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

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

REDACTED

DIRECT TESTIMONY

OF

ANJULI WINKER

ON BEHALF OF THE

OFFICE OF PUBLIC UTILITY COUNSEL

JUNE 6, 2019

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

REDACTED DIRECT TESTIMONY OF ANJULI WINKER

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I. WITNESS IDENTIFICATION AND SCOPE OF TESTIMONY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Anjuli Winker; my business address is 1701 N. Congress Avenue, Suite 9-180, Austin, Texas 78701.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Office of Public Utility Counsel ("OPUC") as a Financial Analyst.

Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL QUALIFICATIONS.

A. I received a Master of Business Administration degree from the University of North Texas in 2006. In addition, I received a Bachelor of Science in Electrical Engineering degree from the University of Texas at Austin in 2001.

In January 2017, I joined OPUC as a Financial Analyst. In that capacity, I analyze financial, economic, and policy issues for electric, water, wastewater, and telecommunication utilities. Prior to joining OPUC, I worked for the Public Utility Commission of Texas ("Commission") as a Financial Analyst. In that capacity, I evaluated rates of return on invested capital and financial integrity for electric utilities. In addition, I assessed the financial qualifications of utilities that applied for authority to provide electric service or build new facilities with a Certificate of Convenience and Necessity ("CCN"). I also reviewed whether the sale, transfer, or merger ("STM") of a utility's assets was in the public interest. Finally, I evaluated whether utilities were in

financial compliance with Commission orders. A summary of my education and employment history is provided as Attachment AW-A.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

A. Yes. A list of Commission dockets in which I have testified prior to this docket is provided as Attachment AW-B.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

A. The purpose of my testimony is to recommend a fair overall rate of return, capital structure, cost of equity (also referred to as "return on equity"), and cost of long-term debt to be used in the calculation of rates for CenterPoint Energy Houston Electric, LLC ("CenterPoint Houston or Company").

II. SUMMARY OF RECOMMENDATIONS

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING A REASONABLE RATE OF RETURN FOR CENTERPOINT HOUSTON.

A. I recommend an overall rate of return of 6.55%, based on a return on equity of 9.15%, long-term cost of debt of 4.38%, and a capital structure of 54.5% long-term debt and 45.5% equity. My results are summarized in the table below:

Table 1: OPUC's Recommended Rate of Return

	% of Capitalization	Cost	Weighted Cost
Long-Term Debt	54.5%	4.38%	2.39%
Common Equity	45.5%	9.15%	4.16%
TOTAL	**100%**		6.55%

My recommended rate of return is reasonable and will allow CenterPoint Houston to maintain its financial integrity and attract capital at a reasonable rate.

Q. WHAT FACTORS DID YOU CONSIDER IN DETERMINING YOUR RECOMMENDED RETURN ON EQUITY?

My recommended return on equity ("ROE") for CenterPoint Houston is based on the results from performing: (1) a constant-growth Discounted Cash Flow analysis, (2) a bond yield plus risk premium analysis, and (3) a Capital Asset Pricing Model analysis. The analysis uses observable market conditions to estimate a fair and reasonable ROE that will allow CenterPoint Houston to continue to provide safe and reliable service, attract invested capital on reasonable terms, and maintain its financial integrity.

Q. DID YOU CONSIDER THE CURRENT MARKET ENVIRONMENT WHEN DETERMINING YOUR RECOMMENDED RETURN ON EQUITY?

A. Yes. Most electric utility stocks have performed well in 2019, and the majority have risen in price by more than 10 percent.[1] This growth is partly due to the expectation that there will be fewer (if any) interest rate increases in 2019, than in 2018. In 2018, the Federal Reserve increased interest rates four times, but there have not been any increases so far in 2019. Even after the increases in 2018, interest rates are still relatively low by historical standards. For investors still seeking dividend yields, this market environment makes electric utility equities, and their above-average dividend yields, more attractive.[2]

[1] *Valueline* Electric Utility Industry Report, March, 15, April 26 and May 17, 2019.

[2] *Id.*

III. RATE OF RETURN

A. Regulatory Framework and Legal Standards

Q. WHAT IS THE LEGAL AUTHORITY IN TEXAS FOR A REGULATED UTILITY TO HAVE AN OPPORTUNITY TO EARN A REASONABLE RATE OF RETURN?

A. In Texas, Section 36.051 of the Public Utility Regulatory Act ("PURA") states that in establishing an electric utility's rates, the Commission must "permit the utility ***a reasonable opportunity to earn a reasonable return*** on the utility's invested capital used and useful in providing service to the public in excess of the utility's reasonable and necessary operating expenses."[3]

Q. PLEASE EXPLAIN THE REGULATORY FRAMEWORK AND LEGAL STANDARDS USED TO DETERMINE A REASONABLE RATE OF RETURN FOR A REGULATED UTILITY.

The framework for evaluating the rate of return for regulated utilities is based on two decisions of the United States ("U.S.") Supreme Court. In *Bluefield Water Works & Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923), the Court stated:

> The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[4]

[3] Tex. Util. Code § 36.051 (emphasis added).
[4] *Bluefield*, 262 U.S. at 693.

This decision established financial integrity and capital attraction as standards to be met in setting the rate of return.

In *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591 (1944), the Court stated:

> The return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[5]

This decision reinforced the legal standards of financial integrity and capital attraction. The decision also established the standard of setting a return on equity that is commensurate with the risks faced by investors. From a financial perspective, investors in a utility must be given the opportunity to recover their reasonable capital costs, including a reasonable return on equity.

Q. DID THE SUPREME COURT ADDRESS THE SPECIFIC METHODS BY WHICH THE RETURN ON EQUITY SHOULD BE DETERMINED?

A. No. Although the Court's decisions established a general framework for evaluation, the Court did not prescribe a specific method to be used to determine a reasonable ROE. As a result, multiple methodologies are applied to determine what is a reasonable ROE. These methodologies continue to evolve as new financial theories are advanced and the understanding of capital markets progresses.

Q. DO YOU RELY ON ANY OTHER STANDARD TO RECOMMEND A REASONABLE RATE OF RETURN?

[5] *Hope*, 320 U.S. at 603.

A. Yes. I am also relying on the Commission's rule, 16 Texas Administrative Code ("TAC") § 25.231(c)(1)(A), which states:

> The return should be reasonably sufficient to assure confidence in the financial soundness of the electric utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low because of changes affecting opportunities for investment, the money market, and business conditions generally.

Q. WHAT IS COST OF CAPITAL?

A. Cost of capital is the rate of return that investors require in order to fund a particular investment. The cost of capital takes into account the expected level of risk involved with the investment and represents the price charged by an investor to assume that risk. A company's overall cost of capital is commonly referred to as its weighted average cost of capital ("WACC").[6] As described below, WACC represents the market-capitalization-weighted cost of capital for both common and preferred equity holders and debt holders.[7] WACC is calculated by giving a particular percentage or "weight" to a company's debt (the Commission currently considers long-term debt in its WACC calculation) and equity components (the Commission currently considers common stock and preferred stock, if any, in its WACC calculation).

Q. HOW DID YOU CALCULATE CENTERPOINT HOUSTON'S WACC?

A. To calculate CenterPoint Houston's WACC, first, I identified the Company's sources of capital and the proportionate weight of each capital source. CenterPoint Houston has two sources of capital: long-term debt and common equity.

[6] The terms cost of capital, WACC, and overall rate of return are often used interchangeably.

[7] *2016 Valuation Guide – Guide to Cost of Capital*, Duff & Phelps 2016.

Second, I identified the appropriate cost of each capital source. The cost of long-term debt is typically straightforward. The cost of long-term debt is set by contractual obligation, and therefore, the cost of long-term debt is directly observable. However, the cost of common equity is not directly observable and must be estimated based on market factors and investor expectations of dividend growth.

Finally, I weighted the cost of each capital source by its relative proportion in the capital structure. As shown above in Table 1, the sum of these weighted component costs represents the WACC (i.e., the overall rate of return). For ratemaking purposes, the Company's invested capital (also referred to as "rate base") is multiplied by the overall rate of return to determine the investor return component of the Company's cost of service.

B. Current Market Environment

Q. CAN MARKET CONDITIONS AFFECT THE DEVELOPMENT OF A REASONABLE RATE OF RETURN?

A. Yes. Market conditions can be affected by factors, such as the rate of inflation and the federal funds interest rate, influence investor expectations. Market conditions are reflected in the rate of return primarily through its equity components. The models used for estimating the cost of equity component of the WACC include inputs that are influenced by current market conditions. The results of these models currently reflect the existing low interest rate environment and low rate of inflation, which in turn, impacts the determination of a reasonable rate of return for CenterPoint Houston.

Q. WHAT IS THE FEDERAL FUNDS RATE?

A. The federal funds rate is the central interest rate in the U.S. financial market. The federal funds rate is the interest rate that banks charge each other for overnight loans to meet reserve requirements. The federal funds rate influences other interest rates, such as the prime rate that banks charge their customers.

Q. HAS THE FEDERAL RESERVE RECENTLY INFLUENCED THE FEDERAL FUNDS RATE?

A. Yes. The Federal Open Market Committee ("FOMC") is the branch of the Federal Reserve that determines the direction of monetary policy and sets the federal funds rate.[8] The FOMC held the federal funds rate near zero percent from 2008 through most of 2015 before beginning to raise the rate—once in late 2015 and once more in late 2016. During 2017, the FOMC raised the federal funds rate three separate times by a quarter-percentage point. In 2018, the FOMC again raised the federal funds rate four separate times by a quarter-percentage point.

So far in 2019, the FOMC has not raised the federal funds rate. On February 22, 2019, in light of softer global economic and financial conditions in late 2018 and muted inflation pressures, The FOMC reported that it had decided to be patient in determining future adjustments at its January 2019 meeting.[9] This finding is further supported by the most recent FOMC statement issued on May 1, 2019 where the FOMC decided to maintain the target range for the federal funds rate at 2-1/4 to 2-1/2% to promote

[8] The FOMC is mandated by Congress to foster maximum employment, stable prices, and moderate long-term interest rates.

[9] Monetary Policy Report at 1 (Feb. 22, 2019) (available at https://www.federalreserve.gov/monetarypolicy/files/20190222_mprfullreport.pdf).

sustained expansion of economic activity, strong labor market conditions, and inflation near the FOMC's 2% objective.

Q. HOW DO THE ACTIONS BY THE FEDERAL RESERVE AFFECT SHORT-TERM AND LONG-TERM INTEREST RATES?

A. Generally, when the Federal Reserve sets lower interest rates, it stimulates economic growth, but not all economic growth is sustainable over the long run.[10] Currently, the Federal Reserve is expected to be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate over the next couple of years to promote a neutral setting where growth is neither discouraged nor encouraged by the rate.[11] However, even with the FOMC gradually raising short-term interest rates over the last several years, it has not resulted in a corresponding increase to long-term interest rates in the U.S.

The Federal Reserve's actions also impact the yields on both short-term and long-term U.S. Treasury bonds. The gap between yields on short-term and longer-term Treasury bonds has narrowed because long-term interest rates are not increasing as a result of the FOMC's increases to short-term interest rates. Financial analysts note that this narrowing gap signals to investors that future economic growth could be slow, and possibly lead to a recession, if the gap between short-term and long-term interest rate yields inverts.[12]

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[10] Nick Timiraos, *Fed Expects to Keep Raising Rates, Ending Years of Stimulus*, Wall St. J., July 5, 2018.

[11] Press Release, Federal Reserve, Federal Reserve issues FOMC Statement (May 1, 2019) (available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20190501a.htm).

[12] Nick Timiraos, *Federal Reserve Holds Rates Steady, Say Economy is Strong*, Wall St. J., Aug. 1, 2018.

Q. WOULD YOU NORMALLY EXPECT AN INCREASE IN SHORT-TERM INTEREST RATES TO CORRESPOND WITH AN INCREASE IN LONG-TERM INTEREST RATES?

A. Yes.

Q. PLEASE EXPLAIN WHY LONG-TERM INTEREST RATES ARE NOT RISING AS A RESULT OF THE FEDERAL RESERVE'S ACTIONS TO RAISE SHORT-TERM INTEREST RATES.

A. One reason long-term interest rates are not correspondingly rising with short-term interest rates is that the global environment dilutes the impact that Federal Reserve action has on long-term interest rates. Currently, the European Central Bank and the Bank of Japan have monetary policies that are opposite to the Federal Reserve's monetary policies.[13] Long-term interest rates in Europe and Japan have hovered near zero, or even below.[14] Compared to these low yields, the interest income from U.S. Treasury bonds is attractive to foreign investors. As a result, there has been an increase in demand for U.S. Treasury bonds.

Q. HOW ARE CURRENT MARKET CONDITIONS AFFECTING UTILITY BONDS?

A. The combination of an increase in volatility in the market due to trade disputes with large trading partners, such as China,[15] and a very low global yield outside of the U.S., has led

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[13] Burton G. Malikiel, *An Inverted Yield Curve May Not Portend Doom*, Wall St. J., July 30, 2018.

[14] *Id.*

[15] Daniel Kruger, *Behind the Flattening Yield Curve: Fed Rate Increases and Tariff Fights*, Wall St. J., July 5, 2018.

investors to view utility bonds as attractive investments.[16] As regulated companies, U.S. utilities provide investors with 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.[17] Long-term interest rates are expected to remain depressed for the near-term and utilities will continue to have access to financial markets.

C. CenterPoint Houston's Credit Profile

Q. PLEASE DESCRIBE CENTERPOINT HOUSTON.

A. CenterPoint Houston is a wholly-owned subsidiary of CenterPoint Energy, Inc. ("CNP") that provides electricity transmission and distribution ("T&D") service within the Electric Reliability Council of Texas region. CenterPoint Houston serves approximately 2.5 million metered customers in a service territory covering areas in and around the City of Houston.[18]

Q. WHAT IS THE SIGNIFICANCE OF A COMPANY'S CREDIT RATINGS WHEN DETERMINING COST OF CAPITAL?

A. Credit ratings influence the cost of capital because a company's credit rating affects the amount of interest charged by lenders on a utility's debt. Credit ratings are the opinions of independent, private credit rating agencies regarding the likelihood that a corporation will satisfy its debt obligations. The credit ratings are not a guarantee that a company will repay its debt obligations. Credit ratings, rather, are an assessment of a company's current financial condition with an emphasis on potential future factors that may

[16] *Edison Electric Institute*, 2017 Financial Review – Annual Report of the U.S. Investor Owned Electric Utility Industry at 63-64.

[17] *Id.*

[18] Direct Testimony of Kenny M. Mercado at 6 (Apr. 5, 2019).

influence a company's ability to meet its debt obligations. Credit rating agencies determine a company's credit strength by analyzing various financial ratios, such as the ratio of funds from operations to debt, interest expense to debt, and debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA").

Q. WHAT ARE CENTERPOINT HOUSTON'S CURRENT CORPORATE CREDIT RATINGS?

A. CenterPoint Houston's current corporate credit ratings from the three major rating agencies—Standard & Poor's ("S&P"), Moody's Investors Service ("Moody's"), and Fitch Ratings ("Fitch")—are listed in Table 2 below:

Table 2: CenterPoint Houston's Current Corporate Credit Ratings & Outlook

Rating Agency	Current Corporate Credit Rating	Outlook
Standard and Poor's[19]	BBB+	Stable
Moody's Investors Service[20]	A3	Stable
Fitch Ratings[21]	A-	Stable

Q. WHAT DO CENTERPOINT HOUSTON'S CORPORATE CREDIT RATINGS INDICATE?

A. CenterPoint Houston's current corporate credit ratings (BBB+, A3, and A-) are considered investment grade by S&P, Moody's, and Fitch. A corporate credit rating

[19] Direct Testimony of Robert B. McRae at 11 (Apr. 5, 2019).

[20] *Id.*

[21] *Id.*

reflects the general credit risk of the entire company, as a whole, and its ability to pay its financial obligations when due. Investment grade credit ratings indicate that the company has access to capital markets on reasonable terms, has demonstrated the capacity and capability to meet its financial obligations, and has a stable or low risk of credit default.

Q. HOW DO CREDIT AGENCIES VIEW ELECTRIC T&D UTILITIES IN TEXAS?

A. Electric T&D utilities in Texas are generally viewed as low risk. On April 13, 2018, Fitch reported that CenterPoint Houston's credit rating and outlook reflects [redacted][22] [redacted] On June 19, 2018, Moody's also reported that [redacted][24] Moody's also found that [redacted][25] [redacted]

[22] FitchRatings, CenterPoint Energy Houston Electric, LLC, April 13, 2018. (Confidential)

[23] *Id.*

[24] *Id.*

[25] Moody's Investors Services, Credit Opinion, CenterPoint Energy Houston Electric, LLC. June 19, 2018. (Confidential)

[redacted][26]

[redacted][27]

Q. WHAT IS THE RELATIONSHIP BETWEEN A UTILITY'S CREDIT RATING AND COST OF EQUITY?

A. A company's credit rating is a major factor in determining the interest rates that a company will have to pay on debt issuances. Generally, a higher credit rating will result in lower debt interest rates, while a lower credit rating will result in higher debt interest rates. Because debt investments are considered less risky than equity investments, equity investors will require a premium on their return, which is referred to as the "equity risk premium." In general, as the cost of debt increases, so does the return required by equity investors.

Q. DID THE TAX CUTS AND JOBS ACT OF 2017 ("TCJA") IMPACT THE CREDIT OUTLOOK FOR REGULATED UTILITIES?

A. Yes. The TCJA impacted the cash flows of U.S. companies and affected regulated utilities in three primary ways:

(1) A decrease in the corporate tax rate from 35% to 21%;

(2) The elimination of a utility's right to calculate taxes using bonus depreciation; and

[26] *Id.*

[27] *Id.*

(3) The treatment of accumulated deferred income taxes ("ADIT").[28]

When the TCJA was passed, the U.S. financial market viewed the TCJA as an overall near-term negative, but a longer-term positive for regulated utilities.[29] Regulated utilities were expected to have reduced cash flows in the near-term as the companies adjusted to the new tax requirements. However, regulated utility assets continued to be viewed as critical infrastructure assets that were generally less risky than other types of corporate assets.

Q. WHAT EFFECT DID CREDIT REPORTING AGENCIES EXPECT THE TCJA TO HAVE ON REGULATED UTILITIES?

A. Three weeks after the TCJA became effective, Fitch stated in a special report that it viewed the short-term effect of tax reform as having a negative credit implication.[30] However, in the same report, Fitch found that the TCJA tax reform was credit positive in the long-term. Fitch further stated that some of the TCJA effects could be managed through a deferral of lower tax expenses; a return of excess unprotected ADIT over a longer term; an increase in equity and/or ROE; acceleration of depreciation on some assets; or a lower capex.[31]

Two months later, S&P reported findings similar to Fitch.[32] On March 2018,

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[28] Direct Testimony of Charles W. Pringle at 18 (Apr. 5, 2019).

[29] S&P Global Market Intelligence: RRA Financial Focus Utility Impact of the Tax Cuts and Jobs Act, March 19, 2018.

[30] Fitch Ratings Special Report: Tax Reform Impact on the U.S. Utilities, Power and Gas Sector, January 24, 2018.

[31] *Id.*

[32] S&P Global Market Intelligence: RRA Financial Focus Utility Impact of the Tax Cuts and Jobs Act, March 19, 2018.

S&P reported that overall tax reform was seen as a near-term negative, but a longer-term positive for regulated utilities. In the long-term, S&P found that the reduction in deferred federal income taxes was expected to lead to increased rate base growth among electric and gas utilities since most states deduct ADIT in calculating a utility's rate base. Therefore, S&P concluded that carrying a smaller ADIT balance should, all else being equal, increase rate base for electric and gas utilities.[33]

On June 18, 2018, Moody's changed its fundamental sector outlook for the U.S. regulated electric and gas utility industry from stable to negative. Moody's primarily changed its outlook because it expected the TCJA to affect utilities for 12 to 18 months.[34] However, despite the passage of the TCJA, Moody's projected that investor-owned regulated utilities in the U.S. would maintain unfettered access to the capital markets and continued to view regulated utilities as a defensive investment.[35]

Q. WHAT EFFECT IS THE TCJA EXPECTED TO HAVE ON CENTERPOINT HOUSTON?

A. On June 19, 2018, Moody's released a credit opinion for CenterPoint Houston noting that the tax reform was expected to [redacted]

[33] *Id.*

[34] *See* Moody's Announcement: Moody's Changes the U.S. Regulated Utility Sector Outlook to Negative from Stable, June 18, 2018.

[35] *Id.*

[redacted][36]

Q. ARE THERE ANY MORE RECENT INDICATIONS OF THE TCJA'S IMPACT?

A. While it has been approximately 18 months since the passage of the TCJA, an updated analysis of the TCJA's impacts does not appear to have been performed by the credit rating agencies at this time. *Value Line* recently noted that the TCJA affected the "fixed-charge coverages" for electric utility companies,[37] which 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. *Value Line* stated that the TCJA caused fixed-charge coverages to decline because most utilities passed the benefits of the lower federal tax rate through to their customers, which reduced the utilities' operating income. However, *Value Line* noted that this decline in fixed-charge coverages is offset by a decline in taxes. As a result, *Value Line* concluded that the decline in fixed-charge coverages in 2018 is not a sign that the financial condition of companies in the electric utility industry is deteriorating due to the TCJA.

D. Proxy Group

Q. WHAT IS THE PURPOSE OF A PROXY GROUP ANALYSIS IN DETERMINING CENTERPOINT HOUSTON'S COST OF EQUITY?

A. CenterPoint Houston is wholly owned by its parent, CNP, and the specific investment risk associated with CenterPoint Houston cannot be directly observed by looking at stock price and dividend yield expectations. Instead, an estimate of CenterPoint Houston's cost

[36] Moody's Investors Services, Credit Opinion, CenterPoint Energy Houston Electric, LLC. June 19, 2018. (Confidential)

[37] *Value Line* Investment Survey's Electric Utility (East) Industry, May 17, 2019.

of equity is created by using a sample group of utility companies with observable stock prices that have comparable risk characteristics to CenterPoint Houston. The sample group is usually referred to as a proxy group.

Q. PLEASE DESCRIBE CENTERPOINT HOUSTON WITNESS ROBERT B. HEVERT'S PROXY GROUP AND THE SCREENING CRITERIA HE USED TO DEVELOP HIS PROXY GROUP.

A. Mr. Hevert starts with the electric utilities in *Value Line*, and applies his screening criteria to exclude companies that, in his opinion, do not have comparable risk to CenterPoint Houston. Mr. Hevert's screening criteria excludes the following companies:

1. Companies that do not consistently pay quarterly cash dividends;
2. Companies that were not reported on by at least two utility industry equity analysts;
3. Companies that do not have investment grade senior unsecured bond and/or corporate credit ratings from S&P;
4. Companies whose regulated operating income over the three most recently reported fiscal years comprised less than 60.00 percent of the consolidated enterprise;
5. Companies whose regulated electric operating income over the three most recently reported fiscal years represented less than 60.00 percent of total regulated operating income; and
6. Companies that are currently known to be a party to transformative transaction.[38]

Q. WHAT SCREENING CRITERIA DID YOU USE TO SELECT A PROXY GROUP FOR THIS CASE?

[38] Direct Testimony of Robert B. Hevert at 27 (Apr. 5, 2019) (Hevert Direct).

A. I used the same screening criteria with two exceptions. I did not agree with Mr. Hevert's word choice in the fourth and sixth screening criteria. In his fourth screening criterion, Mr. Hevert uses the term "consolidated enterprise" which suggests that a company meets this criterion only if it was formed as the result of consolidation by mergers or acquisitions of multiple companies. In his sixth screening criterion, Mr. Hevert uses the term "transformative transactions," but his wording is subject to interpretation since it does not clearly state what type of transactions are transformative transactions. Therefore, instead of the fourth and sixth criteria, I used the following screening criteria:

4. Companies whose regulated operating income over the three most recently reported fiscal years comprised less than 60.00 percent of the total income for the company.

6. Companies that are currently known to be a party to a merger, significant asset sale or acquisition, bankruptcy, or other significant transaction.

Q. PLEASE DESCRIBE YOUR PROXY GROUP.

A. Based on my screening criteria, my proxy group is similar to Mr. Hevert's proxy group, except that I excluded four companies. The excluded companies are Allete, Inc., American Electric Power Company, Inc., NextEra Energy, Inc., and Southern Company. Under my revised sixth screening criterion, I excluded these four companies because these companies are a party to an ongoing or recently completed significant transaction. The twenty comparable companies that are included in my proxy group are listed in Table 3 below:

Table 3: Proxy Group

Company	Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
Avangrid, Inc.	AGR
Black Hills Corporation	BKH
CMS Energy Corporation	CMS
Consolidated Edison, Inc.	ED
DTE Energy Company	DTE
Duke Energy Corporation	DUK
El Paso Electric Company	EE
Evergy, Inc.	EVRG
Eversource Energy	ES
Hawaiian Electric Industries, Inc.	HE
NorthWestern Corporation	NWE
OGE Energy Corp.	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
PNM Resources, Inc.	PNM
Portland General Electric Company	POR
WEC Energy Group, Inc.	WEC
Xcel Energy Inc.	XEL

IV. COST OF EQUITY

Q. WHAT COST OF EQUITY IS CENTERPOINT HOUSTON REQUESTING FROM THE COMMISSION?

A. CenterPoint Houston witness Mr. Hevert addresses the Company's requested cost of equity, also known as the return on equity ("ROE"). Mr. Hevert recommends an ROE in the range of 10.00% to 10.75% for CenterPoint Houston and specifically states that a reasonable ROE for the Company is 10.40%.[39] In determining his proposed ROE, Mr.

[39] *Id.* at 3.

Hevert used a constant growth Discounted Cash Flow ("DCF") model, bond yield plus risk premium model, and capital asset pricing model ("CAPM").[40]

Q. WHAT METHODS DID YOU USE TO ESTIMATE THE COST OF EQUITY?

A. I also estimated CenterPoint Houston's cost of equity using a constant growth DCF model and bond yield plus risk premium model. In addition, I performed a CAPM analysis as a qualitative check on the results of the DCF and bond yield plus risk premium models.

A. Discounted Cash Flow Model

Q. PLEASE DESCRIBE THE DCF MODEL THAT YOU USED IN DETERMINING CENTERPOINT HOUSTON'S COST OF EQUITY.

A. The DCF model is premised on the theory that the price of a share is equal to the present value of all future dividends (i.e., the expected income stream from that asset). The rate at which the expected income stream is discounted reflects how the investors view the riskiness of the future cash flows. In its most general form, the DCF model is expressed mathematically as follows:

$$P_o = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \ldots + \frac{P_n}{(1+k_n)^n}$$

where:

P_0	=	current share price;
D_n	=	expected dividend in each year;
P_n	=	market price of a share of common stock in 'n' year;
k	=	investors' required rate of return; and
n	=	year of expected share price realization.

[40] *Id.* at 31.

In the constant growth version of the DCF model, dividends are assumed to grow at a constant rate, g, and all future dividends can be expressed in terms of the current dividend, D_o, by the following equation:

$$P_o = \frac{D_o(1+g)^1}{(1+k)^1} + \frac{D_o(1+g)^2}{(1+k)^2} + \ldots + \frac{D_o(1+g)^n}{(1+k)^n}$$

If the discount rate or required rate of return, k, is assumed to be constant from year to year, and is greater than the dividend growth rate, g, then the equation above reduces to the following form as n approaches infinity:

$$P_o = \frac{D_o(1+g)}{(k-g)}$$

For purposes of estimating the cost of common equity, the equation above may be rearranged to calculate the investor's required rate of return:

$$k = \frac{D_o(1+g)}{P_o} + g$$

or more simply:

$$k = \frac{D_1}{P_o} + g$$

The constant growth DCF model recognizes that the return to the stockholder consists of two parts: dividend yield and growth. Equity investors expect to receive a portion of their total required return in the form of current dividends and the remainder through price appreciation.

Q. WHAT FACTORS DETERMINE THE CASH FLOWS OR STREAM OF FUTURE DIVIDENDS FOR A COMPANY?

A. The amount of dividends that a company pays its investors will depend on the company's earnings and dividend payout ratio.[41] The portion of a company's earnings that is not paid to its investors as dividends is retained and reinvested by a company. The company's reinvested earnings will generate additional growth in earnings and dividends because the company will earn a return on the newly invested capital that is placed into rate base. The DCF model incorporates this growth by discounting the future stream of dividends. The expected growth of future dividends will depend on the company's earnings retention ratio and sale of new common stock. The standard DCF formula is expressed as follows:

$$P_o = \frac{D_n}{k_n - g_h}$$

where:

P_0 = market price of a share of common stock;
D_n = current dividend;
k_n = discount rate or the market cost of common equity, with $k > g$; and
g_h = expected growth rate in dividends per share.

Q. HOW IS THE DIVIDEND GROWTH RATE DETERMINED IN THE DCF MODEL?

A. There is no specific methodology for determining the expected dividend growth rate. The actual dividend yield can be measured at any point in time because the current dividend payment and stock price are directly observable. However, estimating the expected dividend growth rate requires considering subjective factors, such as recent

[41] A company's earnings will vary from year to year and the percent of earnings that a company pays out in dividends to its investors will also change from year to year.

company financial performance, expected financial performance, economic conditions, and other information available to the investment community.

Q. HOW DID YOU CALCULATE THE ESTIMATED DIVIDEND YIELDS FOR THE PROXY GROUP?

A. I calculated the estimated dividend yields for my proxy group by using the average high stock prices and average low stock prices as reported in the March 15, April 26, and May 17, 2019 issues of *Value Line*. I used average 2019 high and low stock prices to minimize market fluctuations that can occur in the dividend yield during shorter periods of time. I calculated an additional dividend yield by averaging the 2019 high and low stock prices from *Value Line* with the May 3, 2019 closing stock prices from Yahoo Finance. This additional calculation was used to spot check my dividend yield to ensure that it continues to be a reasonable estimate.

The dividend yields calculated for each utility in the proxy group are shown in Schedule AW-1. The average 2019 dividend yield for my proxy group is 3.45% when using only the average 2019 high and low stock prices, and 3.33% when including the May 3, 2019 closing stock prices along with the average 2019 high and low stock prices.

Q. WHAT IS THE CURRENT AVERAGE DIVIDEND YIELD FOR THE ELECTRIC UTILITY INDUSTRY?

A. The average dividend yield for the electric utility industry, as reported by *Value Line* on May 17, 2019, is 3.30%, which is low by historical standards.[42]

[42] *Value Line* Investment Survey's Electric Utility (East) Industry, May 17, 2019.

Q. WHEN CALCULATING YOUR DIVIDEND YIELD, HOW DID YOU DETERMINE THE EXPECTED DIVIDEND GROWTH RATE FOR YOUR PROXY GROUP?

A. First, I determined the growth in book value per share for the proxy companies. Then, I determined the sustainable retained earnings growth rate. The retention ratio is the proportion of earnings retained by a company,[43] rather than being paid out as dividends to its shareholders. The sustainable retained earnings growth rate is calculated by taking the expected retention ratio and multiplying it by the expected rate of return on book value common equity. The retained earnings growth rate is also referred to as BR growth rate, where B equals the retention ratio and R equals the return on common equity.

On a per share basis, the retention ratio (B) can be expressed as: B = 1 – (DPS/EPS). The return on common equity (R) can be expressed as: R = EPS/BVPS. The formula for the BR growth rate can then be expressed as:

$$BR = \left(1 - \frac{DPS}{EPS}\right) X \frac{EPS}{BVPS}$$

where:

DPS = dividend per share;
EPS = earnings per share; and
BVPS = book value per share

The BR growth rate is the long-term expected dividend growth rate. I calculated the 2020 BR growth rate for each utility in the proxy group using *Value Line's* 2018 projected earnings, dividends, and book value.

[43] Retained earnings are reinvested by a company. This reinvestment, in turn, generates additional (future) growth in earnings and dividends.

Q. WHY DID YOU USE THE SUSTAINABLE RETAINED EARNINGS GROWTH RATE TO ESTIMATE THE LONG-TERM DIVIDEND GROWTH RATE?

A. In simple terms, sustainable growth is the realistically attainable growth that a company could maintain without running into financial problems. When estimating a long-term dividend growth rate, it is more appropriate to use the sustainable retained earnings growth rate, rather than using only the dividends and earnings growth rates. Dividends and earnings growth rates can be disproportionately affected by year-to-year changes in earned returns or dividend payout ratios, and therefore, dividends and earnings growth rates do not provide reliable estimates of growth. By managing a company to achieve the sustainable growth rate, a company can avoid straining financial resources and overextending their financial leverage. In calculating the sustainable earnings growth rate, I used the book value growth rate, which produces more accurate growth estimates. The book value growth rate is less affected by changes in earned returns and retention ratios than market value.

Moreover, using the sustainable retained earnings growth rate (i.e., BR growth rate) to estimate a long-term dividend growth rate is appropriate because earnings that are not paid out as dividends to a company's shareholders (i.e., retained earnings) are reinvested by the company. As additional plant investment is funded by a company's retained earnings, a company is allowed to earn a return on the additional plant investment in rate base, which leads to future growth in earnings and dividends. The BR growth rate helps gauge whether investors' current long-term dividend growth rates can be sustained in future periods.

Q. IS IT APPROPRIATE TO ALSO CONSIDER HISTORICAL GROWTH RATES FOR THE PROXY GROUP?

A. Yes. Historical growth rates should be considered for the proxy group. Past performance is often an indication of future performance, especially in a regulated industry like the electric utility industry. Investors place more significance on the past financial results of electric utilities than other sectors of the economy, because the regulatory process has fewer fluctuations with more stable revenues.

Q. DID MR. HEVERT CONSIDER HISTORICAL AND PROJECTED GROWTH RATES IN HIS DCF GROWTH CALCULATIONS?

A. No. Mr. Hevert relies solely on investment analyst earnings growth estimates from *Value Line*, Zacks, and First Call.[44]

Q. DO YOU AGREE WITH MR. HEVERT'S DECISION TO RELY SOLELY ON EARNINGS GROWTH PROJECTIONS IN HIS DCF CALCULATION?

A. No. While I agree that investment analyst earnings growth projections are reviewed by common stock investors, these projections are not the only growth statistics used to calculate DCF growth. As stated above, investors also consider sustainable retained earnings growth rates, forecasted and historical book value growth rates, and dividend growth rates to determine expected future performance.

Q. WHAT ARE THE HISTORICAL GROWTH RATES FOR YOUR PROXY GROUP?

[44] Hevert Direct at 61.

A. Schedule AW-2 summarizes the average 5-year and 10-year historical growth rates for the proxy group. The 5-year average historical growth in earnings, dividends, and book value for the proxy group are 5.68%, 6.00%, and 4.39%, respectively. The 10-year average historical growth in earnings, dividends, and book value for the proxy group are 5.28%, 6.47%, and 4.50%, respectively. I used *Value Line's* 5-year and 10-year historical growth statistics to calculate the average for the proxy group.[45]

Q. WHAT ARE THE PROJECTED GROWTH RATES FOR YOUR PROXY GROUP?

A. Schedule AW-2 summarizes the 5-year projected growth in earnings, dividends, and book value, the 2020 BR growth rate, and the 5-year projected BR growth rate for the proxy group. The 5-year projected growth in earnings, dividends, and book value for the proxy group are 5.71%, 5.45%, and 4.16%, respectively. The 2020 BR growth rate for the proxy group is 3.43%, and the 5-year projected BR growth rate is 3.53%. I used *Value Line's* projected growth statistics to calculate the average for the proxy group.[46]

Q. USING THESE GROWTH RATES IN THE DCF MODEL, WHAT RETURN ON EQUITY RANGE DO YOU CALCULATE FOR THE PROXY GROUP?

A. Based on my analysis, a reasonable (historical and projected) growth rate expectation for the proxy group is 3.43% to 6.47%. This range incorporates my calculated 2020 BR growth rate, 5-year projected BR growth rate, *Value Line's* 5-year historical dividend, earnings, and book value growth, *Value Line's* 10-year historical dividend, earnings, and

[45] I excluded any negative or missing values in the calculation of the proxy group average.

[46] *Value Line's* March 15, April 26 and May 17, 2019 issues include 2022-2024 projected growth statistics.

book value growth, and *Value Line's* 5-year projected dividend, earnings, and book value growth. I calculated my recommended DCF range by:

- Adding the 2020 average dividend yield of 3.45% (calculated using *Value Line's* 2019 high and low stock prices) to my growth rate range above, which results in a DCF range of 6.88% to 9.92%; and
- Adding the 2020 average dividend yield of 3.33% (calculated using *Value Line's* 2019 high and low stock prices and the May 3, 2019 closing stock prices) to my growth rate range above, which results in a DCF range of 6.76% to 9.80%.

These steps resulted in my overall DCF range of 6.76% to 9.92%.

Q. WHAT ARE THE RESULTS OF MR. HEVERT'S DCF MODEL?

A. Mr. Hevert performed three constant growth DCF models. First, Mr. Hevert used a 30-day average stock price consisting of a mean low of 8.43% to a mean high of 10.09%.[47] Second, Mr. Hevert used a 90-day average stock price consisting of a mean low of 8.45% to a mean high of 10.11%.[48] Third, Mr. Hevert used a 180-day average stock price consisting of a mean low of 8.53% to a mean high of 10.20%.[49] However, Mr. Hevert, nonetheless, contends that the results of his constant growth DCF analysis are understated and should be given less weight than other methods.[50]

[47] Hevert Direct, Exhibit RBH-1.

[48] *Id.*

[49] *Id.*

[50] *Id.* at 61.

Q. DO YOU AGREE WITH MR. HEVERT'S DISMISSAL OF HIS DCF MODEL RESULTS?

A. No. The constant growth DCF model has been used in many rate cases at the Commission as an approach, to determine ROE.[51] In fact, the constant growth DCF model - has been used by utility regulatory agencies and investors in all types of market conditions.[52] Additionally, ROE analysts generally check their DCF model results against the results of other widely-accepted ROE models.

As a primary basis for dismissing his DCF model results, Mr. Hevert contends that the model produced results that are at odds with current observable capital market conditions and that his cost of equity model results should reflect current capital market conditions.[53] However, as a basic foundation of financial analysis, stock prices reflect all known information about economic and financial conditions and investor expectations of economic variables like expectations of future interest rate increases. Consequently, DCF model results already reflect current capital market trends.

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[51] *See, e.g., Application of Southwestern Electric Power Company for Authority to Change Rates,* Docket No. 46449, Finding of Fact No. 159 (Mar. 19, 2018); *Application of Southwestern Public Service Company for Authority to Change Rates*, Docket No. 43695, Proposal for Decision at 62-63 (Oct. 12, 2015); *Application of Texas-New Mexico Power Company for Authority to Change Rates*, Docket No. 38480, Rebuttal Testimony of Robert B. Hevert at 2 (Nov. 23, 2010).

[52] *See, e.g., Application of Lone Star Transmission, LLC for Authority to Establish Interim and Final Rates and Tariffs*, Docket No. 40020, Rebuttal Testimony of Dr. Avera at 56 (Jul. 12, 2012); *Application of Southwestern Public Service Company for (1) Authority to Change Rates; (2) Reconciliation of its Fuel Costs for 2004 and 2005; (3) Authority to Revise the Semi-Annual Formulae Originally Approved in Docket No. 27751 Used to Adjust its Fuel Factors; and (4) Related Relief*, Docket No. 32766, Rebuttal Testimony of Robert Hevert at 21, 39, 79, and 102 (Jan. 23, 2007); *Application of AEP Texas Central for Authority to Change Rates*, Docket No. 28840, Direct Testimony of Carol Szerszen at 3, Direct Testimony of Michael Gorman at 15 (Feb. 9, 2004), and Direct Testimony of Slade Cutter at 10 (Feb. 17, 2004); *Application of Texas-New Mexico Power Company for Approval of a Transition Plan and Statement of Intent to Decrease Rates*, Docket No. 17751, Proposal For Decision at 49 (May 20, 1998); *Application of Texas-New Mexico Power Company for Authority to Change Rates*, Docket No. 10200, Third Order on Rehearing at Finding of Fact No. 166 (Mar. 18, 1993); *Application of Texas-New Mexico Power Company for Authority to Change Rates*, Docket No. 8095, Order at Finding of Fact No. 22 (Sep. 8, 1988).

[53] Hevert Direct at 62.

In addition, Mr. Hevert criticizes the DCF model because it assumes existing market conditions will remain constant.[54] Mr. Hevert fails to acknowledge that the Commission has adopted 16 TAC § 25.246(c)(1)(A), which requires electric utilities to file base rate applications on a more frequent and regular basis. Under the Commission rule, CenterPoint Houston must file its next base rate case within four years of the date that the Commission issues a final order in this docket. At that time, CenterPoint Houston will have an opportunity to perform a new ROE analysis.

B. Bond Yield Plus Risk Premium Model

Q. WHAT IS THE BOND YIELD PLUS RISK PREMIUM MODEL?

A. The bond yield plus risk premium model is based on the premise that a company's equity is more risky than its debt, but the cost of these capital sources move in tandem. The model estimates a company's required ROE by calculating a risk premium and adding the risk premium to current bond yields.

Q. WHAT IS AN EQUITY RISK PREMIUM?

A. An equity risk premium is the amount over the cost of debt that investors require when making equity investments. The size of the equity risk premium that is required will vary depending on economic conditions, the term and length of debt instruments, and other factors. In general, as the cost of debt increases, so does the return required by equity investors.

Q. DESCRIBE MR. HEVERT'S BOND YIELD PLUS RISK PREMIUM MODEL.

[54] *Id.* at 63.

A. Mr. Hevert's bond yield plus risk premium model is based on the principle that equity investors require a "risk premium" over and above the return that they would earn on a less risky debt instrument in order to invest in the company. Mr. Hevert defines risk premium as the difference between authorized ROEs and the then-prevailing level of 30-year U.S. Treasury yields. Mr. Hevert gathered nationwide data for electric utility rate proceedings between January 1, 1980 and February 15, 2019.[55] Mr. Hevert calculated the average 30-year U.S. Treasury yields over the average length of time for litigating an electric utility rate case, which is approximately 200 days. Mr. Hevert's calculation takes into account that Treasury or utility bond yields at the time of a final order in a base rate case are often different from the Treasury or utility bond yields at the beginning of a base rate case when ROEs are calculated by a company.[56] Using this model, Mr. Hevert calculated an average risk premium of 4.66% over a 39-year period.[57]

Q. PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A. I used the data that Mr. Hevert gathered from SNL Financial to calculate an annual average authorized ROE. However, I used a shorter time period of 18 years (January 2000 to December 2018), rather than using Mr. Hevert's 39-year period in the model. The shorter time period more effectively captures the trend in authorized ROEs andcaptures 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 in the model. In addition, instead of using the average

[55] *Id.* at 70.

[56] *Id.*

[57] *Id.* at 72.

30-year Treasury yields (including a 200-day lag period) and projected near-term and long-term 30-year Treasury yields, I used Moody's Average Public Utility Bond Yields, as reported in Mergent Bond Records, in the model. I used average public utility bond yields in the model. The public utility bonds are issued in the same industry as CenterPoint Houston, and therefore, the bonds provide a more reasonable estimate of investor risk premium expectations for this case than Treasury yields. Using this model, my risk premium is 4.64% over an 18-year period, as shown on Schedule AW-3.

Q. WHAT ARE YOUR BOND YIELD PLUS RISK PREMIUM RESULTS?

A. On May 17, 2019, the yield on BBB utility bonds was 4.40%.[58] Adding my 4.64% risk premium to the 4.40% BBB utility bond yield will result in an ROE of 9.04%. The average 2018 Moody's utility bond yields were 4.34%. Adding my risk premium of 4.64% to the 4.34% Moody's utility bond yields will result in an ROE of 8.98%. Therefore, my bond yield plus risk premium calculations result in an ROE range of 8.98% to 9.04%.

Q. PLEASE DISCUSS MR. HEVERT'S BOND YIELD PLUS RISK PREMIUM RESULTS.

A. The addition of Mr. Hevert's 4.66% risk premium to his then-current, near-term projected, and long-term projected 30-year Treasury yields of 3.03%, 3.33%, and 4.05% will result in ROEs of 7.69%, 7.99%, and 8.71%. Mr. Hevert's ROE range falls below the low end of my bond yield plus risk premium ROE range. However, Mr. Hevert disregarded his risk premium of 4.66%, and instead, he chose to use a regression model

[58] *Value Line Investment Survey's* Selection & Opinion, May 17, 2019.

to determine risk premium values based on his Treasury yields.[59] As a result of this adjustment, Mr. Hevert's recommended ROE range increased to 9.93% to 10.17%.[60]

Q. DO YOU AGREE WITH MR. HEVERT'S ADJUSTMENTS TO HIS RISK PREMIUM USING REGRESSION ANALYSIS?

A. No. Mr. Hevert increases his risk premium by an additional 146 to 224 basis points by relying on regression analysis. His adjustment is achieved by including an adder to the risk premium on the premise that equity risk premiums are inversely related to the level of interest rates. In other words, when interest rates are high, the risk premium is lower, and when interest rates are low, the risk premium is higher. However, Mr. Hevert's risk premium adder is unnecessary because the fluctuation in interest rates is already reflected in the time period used in his analysis. Specifically, Mr. Hevert used a 39-year time period of historical data to determine his risk premium, which incorporates various periods of very high, medium, and very low interest rates.[61] Therefore, Mr. Hevert's risk premium already incorporates the inverse relationship between interest rates and risk premiums that is captured in his risk premium adder. Further, the relationship between interest rates and risk premiums is not as direct as Mr. Hevert assumes in his regression analysis. A change in interest rates may not directly result in a corresponding change in the risk premium. Risk premiums can change independently of a change in interest rates.

[59] Direct Testimony of Robert B. Hevert, Exhibit RBH-5.

[60] This range is calculated using risk premiums ranging from 6.12% to 6.90%. Mr. Hevert does not explicitly state the range, but it can be determined from his Exhibit RBH-5.

[61] For example, the period 1980-81, in Mr. Hevert's timeframe, was when the economic crisis occurred in the U.S. During the economic crisis, there was high inflation and high interest rates. The economy rebounded by 1983, only to crash again in 1987. In the 90's, there was recession in 1991, followed by a slow recovery starting in 1992. Then, the dotcom bust occurred in 2001. The great recession occurred in the late '00s, followed by a long period of slow expansion, which we are still experiencing at this time.

Like interest rates, risk premiums can fluctuate over time depending on current market conditions, changing investor risk perceptions between equity and debt securities, and changing demand and supply in each capital market segment.

C. Capital Asset Pricing Model

Q. WHAT IS THE CAPITAL ASSET PRICING MODEL?

A. The CAPM is a risk premium model that describes the relationship between risk and expected return when pricing a security. The model is focused on the relationship between the risk of an asset and its expected return. The model assumes that investors will not hold a risky asset unless they are adequately compensated for the risk. The model estimates the cost of equity as the sum of the interest rate on a risk-free security plus a market risk premium.[62] The yield on long-term U.S. Treasury bonds is typically used as the risk-free rate. The market risk premium represents the investor-expected incentive for holding the stock instead of a risk-free security. The market risk premium can be measured in a number of ways. In the CAPM framework, the risk of an asset is represented by its *beta* (ß), which is a statistical concept that measures the sensitivity of a security's return to changes in the returns of the overall market. The higher the beta of an asset, the greater the risk of the asset relative to the risk of the overall market, and the greater the rate of return required by investors to hold the asset.

Q. HOW IS THE ROE CALCULATED IN THE CAPM?

A. The ROE is calculated in the CAPM as follows:

[62] Duff & Phelps, *2016 Valuation Handbook-Guide to Cost of Capital* at 2-1 (2016).

$$k = R_f + ß(R_m - R_f)$$

where:

k	=	required rate of return;
ß	=	beta of the asset;
R_f	=	risk-free rate; and
R_m	=	market return.

In the equation above, the value of $R_m - R_f$ represents the additional risk of the market over the risk-free rate. The CAPM formula calculates the relative amount of risk premium for a security by multiplying the market risk premium by the security's beta. The beta-adjusted risk premium is then added to the risk-free rate to provide the total rate of return for that security.

Q. PLEASE DESCRIBE THE INPUTS THAT YOU USED IN YOUR CAPM ANALYSIS TO ESTIMATE THE COST OF EQUITY FOR CENTERPOINT HOUSTON.

A. For the risk-free rate in the CAPM equation, I used a rate of 2.98%. This rate was the average yield of the 30-year Treasury bond for the three-month period of February 1, 2019 through April 30, 2019. The 30-year maturity of the Treasury bond is appropriate because a longer investment time horizon is more comparable to the typical investment timeframe for equity securities, especially utility stocks. In addition, a longer-term rate is a more appropriate input in the CAPM, because the less volatile longer-term rates are less likely to be influenced by random, short-term phenomena than short-term rates.

For the beta inputs to the model, I relied on the betas published by *Value Line*. In the CAPM, the relevant risk in the pricing of a security is *market* risk, and by definition, the risk of the overall market is equal to 1. Because the risk of electric utilities is typically lower than the risk of the overall market, the betas for utility companies are

ordinarily lower than the value of 1. These lower beta values result in lower rates of return as calculated in the CAPM. The beta values for the utility companies in my proxy group can be seen on Schedule AW-4.

Finally, for the market risk premium, I am using 8.70%. This market risk premium is the arithmetic mean return value between common stocks and U.S. Treasury Bills from 1926 through the end of 2017, as published by *Duff & Phelps* in its 2018 Valuation Handbook – Guide to Cost of Capital.

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A. The CAPM yields a cost of equity for the proxy group of 8.20%.[63]

Q. WHY DOES THE CAPM RESULT IN SUCH A LOW COST OF EQUITY FOR CENTERPOINT HOUSTON?

A. The CAPM results in a low cost of equity for CenterPoint Houston because of the current low interest rate environment. The 30-year Treasury bond yields have remained low, even after the Federal Reserve started raising interest rates. Additionally, as I discussed above, electric utility stocks are less risky so their betas are less than 1.0. When these inputs are entered into the CAPM formula, the CAPM produces a relatively low ROE. As a result, I have not incorporated my CAPM results into my recommended ROE for CenterPoint Houston because there is not sufficient Commission precedent to support a finding that a ROE of 8.20% will allow CenterPoint Houston a reasonable opportunity to earn a reasonable return on its investment. However, my CAPM results serve as a

[63] Mr. Hevert's CAPM results are significantly higher due to his use of long-term growth estimates of 10.94% and 12.32%. In comparison, the FOMC Monetary Report projects long-term growth for the U.S. GDP at 3.7% to 4.2%.

qualitative check that shows that a reduced ROE for CenterPoint Houston, below its requested ROE of 10.40%, is appropriate given the continued low interest rate environment.

D. Cost of Equity Recommendation

Q. WHAT IS YOUR COST OF EQUITY RECOMMENDATION?

A. I recommend an ROE of 9.15% for CenterPoint Houston. My ROE recommendation includes my consideration of the TCJA's effects and CenterPoint Houston's low business and operating risk as a T&D utility in Texas. The results of my analyses are summarized in the table below:

Table 4: Summary of OPUC's ROE Results

Methodology	Range
Discounted Cash Flow	6.76%-9.92%
Bond Yield Plus Risk Premium	8.98%-9.04%

My recommended ROE reflects current market conditions, including the conclusion that 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. Given these considerations, I believe that 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.

V. COST OF CAPITAL

A. Capital Structure

Q. WHAT IS A CAPITAL STRUCTURE?

A. Capital structure is how a company finances its overall operations and growth by using different sources of funds. These sources include debt from bond issuances and/or long-term notes payable, equity classified as common stock, preferred stock (if any), and retained earnings. Capital structure is part of the WACC or overall rate of return calculation because it determines the capitalized percentages of a company's debt and equity.[64]

Q. WHAT IS CENTERPOINT HOUSTON'S CURRENT CAPITAL STRUCTURE?

A. In CenterPoint Houston's most recent base rate case, Docket No. 38339, the Commission approved a capital structure of 55% debt and 45% equity. The Commission found the following:

> 67. The appropriate capital structure for CenterPoint is 55% long-term debt and 45% common equity.
>
> 68. A capital structure composed of 55% debt and 45% equity is reasonable in light of CenterPoint's business and regulatory risks.
>
> 69. A capital structure composed of 55% debt and 45% equity will help CenterPoint attract capital from investors.[65]

Q. IS CENTERPOINT HOUSTON PROPOSING TO CHANGE ITS CAPITAL STRUCTURE?

A. Yes. CenterPoint Houston is requesting a capital structure of 50% debt and 50% equity.

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[64] *See* Table 1 and Table 5 to this testimony.

[65] *Application of CenterPoint Energy Houston Electric, LLC for Authority to Change Rates*, Docket No. 38339, Findings of Fact Nos. 67-69. (Jun. 23, 2011).

Q. WHAT IS CENTERPOINT HOUSTON'S BASIS FOR THE REQUESTED CAPITAL STRUCTURE CHANGE?

A. CenterPoint Houston states that it is requesting the change due to expected capital expenditures over the next five years, TCJA effects, potential hurricane damage, and regulatory risk.

Q. DO YOU AGREE WITH CENTERPOINT HOUSTON'S REQUESTED CAPITAL STRUCTURE CHANGE?

A. No. CenterPoint Houston witness Robert B. McRae admits that the current Commission-approved 55/45 debt-to-equity ratio capital structure helped improve CenterPoint Houston's credit metrics.[66] In fact, the Moody's issuer rating for CenterPoint Houston before Docket No. 38339 was Baa3, which is only one notch above "junk-bond" status. The S&P issuer rating for CenterPoint Houston was BBB, which is only two notches above "junk-bond" status.[67] Currently, with the 55/45 debt-to-equity ratio capital structure approved by the Commission in Docket No. 38339, CenterPoint Houston has an issuer rating of A- from Fitch, A3 from Moody's, and BBB+ from S&P.[68]

The improved credit rating has allowed CenterPoint Houston to issue long-term debt since 2012 totaling approximately $2.4 billion.[69] Even after the TCJA took effect, CenterPoint Houston was able to issue $400 million in long-term debt at a 3.95% interest

[66] Direct Testimony of Robert B. McRae at 12 (Apr. 5, 2019).

[67] *Id.*

[68] *Id.* at 11.

[69] Application at Schedule II-C-2.4.

rate.[70] As discussed above, in Section III.C. of my testimony, the TCJA impacts are expected to have a temporary effect on electric utility companies

Q. WHAT IS YOUR RECOMMENDED CAPITAL STRUCTURE FOR CENTERPOINT HOUSTON?

A. I recommend a capital structure of 54.5% debt and 45.5% equity. This capital structure differs only slightly from the capital structure that was approved by the Commission in Docket No. 38339 and reflects the current book values found in Schedule II-C-2.1 of the Company's rate filing package. As discussed earlier in my testimony, the credit rating agencies view the effects of the TCJA on electric utilities as a short-term negative but longer-term positive. CenterPoint Houston's recent new debt issuance after the effective date of the TCJA demonstrates that it has continued to have access to debt at lower interest rates.[71]

My recommended 54.5%/45.5% debt-to-equity ratio capital structure reflects a reasonably prudent balance sheet during this period of low-cost debt. CenterPoint Houston will continue to be able to attract financial capital on reasonable terms using this recommended capital structure. 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.

[70] *Id.*

[71] *Id.*

B. Weighted Average Cost of Capital

Q. WHEN CALCULATING CENTERPOINT HOUSTON'S WACC, DID YOU MAKE ANY ADJUSTMENTS TO THE COMPANY'S COST OF DEBT?

A. No. I did not make any adjustments. I am using CenterPoint Houston's calculated long-term cost of debt of 4.38% in my WACC calculation.

Q. WHAT IS YOUR RECOMMENDED WACC?

A. I recommend a WACC of 6.55%. I calculated the WACC by using my recommended 9.15% cost of equity and 4.38% cost of debt, and then, I weighed them using my recommended 54.5/45.5 debt-to-equity ratio capital structure. My results are summarized in the table below:

Table 5: OPUC's Recommended Overall Rate of Return

	% of Capitalization	Cost	Weighted Cost
Long-Term Debt	54.5%	4.38%	2.39%
Common Equity	45.5%	9.15%	4.16%
TOTAL			**6.55%**

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I recommend an overall rate of return of 6.55% for CenterPoint Houston based on an ROE of 9.15%, long-term cost of debt of 4.38%, and a capital structure of 54.5% long-term debt and 45.5% equity. The continued low interest rate environment, coupled with high stock valuations for regulated utility equities, means that capital costs continue to be at relatively low levels. Since regulated utilities also offer relatively safe and stable dividend yields, utility stocks continue to be attractive to investors that are looking for income and defensive characteristics. My recommended ROE of 9.15% is based on the

results from my constant-growth DCF model and bond yield plus risk premium model, with confirmation from the results of my CAPM analysis. My analysis results in a fair and reasonable ROE that is based on observable market conditions and will enable CenterPoint Houston to continue to provide safe and reliable service, attract invested capital on reasonable terms, and maintain its financial integrity.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

ATTACHMENTS

Education and Experience of Anjuli Winker

Education

Master of Business Administration, Finance - 2006
The University of North Texas

Bachelor of Science, Electrical Engineering – 2001
The University of Texas at Austin

Employment History

Financial Analyst

Office of Public Utility Counsel

January 2017- present

Financial Analyst

Public Utility Commission of Texas

May 2008-January 2017

Tax Examiner

Internal Revenue Service

February 2007-2009

Legal Assistant

Law Office of Virginia L. Winker

January 2004-February 2007

Network Attached Storage and Current Storage Development Engineering

Dell Products, LP

June 2001-March 2003

Student Computer Lab Network Technician and Proctor

The University of Texas at Austin

January 1998-May 2001

List of Testimonies by Anjuli Winker

Docket No.	Utility	Application Title
36411	Kelson Transmission Company, LLC	Application of Kelson Transmission Company, LLC for a Certificate of Convenience and Necessity for the Proposed Cedar-Bayou-to-Deweyville 345 kV Transmission Line with in Chambers, Hardin, Jasper, Jefferson, Liberty, Newton and Orange Counties.
40020	Lone Star Transmission, LLC	Application od Lone Star Transmission, LLC for Authority to Establish Interim and Final Rates and Tariffs
40604	Cross Texas Transmission, LLC	Application of Cross Texas Transmission, LLC to Establish Initial Rates and Tariffs
41430	Sharyland Utilities, L.P., Sharyland Distribution & Transmission Services, L.L.C., and Southwestern Public Service Company	Joint Report and Application of Sharyland Utilities, L.P., Sharyland Distribution & Transmission Services, L.L.C., and Southwestern Public Service Company for approval of Purchase and Sale of Facilities, for Approval of Regulatory Accounting Treatment of Gain on Sale and for Transfer of Certificate Rights.
41791	Entergy Texas, Inc.	Application of Entergy Texas, Inc. for Authority to Change Rates and Reconcile Fuel Costs.
43695	Southwestern Public Service Company	Application of Southwestern Public Service Company for Authority to Change Rates.
43950	Cross Texas Transmission, LLC	Application of Cross Texas Transmission, LLC to for Authority to Change Rates and Tariffs.
44941	El Paso Electric Company	Application of El Paso Electric Company to Change Rates.
45083	Entergy Texas, Inc.	Application of Entergy Texas, Inc. for Approval to Amend its Distribution Cost Recovery Factor.
45524	Southwestern Public Service Company	Application of Southwestern Public Service Company for Authority to Change Rates.
45712	Southwestern Electric Power Company	Application of Southwestern Electric Power Company for approval of a Distribution Cost Recovery Factor
45787	AEP Texas Central Company	Application of AEP Texas Central Company for Approval to Amend its Distribution Cost Recovery Factor
46050	AEP Texas Central Company AEP Texas North Company AEP Utilities	Application of AEP Texas Central Company, AEP Texas North Company, and AEP Utilities, Inc. for Approval of Merger
45414	Sharyland Utilities, LP	Review of the Rates of Sharyland Utilities, LP, Establishment of Rates for Sharyland Distribution & Transmission Services, LLC, and Request for Grant of a Certificate of Convenience and Necessity and Transfer of Certificate Rights

46245	Liberty Utilities (Woodmark Sewer) Corp., Liberty Utilities (Tall Timbers Sewer) Corp. and Liberty Utilities (Sub) Corp.	Application of Liberty Utilities (Woodmark Sewer) Corp., Liberty Utilities (Tall Timber Sewer) Corp., AND Liberty Utilities (Sub) Corp. to Change Rates for Sewer Services in Smith County, Texas
46831	El Paso Electric Company	Application of El Paso Electric Company to Change Rates
47032	Centerpoint Energy Houston Electric, LLC	Application of Centerpoint Energy Houston Electric, LLC for Approval to Amend its Distribution Cost Recovery Factor
48401	Texas-New Mexico Power Company	Application of Texas-New Mexico Power Company for Authority to Change Rates

SCHEDULES

PROXY GROUP FINANCIAL DATA

Electric Utility	Ticker	5 Year Historical Growth In Earnings - %	5 Year Historical Growth In Dividends -%	5 Year Historical Growth In Book Value - %	10 Year Historical Growth In Earnings - %	10 Year Historical Growth In Dividends - %	10 Year Historical Growth In Book Value - %	5 Year Projected Growth In Earnings - %	5 Year Projected Growth In Dividends - %	5 Year Projected Growth In Book Value - %	2020 Projected Earnings Per Share	2020 Projected Dividend Per Share	2020 Projected Book Value Per Share	2019 High/Low Stock Price	2019 High/Low & 05/03/19 Yahoo Closing Stock Price	2020 Dividend Yield with 2019 High/Low Stock Price	2020 Dividend Yield with 2019 High/Low & 05/03/19 Yahoo Closing Stock Price	2020 BR Growth Rate	2022-2024 Projected Earnings Per Share	2022-2024 Projected Dividend Per Share	2022-2024 Projected Book Value Per Share	5 Year Projected BR Growth Rate
Alliant Energy Corporation	LNT	4.5%	7.0%	4.5%	4.5%	7.5%	4.0%	6.5%	6.0%	5.0%	$ 2.40	$ 1.50	$ 23.05	$ 43.55	$ 45.39	3.44%	3.31%	3.90%	$ 2.80	$ 1.74	$ 27.55	3.85%
Ameren Corporation	AEE	4.5%	2.5%	0.5%	0.5%			6.5%	6.0%	5.0%	$ 3.50	$ 2.06	$ 34.75	$ 67.75	$ 70.35	3.04%	2.93%	4.14%	$ 4.25	$ 2.55	$ 40.25	4.22%
Avangrid Inc.	AGR							10.0%	3.0%	2.0%	$ 2.50	$ 1.82	$ 50.05	$ 50.15	$ 50.52	3.63%	3.60%	1.36%	$ 3.25	$ 2.10	$ 53.00	2.17%
Black Hills Corporation	BKH	11.0%	4.0%	3.0%	6.5%	3.0%	2.5%	6.0%	6.5%	5.5%	$ 3.60	$ 2.17	$ 39.90	$ 67.80	$ 71.15	3.20%	3.05%	3.58%	$ 4.50	$ 2.60	$ 45.00	4.22%
CMS Energy Corporation	CMS	7.0%	7.0%	5.5%	10.0%	21.5%	4.5%	7.0%	7.0%	7.5%	$ 2.70	$ 1.64	$ 19.35	$ 51.30	$ 53.28	3.20%	3.08%	5.48%	$ 3.25	$ 2.00	$ 24.50	5.10%
Consolidated Edison, Inc.	ED	2.0%	2.5%	4.0%	2.5%	2.0%	4.0%	3.0%	3.5%	3.0%	$ 4.45	$ 3.06	$ 54.50	$ 79.90	$ 82.97	3.83%	3.69%	2.55%	$ 5.00	$ 3.40	$ 59.75	2.68%
DTE Energy Company	DTE	8.0%	6.5%	4.5%	8.0%	4.5%	4.0%	5.0%	6.0%	5.5%	$ 6.55	$ 4.07	$ 64.25	$ 115.55	$ 120.39	3.52%	3.38%	3.86%	$ 7.50	$ 4.80	$ 73.50	3.67%
Duke Energy Corporation	DUK	0.5%	3.0%	1.5%	2.5%	7.0%	1.0%	6.0%	3.0%	2.5%	$ 5.20	$ 3.83	$ 63.20	$ 87.10	$ 88.63	4.40%	4.32%	2.17%	$ 5.75	$ 4.15	$ 68.50	2.34%
El Paso Electric Company	EE		8.0%	5.5%	4.0%		7.0%	4.5%	6.5%	4.0%	$ 2.60	$ 1.62	$ 32.55	$ 54.40	$ 57.89	2.98%	2.80%	3.01%	$ 3.00	$ 1.95	$ 35.25	2.98%
Evergy, Inc.	EVRG										$ 3.20	$ 2.08	$ 38.10	$ 57.25	$ 57.43	3.63%	3.62%	2.94%	$ 3.50	$ 2.50	$ 41.50	2.41%
Eversource Energy	ES	7.0%	8.0%	5.0%	8.0%	9.5%	6.5%	5.5%	5.5%	5.0%	$ 3.65	$ 2.26	$ 39.50	$ 68.20	$ 70.14	3.31%	3.22%	3.52%	$ 4.25	$ 2.65	$ 46.75	3.42%
Hawaiian Electric Industries, Inc.	HE	4.0%		3.5%	5.0%		3.0%	4.5%	3.0%	4.0%	$ 2.10	$ 1.32	$ 21.45	$ 38.40	$ 40.02	3.44%	3.30%	3.64%	$ 2.50	$ 1.50	$ 24.50	4.08%
NorthWestern Corporation	NWE	7.0%	7.0%	8.0%	8.5%	5.0%	5.5%	3.0%	4.5%	3.0%	$ 3.60	$ 2.40	$ 40.80	$ 64.55	$ 67.66	3.72%	3.55%	2.94%	$ 4.00	$ 2.70	$ 44.00	2.95%
OGE Energy Corp.	OGE	1.0%	9.5%	6.0%	4.0%	6.5%	7.5%	6.5%	7.5%	3.5%	$ 2.25	$ 1.65	$ 21.30	$ 40.45	$ 41.03	4.08%	4.02%	2.82%	$ 2.75	$ 1.95	$ 23.50	3.40%
Otter Tail Corporation	OTTR	14.0%	1.5%	3.5%	2.0%	1.0%		5.0%	4.0%	4.5%	$ 2.25	$ 1.46	$ 20.20	$ 48.45	$ 50.41	3.01%	2.90%	3.91%	$ 2.50	$ 1.65	$ 23.25	3.66%
Pinnacle West Capital Corporation	PNW	5.0%	3.0%	4.5%	4.5%	2.5%	2.5%	5.0%	6.0%	3.5%	$ 5.10	$ 3.22	$ 50.00	$ 89.45	$ 91.79	3.60%	3.51%	3.76%	$ 5.75	$ 3.80	$ 55.50	3.51%
PNM Resources, Inc.	PNM	6.0%	11.0%	1.0%	7.0%	2.5%		8.5%	7.0%	4.5%	$ 2.25	$ 1.24	$ 23.30	$ 43.80	$ 45.45	2.83%	2.73%	4.33%	$ 2.75	$ 1.50	$ 27.50	4.55%
Portland General Electric Company	POR	4.0%	4.5%	3.5%	3.5%	4 5%	2.5%	4.5%	6.5%	3.0%	$ 2.55	$ 1.62	$ 29.90	$ 48.30	$ 50.40	3.35%	3.21%	3.11%	$ 3.00	$ 1.95	$ 32.75	3.21%
WEC Energy Group, Inc.	WEC	6.0%	11.0%	10.5%	8.5%	15.5%	8.5%	6.0%	6.0%	3.5%	$ 3.70	$ 2.50	$ 33.05	$ 71.95	$ 75.13	3.47%	3.33%	3.63%	$ 4.50	$ 3.00	$ 36.75	4.08%
Xcel Energy Inc.	XEL	5.0%	6.0%	4.5%	5.5%	4.5%	4.5%	5.5%	6.0%	4.5%	$ 2.75	$ 1.72	$ 25.95	$ 52.60	$ 54.59	3.27%	3.15%	3.97%	$ 3.25	$ 2.05	$ 29.50	4.07%
AVERAGE		5.68%	6.00%	4.39%	5.28%	6.47%	4.50%	5.71%	5.45%	4.16%	$ 3.35	$ 2.16	$ 36.26	$ 62.05	$ 64.23	3.45%	3.33%	3.43%	$ 3.90	$ 2.53	$ 40.64	3.53%

Sources: Value Line Investment Survey,March 15, April 26 and May 17, 2019, and Yahoo Finance

DIVIDEND YIELD CALCULATIONS
2018 High/Low Stock Price

Proxy Group Company	Ticker	2020 Projected Dividend Per Share	2019 High/Low Stock Price	2020 Dividend Yield with 2019 High/Low Stock Price	05/03/19 Yahoo Closing Stock Price	2019 High/Low & 05/03/19 Yahoo Closing Stock Price	2020Dividend Yield with 2019 High/Low & 05/03/19 Yahoo Closing Stock Price
Alliant Energy Corporation	LNT	$ 1.50	$ 43.55	3.44%	$ 47.22	$ 45.39	3.31%
Ameren Corporation	AEE	$ 2.06	$ 67.75	3.04%	$ 72.95	$ 70.35	2.93%
Avangrid Inc.	AGR	$ 1.82	$ 50.15	3.63%	$ 50.88	$ 50.52	3.60%
Black Hills Corporation	BKH	$ 2.17	$ 67.80	3.20%	$ 74.49	$ 71.15	3.05%
CMS Energy Corporation	CMS	$ 1.64	$ 51.30	3.20%	$ 55.26	$ 53.28	3.08%
Consolidated Edison, Inc.	ED	$ 3.06	$ 79.90	3.83%	$ 86.03	$ 82.97	3.69%
DTE Energy Company	DTE	$ 4.07	$ 115.55	3.52%	$ 125.22	$ 120.39	3.38%
Duke Energy Corporation	DUK	$ 3.83	$ 87.10	4.40%	$ 90.16	$ 88.63	4.32%
El Paso Electric Company	EE	$ 1.62	$ 54.40	2.98%	$ 61.37	$ 57.89	2.80%
Evergy, Inc.	EVRG	$ 2.08	$ 57.25	3.63%	$ 57.60	$ 57.43	3.62%
Eversource Energy	ES	$ 2.26	$ 68.20	3.31%	$ 72.08	$ 70.14	3.22%
Hawaiian Electric Industries, Inc.	HE	$ 1.32	$ 38.40	3.44%	$ 41.63	$ 40.02	3.30%
NorthWestern Corporation	NWE	$ 2.40	$ 64.55	3.72%	$ 70.76	$ 67.66	3.55%
OGE Energy Corp.	OGE	$ 1.65	$ 40.45	4.08%	$ 41.61	$ 41.03	4.02%
Otter Tail Corporation	OTTR	$ 1.46	$ 48.45	3.01%	$ 52.36	$ 50.41	2.90%
Pinnacle West Capital Corporation	PNW	$ 3.22	$ 89.45	3.60%	$ 94.12	$ 91.79	3.51%
PNM Resources, Inc.	PNM	$ 1.24	$ 43.80	2.83%	$ 47.10	$ 45.45	2.73%
Portland General Electric Company	POR	$ 1.62	$ 48.30	3.35%	$ 52.49	$ 50.40	3.21%
WEC Energy Group, Inc.	WEC	$ 2.50	$ 71.95	3.47%	$ 78.31	$ 75.13	3.33%
Xcel Energy Inc.	XEL	$ 1.72	$ 52.60	3.27%	$ 56.58	$ 54.59	3.15%

Sources: Value Line Investment Survey,March 15, April 26 and May 17, 2019, and Yahoo Finance

GROWTH RATES FOR PROXY GROUP

Average Historical Growth

5-year Historical Growth in Earnings	5.68%
5-year Historical Growth in Dividends	6.00%
5-year Historical Growth in Book Value	4.39%
10-year Historical Growth in Earnings	5.28%
10-year Historical Growth in Dividends	6.47%
10-year Historical Growth in Book Value	4.50%

Projected Growth

5-year Projected Growth in Earnings	5.71%
5-year Projected Growth in Dividends	5.45%
5-year Projected Growth in Book Value	4.16%
2020 BR Retained Earnings Growth Rate	3.43%
5-year Projected BR Retained Earnings Growth Rate	3.53%

BOND YIELD PLUS RISK PREMIUM

Rate Case Year	Electric Utility Average Authorized ROE [1]	Moody's Average Public Utility Bond Yields[2]	Risk Premium
2000	11.58%	8.22%	3.36%
2001	11.07%	7.79%	3.28%
2002	11.21%	7.53%	3.68%
2003	10.96%	6.61%	4.35%
2004	10.81%	6.20%	4.61%
2005	10.51%	5.67%	4.84%
2006	10.34%	6.07%	4.27%
2007	10.31%	6.12%	4.20%
2008	10.37%	6.65%	3.72%
2009	10.52%	6.28%	4.24%
2010	10.29%	5.55%	4.74%
2011	10.19%	5.13%	5.06%
2012	10.01%	4.27%	5.74%
2013	9.81%	4.57%	5.24%
2014	9.75%	4.42%	5.33%
2015	9.60%	4.38%	5.22%
2016	9.60%	4.11%	5.49%
2017	9.68%	4.07%	5.61%
2018	9.55%	4.34%	5.21%
Average			**4.64%**

Sources:
1 Hevert Direct, Exhibit RBH 5

[2] *Mergent Bond Record*, data from January 2006, January 2012 and January 2019 issues.

CAPITAL ASSET PRICING MODEL
Estimated Cost of Equity

Company	Risk-free Rate[1]	ValueLine Beta	Market Risk Premium	CAPM Cost of Equity
Alliant Energy Corporation	2.98%	0.65	0.087	8.64%
Ameren Corporation	2.98%	0.60	0.087	8.20%
Avangrid Inc.	2.98%	0.40	0.087	6.46%
Black Hills Corporation	2.98%	0.80	0.087	9.94%
CMS Energy Corporation	2.98%	0.55	0.087	7.77%
Consolidated Edison, Inc.	2.98%	0.45	0.087	6.90%
DTE Energy Company	2.98%	0.55	0.087	7.77%
Duke Energy Corporation	2.98%	0.50	0.087	7.33%
El Paso Electric Company	2.98%	0.70	0.087	9.07%
Eversource Energy	2.98%	0.60	0.087	8.20%
Hawaiian Electric Industries, Inc.	2.98%	0.60	0.087	8.20%
NorthWestern Corporation	2.98%	0.60	0.087	8.20%
OGE Energy Corp.	2.98%	0.85	0.087	10.38%
Otter Tail Corporation	2.98%	0.70	0.087	10.38%
Pinnacle West Capital Corporation	2.98%	0.55	0.087	9.07%
PNM Resources, Inc.	2.98%	0.65	0.087	7.77%
Portland General Electric Company	2.98%	0.60	0.087	8.64%
WEC Energy Group, Inc.	2.98%	0.55	0.087	7.77%
Xcel Energy Inc.	2.98%	0.50	0.087	7.33%
	2.98%	0.60	0.087	**8.20%**

* Evergy, Inc. was not included in the calculation because ValueLine did not have data for the company.

U.S. Department of the Treasury

Date	Treasury 30-Yr
2/1/2019	3.03
2/4/2019	3.06
2/5/2019	3.03
2/6/2019	3.03
2/7/2019	3
2/8/2019	2.97
2/11/2019	3
2/12/2019	3.02
2/13/2019	3.04
2/14/2019	3.01
2/15/2019	3
2/19/2019	2.99
2/20/2019	3
2/21/2019	3.05
2/22/2019	3.02
2/25/2019	3.03
2/26/2019	3.01
2/27/2019	3.07
2/28/2019	3.09
Feb. Avg.	**3.02%**

Date	Treasury 30-Yr
3/1/2019	3.13
3/4/2019	3.09
3/5/2019	3.08
3/6/2019	3.06
3/7/2019	3.03
3/8/2019	3
3/11/2019	3.03
3/12/2019	3
3/13/2019	3.02
3/14/2019	3.04
3/15/2019	3.02
3/18/2019	3.01
3/19/2019	3.02
3/20/2019	2.98
3/21/2019	2.96
3/22/2019	2.88
3/25/2019	2.87
3/26/2019	2.86
3/27/2019	2.83
3/28/2019	2.81
3/29/2019	2.81
Mar. Avg	**2.98%**

Date	Treasury 30-Yr
4/1/2019	2.89
4/2/2019	2.88
4/3/2019	2.93
4/4/2019	2.92
4/5/2019	2.91
4/8/2019	2.93
4/9/2019	2.92
4/10/2019	2.9
4/11/2019	2.94
4/12/2019	2.97
4/15/2019	2.96
4/16/2019	2.99
4/17/2019	2.99
4/18/2019	2.96
4/22/2019	2.99
4/23/2019	2.98
4/24/2019	2.94
4/25/2019	2.94
4/26/2019	2.92
4/29/2019	2.96
4/30/2019	2.93
Apr. Avg.	**2.94%**

3-Mo Avg	**2.98%**

https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2017