger A. Morin Ph.D., Utilities Cost of Capital 14-18 (1984).
[14]See generally Fundamentals of Financial Management, 7th Edition, chapter 5, 8, 9, and 12.

company, etc.), as well as those of proxy utility companies that operate in the same industry. [15]

3. If a utility does not provide its own financing, public utility commissions often look to another entity. Generally, public utility commissions use the actual capital structure of the entity that does the financing for the regulated utility as long as it results in just and reasonable rates. This generally means using a parent company.

Once the cost of equity for the proxy companies is determined, public utility commissions should determine where to set the utility's return based upon how the utility's risk compares with that of other utilities that operate in the same industry (i.e. water utility, gas distribution utility, etc.). The risk analysis begins with the assumption that the utility generally falls within a broad range of average risk, absent highly unusual circumstances that indicate an inconsistently high or low risk as compared to other utilities that operate in the same industry. Generally, financial risk is the function of the amount of debt in an entity's capital structure used for the cost of capital purposes. When there is more debt, there is more risk.[16]

Q. CAN YOU DISCUSS HOW THE FINANCIAL PRINCIPLES OUTLINED ABOVE APPLY TO DEU?

[15] For a comprehensive overview of the regulatory process and the issues involved, see Howe, K.M. and Rasmussen, E.F. *Public Utility Economics and Finance*, Englewood Cliffs, N.J.: Prentice-Hall, Inc., (1982)

[16] See generally Kahn, Alfred E. The Economics of Regulation Principles and Institutions Volume 1 and Volume II, The MIT Press (1988).

A. Yes. DEU is wholly owned subsidiary of DEI. Even though DEU is wholly owned by DEI, DEU has obtained debt independent of the parent company.[17] Using these guiding principles, it would seem reasonable at first glance to use the actual capital structure of DEU in this proceeding. Because of a number of circumstances with the merger and operations of the company, including unanticipated federal tax reform, DEU has a higher equity to debt ratio than allowed in the merger stipulation. Due to these circumstances the Division accepts the stipulated capital structure instead of using the actual capital structure.

V. COST OF DEBT

Q. DO YOU HAVE A COMMENT ABOUT THE COST OF DEBT INCLUDED IN THE APPLICATION?

A. Yes. The original application provided specific interest rates for the existing debt obligations. Using the information provided by DEU,[18] the Division reviewed the debt and noticed that two of the notes had maturity dates in 2018. The Division removed those bonds from the information and calculated a new cost of debt for DEU at 4.25 percent. As a point of reference, Dominion has one bond Series F 4/38 Notes that has an interest rate of 7.20 percent. This note is 323 basis points higher than the most recent note issued by DEU in April 2, 2018. The Division is currently asking DEU additional questions about this note to verify the debt as a prudent expense for DEU.

[17] Direct Testimony of Robert B. Hevert for DEU Exhibit 2.11 Cost of Debt.
[18] Direct Testimony of Robert B. Hevert DEU Exhibit 2.11 Cost of Debt

VI. COST OF COMMON EQUITY

Q. WILL YOU SUMMARIZE THE RETURN ON EQUITY AMOUNT THE DIVISION IS RECOMMENDING FOR THIS CASE?

A. Yes. I have completed and included the calculations for the various models and believe that the appropriate cost of equity for DEU is 9.25 percent. The Division's final recommendation is above most of the analysis done by the Division. The reason for this recommendation will be addressed later in my testimony. The Division's recommendation is on the high end of the calculated range of 8.09 percent to 9.55 and is based on an evaluation of the DCF, CAPM, and Bond Yield Risk Premium Model. The recommended range is just and reasonable to the ratepayers and to DEU and is comparable with the 9.60 average authorized rate of return for natural gas companies in 2019.[19] The results of the Division's calculations are summarized in DPU Exhibit 3.10 DIR. The details of the calculations from the various models will be explained later in my testimony.

VII. DIVISION ANALYSIS

A. AN OVERVIEW OF COST OF COMMON EQUITY MODELS

Q. WHAT METHODS DID YOU LOOK AT TO ESTIMATE THE CURRENT MARKET COST OF EQUITY FOR DEU?

A. I used similar models to those used in previous rate cases before the Commission and similar to those used in Mr. Hevert's analysis. I have included a Constant Growth Discounted Cash Flow or DCF model. Within the model I have considered the projected

[19] Please see DPU Exhibit 3.10 Current Allowed ROE

growth rates from multiple sources. I have included multiple risk premium models, including the capital asset pricing model (CAPM) and the Bond Yield Risk Premium approach. As a comparison tool, I have also included a model based upon Value Line financial strength ratings as an additional point of reference in determining the cost of equity to the proxy group of companies and DEU.

Q. PLEASE BRIEFLY DESCRIBE THE DCF MODEL.

A. The DCF model assumes that the value of ownership in a common stock is based upon the returns the stockholder expects to receive into perpetuity. It incorporates the current dividend and the prospects for growth in that dividend over time. Among other things, the model assumes that the expected price-to-earnings ratio for the company's stock will remain constant at the current level. In the DCF model it is assumed that there exists a growth rate "g" that is constant. That is, this "g" will adequately serve as a surrogate for the growth in dividends for all periods of time in the future. The formula used is:

$$k_e = D_0*(1+g)/P_0 + g$$

Where: k_e is the cost of common equity
D_0 is the current dividend
P_0 is the current stock price
g is the (constant) growth rate

Q. WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE DCF MODELS?

A. Briefly, the strengths of the models are their simplicity and ease of application, particularly in the single-stage version of the model. DCF models are derived directly from the financial theory that the price of a common stock is equal to the present value

of the expected future cash flow to stockholders. Two of the three principal components of the model are directly observable in the market: the dividend and the stock price. The future growth rate is necessarily an estimate, and thus can be controversial. The single-stage model can be faulted because of its assumption that there is a single growth rate, usually derived from relatively short-term growth forecasts that will apply to the company into the indefinite future (theoretically forever). Non-constant and multi-stage DCF models can handle changing growth rates in the future and even changing discount rates, but they are increasingly complex. Moreover, without knowledge of future events there is no reason to conclude that multi-stage DCF models are more accurate than single stage models unless there is a known anomaly in the short term.

Q. AS YOU MENTIONED EARLIER, IN THE 2002 QUESTAR GAS GENERAL RATE CASE, THE COMMISSION ADOPTED A 75 PERCENT WEIGHTING ON EARNINGS GROWTH ESTIMATES AND 25 PERCENT WEIGHTING ON A DIVIDEND GROWTH ESTIMATE. DO YOU HAVE ANY COMMENTS ON THIS WEIGHTING SCHEME?

A. Yes. For a DCF model, this weighting appears reasonable. It gives consideration to the fact that the model is theoretically about dividends and not earnings, but also reflects that dividend growth is related to earnings growth. Also implicit is the concept that differences between dividend growth and earnings growth rates in the near-term have a greater effect on the cost of equity than any such differentials in the long-term. I believe the current weighting scheme is reasonable and should continue to be used.

Q. PLEASE BRIEFLY DESCRIBE THE CAPITAL ASSET PRICING MODEL?

A. The CAPM is a type of risk premium model. CAPM grew out of theoretical work in modern portfolio theory in the 1960s. Modern portfolio theory has shown that diversified portfolios could reduce the variability in the value of those portfolios and that a risk factor called "beta" could be used to estimate the relative variability of a portfolio to the market portfolio. The theory of CAPM is that the cost of equity is equal to the risk free rate plus a market risk premium adjusted by the beta risk factor. The market risk premium is the additional return over the risk free rate that a portfolio of all risky investments, i.e. the "market," would expect to earn. One of the theoretical underpinnings of CAPM is that investors through a diversified portfolio could virtually eliminate risk specific to a particular investment such that if the investor were sufficiently diversified, he would only face the risk of the market, which is also called systematic risk. Beta is a measure of the volatility of an investment's value compared to the market as a whole and will indicate to an investor how a given investment will affect the systematic risk of his portfolio. Under CAPM theory investors are not rewarded for the specific risks of a particular investment because these risks can be diversified away. The only reward the investor receives is the systematic risk, represented by the beta that an investment brings with it to the portfolio.

The calculation of the CAPM cost of equity for a company is straight forward and is based upon readily available information. This model is widely taught in the academic literature and is widely used in industry.[20]

The formula for the CAPM is as follows:

$$k_e = RFR_0 + \beta * (MR\text{-}RFR)$$

Where: k_e is the cost of common equity
RFR_0 is the current risk free rate
β is beta, the risk adjustment factor
(MR-RFR) is the market risk premium which can be decomposed into two factors: The overall market return, MR, and the RFR that is compatible with the way the MR was estimated.

Q. PLEASE BRIEFLY DISCUSS THE STRENGTHS AND WEAKNESSES OF THE CAPITAL ASSET PRICING MODEL?

A. The strengths include a firm theoretical basis for the model, its relative simplicity, and intuitive appeal. The model is widely taught and widely used in corporate America. The downside of the model is that there is little consensus on how each of the factors are developed and how the model is implemented.

[20] Modern portfolio theory and the capital asset pricing model are discussed in detail in texts on corporate finance and investment valuation. See, for example:

Brealey, Richard A., Stewart C Myers and Franklin Allen. (2006). *Principles of Corporate Finance 8th ed*. New York: McGraw-Hill Irwin.

Brigham, Eugene F. and Joel F. Houston. (2007). *Fundamentals of Financial Management 5th ed*. Mason, Ohio: Thomson South-Western.

Damodaran, Aswarh. (2002). *Investment Valuation*. New York: John Wiley & Sons, Inc.

Parcell, David C. (1997). *The Cost of Capital – A Practitioners Guide*.

Different analysts will likely choose different risk free rates, which will affect the outcome as I demonstrate in my application of the model. Academics sometimes favor using a Treasury Bill rate as the most nearly true risk free security, while practitioners favor longer-term bond rates to match the apparent holding period of the asset. Beta is calculated in various ways using different base periods, market proxies, and other measurement differences, such as the frequency of the observations and even the day of the week the observations are made. Some services offer "adjusted" betas that "correct" the calculated or "raw" beta to account for the apparent tendency of betas to revert to a mean over time. The available services assume that the mean that the betas revert to is the market beta, which is 1.0.

Perhaps the most hotly debated factor is the market risk premium; that is, the premium return investors demand from stocks over the risk free rate. Some practitioners support the use of the arithmetic average of the difference between historical stock market returns (with the Standard & Poor's 500 Index as a proxy) and long-term (approximately 20 years) treasury bond returns since 1926 as popularized by Ibbotson Associates over the last 30 years or so.[21] This approach has been criticized by academics and others on a number of grounds. Some say the historical time period is too long, reaching back to a much different economy than we have today. Others have cited technical problems with the data Ibbotson compiled. One technical problem is referred to as "survivor bias." Survivor bias refers to the fact that the underlying Ibbotson data is composed of companies that were successful; losers are not included. Studies indicate that this bias

[21] Stocks, Bonds, Bills, and Inflation (SBBI), any edition, published annually by Ibbotson Associates.

inflates the Ibbotson-based market risk premiums by about 1 to 2 percentage points.[22] Another issue is the use of arithmetic averages versus geometric averages. Ibbotson Associates, Brealey, Myers, and Allen among others, argue that arithmetic averages produce the appropriate unbiased estimates of returns. The use of arithmetic averages significantly overstates the actual returns an investor would have actually received over a long historical period of time, a time period in which the geometric average accurately reflects the actual experiences of investors. For this reason and others, some experts advocate geometric returns.[23] In short, there is great dispute about how the market risk premium should be estimated. I have used the Duff and Phelps data because it is readily available and widely used.

Empirical studies of stock returns have turned up anomalies that have suggested flaws in the CAPM. In order to correct for these anomalies (and save the basic theoretical construction) additional factors have been specified for the model such as the Fama-French five-factor model or add-ons to the model such as adjustments for size or industry. None of these adjustments have avoided controversy. The practical implementation of the CAPM has resulted in controversy and disagreement. Despite these problems the CAPM is widely used and has an established theoretical basis. The

[22] Brigham, Eugene F. and Joel F. Houston. (2007). Fundamentals of Financial Management 5th ed. Mason, Ohio: Thomson South-Western. p. 272.

[23] For a discussion of geometric versus arithmetic averages, see Damodaran Aswarh. (2002). Investment Valuation. New York: John Wiley & Sons, Inc. pp. 161-162 and PPC's Guide to Business Valuations, Volume 1, paragraph 502.8, Practitioners Publishing Company, Fort Worth Texas, February 2006.

fact of its widespread use necessitates that an analyst at least consider the CAPM in evaluating a cost of equity problem.

B. COMPARABLE (PROXY) COMPANIES

Q. WHAT ARE THE "COMPARABLE COMPANIES" YOU REFERRED TO AND HOW WERE THEY CHOSEN?

A. One of the first steps in the estimate of cost of equity is the selection of publicly traded "comparable," or "proxy" companies. These proxy companies' market returns and characteristics would be studied in order to infer from them what the appropriate cost of equity should be for DEU. The selection and use of comparable companies is obviously critical since DEU itself is not an independent, publicly traded company. Even if DEU were publicly traded it would be advisable to compare it with closely related companies in its industry.

The Company's witness, Mr. Hevert, chose eight companies as cited in his testimony.[24] These companies were selected from the universe of companies that Value Line classifies as Natural Gas Utilities and screened for (1) Dividend Payments, (2) Utility Equity Analyst Coverage, (3) Corporate Credit Rating Threshold, and (4) Gas Distribution Operating Income Threshold. The Division agrees with the screening process used by Mr. Hevert to compile his list of eight companies. The Division agrees with the original list of eight companies selected by Mr. Hevert with one exception. A criteria Mr. Hevert used to create his list was the requirement that at least 60 percent of

[24] Direct Testimony of Robert B. Hevert Lines 273 - 318

operating income must come from the natural gas distribution segment of the business.[25] While I agree with the other seven of the companies used in the proxy group, one company included in DEU's analysis does not meet the minimum operating revenue requirement. Based on the 2018 SEC 10-K report, only 25.1 percent of the operating revenue of New Jersey Resources came from natural gas distribution.[26] New Jersey Resources Corporation has been included in DEU's analysis but should have been eliminated in the first sort. The Division's analysis has excluded this company.

C. APPLICATION OF COST OF EQUITY MODELS

1. DCF Models

Q. PLEASE DESCRIBE HOW YOU DEVELOPED THE DCF MODELS?

A. First, I calculated the current dividend yield for each of the comparable companies. The dividend was based upon information provided by Value Line. I used a 30-trading day average closing price from August 20, 2019 to October 1, 2019.[27] The 30-trading day average closing price was used to smooth out random fluctuations that might exist in the stock price data. The historical price information was obtained from Yahoo! Finance. Next, I took earnings and dividend growth rates from the latest Value Line reports for each comparable company as well as the latest updates on Value Line's web site accessed October 4, 2019. This information was combined with the consensus earnings growth

[25] Direct Testimony of Robert B. Hevert, Line 298.

[26] New Jersey Resources Corporation, 2018 Form 10-K, Item 8. Financial Statement and Supplementary Data, p. 123

[27] See DPU Exhibit 3.12 DIR

estimates reported on the Zack's, First Call, and Value Line as shown in Mr. Hevert's testimony. DPU Exhibit 3.01 DIR is a summary of the Value Line growth estimates used in my analysis.

I considered several different growth rate estimates for the DCF models. First I calculated growth rates based upon a weighted-average by applying a 75 percent weight to the average earnings growth rate from Value Line, Zack's, Reuters, and Yahoo!, and 25 percent weight to the dividend growth rate (from Value Line) in compliance with the Commission's decision in Questar Gas, Docket No. 02-057-02. DPU Exhibit 3.04 DIR provides the calculation of the DCF model using the average of Reuters, Zacks, and Value Line reported earnings growth rates and the 30-day average stock price. This calculation results in an estimated cost of capital range of 7.49 percent to 10.76 percent with an average of 8.82 percent.

DPU Exhibit 3.04 DIR provides the same calculation of the DCF model using the Value Line earnings and dividend growth rates. The DCF model using the 30-day average stock price and the Value Line earnings and dividend growth rates calculates an estimated cost of capital range of 8.02 percent to 12.74 percent with an average of 10.33 percent. The results from the DCF models along with the other models are summarized on DPU Exhibit 3.02 DIR.

2. CAPM Results

Q. HOW DID YOU DEVELOP YOUR CAPM MODELS?

A. I looked at the CAPM model using different risk free rates, time periods, betas, and market risk premiums. I did this to look at how the variable factors affect the outcome of the CAPM estimate. As stated earlier, there is no consensus on precisely how the components of the CAPM should be estimated.

Q. PLEASE DESCRIBE THE MARKET RISK PREMIUM YOU USED?

A. The primary source of the risk premiums used was from Duff and Phelps Recommend U.S. Equity Risk Premium (ERP) and Corresponding Risk-free Rate (R_1); January 2008 to Present. The current guidance was for a normalized 20-year U.S. Treasury yield (R_1) of 3.50 percent, with a recommend ERP of 5.50 percent.

Q. WHAT BETA ESTIMATE DID YOU USE?

A. I have calculated the CAPM using the beta from Value Line and the average beta as reported by CFRA, Zacks, Yahoo! Finance, and Ned Davis Research. The Value Line beta is adjusted to converge toward 1.0 whereas the other betas are not adjusted. The Value Line formula is (adj beta) = .66*(raw beta) + .34. The individual beta estimates for each company can be seen in DPU Exhibit 3.05 DIR. Using each of these estimates, the mean beta is 0.47.

Q. AS PART OF YOUR CAPM ANALYSIS YOU USE A MARKET RISK PREMIUM CALCULATED BY DR. ASWATH DAMODARAN. CAN YOU EXPLAIN THE USE OF THIS MARKET RISK PREMIUM?

A. Yes. Dr. Damodaran is a Professor of Finance at the Stern School of Business at New York University. His research interests are in valuation, portfolio management, and

applied corporate finance. His papers have been published in the Journal of Financial and Quantitative Analysis, the Journal of Finance, the Journal of Financial Economics, and the Review of Financial Studies. He has written four books on equity valuation (*Damodaran on Valuation*, *Investment Valuation, The Dark Side of Valuation*, *The Little Book of Valuation*), and two on corporate finance: (*Corporate Finance: Theory and Practice*, *Applied Corporate Finance: A User's Manual*).

Dr. Damodoran has calculated the average historical equity risk premium for stocks minus the U. S. Treasury Bonds at 5.20 percent for a trailing 12-month with adjusted payout or 5.55 percent trailing 12-month cash yield.[28]

Q. WHAT WERE YOUR RESULTS FOR YOUR CAPM CALCULATION?

A. As seen in DPU Exhibit 3.06 DIR, I calculated a variety of different returns. First I used the Duff and Phelps (R_1) of 3.50 percent and ERP of 5.50 percent. Following the CAPM inputs as described earlier, I used a number of different Beta estimates to determine a return on equity for DEU. The first calculation was a return on equity using the average beta for all analysts, then the average beta for the specific calculated betas for Value Line, CFRA, Zacks, Yahoo Finance, and Ned Davis. Using this procedure, I calculated a range of returns from 5.25 percent to 7.15 percent and an average of 6.07 percent.

[28] Damodaran, Aswath, Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2019 Edition (April 14, 2019). Available at SSRN: https://ssrn.com/abstract=3378246 **or** http://dx.doi.org/10.2139/ssrn.3378246

The same methodology was used replacing the Duff and Phelps ERP with those calculated by Dr. Damodaran. The results of this effort are a range of returns starting at 5.16 percent and going to 6.95 percent. The average of all rates is 5.93 percent.

Q. YOUR CALCULATION OF THE CAPM IS SIGNIFICANTLY DIFFERENT FROM THE CALCULATION USED BY THE COMPANY. CAN YOU EXPLAIN THE DIFFERENCES?

A. Yes. The major differences in the CAPM model results from the Division and Mr. Hevert are a result of different Market Risk Premium[29] or Equity Risk Premium (ERP). Mr. Hevert does a lengthy calculation to determine the risk premium to use. His calculation arrives at a value of 10.51 percent using the derived Bloomberg Market Risk Premium or 12.02 percent for a derived Value Line Market Premium. Both of the market risk premiums are significantly higher than the Duff and Phelps or Damodaran numbers used. The difference is 501 basis points for the Bloomberg calculation and 652 basis points for the Value Line calculation.

The calculation done by Mr. Hevert for his ERP is higher than the total return for the market as calculated by Duff and Phelps or Damodaran. A total market return for Duff and Phelps would be 9.00 percent, while the total market return for Dr. Damodaran would be 8.70 percent.

As stated previously, I believe using the calculated risk premiums as shown in Mr. Hevert's Direct Testimony DEU Exhibit 2.03 MRP Bloomberg and DEU Exhibit 2.04

[29] Direct Testimony of Robert B. Hevert DEU Exhibit 2.05 CAPM.

Value Line MRP is wrong. The analysis done by Mr. Hevert has not been accepted by the Commission in any other rate case. Additionally, as far as I am aware this has not been published in any journal or academic publication that would allow the results to be vetted and reviewed for accuracy. Because of these two facts, the Division believes the Commission should not give any weight to the CAPM analysis done by Mr. Hevert. If Mr. Hevert can demonstrate that his methods and calculations have been widely reviewed and accepted, the Division might reevaluate its conclusions on this point.

3. Bond Yield Risk Premium

Q. DESCRIBE THE RISK PREMIUM MODEL USED BY THE DIVISION?

A. We can estimate the value of a company's equity by adding its risk premium to the yield to maturity on the company's long-term debt. The equity risk premium is essentially the return that stocks are expected to receive in excess of the risk-free interest rate. The normal historical equity risk premium for all equities has been just over 6 percent. In general, an equity's risk premium will be between 5 percent and 7 percent.[30] The Bond Yield Risk Premium Equation states that the required return on an equity equals the yield of the company's long-term debt plus the equity's risk premium.

As DPU Exhibit 3.09 shows, the Division used the ERP and (R_1) as calculated by Duff and Phelps as a baseline for the total market risk premium of 9.00 percent. The Baa Bond Yield of 3.91 percent was subtracted from total market return of 9.00 percent to

[30] See **https://courses.lumenlearning.com/boundless-finance/chapter/approaches-to-calculating-the-cost-of-capital/**.

583 Estimate the Market Risk Premium of 5.09 percent for Dominion Energy. To
584 determine the cost of equity, I added 5.09 percent to DEU's Current Long-Term
585 Borrowing Rate of 4.00 percent to arrive at a cost of equity of 9.09 percent.

586 The same calculation was followed with one change, the Division used the ERP
587 calculated by Dr. Damodaran, which is 5.20 percent. Following the same construct as
588 described above, the Division calculated a return on equity of 8.79 percent.

589 **Q. WHAT ARE THE DRAWBACKS OF USING THE BOND YIELD RISK**
590 **PREMIUM APPROACH?**

591 A. Estimating the value of an equity using the bond yield risk premium approach has its
592 drawbacks. To utilize this method, a company has to have publicly traded debt.
593 Another drawback is that it does not produce as accurate an estimate as the CAPM or
594 DCF analysis. Finally, equity risk premium estimates can be highly inaccurate, while
595 also varying wildly depending on which model is used. It can be very difficult to get an
596 accurate estimate of the risk premium on an equity, having a duration of roughly 50
597 years, using a risk-free rate of such short duration as a 10-year Treasury Bond.

598 **Q. WHAT ARE THE RESULTS OF THE DIVISION'S CALCULATION USING**
599 **THE BOND YIELD RISK APPROACH?**

600 A. This approach estimated higher cost of equity rates than the CAPM model but lower
601 than the DCF model. This result is not entirely surprising because the CAPM model
602 with the lower beta values and risk free rates generally calculates the lowest cost of

equity. Because the Bond Yield risk Premium approach is looking at corporate bond rates, the model will calculate a higher cost of equity than the CAPM model.

4. Risk Premium Results

Q. WHAT DO THE RISK PREMIUM RESULTS SUGGEST TO YOU?

A. The risk premium results are low compared to the other models used and compared to recent commission orders. I believe the CAPM model is returning low values due to the current low interest rate environment caused by the current monetary policy, a situation faced by all investors in the marketplace.

Q. YOU DID NOT INCLUDE ANY ADJUSTMENTS TO YOUR CAPM CALCULATION. CAN YOU EXPLAIN WHY?

A. Yes. The main reason is for simplicity. My analysis provides the return on equity following basic CAPM theory. There are a number of ways to adjust the CAPM, (i.e., Empirical CAPM, adjustments for size premiums, etc.). However, to provide the greatest level of clarity for the Commission to consider, no adjustments to CAPM were made.

Another reason I did not include any adjustments is that each approach is filled with its own set of issues and controversies. The existence of the small cap effect is disputed by some researchers, such as Dr. John Kania.[31] Others, like Brigham and Houston,

[31] Kania, John J. "The small firm risk premium remains largely a myth," Shannon Pratt's Business Valuation Update, Vol. 9, No. 11, November 2003. The essence of Dr. Kania's argument is that "smallness" is incorrectly specified as market capitalization, i.e. the market value of a company's stock. When other measures of size such as revenues or total assets are used, the size effect vanishes.

suggest that the effect might be less than one finds in Ibbotson Associates' publications.[32]

Q. YOU DO NOT BELIEVE ANY ADJUSTMENTS ARE NECESSARY TO THE CAPM CALCULATION, YET MR. HEVERT INCLUDES AN EMPIRICAL CAPM CALCULATION. LET'S SUPPOSE YOU DID FEEL ADJUSTMENTS TO THE CAPM MODEL WERE WARRANTED, WOULD YOU ACCEPT MR. HEVERT'S ANALYSIS IN REGARDS TO EMPIRICAL CAPM?

A. Simply, no. Mr. Hevert uses an ERP that he calculated. As described above, the Division does not agree with this approach. The Empirical CAPM used returns that were based on the CAPM formula followed by Mr. Hevert. If the ERP results are flawed for the CAPM calculation, then the same ERP results will be flawed for the Empirical CAPM results. Due to this fundamental flaw, the Division cannot accept the Empirical CAPM rates recommended by Mr. Hevert.

Q. YOU PROVIDED AN ANALYSIS USING THE VALUE LINE FINANCIAL STRENGTH RATINGS. CAN YOU DESCRIBE THIS MODEL?

A. Yes. This model[33] begins with an estimate of the expected market return on common stock derived in the same manner as the CAPM. The expected return for the entire market is then adjusted by a risk factor based upon the average Value Line financial strength rating for the comparable companies. Using the entire Value Line data set, a

[32] Brigham, Eugene F. and Joel F. Houston, Fundamentals of Financial Management Concise 3rd Ed., Harcourt College Publishers, Orlando FL, 2002. Brigham and Houston conclude (p. 491) "In general, the cost of equity appears to be one or two percentage points higher for small firms (those with market values less than $20 million) than for large NYSE firms with similar risk characteristics."
[33] See DPU 3.11 VL Fin Strength

regression equation is matched to the average forecast total returns by financial strength rating class. This equation is constructed, in part, to estimate the returns between whole ratings. Starting with a weighted average rating for the entire Value Line universe of companies, a ratio of the expected returns to this average return is constructed. This ratio becomes the "risk factor" that adjusts the expected market return. Algebraically the formula is:

$$k_e = f * MR = f * (MRP + RFR)$$

Where: k_e is the cost of common equity
RFR is the risk free rate
MR is the expected market return
MRP is the market risk premium
f is the risk adjustment factor

Generally, the higher the rating (i.e., the lower the risks as measured by that rating), the lower the expected return. Thus, higher ratings than the weighted average will result in a risk factor less than one and the highest financial strength rating should have the lowest risk factor, and vice versa. This all comports with current financial theory—the higher the risk, the higher the expected return and the lower the risk, the lower the return.

Q. HAS THIS MODEL BEEN USED IN OTHER CASES?

A. This model has been used as a secondary estimate of cost of equity by the Division in a number of general rate cases for Rocky Mountain Power. [34] The Utah State Tax

[34] See Docket Nos. 07-035-93, 07-057-13, 09-035-23, 11-035-200 and 13-035-184.

Commission also used this model for more than ten years in contested cases heard by the Tax Commission.

Q. TO WHAT EXTENT SHOULD THE COMMISSION RELY ON THIS MODEL?

A. This model has primarily been included in cost of capital testimony by the Division beginning with the testimony on the stipulation in Docket No. 06-035-21, and in subsequent general rate cases. The value of this model is to provide another source to compare the reasonableness of the rates calculated by the other financial models.

Q. WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE "VALUE LINE FINANCIAL STRENGTH" MODEL?

A. The model is an alternative risk premium model that uses a factor based upon Value Line's widely known financial strength rating to adjust the expected market return. The market return is derived in the same way as the CAPM market return is estimated, so this provides an accepted starting point for the method. The risk factor is then empirically calculated based upon the industry financial strength rating (as represented by the comparable companies). Over several years the model has yielded reasonable results.

The weaknesses include the reliance on Value Line as the source of the financial strength ratings and the relative forecast returns of the individual companies. The risks of a particular industry, e.g. the regulated gas distribution industry, may differ from companies in the Value Line universe generally even though they share the same financial strength rating. Finally, the model has not been published and consequently is not widely known or tested.

VIII. RATE CASE HISTORY IN OTHER STATES

Q. WHAT HAS BEEN THE GENERAL TREND IN OTHER STATES REGARDING THE ALLOWED RATE OF RETURN FOR REGULATED GAS DISTRIBUTION COMPANIES?

A. For years, the Division has acknowledged the fact that allowed rates of return have been declining.[35] DPU Exhibit 3.09 Historical Allowed ROE provides a comparison of the requested ROE and the authorized ROE for natural gas companies from January 2011 through December 2013. A comparison of the requested ROE and the authorized ROE indicates an average reduction of 81 basis points in 2013 and 83 Basis points in 2011 and 2012.[36] The trend in allowed rates of return is further illustrated in DPU Exhibit 3.10 Current Allowed ROE. The average year to date allowed rate of return for the 16 rate cases completed in 2019 shows a rate of 9.60 percent while the average for 2018 was 9.59 percent and the average for 2017 was 9.72 percent.

Q. WHAT IS THE CURRENT APPROVED RATE OF RETURN BY OTHER STATE COMMISSIONS FOR EACH OF THE REGULATED UTILITIES UNDER THE DOMINION OWNERSHIP?

A. As provided by DEU[37] here is the following information.

Utility Type	State	AROR
Gas LDC	Ohio	10.40%
Gas LDC	Utah	9.85%
Gas LDC	Wyoming	9.50%
Gas LDC	North Carolina	9.75%

[35] See Douglas D. Wheelwright Surrebuttal Testimony Docket No. 13-057-05 Lines 92 – 98.
[36] DPU Exhibit 1.2 SR.
[37] See DPU Data Request No. 4.07

Gas LDC	West Virginia	9.50%
Electric	Virginia	10.00%
Electric	North Carolina	9.90%

Q. WHY DO YOU BELIEVE THE COMMISSION SHOULD AUTHORIZE A 9.25 PERCENT RETURN ON EQUITY FOR DEU WHEN IT RECENTLY AWARDED QUESTAR GAS A 9.85 PERCENT RETURN ON EQUITY?

A. The Division believes that the Commission may have been implicitly invoking the principle of gradualism in the Questar Gas case.[38] That case was decided nearly six years ago.

Q. PLEASE DESCRIBE THE REGULATORY PRINCIPLE OF GRADUALISM?

A. Before moving on to the direct question, I would like to discuss the principle of gradualism specifically. In December 2013, the Washington commission specifically invoked the regulatory principle of gradualism in recently awarding PacifiCorp a 9.50 percent authorized return on equity.[39] The implication is that absent the application of that principle, the authorized return would have been lower; perhaps in the 9.00 to 9.25 percent range advocated by non-Company witnesses. Charles F. Phillips, Jr. discusses gradualism in the relevant context of rate of return.[40] Writing in the early 1990s, Mr. Phillips quotes from a Virginia commission decision that describes the principle of

[38] See Docket No. 13-057-05.
[39] Washington Utilities and Transportation Commission, op.cit.; for example see page 27, paragraph 70
[40] Charles F. Phillips, Jr., *The Regulation of Public Utilities* Arlington, Virginia: Public Utilities Reports, Inc., 1993, pp. 408-409.

gradually adjusting rates in the face of changing market conditions.[41] Mr. Phillips concludes that "[g]iven volatile markets, combined with a trend toward greater reliance upon market forces, the issue of gradualism cannot be ignored."

Q. HOW WOULD THE PRINCIPLE OF GRADUALISM APPLY IN THIS CASE?

A. The Division's recommendation of 9.25 percent is in part based on the principle of gradualism. It is not the middle of the reasonable range and is higher than many publication's calculations of the broader market return expectations that are based on a greater risk than DEU. However, if the Commission believes that reducing DEU's authorized ROE from 9.85 to 9.25 percent is too great a move under the principle of gradualism, then it would be appropriate for the Commission to find a rate toward the top of the reasonable range. However, given the relative length of time since the last general rate case, the Commission should determine an amount that is appropriate with minimal reliance on the principle of gradualism. To the extent gradualism is employed, it should have a defined ending.

[41] Mr. Phillips quoted the Virginia commission which said "The commission has no control over a rapidly changing economy or volatile interest rates. We do, however, have the power to regulate authorized returns on equity. The commission feels that stability in the cost of equity is in the interest of utilities, ratepayers and the economic environment of the commonwealth. When interest rates soared and the prime rate exceeded 20%, we did not allow exorbitant authorized returns which would have exacerbated the situation. We allowed returns to gradually increase, recognizing the trends of the day but avoiding extreme reaction. Recently interest rates have plummeted. Our appropriate reaction should not be to cut authorized equity returns drastically, but to once again gradually move in the direction of the trend. Our goal is a fair and stable environment which will allow Virginia's utilities to better plan for the future and continue to provide economical, reliable service." Ibid., page 409.

IX. COMMENTS ON COST OF EQUITY RESULTS

Q. DO YOU HAVE ANY OTHER COMMENTS ABOUT MR. HEVERT'S TESTIMONY?

A. Yes. As discussed earlier, inherent in the proposed range of rates for DEU is the belief that the company has risks greater than a comparable set of companies or for the entire market. This statement does not match with what industry analysts have said about the Company concerning the level of risk. In Division witness Mr. Douglas Wheelwright's Direct Testimony[42] in a prior docket, he provided the following information about Questar Gas Company from Standard and Poor's research report dated January, 23, 2013:

> The rating on Questar Gas Co. (QGC) reflect the consolidated credit profile of its parent, U.S. natural gas company Questar Corp. (A/Stable A-1). The ratings on Questar Corp. include what Standard and Poor's Rating Services considers an "excellent" business risk profile and an 'intermediate" financial risk profile…..Supportive regulation, a growing service area with a mostly residential customer base, low operating risks and lack of competition characterize the utility's excellent business risk profile. The business risk profile also benefits from strong access to gas supply and storage and from its relationship with Wexpro, the company's cost-of-service exploration and production operation that provides natural gas to the QGC utility at cost plus a fixed return.
>
> QGC's constructive relationship with the Utah Public Service Commission, which covers more than 95% of its customer base, has resulted in a supportive rate design that provides stable cash flows largely insulated from fluctuations in gas prices, weather, and usage. QGC also has a decoupling mechanism and an infrastructure tracker to recover about $45 million per year associated with replacement of high-pressure feeder lines. Its relationship with Wexpro, which minimizes gas supply risk with cost-of-service natural gas reserves, provides an operational advantage over other gas utilities. [43]

[42] See Direct Testimony of Douglas D. Wheelwright Docket No. 13-057-05 Lines 679 – 704.
[43] Standard & Poor's Research, Questar Gas Co., January 23, 2013.

From the information above Mr. Wheelwright drew the conclusion that Questar Gas has lower risk than most other natural gas distribution companies.

Morningstar Research Services in its sector report dated June 27, 2019 had this to say about utilities:

> "Utilities continue to impress, with good growth prospects, secure dividends, and sound balance sheets. That's good news for investors, who could realize 5% - 7% annual dividend and earnings growth from many high quality utilities with narrow moats and 3% yields.
>
> But those fundamentals come at a high price. The U. S. utilities we cover trade at the largest premium to our fair value estimates since 2017. Regulated utilities are particularly expensive, with a median 22 P/E and 2.1 P/B, both multidecade highs. No utilities have 5-star ratings and only one—Dominion Energy—has a 4-star rating.

From the above statements, a logical conclusion is that, Questar Gas Company and now DEU are perceived to be a lower risk than other utility companies or the market in general.

Additionally, because DEU has an Infrastructure Tracker and Conservation Enabling Tariff pricing, these mechanisms allow the revenue streams of DEU to be more consistent and not affected by seasonality and temperature swings. As a general rule, more consistent cash flows correlates with a lower risk investment.

One of DEU's own witnesses is testifying to the positive benefits of these revenue mechanisms. As Mr. Mendenhall discussed in his Direct Testimony lines 423 – 425, "the Infrastructure Tracker is viewed favorably by the credit agencies, and is one of the reasons why [DEU] has been able to maintain its positive credit rating. The lower set

of risks faced by DEU because of the Infrastructure Tracker is definitely seen as a positive by Moody's as detailed in Mr. Mendenhall's Direct Testimony Lines 429 – 436.

Q. DOES YOUR ANALYSIS IMPLY THAT DEU DESERVES A PREMIUM COST OF EQUITY COMPARED WITH THE AVERAGE OF COMPARABLE COMPAPNIES?

A. No, there is no such indication. When looking at the rates for Dominion Energy, the appropriate cost of equity would be at the average rate or lower because of the lower risks of DEU. There is no factual reason that would push DEU into a premium cost of equity environment.

X. FAIR RATE OF RETURN

Q. WILL YOU DISCUSS THE HOW A COST OF EQUITY OF 9.25 PERCENT IS REASONABLE GIVEN YOUR ANALYSIS?

A. Yes. Over numerous pages of my testimony I have provided different results from financial models that attempt to estimate the appropriate cost of equity for DEU. This is what I would term as the "framework" aspect of rate making. Careful consideration has been taken to follow each model and theory as accurately as possible. In this process, inherent warts and flaws will trickle into the theories. No method is perfect and each provides its own set of results. After extensive analysis, my research comes up with a cost of equity in the range of 5.93 percent to 10.18 percent. That is a very

804 significant range of rates from each of the different models. My suggested rate of 9.25
805 percent falls towards the upper end of the calculated ranges.

806 In rate making, it is not a simple process of looking at the results calculated by the
807 models and determining the appropriate cost of equity for a utility. A well thought out
808 approach weighing the appropriate shortfalls of each model and the specific risks of the
809 company is necessary to determine an acceptable rate of return. I have attempted to
810 blend the data calculated to determine a fair and reasonable rate that will allow for
811 additional investment capital for DEU while balancing the costs consumers must pay to
812 cover those costs. The reasoning behind my recommendation is as follows.

813 The financial model that calculated the lowest return was the CAPM. The range of
814 rates varied from 5.93 percent 7.15 percent. Looking at the large disparity in the rates
815 using this model makes me a bit uncomfortable. It is not surprising that the CAPM
816 analysis calculates the lowest cost of equity for DEU. One of the important inputs in
817 the model is the risk free rate. With interest rates at historic lows, a model that uses the
818 risk free rate as a major component of the calculation will have a lower result than other
819 models. Because of this weakness, I place some value on the results of CAPM with the
820 understanding that the risk-free rate might be skewing the returns downward.

821 The average market return using the Bond Yield plus Risk Premium method was 8.94
822 percent. Of all the models, this model is the one that I put the least amount of
823 credibility and weight. It is acceptable as a point of reference, but with so many

variables and assumptions it is a stretch to feel entirely confident that the model is providing accurate results.

The model that I place the most weight on is the DCF model. Because two of the three inputs are easy to calculate from the market, this model as the least number of assumptions and calculations. Also there is a number of reputable agencies that are calculating growth rates that can be used in the model. My results using the DCF model provided a range of 8.82 percent to 10.18 percent.

Q. 9.25 PERCENT STILL SEEMS TO BE HIGHER THAN MANY OF YOUR CALCULATIONS, HOW CAN YOU BE COMFORTABLE WITH THAT RECOMMENDATION?

A. There are a number of factors that go into this recommendation. There has been a long standing discussion dealing with the fair rate of return versus the cost of equity for utility companies. Steven G. Kim in his paper[44] argues that "determining a reasonable return on equity is a judgement call, one that reflects the regulator's broad perspective on public policy matters. That requires one to look beyond economic concepts, such as the cost of equity, to find proper returns."

As a utility regulator, the recommendation made must take into consideration the data but also blend the public policy matters. In previous rate cases, the Commission appears to be using the concept of gradualism in setting the allowed rate of return for

[44] Steven G. Kihm, "The Proper Role of the Cost-of-Equity Concept in Pragmatic Utility Regulation" *The Electricity Journal* Volume 20 Issue 10(2007): 26

DEU. Recommending a significant drop in rates, closer to the calculated amounts could be seen as to fast of a decrease for a regulated utility. Because the Division realizes the Commission might have used gradualism in past proceedings, the Division has attempted to blend the market constraints with the appropriate policy decisions.

Q. WAS THERE ANYTHING ELSE GUIDING THE DIVISION'S RECOMMENDATION OF 9.25 PERCENT?

A. Yes. Dr. Bonbright discusses his conviction that when calculating the cost of equity capital for any given company the only such cost that can be determined with confidence is a *minimum* or *partial cost.*[45] He continues explaining "[h]ence, if the minimum estimated cost is to be used in the determination of a computed 'overall cost of capital,' the resulting computation should be subject to a material, 'judgement-reached' enhancement in order to give reasonable assurance of full-cost coverage."[46]

Dr. Bonbright believes the calculated rates should act as a minimum or partial cost when determining the fair rate of return. If there is a logical minimum threshold of allowed rates of return, then there would also be a maximum level for utility companies.

[45] James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961), republished on the web (July 2005) Page 255:
http://www.terry.uga.edu/bonbright/publications
[46] James C. Bonbright, *Principles of Public Utility Rates* (New York: Columbia University Press, 1961), republished on the web (July 2005) Page 255:
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In the *Hope* and *Bluefield* cases, in the Division's opinion, the courts established an upper threshold for a fair rate of return for utility companies. In those cases utility regulators are required to provide returns that must be equal to that currently earned on investments in other equally risky business enterprises. For a regulated gas distribution company, that would mean the fair rate of return would be very similar to allowed rates of return in other states. As shown earlier in my testimony, the average rate of return for similar companies with the similar risk of DEU is 9.60 percent. Using these two theories as a guiding principle I was able to determine the appropriate range for DEU's cost of capital at 8.09 percent to 9.55 percent. Because of policy considerations, the Division's own evaluation of current market risks and DEU's individual risk profile, the Division recommends a cost of equity for DEU of 9.25 percent.

XI. CONCLUSIONS AND RECOMMENDATIONS

Q. DO YOU BELIEVE YOUR CONCLUSIONS AND RECOMMENDATIONS ARRIVE AT JUST AND REASONABLE RESULTS THAT ARE IN THE PUBLIC INTEREST?

A. Yes. The capital structure as proposed by the Company follows the amounts stipulated by parties and approved by the Commission. The cost of debt calculated by DEU was correct with one adjustment to eliminate any matured bonds. I have demonstrated that my cost of equity estimates are calculated using standard financial models and using comparable company information. The Division's recommended ROE has also been compared to recent decisions for natural gas distribution companies in other jurisdictions. It represents a reasonable balancing of the data and factors such as gradualism.

Q. CAN YOU SUMMARIZE YOUR FINAL CONCLUSIONS AND RECOMMENDATIONS?

A. Based on my analysis, the appropriate cost of equity for DEU is 9.25 percent with an overall weighted average cost of capital of 7.0 percent. My cost of capital estimate is just and reasonable and in the public interest. The Company's is not.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.