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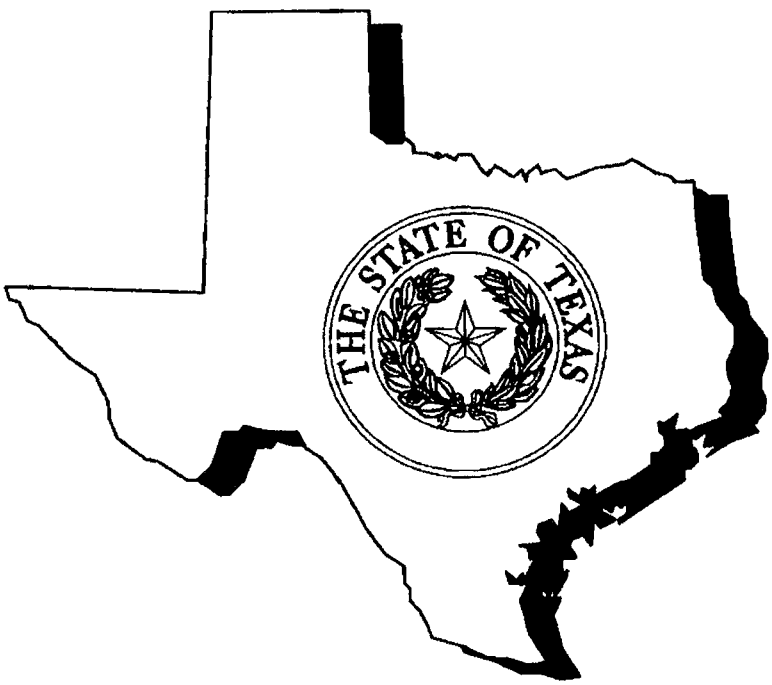
APPLICATION OF SOUTHWESTERN ELECTRIC POWER COMPANY FOR AUTHORITY TO CHANGE RATES	§ § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS



REVENUE REQUIREMENT PHASE

DIRECT TESTIMONY OF

MARK FILAROWICZ

RATE REGULATION DIVISION

PUBLIC UTILITY COMMISSION OF TEXAS

APRIL 7, 2021

338

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1 **I. STATEMENT OF QUALIFICATIONS**

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

3 A. My name is Mark Filarowicz. My business address is 1701 North Congress Avenue,
4 Austin, Texas.

5 **Q. By whom are you employed and in what position?**

6 A. I am employed by the Public Utility Commission of Texas (Commission) as a Senior
7 Financial and Accounting Analyst in the Rate Regulation Division.

8 **Q. What are your principal responsibilities as a Senior Financial and Accounting**
9 **Analyst for the Public Utility Commission?**

10 A. My responsibilities include testifying as an expert witness on accounting and financial
11 matters in rate cases and other applications filed with the Commission and participating
12 in the overall examination, review, and analysis of such applications. My responsibilities
13 also include leading and participating in Commission rulemakings.

14 **Q. Please describe your professional and educational background.**

15 A. In December 2003, I graduated *summa cum laude* from the University of Texas at Austin
16 with a Bachelor of Science degree in Actuarial Mathematics and a Bachelor of Arts degree
17 in Philosophy.

18 I am licensed as a Certified Public Accountant (CPA) in the State of Texas. I have
19 worked in various aspects of governmental and regulatory accounting for approximately
20 ten years.

21 I am a Chartered Financial Analyst (CFA) charterholder and a member of the CFA
22 Institute. The CFA charter is obtained after fulfillment of a relevant four-year work
23 experience requirement and successful completion of the three-part CFA Examination
24 (CFA Exam) over a minimum three-calendar-year period. The curriculum for the CFA
25 Exam is extensive and comprehensive; it covers a core body of knowledge fundamental

1 to the practice of investment management and includes the subjects of finance, economics,
2 statistics, accounting and financial reporting, equity, fixed income, alternative
3 investments, derivatives, asset allocation, behavioral finance, and ethical and professional
4 conduct.

5 From June 2009 to June 2015, I was employed by the Railroad Commission of
6 Texas in varying capacities as a legal assistant and researcher, as an accountant, and as a
7 budget analyst. In July 2015, I began employment with the Commission as a regulatory
8 accountant with duties similar to those in my current position.

9 **Q. Have you previously filed testimony in regulatory proceedings before the**
10 **Commission?**

11 A. Yes. Attachment MF-10 details the dockets in which I have filed direct testimony on
12 behalf of the public interest before the Commission. I have also filed memoranda and
13 otherwise participated in myriad other dockets and projects before the Commission.

14 **II. PURPOSE AND SCOPE OF TESTIMONY**

15 **Q. What is the purpose of your testimony in this proceeding?**

16 A. The first purpose of my testimony is to present Staff's financial recommendation
17 regarding a fair rate of return on invested capital for Southwestern Electric Power
18 Company (SWEPCO or the Company) in this proceeding. My recommendation reflects
19 my calculation of an estimated cost of equity for the Company, my analysis of the
20 Company's cost of debt, and my assessment of the reasonableness of the capital structure
21 that the Company requests the Commission use in calculating its authorized rate of return.
22 In the course of my testimony, I describe the bases and analytical techniques used in
23 developing recommendations for an electric utility's estimated cost of equity. Then, I
24 convert the cost of equity, cost of debt, and capital structure into the rate of return that I
25 recommend the Commission authorize SWEPCO to earn on its invested capital.

The second purpose of my testimony is to provide Staff's recommendation regarding necessary financial protections (commonly called "ring-fencing" provisions) to ensure that SWEPCO is protected from adverse financial impacts from its parent and sister companies and able to provide service at just and reasonable rates.

Q. What issues identified in the Preliminary Order does your testimony address?

A. The recommendation contained in my testimony pertains to the following issues from the Commission's Preliminary Order filed December 17, 2020,[1] for the Application:[2]

> 7. What is the appropriate debt-to-equity capital structure for SWEPCO?[3]
>
> 8. What is the appropriate overall rate of return, return on equity, and cost of debt for SWEPCO? When answering this issue, please address how the factors specified in PURA § 36.052 and 16 TAC § 25.231(c)(1) should affect SWEPCO's rate of return. [and][4]
>
> 9. Are any protections, such as financial protections, appropriate to protect the utility's financial integrity and ability to provide reliable service at just and reasonable rates?[5]

Q. Under what provisions of the Public Utility Regulatory Act (PURA) are you making your recommendation regarding financial protections?

A. PURA §§ 11.002 (Purpose and Findings) and 14.001 (Power to Regulate and Supervise) provide the bases for my recommendation regarding financial protections in this proceeding. PURA § 11.002 provides in subsections (a) and (b) that:

> (a) This title is enacted to protect the public interest inherent in the rates and services of public utilities. The purpose of this title is to establish a comprehensive and adequate regulatory system for public utilities to assure rates, operations, and services that are just and reasonable to the consumers and to the utilities.

[1] Preliminary Order (Dec. 17, 2020).

[2] Application of Southwestern Electric Power Company for Authority to Change Rates (Oct. 14, 2020) (Application).

[3] Preliminary Order at 6.

[4] *Id.*

[5] *Id.*

> (b) Public utilities traditionally are by definition monopolies in the areas they serve. As a result, the normal forces of competition that regulate prices in a free enterprise society do not operate. Public agencies regulate utility rates, operations, and services as a substitute for competition. [6]

PURA § 14.001 states that:

> The commission has the general power to *regulate and supervise* [emphasis added] the business of each public utility within its jurisdiction and to do anything specifically designated or implied by this title that is necessary and convenient to the exercise of that power and jurisdiction.[7]

From a financial perspective, the plain meaning of the above statutory provisions sets out and attests to the Commission's broad authority over the rates, operations, and services of the public utilities it regulates. Accordingly, I believe that, consistent with the implicit underpinnings of *Preliminary Order* question number 9, the Commission's ability to establish protective measures that help ensure a utility's financial integrity and that facilitate the utility's ability to provide reliable service at just and reasonable rates is, under any reasonable interpretation of the statutory language, a legitimate application of the Commission's general regulatory oversight function and its authority to "regulate and supervise."

Q. What documents and data did you review in arriving at the conclusions and recommendations contained in your testimony?

A. In preparing my testimony for this proceeding, I examined and analyzed the Application and the responses to various Requests for Information (RFIs) that SWEPCO provided during the discovery period. I also considered and analyzed data from financial resources such as Standard and Poor's (S&P), Value Line Investment Survey (Value Line), Zacks

[6] Public Utility Regulatory Act, Tex. Util. Code Ann. § 11.002 (PURA)

[7] PURA § 14.001.

Investment Service (Zacks), and S&P Global Market Intelligence (S&P Global) (formerly SNL Financial).

III. BACKGROUND

Q. Please briefly describe SWEPCO.

A. SWEPCO is a fully integrated electric utility that provides generation, transmission, and distribution services in the state of Texas and other states. SWEPCO is a wholly owned subsidiary of American Electric Power Company, Inc. (AEP).

IV. SUMMARY OF RECOMMENDATION ON RATE OF RETURN

Q. Please summarize your recommendations in this docket with respect to the rate of return on invested capital.

A. The conclusions I have reached and the recommendations I suggest regarding rate of return on invested capital in this docket are as follows:

- The cost of equity for SWEPCO is in the range of 9.05% to 9.35%, as calculated using discounted cash flow (DCF) analyses and equity risk premium models. The point estimate for my recommended return on equity (ROE) for SWEPCO is 9.35%. My recommended point estimate, which lies at the upper end of my range, incorporates considerations for SWEPCO's business holistically. Staff witness John Poole sponsors an adjustment to ROE that results in a 12.5 basis point adjustment. Therefore, Staff's final recommendation on ROE is 9.225%.

- SWEPCO's actual cost of debt in the test year was 4.18%. I recommend removing from the calculation of SWEPCO's cost of debt the annual amortization of a Series I Hedge Loss from February 2012 because SWEPCO's ratepayers have already paid for the loss and it will be fully amortized by January of next year. I recommend the Commission approve a 4.08% cost of debt for SWEPCO.

- SWEPCO requests a capital structure for rate-setting purposes that consists of 50.63% long-term debt and 49.37% equity. The requested capital structure is very close to SWEPCO's actual capital at the end of the test year, which SWEPCO adjusts for known and measurable changes. I recommend that the Commission adopt SWEPCO's requested regulatory capital structure for rate-setting purposes.

- The weighted-average cost of capital and recommended overall rate of return for the Company is 6.62%. Attachment MF-1 presents the calculation of this value from the recommended capital structure and the component costs of capital.

V. COST OF EQUITY

A. PRINCIPLES UNDERLYING THE COST OF EQUITY

Q. Please provide your understanding of the legal guidelines for the determination of the cost of equity.

A. The general framework for evaluating the cost of equity for regulated utilities is based on two decisions of the U.S. Supreme Court. In the decision for *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia* (*Bluefield*),[8] 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.[9]

This decision established financial integrity and capital attraction as standards to be met in setting the rate of return. In the decision for *Federal Power Commission v. Hope Natural Gas Co.* (*Hope*),[10] the Court stated:

> . . . [T]he 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.[11]

---

[8] *Bluefield Waterworks & Imp. Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679 (1923).

[9] *Id.* at 693.

[10] *Fed. Power Comm'n v. Hope Nat. Gas Co.*, 320 U.S. 591 (1944).

[11] *Id.* at 603.

1 This decision reinforced the standards of financial integrity and capital attraction, and it
2 further established the standard of setting a return on equity that is commensurate with the
3 risks faced by the equity investor. From a financial perspective, investors in a utility must
4 be given the opportunity to recover their reasonable capital costs, including a reasonable
5 return on equity.

6 **Q. Did these court decisions address the specific methods by which the return on equity**
7 **should be determined?**

8 A. No. Although these court decisions were helpful in establishing a general framework for
9 evaluation, they failed to specify particular methods to achieve this objective.
10 Consequently, analysts use various techniques in determining the cost of equity. These
11 techniques continue to evolve as new financial theories are advanced and the
12 understanding of capital markets improves.

13 **Q. What ultimately determines required returns on equity?**

14 A. Ultimately, capital markets determine the required return on equity for an electric utility
15 or any publicly traded company. Through the interaction of the buyers and sellers of a
16 company's common stock, the company's equity cost, i.e., the required return on equity,
17 is established. Given the market price for a share of common stock, a financial analyst
18 desiring to measure the cost of equity must accurately assess the sum of all investor
19 expectations for the company in question, or for a group of comparable companies, or for
20 both. Data generated by stock exchanges and the opinions of investment advisors are
21 important considerations in making these assessments.

1 **Q. Should variation be expected among analysts in their estimates of the cost of equity?**

2 A. Yes. Because estimating the cost of equity involves subjective opinion at various stages
3 of the analysis, there is no single infallible approach that is appropriate in all
4 circumstances. The opinions of experts can differ widely on many factors relevant to the
5 cost of equity, such as basic assumptions about risk, economic conditions, and investor
6 expectations. Variations in the chosen approaches, and even in the application of the same
7 approach by different analysts, are commonplace and can be expected. To rely solely on
8 one approach for all companies under all market conditions and economic environments
9 would be inappropriate. The results of various methods, however, should generally be
10 close to each other or their estimates should have overlapping ranges.

11 **Q. Should variation be expected among models and the inputs used in those models?**

12 A. Yes. Certain financial models have a long tenure with regard to utility financial analysis.
13 It is common, however, for rate-of-return witnesses to employ different specific models,
14 and it is even more common for inputs used in the models to vary between rate-of-return
15 witnesses.

16 As a general matter, an input to a financial model should be judged on how it
17 functions within the operations of the overall model, and not on its own outside the context
18 of the model in which it is used. A model, moreover, should be judged by its holistic
19 mechanics and the reasonableness of the results that it yields, not by any individual inputs.

1 **Q. What models and techniques did you use to estimate the cost of equity for the**
2 **Company?**
3 A. I used four approaches to estimate a cost of equity for SWEPCO. Two are DCF
4 approaches and two are risk-premium approaches.
5 The DCF methodology determines the price of a stock by estimating the value of
6 future cash flows that the stock will produce for its owners. I discuss this method and its
7 application in the analysis in Part C of this section of my testimony.
8 The conventional risk premium approach that I use in my testimony relies on the
9 historical relationship between two indices. A value, which is unknown in a particular
10 period, for one of the indices is forecasted using its historical relationship to the other
11 index, where the value for that same period is known. I discuss this approach, as well as
12 the Capital Asset Pricing Model (CAPM), in Part D of this section of my testimony.
13 Use of the DCF methods and risk-premium methods is well-established at this
14 Commission, and these methods have been relied upon in rate-case decisions for at least
15 the last three decades.

16 **B. COMPARABLE COMPANY ANALYSIS**
17 **Q. What is the purpose of a comparable company analysis?**
18 A. The objective of a comparable company analysis is to estimate the cost of equity for a
19 target company by estimating the costs of equity for companies with similar risk
20 characteristics. Cash flows are subject to the influence of many factors, not all of which
21 may be identified. The use of multiple proxy companies in determining the target
22 company's cost of equity mitigates the influence of unknown factors by spreading them
23 over the several companies in the comparable company analysis.

1 **Q. Please describe the group of comparable companies you used to perform your cost**
2 **of equity analysis.**
3 A. I selected comparable companies for my analysis by starting with all the electric utility
4 companies on which Value Line reports in its *Ratings and Reports* publication and
5 selecting those companies as much like SWEPCO as possible without unreasonably
6 restricting their number. The more companies there are in the analysis, the more the
7 effects of an unexpected anomaly in one will be diluted by the rest; and, therefore, the
8 better the comparison to the target company will be. On the other hand, choosing less
9 stringent screening criteria to increase the number of comparable companies may result in
10 the selection of companies with characteristics unlike those of SWEPCO.

11 **Q. On what basis did you select your group of comparable companies?**
12 A. In selecting a group of companies that I think are appropriately comparable to SWEPCO,
13 I selected those electric utilities that:
14 • are followed by Value Line;
15 • have a current capital structure with a long-term debt proportion between
16 40% and 60%;
17 • have a positive (greater than 0%) long-term forecast of earnings growth
18 rate from Value Line and, if Zacks provides an estimate for long-term
19 earnings growth rate, have a positive (greater than 0%) long-term forecast
20 of earnings growth rate from Zacks;
21 • are covered by S&P; have an investment grade credit rating; and, if the
22 outlook is negative or if the utility has a negative credit watch, would not
23 lose investment grade rating if downgraded one notch in credit rating;

- have not had recent and do not have planned or expected potential merger activities or other major capital expansion or contraction, and have not had any major, recent extraordinary events that would affect overall financial condition;
- have not had recent dividend omissions or cuts; and
- are not otherwise considered inappropriate for being a proxy to target the cost of equity for SWEPCO.

Q. Please list the companies that met the screening criteria.

A. Listed below are the companies that met the screening criteria:

Ticker Symbol	Company
LNT	Alliant Energy
AEE	Ameren Corporation
AVA	Avista Corporation
BKH	Black Hills Corporation
ED	Consolidated Edison, Inc.
DTE	DTE Energy Company
DUK	Duke Energy Corporation
EIX	Edison International
EVRG	Evergy, Inc.
ES	Eversource Energy
FTS	Fortis Inc.
NEE	NextEra Energy, Inc.
NWE	NorthWestern Corporation
OGE	OGE Energy Corporation
OTTR	Otter Tail Corporation
PNW	Pinnacle West Capital Corporation
POR	Portland General Electric Company
PEG	Public Service Enterprise Group Incorporated

WEC	WEC Energy Group, Inc.
XEL	Xcel Energy

Q. Are these the same companies that constitute the comparable group that SWEPCO's witness Dylan D'Ascendis used for his analysis?

A. No. The group of companies that I believe are comparable to the Company is not the same as Mr. D'Ascendis's group of comparable companies, although there is some overlap.

Q. Would you expect that the composition of the comparable group would be the same for every rate-of-return witness in a utility rate case?

A. No. Differences in selection criteria will lead to different compositions of comparable groups. It is common in utility rate cases for the compositions of rate-of-return witnesses' comparable groups to differ.

C. DISCOUNTED CASH FLOW ANALYSIS

Q. Please explain the DCF methodology.

A. The DCF methodology derives from the Gordon dividend constant-growth model. In its original form, the Gordon dividend growth model is a tool used for determining the value of a share of common stock. The theory underlying the model holds that the price of a share is equal to the present value of all future dividends. It is expressed mathematically as follows:

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

where: P_o = current share price;

D_i = expected dividend in year i;

k = investors' required rate of return

n = year of expected share price realization

When the dividends are assumed to grow at a constant rate—*g*—the DCF is of the constant-growth variety and all future dividends can be expressed in terms of the current dividend, D_o, by the following equation:

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

Finally, if the discount rate or required rate of return—*k*—is assumed to be constant from year to year, and *k* is greater than *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 solve for 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. Are there variations of the constant-growth DCF model?

A. Yes. For conditions in which significantly different growth rates are expected over different periods of time, analysts often employ a multistage version of the DCF model. For example, the expected near-term growth of a given company may be significantly higher or lower than the expected sustainable growth rate. In these situations, it is appropriate to apply a multistage DCF model that incorporates the various growth rates expected over time.

Under the multistage DCF, the equation for the constant growth DCF is simply expanded to incorporate two or more growth-rate periods, with the assumption that a permanent constant growth rate can be estimated for some point in the future:

$$P_0 = \frac{D_0(1+g_1)}{(1+k)^1} + \frac{D_1(1+g_2)}{(1+k)^2} + \ldots + \frac{D_{(n-1)}(1+g_n)}{(1+k)^n}$$

where the variables are the same as in the equation in the previous question-and-answer, but there are more subscripts to indicate the different time periods to which the variables apply—e.g., g_1 represents the growth rate for the first period; D_2, the dividend rate for the second period; g_2 the growth rate for the second period; and so on. The "n" subscript represents however many periods are to be included (up to infinity).

Q. What prices did you use for your DCF analyses?

A. As shown on Attachment MF-3, I used stock prices that are an average of weekly prices over a recent 12-week period. The 12-week period is both long enough to smooth out

1 stock market fluctuations and provide an assessment of long-term expectations, and short
2 enough to capture the impact of current information on market perceptions of risk,
3 earnings growth, and dividend growth. Twelve weeks is a reasonable period of time to
4 balance capturing the benefits of both these goals.

5 **Q. What versions of the DCF model did you use in your analysis?**

6 A. I used both a single-stage version and a multistage version of the DCF model. In the
7 single-stage version, the stock's dividend growth is based on analysts' estimates of the
8 utility's earnings growth over the next five years. In the multistage version of the DCF
9 model, I used a two-stage growth approach. The first stage in this version covers five
10 years and uses the same analysts' estimates that I used in the single-stage version. The
11 second stage, which covers years six through 150, is based on a 5.13% projected long-
12 term growth in Gross Domestic Product (GDP), as discussed below.

13 **Q. Why did you use two versions of the DCF model?**

14 A. I used two versions of the DCF model because each model is reasonable in its own right
15 and therefore likely to be used by investors. By blending the two, I more closely
16 approximate the expectations of investors on average than if I were to use either one alone.

17 **Q. What are the key assumptions underlying the DCF model?**

18 A. The model rests on three principal assumptions. First, investors evaluate the expected risk
19 and expected cash flows of all securities in the capital markets and, through the trading
20 process, adjust the price of each security so that the expected return is commensurate with
21 the expected risk. Second, investors discount the expected cash flows at the same rate—
22 *k*—in every future period. Third, dividends, rather than earnings *per se*, constitute the

1 source of value for a share of stock. Absent a sale of the stock, dividends are the only
2 cash flows received by investors. The earnings of the company that issued the stock,
3 however, are critical because they make it possible to pay dividends, and the level of
4 earnings ultimately determines the level of growth in the company and the growth in
5 dividends over time.

6 **Q. Please describe the growth component of the DCF model.**

7 A. Because of the relationship between sustainable earnings growth and dividend growth, the
8 growth rate commonly used in the DCF is the earnings growth of the company whose cost
9 of equity is being estimated. Estimates of earnings growth are appropriate because the
10 issue is not the rate at which the firm will actually grow (which is primarily a function of
11 economic conditions, management ability, regulatory environment, etc.), but rather the
12 growth expectation that investors have embodied in the current price of the stock.

13 **Q. Is it possible to know what expected earnings growth rate is actually embodied in the**
14 **price of a stock?**

15 A. No. There is no objective way to precisely determine the growth rate expected by a
16 consensus of investors. No matter what technique is used, the best that can be said of any
17 estimate developed by a rate-of-return analyst is that it is a reasonable proxy for investors'
18 consensus expectations about growth.

19 **Q. What estimates for the growth expectations of investors did you use in your DCF**
20 **analyses?**

21 A. I relied upon Value Line and Zacks for the earnings growth rates in the single-stage DCF
22 model and the first stage of the multistage DCF model. I used Value Line because it is

one of the nation's largest independent investment research services, as well as a major money management institution,[12] and I included Zacks because it compiles consensus earnings forecasts from groups of professional security analysts.

For the second stage of the multistage DCF model, I used an expected long-run nominal growth rate of 5.13%, consisting of the 3.13% per year average real growth-rate of GDP for the period 1950 through 2020 as calculated from data reported by the U.S. Bureau of Economic Analysis,[13] and the 2.00% rate of inflation forecast by the Board of Governors of the Federal Reserve System in its most recent estimate.[14] These are widely disseminated data that are generally considered credible by investors.

Q. Why do you use a consensus forecast from professional security analysts rather than historical data as a proxy for investor expectations of growth?

A. There are several reasons why I use professional security analysts' forecasts instead of historical data. First, the cost of equity is a forward-looking concept, and security analysts use extensive and sophisticated financial models to forecast growth rates. To the extent that historical growth rates for dividends, earnings, and book values are relevant to future growth, they are already incorporated into these forecasts. In addition, other pertinent information—such as general economic projections and the impact of new legislation, regulatory actions, and technological advancements—is factored into the projections made by investment advisory firms, providing a more comprehensive estimate and reflecting a broader base of relevant information.

[12] About Value Line *accessible at* www.valueline.com/about/aboutvalueline.aspx (accessed Apr. 5, 2021).

[13] U.S. Bureau of Economic Analysis, Real Gross Domestic Product (GDPC1), retrieved from FRED, Federal Reserve Bank of St. Louis; *accessible at* https://fred.stlouisfed.org/series/GDPC1 (Feb. 10, 2021).

[14] Monetary Policy Report to the Congress, Board of Governors of the Federal Reserve System at 54 (Jun. 12, 2020).

1 Second, it is not plausible to assume that the large institutional investors who
2 dominate stock trading use valuation techniques based on the assumption that historical
3 trends in earnings and dividends will simply be repeated. These institutions pay
4 substantial amounts of money to investment services such as Value Line for information
5 that includes earnings forecasts. The substantial payment suggests that these investors
6 consider the information valuable and actually use it when making investment decisions.
7 Third, empirical academic research by authorities such as Dr. Myron Gordon, the
8 originator of the Gordon dividend growth model described earlier, has shown that
9 consensus forecasts from professional security analysts do a better job of predicting the
10 valuation of common stocks than mechanically derived forecasts from historical data.

11 **Q. What are the results of your DCF analyses?**

12 A. Attachment MF-4 shows recent stock price averages and forecasted dividends for
13 companies in the comparable group; these data feed into the single-stage DCF and
14 multistage DCF calculations in Attachment MF-5 and Attachment MF-6, respectively.
15 Attachment MF-5 includes a summary of the results of my single-stage DCF analysis.
16 Using the average of earnings growth rates projected by Value Line and, where applicable,
17 those projected by Zacks, the estimates for the unadjusted comparable companies yields
18 an average cost of equity of 8.97%, with a 75th percentile of 9.38%. The multistage DCF
19 yields a cost-of-equity estimate with an average of 8.85% and a 75th percentile of 9.31%,
20 as shown on Attachment MF-6.

21 **Q. Why do you use the 75th percentile results from your DCF in this proceeding?**

22 A. I use the 75th percentile result, instead of the median, from my DCF analyses in this
23 proceeding because, in my professional opinion, it is more appropriate given the current

1 market environment, the proxy group selected in this case, and the nature of SWEPCO's
2 operations. The continued low interest rate environment results in inputs to traditional
3 financial models that yield lower calculated ROEs. The nature of the low interest
4 environment convinces me both that SWEPCO's current cost of equity is generally low
5 and that using the 75th percentile result from the model is more appropriate in this docket.
6 In this instance, the 75th percentile results accord with recent trends in authorized ROEs
7 at this Commission and across the country.

8 **D. RISK-PREMIUM ESTIMATES OF THE COST OF EQUITY**

9 **Q. Please describe the general methodology of your risk-premium analysis.**

10 A. Because the cost of equity is not directly observable, estimates for it may be derived by
11 examining bond yields, which are readily observable, and adding a premium to
12 compensate for the additional risk assumed to exist in equity investments. Equity
13 investments have traditionally been viewed as being riskier than debt investments because
14 stockholder payments are not contractually defined and because debt holders generally
15 have a senior claim on the assets of a firm if it declares bankruptcy. The yields on long-
16 term bonds are typically used in risk-premium analyses because equity investments are
17 usually thought of as long-term investments. Because the holding periods for these
18 investments are assumed to be similar, the inflation expectations built into long-term bond
19 yields should also be applicable to equity investments.

20 **Q. Are equity risk premiums stable over time, or do they vary with capital market**
21 **conditions?**

22 A. Several empirical studies have demonstrated that equity risk premiums vary over time as
23 changes occur in the capital markets. In addition, it is reasonable to expect the equity risk

premium for a particular company to change as the specific risks facing a company change over time. With regard to the influence of capital market conditions, several studies have identified an inverse relationship between the level of interest rates and the size of equity risk premiums. One explanation for this phenomenon is the differential impact of inflation on debt and equity investments. Because bond interest payments are fixed upon issuance, there is no mechanism for adjusting returns for changes in inflation and purchasing power. Therefore, when inflationary fears rise, the perceived risk associated with bond investments increases, and interest rates rise. On the other hand, equity investors may be shielded somewhat from inflation by the company's ability to raise dividend payouts during inflationary periods. Because stocks may be viewed as a better hedge against inflation, the cost of equity will tend to rise less than the cost of debt. Consequently, the equity risk premium can be expected to fall as interest rates rise.

In addition to the influence of inflation, changes in investor risk preferences can significantly affect equity risk premiums. For example, if a major economic disruption or a recession were anticipated, a move to higher quality investments would likely occur. This would have the probable effect of decreasing the returns that investors require they be paid for investing in U.S. Treasury bonds and high-grade corporate bonds. If the returns on these securities were used to measure risk premiums, the observed equity risk premiums would likely be higher. Conversely, if the demand for higher quality investments were to fall, thereby pushing up the required returns, the observed equity risk premiums would likely be lower.

1 **1. CONVENTIONAL RISK-PREMIUM ESTIMATE**

2 **Q. Please describe the "conventional" risk-premium approach that you used in your**
3 **estimate of cost of equity for the Company.**

4 A. I refer to the risk-premium approach I use in the quantitative part of my testimony as the
5 "conventional" risk premium to distinguish it from the concept of risk premiums in
6 general and to denote that it is the primary risk-premium method on which Staff has relied
7 for many years. The conventional risk premium is a risk premium that estimates the cost
8 of equity for the Company by comparing the costs of equity authorized for utilities across
9 the United States to the yields of large-company corporate bonds that are rated Baa by
10 Mergent Bond Data. The timeframe I have used for this purpose is 1980 through 2020. I
11 did not use data from earlier than 1980 because of a sharp reduction in the money supply
12 at that time.

13 **Q. How did you use the relationship between the authorized costs of equity and the bond**
14 **yields to quantify the cost of equity for the Company?**

15 A. I quantified the relationship by subtracting the bond yields from the authorized costs of
16 equity to determine a risk premium for the riskier equity.

17 **Q. Did you test the data for correlation as you described earlier in the introduction to**
18 **Part D?**

19 A. Yes. I performed a regression analysis to analyze the relationship between the risk
20 premium and the bond yields in the corresponding period. The regression analysis
21 showed, with high confidence, that there is a trend in the relationship. It is an inverse
22 trend, in which the risk premiums increase as bond yields decrease. On average, during

1980 through 2020, risk premiums increased 0.4457% for every 1.00% that bond yields decreased.

Q. Did you incorporate that relationship in your risk-premium estimate?

A. Yes. The calculation of the adjustment to the risk premium that the regression analysis indicated is shown on Page 2 of Attachment MF-7.

Q. What are the results of your risk-premium analysis?

A. As shown on Page 2 of Attachment MF-7, the conventional risk-premium analysis implied a cost of equity of 9.05%.

2. CAPITAL ASSET PRICING MODEL (CAPM)

Q. Have you directly incorporated the results of your CAPM analysis in your estimate of the Company's cost of equity?

A. No. I did not directly incorporate the results of the CAPM in my analysis because it yielded a cost of equity that is markedly lower than the other estimates I calculated. Accordingly, I have used the CAPM analysis only as a qualitative check on the results of my other analyses.

Q. What is the CAPM?

A. The CAPM is one of the cornerstones of financial theory. In its simplest sense, the model describes the relationship between the risk of an asset and its expected return, and it assumes that investors will not hold a risky asset unless they are adequately compensated for the risk. In the CAPM framework, the risk of an asset is represented by its *beta*, which is a statistical concept that measures the sensitivity of an individual 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. What do you infer from your CAPM analysis?

A. The results of my CAPM, while reflecting the current low yield on Treasury Bonds, suggest a cost of equity that is lower than either of my two other approaches. My CAPM analysis provides an additional indication that a lower estimate of the cost of equity for the Company is consistent with prevailing capital market conditions. The model accurately reflects the effects of the current continued low-interest-rate environment.

Q. How is the rate of return calculated in the CAPM?

A. The rate of return is calculated in the CAPM as,

$$k = R_f + \beta(R_m - R_f)$$

where: k = required rate of return;

β = beta of the asset;

R_f = risk-free rate; and

R_m = market return.

The value of $R_m - R_f$ in the equation above represents the additional risk of the market over the risk-free rate, i.e., the market risk premium of equity returns over a risk-free investment in a U.S. Treasury security. 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.

1 **Q. Please describe the inputs you used in your CAPM analysis to estimate the cost of**
2 **equity for the Company.**
3 A. For the risk-free rate in the CAPM equation, I used a rate of 1.78%. This rate was the
4 average yield of the 20-year Treasury bond for the period December 16, 2020, through
5 March 15, 2021. The 20-year maturity of the Treasury bond is appropriate to use for this
6 purpose rather than a shorter-maturity yield because a longer investment time horizon is
7 more comparable to the typical investment time frame for equity securities, especially
8 utility stocks. Another reason that a longer-term rate is a more appropriate input to the
9 CAPM is that longer-term rates are less volatile and less likely to be influenced by random,
10 short-term phenomena than are short-term rates.
11 For the beta inputs to the model, I relied on the betas as published by Value Line.
12 In the CAPM model, the relevant risk in the pricing of a security is *market* risk, and the
13 risk of the overall market is, by definition, equal to 1. Because the risk—and hence stock-
14 price volatility—of electric utilities is typically lower than that of the overall market, the
15 betas for these companies are ordinarily lower than the value of 1. These lower values of
16 beta result in lower rates of return as calculated in the CAPM. The beta values for the
17 companies in my comparable group can be seen on Attachment MF-8.
18 Finally, for the market risk premium, I used a rate of 6.12%. This rate is the
19 arithmetic mean return value between common stocks and long-term government bonds
20 as calculated by Duff and Phelps. The information was previously published annually in
21 the *Valuation Handbook – U.S. Guide to Cost of Capital.*[15] The information summarizes

[15] Roger J. Grabowski, James P. Harrington, and Carla Nunes, *2018 Valuation Handbook – U.S. Guide to Cost of Capital*, (2018) (formerly Morningstar's *Ibbotson SBBI Valuation Yearbook*).

return data for various types of investments from the beginning of 1926 through the end of 2019, and it shows that the risk premium for common stocks over long-term government bonds for the 94-year period is 6.12%. A 94-year period is preferable to a shorter period because short-term phenomena can distort the relationship between stocks and bonds.

Q. What are the results of your CAPM analyses?

A. The CAPM yields a cost of equity for SWEPCO of 7.26%.

E. SUMMARY OF COST-OF-EQUITY ANALYSES

Q. Please summarize the results of your cost-of-equity analyses.

A. The results obtained from the analyses appear on Attachment MF-9 and in the following table:

Methodology	Point Estimate	Range
Single-stage DCF Analyses	9.38%	6.59% - 12.00%
Multistage DCF Analysis	9.31%	7.26% - 9.99%
Conventional Risk Premium	9.05%	N/A
Unadjusted ROE Estimate	***9.35%***	9.05% - 9.35%

Q. What is your recommendation for the return on equity for the Company?

A. Considering the DCF analyses of companies that are comparable to the Company and the conventional risk-premium analysis described previously in my testimony, I recommend an unadjusted ROE for SWEPCO of 9.35%.

My point estimate of 9.35% lies at the top of the range of 9.05% to 9.35% as calculated by my DCF and risk-premium analyses. After assessing other factors such as current capital market conditions and recent Staff rate-of-return testimony for vertically

integrated utilities, TDUs, and transmission-only utilities, I concluded that the best estimate for a cost of equity for SWEPCO lies at the top of the range. Accordingly, I selected my point estimate for SWEPCO's return on equity of 9.35% because it lies squarely at the top of the range, because it aligns itself with recent Staff recommendations, and because it promotes the public interest by balancing the concerns of ratepayers while affording the Company a reasonable opportunity to earn a reasonable return on its invested capital.

Based on my analyses and the foregoing considerations, my overall recommendation of 9.35% is a reasonable estimate of the ROE for the Company and is fully consistent with the requirements of *Hope* and *Bluefield* that I referenced earlier in my testimony.

Q. Is your recommended point estimate for ROE Staff's final recommendation on ROE?

A. No. Staff witness John Poole describes interruptions in service and reliability concerns, stemming from improper vegetation management on the transmission line and other causes, that warrant his recommendation of an outside audit for SWEPCO regarding reliability. Mr. Poole explains why Staff recommends an adjustment to ROE and quantifies the recommended adjustment in terms of annual revenue requirement at $1,130,000.

Q. Please quantify your recommended adjustment in terms of a basis point adjustment to ROE.

A. Using Staff's recommended rate base of $1,838,514,708 and the requested capital structure with 49.37% equity, Staff's recommended annual disallowance for outages

relating to improper vegetation management results in an approximate 12.5 basis point adjustment to ROE.

Q. Please explain and present Staff's total recommended ROE in this proceeding.

A. My testimony recommends a point estimate for SWEPCO's cost of equity of 9.35% after selecting a proxy group and performing DCF and risk-premium analyses, in the standard style of Staff's rate-of-return testimony. Staff witness Poole explains and recommends an adjustment to ROE, which, when quantified, results in a 12.5 basis point adjustment to ROE. Therefore, Staff's total recommended ROE is 9.225%, as reflected in the following table:

Recommended Return on Equity	Percent
ROE Point Estimate (Filarowicz Testimony)	9.350%
ROE Operations Adjustment (Poole Testimony)	(0.125%)
Total Staff Recommended ROE	**9.225%**

Q. Is the quantification of the operations adjustment in basis points dependent upon a certain level of rate base?

A. Yes. If the Commission adopts a level of rate base different from that which Staff recommends, the quantification in basis points of Staff's recommended operations adjustment to ROE could differ.

1 **VI. COST OF DEBT**

2 **Q. What cost of debt did the Company request in its Application?**

3 A. It its Application, SWEPCO requested a cost of debt of 4.18%, which was its cost of debt
4 for the test year.[16]

5 **Q. Do you propose any adjustment to the Company's requested cost of debt?**

6 A. Yes. I propose an adjustment to the cost of debt to remove the annual amortization of a
7 Series I Hedge Loss from February of 2012.

8 **Q. Why do you propose this adjustment?**

9 A. I recommend removing the annual effects of the Series I Hedge Loss from February of
10 2012 because it will be fully amortized in January 2021 and ratepayers have already paid
11 for 93% and counting of the amortization of the loss on hedge bets from ten years ago.[17]
12 There will be about six months' worth of amortization remaining by the time new rates
13 from this docket go into effect, and it would be inappropriate to set rates going forward
14 on this unique item from a decade ago. The annual amortization for this near-fully-
15 amortized hedge loss is not indicative of the Company's current annual cost of debt.

16 **Q. Please quantify your recommended adjustment.**

17 A. My recommended adjustment to remove the annual amortization of the Series I Hedge
18 Loss from February of 2012 results in a 10 basis point adjustment to the cost of debt.[18] I
19 recommend that the Commission set SWEPCO's cost of debt at 4.08%.

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[16] Direct Testimony of Renee V. Hawkins at 3-5 (Oct. 14, 2020) (Hawkins Direct); Application, Schedule K-3 at 1.

[17] Southwestern Electric Power Company's Response to Commission Staff's Sixth Request for Information at 14, Staff 6-12 (Dec. 21, 2020).

[18] *Id.* at 16, Staff 6-14.

1 **VII. CAPITAL STRUCTURE**

2 **Q. What capital structure did the Company propose in its Application?**

3 A. It its Application, SWEPCO requested a capital structure consisting of 50.63% long-term
4 debt and 49.37% common equity for the purpose of establishing rates.[19]

5 **Q. Do you believe that the capital structure that the Company is requesting in its**
6 **Application is appropriate for rate-setting purposes?**

7 A. Yes. The requested capital structure approximates SWEPCO's current actual capital
8 structure. SWEPCO derived its request by taking its actual capital structure at the end of
9 the test year and adjusting for a few known and measurable changes. I recommend the
10 Commission approve SWEPCO's requested regulatory capital structure consisting of
11 50.63% long-term debt and 49.37% common equity for rate-setting purposes.

12 **VIII. OVERALL RATE OF RETURN**

13 **Q. How did you calculate the overall cost of capital?**

14 A. To calculate the recommended rate of return for SWEPCO, I employed the weighted-
15 average cost-of-capital methodology, the use of which involves three steps in a regulatory
16 setting.

17 First, the analyst must identify the sources of capital and estimate the component
18 cost of each source of capital in the target company's capital structure. Sources of capital
19 generally consist of long-term debt and common equity in the electric utility regulatory
20 setting. The determination of cost for long-term debt is relatively straightforward because
21 the costs of this capital source are embedded—i.e., they are set by contractual obligation

[19] Hawkins Direct at 3; Application, Schedule K-1.

1 and are therefore directly observable. In contrast, the cost of equity is not directly
2 observable and must be estimated using analytical models, as I have done earlier in Parts
3 A through E of Section V of my testimony.

4 Second, the analyst must recommend an appropriate capital structure for
5 regulatory purposes. For each source of capital identified, the analyst must recommend
6 an appropriate weight. I do this in Section VII of my testimony.

7 Third, the cost of each capital source is weighted by its relative proportion in the
8 recommended capital structure. The sum of these weighted component costs represents
9 the weighted-average cost of capital—i.e., the overall rate of return. For ratemaking
10 purposes for an electric utility, this overall rate of return is multiplied by the utility's
11 invested capital (the rate base) in order to calculate the return component of the cost of
12 service.

13 **Q. What overall rate of return are you proposing for SWEPCO in this proceeding?**

14 A. As shown on Attachment MF-1, the Company's requested capital structure, when
15 combined with my recommended cost of debt and cost of equity (including Staff's
16 recommended ROE operations adjustment for interruptions in service relating to
17 vegetation management), results in a weighted-average cost of capital of 6.62%.

18 **IX. OTHER CONSIDERATIONS ON RATE OF RETURN**

19 **Q. Please describe SWEPCO's requested size premium.**

20 A. In his direct testimony, Mr. D'Ascendis asks the Commission to consider adding a size
21 premium of 20 basis points for SWEPCO when setting its ROE.[20]

[20] Application, Direct Testimony of Dylan W. D'Ascendis at 52-56 (D'Ascendis Direct).

1 **Q. Do you agree that the Commission should factor in a size premium when setting**
2 **SWEPCO's authorize ROE? Why or why not?**

3 A. No. There is not consensus among financial analysts regarding size premiums'
4 quantification in equity investing. Several financial academic journal articles explicitly
5 question whether the size premium even exists in utility investing and come to conclude
6 it does not. For example, Wallace Davidson *et alia* state:

7 [O]ur results suggest that neither large nor small utilities merit a premium
8 because of their size. The implications of our findings for regulatory
9 officials for regulatory accounting standard-setters are straightforward:
10 we find no evidence among the electric utility industry...to suggest that
11 a utility's cost of capital or its allowable ARR should be adjusted to
12 reflect firm size.[21]

13 In research also specific to public utilities, Professor Annie Wong finds:

14 [G]iven firm size, utility stocks are consistently less risky than industrial
15 stocks. Second, industrial betas tend to decrease with firm size, but
16 utility betas do not. These findings may be attributed to the fact that all
17 public utilities operate in an environment with regional monopolistic
18 power and regulated financial structure. As a result, the business and
19 financial risks are very similar among the utilities regardless of their size.
20 Therefore, utility betas would not necessarily be related to firm size.[22]

21 She goes on to conclude:

22 The object of this study is to examine if the size effect exists in the utility
23 industry. After controlling for equity values, there is some weak
24 evidence that firm size is a missing factor from the CAPM for industrial
25 but not utility stocks. This implies that although the size phenomenon
26 has been strongly documented for industrials, the findings suggest that
27 there is no need to adjust for the firm size in utility regulation.[23]

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[21] Wallace Davidson III, Kenneth Ferris, and William Reichenstein, A Note on the Relationship Between Firm Size and Return in the Electric Utility Industry, *Journal of Accounting, Auditing, and Finance* Vol. 8, Issue 3, 193-202 (1993).

[22] Annie Wong, Utility Stocks and the Size Effect: An Empirical Analysis, *Journal of the Midwest Finance Association, 95-101*, at 98 (1993).

[23] *Id.* at 95.

1 Because there is not consensus among equity analysts regarding size premium and
2 because many utility analysts do not believe a size premium even exists in utility
3 investing, I recommend that the Commission reject Mr. D'Ascendis's request for a size
4 premium when setting the authorized rate of return in this proceeding.

5 **Q. Are there any other circumstances that convince you that a size premium is not**
6 **warranted in this proceeding?**

7 A. Yes. The final range for ROE that Mr. D'Ascendis recommends is too high to be
8 consistent with authorized ROEs from this Commission and other utility regulators across
9 the country in recent years. The average authorized ROE across the country in 2020 was
10 9.44%.[24] The incommensurately high range for ROE recommended by Mr. D'Ascendis
11 further suggests that there is no need for a size-premium adjustment to ROE in this
12 proceeding.

13 **Q. Do you think that anything about SWEPCO's specific situation warrants that the**
14 **Commission consider a size premium when setting ROE?**

15 A. No. I recommend that the Commission reject SWEPCO's request for a size premium in
16 this docket.

17 **Q. Please describe SWEPCO's request for a creditworthiness premium.**

18 A. In his direct testimony, Mr. D'Ascendis asks the Commission to consider adding a credit-
19 risk premium of 27 basis points for SWEPCO when setting its ROE.[25]

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[24] SNL Financial LC, S&P Global *accessible at* https://platform.mi.spglobal.com/web/client?auth=inherit#industry/statisticsAndGraphs through www.snl.com (accessed Feb. 10, 2021).

[25] D'Ascendis Direct at 56-57.

1 **Q. Do you agree that the Commission should factor in a credit-risk premium when**
2 **setting SWEPCO's authorized ROE? Why or why not?**
3 A. No. Mr. D'Ascendis's own testimony clearly shows that, while SWEPCO's current rating
4 of Baa2 from Moody's is less than his proxy group's average of A3, SWEPCO's current
5 rating of A- from S&P is better than his proxy group's average of BBB+.[26] While Mr.
6 D'Ascendis requests a creditworthiness premium based on the Moody's rating, he does
7 not request or quantify an offsetting adjustment to ROE based on the S&P rating.
8 Similar to the requested size premium (see above), the incommensurately high
9 range for ROE recommended by Mr. D'Ascendis further suggests that there is no need for
10 a credit-risk adjustment to ROE in this proceeding. Finally, as a general matter, because
11 the legal framework and theory support the idea that the utility is responsible for managing
12 its own creditworthiness, I do not believe that the Commission should reward less
13 creditworthy utilities with higher ROEs.
14 **Q. Please explain.**
15 A. At a high level, I believe that it is the Commission's function to set just and reasonable
16 rates based on PURA and the Commission's rules, and that it is the responsibility of
17 SWEPCO's management to conduct its operations in a manner that maintains its credit
18 rating and enhances its overall creditworthiness.
19 It is not the role of regulation to serve as a guarantor of a particular utility's
20 creditworthiness. As stated in the precedential decision in *Bluefield* (see above), "the
21 return… should be adequate, under efficient and economical management, to maintain its
22 [the utility's] credit and enable it to raise the money necessary for the proper discharge of

[26] *Id.* at 56.

its public duties."[27] The long-standing precedential framework for electric utility regulation assumes that ultimately it is the utility's burden to manage its operations and finances economically and efficiently to ensure that it maintains its creditworthiness. Additionally, PURA § 11.002(b) confirms that regulation's role is to serve "as a substitute for competition," and in the competitive marketplace it is the responsibility of a company to maintain and effectively manage its own creditworthiness.

Q. Do you note anything else regarding the credit riskiness of your proxy group?

A. Yes. I note that the average credit rating in my proxy group is BBB+[28] and that, given the above discussion and consideration of the target company and its operations, I believe this is an appropriate average creditworthiness for a proxy group in this proceeding and that no size premium should be considered in the analysis of the proxy group.

Q. Do you think that anything about SWEPCO's specific situation warrants that the Commission consider a credit risk premium when setting ROE?

A. No. I recommend that the Commission reject SWEPCO's request for a credit risk premium in this docket.

[27] *Bluefield* at 693.

[28] *See* Attachment MF-2.

1 **X. FINANCIAL PROTECTIVE MEASURES (RING-FENCING)**

2 **Q. In the context of the Commission's regulation of the rates and operations of**
3 **SWEPCO, are there reasons the Commission may wish to expressly and pre-**
4 **emptively address possible concerns about the impact on SWEPCO of the business**
5 **activities of AEP and its non-SWEPCO subsidiaries?**

6 A. Yes. AEP, with approximately $81 billion of assets,[29] is a large corporation with a variety
7 of operations in several states. AEP's website provides a succinct description of the
8 company's operations: "We [AEP] serve nearly 5.4 million customers in our regulated
9 service territory, spanning more than 200,000 square miles in 11 states."[30] AEP's 2020
10 Form 10-K[31] on page 57 provides the following, more detailed information:

11 AEP is one of the largest investor-owned electric public utility holding
12 companies in the United States. AEP's electric utility operating companies
13 provide generation, transmission and distribution services to more than
14 five million retail customers in Arkansas, Indiana, Kentucky, Louisiana,
15 Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia and West
16 Virginia.

17 AEP's subsidiaries operate an extensive portfolio of assets including:

18 • Approximately 223,000 miles of distribution lines that deliver
19 electricity to 5.5 million customers.

20 • Approximately 40,000 circuit miles of transmission lines,
21 including approximately 2,200 circuit miles of 765 kV lines, the
22 backbone of the electric interconnection grid in the eastern United
23 States.

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[29] AEP Facts at a Glance *accessible at* https://www.aep.com/about/facts (accessed Apr. 5, 2021).

[30] AEP Operating Companies, AEP, Inc. *accessible at* https://www.aep.com/about/businesses/opcos (accessed Apr. 5, 2021).

[31] AEP Texas 2020 Form 10-K at 57 AEP, Inc. *accessible at* https://www.aep.com/investors/financial/sec (accessed Apr. 5, 2021).

- Approximately 22,000 MWs of regulated owned generating capacity and approximately 4,700 MWs of regulated PPA [Purchase Power and Sale Agreement] capacity in 2 RTOs [Regional Transmission Organizations] as of December 31, 2020, one of the largest complements of generation in the United States.

AEP's 2020 Form 10-K includes the following additional information:[32]

> AEP's primary business is the generation, transmission and distribution of electricity. Within its Vertically Integrated Utilities segment, AEP centrally dispatches generation assets and manages its overall utility operations on an integrated basis because of the substantial impact of cost-based rates and regulatory oversight. Intersegment sales and transfers are generally based on underlying contractual arrangements and agreements.
>
> AEP's reportable segments and their related business activities are outlined below:
>
> Vertically Integrated Utilities
>
> - Generation, transmission and distribution of electricity for sale to retail and wholesale customers through assets owned and operated by AEGCo [AEP Generating Company], APCo [Appalachian Power Company], I&M [Indiana Michigan Power Company], KGPCo [Kingsport Power Company], KPCo [Kentucky Power Company], PSO [Public Service Company of Oklahoma], SWEPCo [Southwestern Electric Power Company], and WPCo [Wheeling Power Company].
>
> Transmission and Distribution Utilities
>
> - Transmission and distribution of electricity for sale to retail and wholesale customers through assets owned and operated by AEP Texas [AEP Texas Inc.] and OPCo [Ohio Power Company].
> - OPCo purchases energy and capacity at auction to serve standard service offer customers and provides transmission and distribution services for all connected load.
>
> AEP Transmission Holdco

[32] *Id.* at 79.

- Development, construction and operation of transmission facilities through investments in AEPTCo [AEP Transmission Company]. These investments have FERC-approved returns on equity.

- Development, construction and operation of transmission facilities through investments in AEP's transmission-only joint ventures. These investments have PUCT-approved or FERC-approved returns on equity.

Generation & Marketing

- Contracted renewable energy investments and management services.

- Marketing, risk management and retail activities in ERCOT, MISO [Midwest Independent Transmission System Operator], PJM [Pennsylvania – New Jersey · Maryland regional transmission organization], and SPP [Southwest Power Pool].

- Competitive generation in PJM.

Given the number of subsidiaries discussed above that are part of the overall AEP organization, to the degree that there are aspects of operational and financial intermingling or interdependency among the various entities, the effects of financial instability or weakness in one entity could affect not only AEP as the parent company, but other subsidiaries as well. In an extreme case, an event that causes severe financial distress for AEP could lead to its bankruptcy—a situation, that, absent the presence of protective measures, could impact subsidiaries like SWEPCO dramatically and drag them along into the bankruptcy process.

1 **Q. Taking into account the above discussion, for a regulated company such as**
2 **SWEPCO, what do you believe is the principal purpose of establishing regulatory**
3 **requirements that implement certain financial protections?**
4 A. From a regulatory perspective, the most fundamental reason for the implementation of
5 certain types of financial protections is to provide for the regulated utility a set of
6 safeguards against a parent (or sister) company's financial distress and potential
7 contagiousness and, in an extreme situation, the parent's bankruptcy. Ultimately, I would
8 characterize the goal of a regulatory authority's implementation of protective policies and
9 standards as helping to ensure that the regulated utility maintains its ability to fulfill its
10 core customer-oriented purpose: to provide reliable service at reasonable rates.

11 **Q. Is there a generic phrase that is commonly used to describe different types of**
12 **mechanisms that provide for some degree of separation between regulated utilities**
13 **and their parents and affiliates?**
14 A. Yes. That phrase is "ring-fencing," and in a regulatory context it refers to the general
15 concept of establishing various requirements or policies that effectively isolate and
16 thereby insulate a regulated entity from the effects of a parent (or sister) organization's
17 financial distress and, in a worst-case scenario, bankruptcy. A basic regulatory function
18 is the maintenance of a utility's financial ability to deliver reliable service at reasonable
19 rates, and ring-fencing provisions are a tool that the Commission can use to carry out this
20 most fundamental public interest goal.

Q. In what proceedings has the Commission implemented ring-fencing provisions, including the use of measures specifically related to financial protection?

A. The Commission has ordered ring-fencing provisions in a number of dockets. Since 2008, these dockets have included the following sale-transfer-merger (STM) proceedings:

- Docket No. 34077, *Joint Report and Application of Oncor Electric Delivery Company and Texas Energy Future Holdings Limited Partnership Pursuant to PURA § 14.101*;[33]

- Docket No. 45188, *Joint Report and Application of Oncor Electric Delivery Company LLC, Ovation Acquisition I, LLC, Ovation Acquisition II, LLC, and Shary Holdings, LLC for Regulatory Approvals Pursuant to PURA §§ 14.101, 37.154, 39.262(l)-(m), and 39.915*;[34]

- Docket No. 47675, *Joint Report and Application of Oncor Electric Delivery Company LLC and Sempra Energy for Regulatory Approvals Pursuant to PURA §§ 14.101, 39.262, and 39.915*;[35]

- Docket No. 48929, *Joint Report and Application of Oncor Electric Delivery Company LLC, Sharyland Distribution & Transmission Services, L.L.C., Sharyland Utilities, L.P., and Sempra Energy for Regulatory Approvals Under PURA §§ 14.101, 37.154, 39.262, and 39.915*;[36] and

- Docket No. 50584, *Joint Report and Application of Wind Energy Transmission Texas, LLC; Axinfra US LP; Hotspur Holdco 1 LLC; Hotspur Holdco 2 LLC; and 730 Hotspur, LLC, for Regulatory Approvals Under PURA §§ 14.101, 39.262, and 39.915*.[37]

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[33] *Joint Report and Application of Oncor Electric Delivery Company and Texas Energy Future Holdings Limited Partnership Pursuant to PURA § 14.101*, Docket No. 34077, Order on Rehearing (Apr. 24, 2008).

[34] *Joint Report and Application of Oncor Electric Delivery Company LLC, Ovation Acquisition I, LLC, Ovation Acquisition II, LLC, and Shary Holdings, LLC for Regulatory Approvals Pursuant to PURA §§ 14.101, 37.154, 39.262(l)-(m), and 39.915*, Docket No. 45188, Order (Mar. 24, 2016).

[35] *Joint Report and Application of Oncor Electric Delivery Company LLC and Sempra Energy for Regulatory Approvals Pursuant to PURA §§ 14.101, 39.262, and 39.915*, Docket No. 47675, Order (Mar. 8, 2018).

[36] *Joint Report and Application of Oncor Electric Delivery Company LLC, Sharyland Distribution & Transmission Services, L.L.C., Sharyland Utilities, L.P., and Sempra Energy for Regulatory Approvals Under PURA §§ 14.101, 37.154, 39.262, and 39.915*, Docket 48929, Order (May 9, 2019).

[37] *Joint Report and Application of Wind Energy Transmission Texas, LLC; Axinfra US LP; Hotspur Holdco 1 LLC; Hotspur Holdco 2 LLC; and 730 Hotspur, LLC, for Regulatory Approvals Under PURA §§ 14.101, 39.262, and 39.915*, Docket 50584, Order (Jul. 24, 2020).

Commission orders for all these STM dockets include various types of ring-fencing provisions, many of which are of a financial protection nature.

Q. Have any recent Commission final orders from rate-related proceedings included ring-fencing provisions?

A. Yes. The following three recent Commission final orders from rate-related dockets have included ring-fencing provisions to ensure that Texas ratepayers have meaningful financial protections:

- Docket No. 49421, *Application of CenterPoint Energy Houston Electric, LLC for Authority to Change Rates*;[38]
- Docket No. 49494, *Application of AEP Texas Inc. for Authority to Change Rates*;[39] and
- Docket No. 49831, *Application of Southwestern Public Service Company for Authority to Change Rates*.[40]

The ring-fencing provisions in these recent Commission final orders are similar or identical to the measures I suggest the Commission adopt in this proceeding.

Q. What is your recommendation regarding ring-fencing in this proceeding?

A. Should the Commission determine that it is appropriate to implement a reasonable set of protective measures designed to protect SWEPCO's financial integrity, I recommend that the Commission require SWEPCO to implement certain policies and requirements that

[38] *Application of CenterPoint Energy Houston Electric, LLC for Authority to Change Rates*, Docket No. 49421, Order, Findings of Fact Nos. 71-87 (Mar. 9, 2020).

[39] *Application of AEP Texas Inc. for Authority to Change Rates*, Docket No. 49494, Order, Findings of Fact Nos. 108-121 (Apr. 6, 2020).

[40] *Application of Southwestern Public Service Company for Authority to Change Rates*, Docket No. 49831, Order, Findings of Fact Nos. 75-91 (Aug. 27, 2020).

are designed to create an effective degree of insulation between SWEPCO and its parent company AEP and AEP's other affiliates. These measures would provide SWEPCO with meaningful protection against possible situations of financial distress by non-SWEPCO entities that are part of the AEP organization.

Q. What mechanisms do you recommend for the purposes of establishing and maintaining for SWEPCO appropriate separation from potential situations of financial distress of AEP and its affiliates?

A. Below is a listing of several financial protection measures the Commission used in the various dockets I cited above. I believe implementation of these types of provisions would provide a meaningful degree of separation for SWEPCO and serve as insurance against the possibility of SWEPCO being embroiled in a situation of severe financial distress on the part of AEP or its other affiliates. I would additionally recommend that, to the extent that any of SWEPCO's existing policies provide compliance with the recommendations below, the Commission require SWEPCO to commit to maintaining those policies.

1. SWEPCO Credit Ratings and Dividends. SWEPCO will work to ensure that its credit ratings at S&P and Moody's remain at or above SWEPCO's current credit ratings.

2. Notification of Less-than-Investment-Grade Rating. SWEPCO will notify the Commission if its credit issuer rating or corporate rating as rated by either S&P or Moody's falls below investment-grade level.

3. Regulatory Return on Equity (ROE) Commitment. If SWEPCO's issuer credit rating is not maintained as investment grade by S&P or Moody's, SWEPCO will not use its below-investment-grade ratings to justify an argument in favor of a higher regulatory ROE.

4. Stand-Alone Credit Rating. SWEPCO will take the actions necessary to ensure the existence of a SWEPCO stand-alone credit rating.

5. No Cross-Default Provisions. SWEPCO's credit agreements and indentures will not contain cross-default provisions by which a default by AEP or its other affiliates would cause a default by SWEPCO.

6. No Financial Covenants or Rating-Agency Triggers Related to Another Entity. The financial covenant in SWEPCO's credit agreement will not be related to any entity other than SWEPCO. SWEPCO will not include in its debt or credit agreements any financial covenants or rating-agency triggers related to any entity other than SWEPCO.

7. No Sharing of a Credit Facility. SWEPCO will not share a credit facility with any unregulated affiliates.

8. No SWEPCO Debt Secured by Non-SWEPCO Assets. SWEPCO's debt will not be secured by non-SWEPCO assets.

9. No SWEPCO Assets Pledged for Other Entities' Debt. SWEPCO's assets will not secure the debt of AEP or its non-SWEPCO affiliates. SWEPCO's assets will not be pledged for any other entity.

10. No Credit for Affiliate Debt. SWEPCO will not hold out its credit as being available to pay the debt of any AEP affiliates.

11. No Commingling of Assets. Except for access to the utility money pool and the use of shared assets governed by the Commission's affiliate rules, SWEPCO will not commingle its assets with those of other AEP affiliates.

12. Affiliate Asset Transfer Commitment. SWEPCO will not transfer any material assets or facilities to any affiliates, other than a transfer that is on an arm's-length basis in accordance with the Commission's affiliate standards applicable to SWEPCO, regardless of whether such affiliate standards would apply to the particular transaction.

13. No Inter-Company Lending and Borrowing Commitment. Except for any participation in an affiliate money pool, SWEPCO will not lend money to or borrow money from AEP affiliates.

14. No Debt Disproportionally Dependent on SWEPCO. Without prior approval of the Commission, neither AEP nor any affiliate of AEP (excluding SWEPCO) will incur, guaranty, or pledge assets in respect of any incremental new debt that is dependent on: (1) the revenues of SWEPCO in more than a proportionate degree than the other revenues of AEP; or (2) the stock of SWEPCO.

15. No Bankruptcy Cost Commitment. SWEPCO will not seek to recover from customers any costs incurred as a result of a bankruptcy of AEP or any of its affiliates.

1 **Q. Why do you believe that implementation of the above provisions would be effective**
2 **in providing a meaningful degree of separation between SWEPCO and AEP?**
3 A. The reason, quite simply, is that they are known to have worked. In the 2014 bankruptcy
4 of Energy Futures Holdings Corporation (EFH), the various ring-fencing provisions that
5 the Commission included in its order for Docket No. 34077 (referenced previously in this
6 section) served their purpose: they effectively insulated Oncor Electric Delivery Company
7 (Oncor) from its parent's bankruptcy filing and preserved Oncor's stand-alone credit
8 status and financial stability. Throughout the entirety of EFH's approximately three-year-
9 long bankruptcy process, Oncor maintained its bankruptcy-remote separateness and its
10 ability to provide reliable delivery service at just and reasonable rates.
11 It is important to keep in mind the reasonable assumption that, at the time of the
12 Commission's order in Docket No. 34077, the consensus of interested parties was not that
13 a future bankruptcy awaited EFH. Indeed, had the assessment been otherwise, I believe
14 it is reasonable to conclude that the 2007 leveraged buyout (LBO) of TXU Energy—which
15 was (and still is) the largest LBO transaction in history[41]—would never have taken place.
16 Such generally optimistic expectations notwithstanding, economic events can
17 sometimes take unpredictable twists and turns—and ultimately for EFH, twist and turn
18 they did. Seven years after the Commission's order in Docket No. 34077, EFH declared
19 bankruptcy. Oncor, however, effectively stayed isolated from the bankruptcy fray—and
20 the basic reason was that the Commission's ring-fencing provisions achieved the exact
21 objectives for which they were intended. Though the Commission may have implemented

[41] Gillian Brassil, Scott Mlyn, and Adam Jeffery, Here Are the Top 10 Largest Leveraged Buyouts in History, CNBC Business News, Aug. 7, 2018, *accessible at* https://www.cnbc.com/2018/08/07/here-are-the-top-10-largest-leveraged-buyouts-in-history.html; *see also* Energy Future Holdings, https://en.wikipedia.org/wiki/Energy_Future_Holdings.

ring-fencing provisions in Docket No. 34077 largely out of an abundance of caution, in the end the Commission's prudence and foresight paid off: Oncor remained bankruptcy-remote and effectively financially separated from the morass of legal wrangling as the largest LBO in history deteriorated into a multi-billion-dollar bankruptcy.

Accordingly, given the unpredictable nature of economic realities, I believe it is reasonable to consider how (relatively recent) past events may help inform and guide Commission decisions relevant to the particular circumstances of this proceeding. Consequently, should the Commission determine that it is appropriate to implement a reasonable set of protective measures designed to insulate SWEPCO's financial integrity from possible situations of AEP's or its affiliates' financial distress, and to protect SWEPCO's ability to provide reliable service at just and reasonable rates, I recommend that the Commission require SWEPCO to implement the measures I have described here.

Q. If you do not address an issue or position in your testimony, should that be interpreted as support for SWEPCO's position on that issue?

A. No. The fact that I do not address an issue or position in my testimony should not be construed as agreeing with, endorsing, or consenting to any position taken by SWEPCO.

Q. Does this conclude your testimony?

A. Yes.

WEIGHTED-AVERAGE COST OF CAPITAL

	% of Total	*Component Cost*	*Weighted Avg. Cost*
Long-term Debt	50.63%	4.08%	2.07%
Common Equity	49.37%	9.225%	4.55%
	100.00%		6.62%

SELECTION CRITERIA FOR COMPARABLE COMPANIES & EARNINGS GROWTH

Ticker Symbol	Company	Market Cap.[1] (Millions)	LTD/Capital[1] (%)	S&P Rating[2]	Earnings Growth VL[1]	Zacks[3]	***Average***
LNT	Alliant Energy	$13,100	51.5%	A-	5.50%	5.89%	***5.70%***
AEE	Ameren Corporation	$19,000	52.1%	BBB+	6.00%	6.80%	***6.40%***
AVA	Avista Corporation	$2,700	49.4%	BBB	1.00%	5.36%	***3.18%***
BKH	Black Hills Corporation	$3,700	57.1%	BBB+	3.50%	5.80%	***4.65%***
ED	Consolidated Edison, Inc.	$24,000	50.7%	A-	2.50%	2.00%	***2.25%***
DTE	DTE Energy	$24,000	57.7%	BBB+	6.00%	5.67%	***5.84%***
DUK	Duke Energy Corporation	$69,000	54.0%	BBB+	5.00%	4.90%	***4.95%***
EIX	Edison International	$23,000	53.5%	BBB	12.00%	3.12%	***7.56%***
EVRG	Evergy, Inc.	$13,000	50.6%	A-	7.50%	6.14%	***6.82%***
ES	Eversource Energy	$30,000	52.8%	A-	6.50%	6.46%	***6.48%***
FTS	Fortis Inc.	$24,000	54.2%	A-	2.50%	6.09%	***4.30%***
NEE	NextEra Energy, Inc.	$160,000	50.4%	A-	10.50%	7.83%	***9.17%***
NWE	NorthWestern Corporation	$2,900	52.5%	BBB	2.50%	3.69%	***3.10%***
OGE	OGE Energy	$6,500	43.6%	BBB+	3.00%	3.57%	***3.29%***
OTTR	Otter Tail Corporation	$1,600	46.9%	BBB	6.50%	NA	***6.50%***
PNW	Pinnacle West	$8,600	47.1%	A-	4.50%	3.55%	***4.03%***
POR	Portland General	$3,800	51.3%	BBB+	4.00%	5.48%	***4.74%***
PEG	Public Service Enterprise	$29,000	47.7%	BBB+	5.00%	3.03%	***4.02%***
WEC	WEC Energy	$30,000	52.5%	A-	6.00%	6.11%	***5.10%***
XEL	Xcel Energy	$34,000	56.8%	A-	6.00%	6.08%	***6.04%***
	Averages	*$26,095*	*51.6%*	*BBB+*	*5.30%*	*5.14%*	***5.22%***

Sources: [1]*Value Line Investment Report,* December 11, 2020, and January 22 and February 12, 2021.
[2]*Long-term Issuer Rating,* SNL Financial LC (customized reports from www.snl.com)
[3]*Zacks Investment Research* (www.zacks.com/stock/quote/)

AVERAGE STOCK PRICES

Ticker Symbol	Company	***12-week Average***	12 8-Feb-21	11 1-Feb-21	10 25-Jan-21	9 18-Jan-21	8 11-Jan-21	7 4-Jan-21	6 28-Dec-20	5 21-Dec-20	4 14-Dec-20	3 7-Dec-20	2 30-Nov-20	1 23-Nov-20
LNT	Alliant Energy	***$50.10***	$48.84	$49.68	$48.25	$49.00	$49.06	$48.94	$51.11	$49.61	$50.63	$51.28	$52.44	$52.33
AEE	Ameren Corporation	***$75.65***	$73.26	$74.20	$72.72	$72.88	$74.39	$75.00	$78.06	$76.47	$78.86	$76.96	$76.57	$78.47
AVA	Avista Corporation	***$38.86***	$38.75	$38.19	$37.48	$38.66	$40.33	$40.12	$40.14	$39.92	$38.85	$38.96	$36.98	$37.99
BKH	Black Hills Corporation	***$60.75***	$62.48	$61.93	$59.12	$59.16	$61.97	$59.38	$61.45	$59.95	$60.69	$59.13	$60.40	$63.33
ED	Consolidated Edison, Inc.	***$71.84***	$71.35	$71.50	$70.78	$68.83	$69.60	$69.93	$72.27	$70.44	$71.15	$73.16	$75.31	$77.77
DTE	DTE Energy	***$121.95***	$121.33	$121.72	$118.72	$121.91	$123.52	$118.19	$121.41	$119.72	$120.63	$123.97	$124.82	$127.40
DUK	Duke Energy Corporation	***$91.95***	$93.32	$94.74	$94.00	$90.29	$92.11	$90.05	$91.56	$89.67	$90.32	$91.54	$91.15	$94.60
EIX	Edison International	***$60.75***	$57.78	$58.65	$58.16	$59.30	$61.87	$62.30	$62.15	$61.53	$61.87	$62.13	$61.17	$62.12
EVRG	Evergy, Inc.	***$54.38***	$54.70	$54.89	$53.73	$53.80	$54.30	$53.00	$55.51	$53.43	$53.35	$55.13	$54.92	$55.77
ES	Eversource Energy	***$86.59***	$85.74	$87.80	$87.50	$87.41	$88.57	$90.33	$86 51	$83.59	$84.14	$85.21	$84.97	$87.34
FTS	Fortis Inc.	***$40.81***	$40.68	$40.40	$40.43	$40.94	$40.97	$40.31	$40.82	$40.98	$41.15	$41.52	$40.89	$40.68
NEE	NextEra Energy, Inc.	***$78.62***	$83.83	$83.60	$80.87	$84.21	$82.04	$81.13	$77.15	$74.98	$74.51	$73.80	$72.52	$74.78
NWE	NorthWestern Corporatio	***$56.85***	$57.11	$56.44	$54.47	$55.43	$59.13	$56.92	$58.31	$56 61	$55.41	$55.37	$56.67	$60.31
OGE	OGE Energy	***$31.47***	$30.93	$31.43	$30.52	$31.36	$31.30	$31.67	$31.46	$30.76	$30.75	$31.76	$32.47	$33.23
OTTR	Otter Tail Corporation	***$41.74***	$41.86	$39.69	$41.60	$41.99	$42.67	$42.61	$42.19	$42.81	$43.38	$41.25	$40.74	$40.14
PNW	Pinnacle West	***$78.09***	$76.66	$77.78	$74.44	$76.26	$77.70	$76.93	$79.08	$77.03	$77.80	$78.86	$81.52	$83 03
POR	Portland General	***$42.07***	$42.80	$43.05	$42.29	$41.79	$43.32	$41.80	$42.77	$41.04	$41.37	$41.13	$41.27	$42.15
PEG	Public Service Enterprise	***$57.82***	$58.73	$59.32	$56.43	$58.36	$59.38	$57.31	$58.30	$57.15	$56.82	$56.00	$57.14	$58.84
WEC	WEC Energy	***$89.94***	$85.46	$86.82	$88.90	$87.38	$88.69	$87.95	$92.03	$89.43	$91.32	$92.24	$93.29	$95.74
XEL	Xcel Energy	***$64.89***	$62.12	$63.44	$63.99	$64.76	$64.96	$65.76	$66.67	$64.20	$65.67	$64.57	$65.32	$67.18

[1] *Stock Prices are adjusted by Yahoo Finance to reflect the effects of the date that the next dividend is expected to be paid.*

FORECASTED DIVIDENDS

Ticker Symbol	Company	Growth Rate[1] (Attach. MF-2)	Next Four Quarters Next	2nd	3rd	4th	***Total Proj. D_1***	Stock Price (Attach. MF-3)	Dividend Yield
LNT	Alliant Energy	5.70%	$0.4016	$0.4016	$0.4016	$0.4016	***$1.61***	$50.10	3.21%
AEE	Ameren Corporation	6.40%	$0.5150	$0.5150	$0.5150	$0.5480	***$2.09***	$75.65	2.77%
AVA	Avista Corporation	3.18%	$0.4179	$0.4179	$0.4179	$0.4179	***$1.67***	$38.86	4.30%
BKH	Black Hills Corporation	4.65%	$0.5650	$0.5650	$0.5650	$0.5913	***$2.29***	$60.75	3.76%
ED	Consolidated Edison, Inc	2.25%	$0.7750	$0.7750	$0.7750	$0.7924	***$3.12***	$71.84	4.34%
DTE	DTE Energy	5.84%	$1.0850	$1.0850	$1.0850	$1.1483	***$4.40***	$121.95	3.61%
DUK	Duke Energy Corporatio	4.95%	$0.9650	$1.0128	$1.0128	$1.0128	***$4.00***	$91.95	4.35%
EIX	Edison International	7.56%	$0.6625	$0.6625	$0.6625	$0.7126	***$2.70***	$60.75	4.44%
EVRG	Evergy, Inc.	6.82%	$0.5350	$0.5350	$0.5350	$0.5715	***$2.18***	$54.38	4.00%
ES	Eversource Energy	6.48%	$0.6043	$0.6043	$0.6043	$0.6043	***$2.42***	$86.59	2.79%
FTS	Fortis Inc.	4.30%	$0.5050	$0.5050	$0.5050	$0.5267	***$2.04***	$40.81	5.00%
NEE	NextEra Energy, Inc.	9.17%	$0.3821	$0.3821	$0.3821	$0.3821	***$1.53***	$78.62	1.94%
NWE	NorthWestern Corporati	3.10%	$0.6186	$0.6186	$0.6186	$0.6186	***$2.47***	$56.85	4.35%
OGE	OGE Energy	3.29%	$0.4025	$0.4025	$0.4025	$0.4157	***$1.62***	$31.47	5.16%
OTTR	Otter Tail Corporation	6.50%	$0.3700	$0.3941	$0.3941	$0.3941	***$1.55***	$41.74	3.72%
PNW	Pinnacle West	4.03%	$0.8300	$0.8300	$0.8300	$0.8634	***$3.35***	$78.09	4.29%
POR	Portland General	4.74%	$0.4075	$0.4075	$0.4268	$0.4268	***$1.67***	$42.07	3.97%
PEG	Public Service Enterprise	4.02%	$0.5097	$0.5097	$0.5097	$0.5097	***$2.04***	$57.82	3.53%
WEC	WEC Energy	5.10%	$0.6648	$0.6648	$0.6648	$0.6648	***$2.66***	$89.94	2.96%
XEL	Xcel Energy	6.04%	$0.4300	$0.4560	$0.4560	$0.4560	***$1.80***	$64.89	2.77%

[1] *The growth rate is applied to the quarterly dividend during the period the dividend has historically been increased.*

DISCOUNTED CASH FLOW

Single-Stage

Ticker Symbol	Company	Stock Price (Attch. MF-3)	Div1 (Attch. MF-4)	Dividend Yield (Attch. MF-4)	Div. Growth (Attch. MF-2)	DCF ROE
LNT	Alliant Energy	$50.10	$1.61	3.21%	5.70%	8.90%
AEE	Ameren Corporation	$75.65	$2.09	2.77%	6.40%	9.17%
AVA	Avista Corporation	$38.86	$1.67	4.30%	3.18%	7.48%
BKH	Black Hills Corporation	$60.75	$2.29	3.76%	4.65%	8.41%
ED	Consolidated Edison, Inc.	$71.84	$3.12	4.34%	2.25%	6.59%
DTE	DTE Energy	$121.95	$4.40	3.61%	5.84%	9.45%
DUK	Duke Energy Corporation	$91.95	$4.00	4.35%	4.95%	9.30%
EIX	Edison International	$60.75	$2.70	4.44%	7.56%	12.00%
EVRG	Evergy, Inc.	$54.38	$2.18	4.00%	6.82%	10.82%
ES	Eversource Energy	$86.59	$2.42	2.79%	6.48%	9.27%
FTS	Fortis Inc.	$40.81	$2.04	5.00%	4.30%	9.30%
NEE	NextEra Energy, Inc.	$78.62	$1.53	1.94%	9.17%	11.11%
NWE	NorthWestern Corporation	$56.85	$2.47	4.35%	3.10%	7.45%
OGE	OGE Energy	$31.47	$1.62	5.16%	3.29%	8.44%
OTTR	Otter Tail Corporation	$41.74	$1.55	3.72%	6.50%	10.22%
PNW	Pinnacle West	$78.09	$3.35	4.29%	4.03%	8.32%
POR	Portland General	$42.07	$1.67	3.97%	4.74%	8.71%
PEG	Public Service Enterprise Group	$57.82	$2.04	3.53%	4.02%	7.54%
WEC	WEC Energy	$89.94	$2.66	2.96%	5.10%	8.06%
XEL	Xcel Energy	$64.89	$1.80	2.77%	6.04%	8.81%
					Average	*8.97%*
					75th Percentile	*9.38%*

DISCOUNTED CASH FLOW

Multistage

	LNT	AEE	AVA	BKH	ED	DTE	DUK	EIX	EVRG	ES	FTS	NEE	NWE	OGE	OTTR	PNW	POR	PEG	WEC	XEL
Stock Price	$50.10	$75 65	$38 86	$60.75	$71.84	$121 95	$91.95	$60.75	$54.38	$86.59	$40.81	$78 62	$56 85	$31.47	$41.74	$78.09	$42.07	$57 82	$89 94	$64 89
Div1	$1.61	$2.09	$1 67	$2 29	$3.12	$4 40	$4 00	$2.70	$2 18	$2 42	$2 04	$1.53	$2 47	$1 62	$1.55	$3 35	$1 67	$2.04	$2.66	$1.80
5-Yr Growth	5.70%	6.40%	3.18%	4.65%	2 25%	5.84%	4.95%	7.56%	6 82%	6 48%	4 30%	9.17%	3 10%	3 29%	6 50%	4 03%	4.74%	4.02%	5.10%	6.04%
L-t Growth	5.13%	5.13%	5 13%	5 13%	5.13%	5.13%	5.13%	5.13%	5 13%	5 13%	5.13%	5.13%	5.13%	5.13%	5 13%	5.13%	5.13%	5 13%	5.13%	5.13%
Cost of Equity	***8.37%***	***7.97%***	***9.13%***	***8.81%***	***9.04%***	***8.81%***	***9 45%***	***9.95%***	***9.36%***	***8.01%***	***9.99%***	***7.26%***	***9.17%***	***9.97%***	***9.01%***	***9.25%***	***9.03%***	***8.49%***	***8.03%***	***7.94%***

Average ROE

8.85%

75th Percentile

9.31%

Cash Flows

2017	-$50.10	-$75.65	-$38 86	-$60 75	-$71.84	-$121 95	-$91 95	-$60 75	-$54.38	-$86.59	-$40 81	-$78 62	-$56.85	-$31.47	-$41 74	-$78.09	-$42.07	-$57.82	-$89 94	-$64 89
2018	$1 61	$2.09	$1.67	$2 29	$3 12	$4 40	$4 00	$2.70	$2 18	$2 42	$2 04	$1 53	$2 47	$1.62	$1.55	$3.35	$1.67	$2 04	$2.66	$1 80
2019	$1 70	$2.23	$1 72	$2 39	$3.19	$4 66	$4.20	$2 90	$2.32	$2 57	$2 13	$1.67	$2 55	$1 68	$1 65	$3 49	$1 75	$2 12	$2 79	$1 91
2020	$1.79	$2 37	$1.78	$2.50	$3.26	$4 93	$4.41	$3.12	$2 48	$2.74	$2 22	$1 82	$2 63	$1 73	$1 76	$3.63	$1 83	$2 21	$2.94	$2.02
2021	$1.90	$2.52	$1.84	$2.62	$3 33	$5 22	$4 63	$3 36	$2 65	$2.92	$2 32	$1.99	$2.71	$1.79	$1 87	$3.77	$1.92	$2 29	$3 09	$2 14
2022	$2.01	$2.68	$1.89	$2 74	$3 41	$5 52	$4.86	$3.61	$2 83	$3 11	$2 42	$2.17	$2 80	$1.85	$2 00	$3 93	$2.01	$2.39	$3.24	$2.27
2023	$2.11	$2 82	$1.99	$2 88	$3 58	$5 81	$5.11	$3 80	$2 98	$3 27	$2.54	$2.28	$2 94	$1.94	$2.10	$4.13	$2.11	$2.51	$3.41	$2 39
2024	$2.22	$2 96	$2 09	$3 03	$3.77	$6.11	$5 37	$3 99	$3 13	$3.43	$2.67	$2 40	$3 09	$2 04	$2 21	$4.34	$2 22	$2 64	$3 59	$2.51
2025	$2 33	$3 12	$2.20	$3.19	$3 96	$6.42	$5.64	$4 20	$3 29	$3 61	$2.81	$2 52	$3 25	$2.15	$2.32	$4 56	$2.33	$2.77	$3.77	$2 64
2026	$2 45	$3.28	$2 31	$3.35	$4 16	$6 75	$5.93	$4 41	$3.46	$3 80	$2 95	$2 65	$3.41	$2.26	$2.44	$4 80	$2.45	$2.92	$3.96	$2.78
2027	$2 57	$3.44	$2 43	$3 52	$4.38	$7.09	$6 24	$4 64	$3.64	$3 99	$3 10	$2 79	$3 59	$2.37	$2.56	$5 04	$2.58	$3.06	$4.17	$2 92
2028	$2 71	$3 62	$2 56	$3 70	$4.60	$7.46	$6 56	$4.88	$3 83	$4 19	$3 26	$2 93	$3 77	$2 49	$2.70	$5.30	$2.71	$3.22	$4 38	$3 07
2029	$2 85	$3 81	$2 69	$3.89	$4.84	$7 84	$6 89	$5.13	$4 02	$4.41	$3 43	$3.08	$3.97	$2.62	$2 83	$5 57	$2 85	$3 39	$4.60	$3.23
2030	$2 99	$4.00	$2 83	$4.09	$5 08	$8 24	$7 25	$5 39	$4 23	$4.64	$3 60	$3 24	$4.17	$2 76	$2 98	$5.86	$3.00	$3 56	$4.84	$3.39
2031	$3 15	$4.21	$2.97	$4 30	$5 35	$8 67	$7 62	$5.67	$4 45	$4 87	$3.79	$3 40	$4.38	$2.90	$3.13	$6.16	$3.15	$3.74	$5.09	$3.57
2032	$3.31	$4.42	$3 12	$4 52	$5.62	$9 11	$8.01	$5.96	$4 67	$5 12	$3 98	$3.58	$4 61	$3 05	$3.29	$6 48	$3.31	$3 94	$5.35	$3.75
2033	$3.48	$4 65	$3.28	$4.75	$5 91	$9.58	$8.42	$6 27	$4.91	$5 39	$4.19	$3.76	$4.85	$3.20	$3.46	$6 81	$3 48	$4.14	$5 63	$3.94
2034	$3 65	$4.89	$3 45	$5 00	$6.21	$10 07	$8 85	$6.59	$5.17	$5 66	$4 40	$3 96	$5 09	$3.37	$3.64	$7 16	$3.66	$4 35	$5 91	$4 14
2035	$3 84	$5 14	$3.63	$5 25	$6 53	$10 59	$9 31	$6 93	$5.43	$5.95	$4 63	$4 16	$5.36	$3 54	$3 83	$7.52	$3.85	$4 57	$6 22	$4 36
2036	$4.04	$5 40	$3 82	$5 52	$6.86	$11 13	$9 78	$7 28	$5.71	$6.26	$4 67	$4 37	$5 63	$3 72	$4.02	$7.91	$4.05	$4 81	$6.54	$4 58
2037	$4 25	$5 68	$4 01	$5 81	$7.22	$11 70	$10 29	$7 65	$6 00	$6.58	$5.12	$4.60	$5.92	$3.91	$4.23	$8 32	$4 25	$5.05	$6.87	$4 81
2038	$4 46	$5 97	$4.22	$6 11	$7 59	$12 30	$10.81	$8.05	$6 31	$6 92	$5 38	$4 83	$6.22	$4.11	$4 45	$8.74	$4.47	$5 31	$7 22	$5.06
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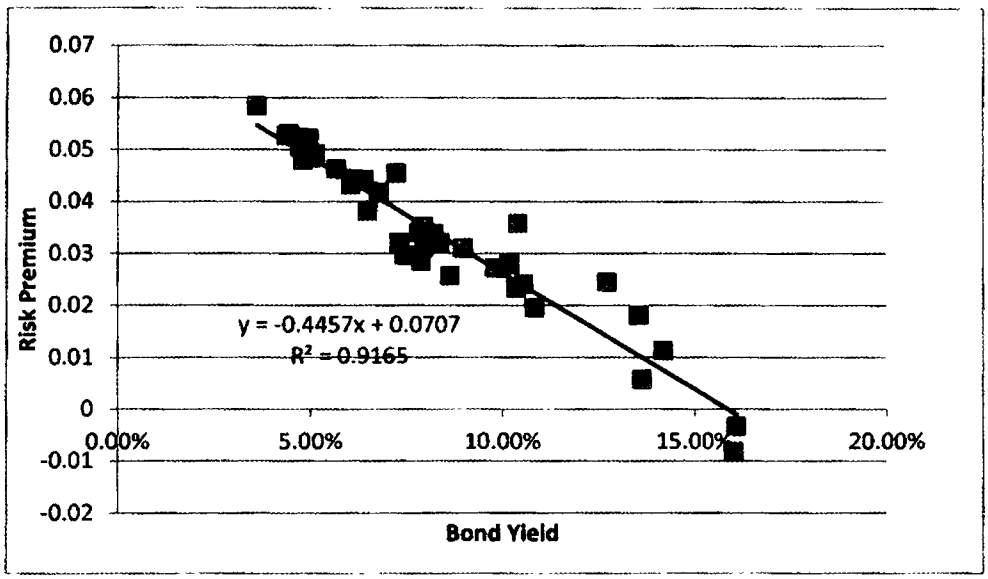
2162	$2,207.24	$2,952 98	$2,085.57	$3,018 69	$3,751.32	$6,081.76	$5,346 64	$3,978 45	$3,119.60	$3,420.57	$2,659 36	$2,389.34	$3,077 03	$2,033 57	$2,198 19	$4,322.85	$2,210.77	$2,627 05	$3,571.64	$2,502 54
2163	$2,320.47	$3,104.47	$2,192 56	$3,173.54	$3,943.76	$6,393 76	$5,620 93	$4,182.54	$3,279 64	$3,596.05	$2,795.78	$2,511.91	$3,234 89	$2,137.90	$2,310.96	$4,544.61	$2,324.18	$2,761.82	$3,754.86	$2,630.92
2164	$2,439 51	$3,263 73	$2,305 04	$3,336 35	$4,146.08	$6,721.76	$5,909.28	$4,397.11	$3,447.88	$3,780 53	$2,939 21	$2,640.78	$3,400.84	$2,247.57	$2,429.51	$4,777 75	$2,443 41	$2,903 50	$3,947 48	$2,765.89
2165	$2,564.65	$3,431.16	$2,423.29	$3,507.50	$4,358 77	$7,066 58	$6,212 43	$4,622.68	$3,624.76	$3,974 47	$3,089.99	$2,776.25	$3,575 30	$2,362 87	$2,554 14	$5,022 85	$2,568 76	$3,052 45	$4,149 99	$2,907 78
2166	$2,696 22	$3,607.17	$2,547 61	$3,687.44	$4,582 38	$7,429 10	$6,531 12	$4,859.82	$3,810 71	$4,178 36	$3,248.50	$2,918 67	$3,758 71	$2,484.09	$2,685.17	$5,280 52	$2,700.54	$3,209.04	$4,362.89	$3,056 95
2167	$2,834.54	$3,792.22	$2,678 30	$3,876.60	$4,817.45	$7,810 21	$6,866.17	$5,109.13	$4,006 20	$4,392 71	$3,415.15	$3,068.40	$3,951.53	$2,611.52	$2,822.92	$5,551.41	$2,839 08	$3,373 67	$4,586 70	$3,213 77

CONVENTIONAL RISK-PREMIUM ANALYSIS OF ELECTRIC UTILITIES' AUTHORIZED RATES OF RETURN ON EQUITY AND CONCURRENT BOND YIELDS

Year	Allowed ROE[1]	Avg Baa Bond Yield[2]	Risk Premium
2020	9.44%	3.60%	5.84%
2019	9.66%	4.38%	5.28%
2018	9.60%	4.80%	4.80%
2017	9.74%	4.44%	5.30%
2016	9.77%	4.72%	5.05%
2015	9.85%	5.00%	4.85%
2014	9.91%	4.85%	5.06%
2013	10.03%	5.10%	4.93%
2012	10.17%	4.94%	5.23%
2011	10.29%	5.66%	4.63%
2010	10.37%	6.04%	4.33%
2009	10.52%	7.30%	3.22%
2008	10.41%	7.43%	2.98%
2007	10.30%	6.48%	3.82%
2006	10.32%	6.48%	3.84%
2005	10.51%	6.06%	4.45%
2004	10.81%	6.40%	4.41%
2003	10.96%	6.77%	4.19%
2002	11.21%	7.81%	3.40%
2001	11.07%	7.95%	3.12%
2000	11.58%	8.37%	3.21%
1999	10.72%	7.87%	2.85%
1998	11.77%	7.22%	4.55%
1997	11.33%	7.87%	3.46%
1996	11.40%	8.05%	3.35%
1995	11.58%	8.20%	3.38%
1994	11.21%	8.63%	2.58%
1993	11.46%	7.94%	3.52%
1992	12.09%	8.98%	3.11%
1991	12.54%	9.81%	2.73%
1990	12.70%	10.35%	2.35%
1989	12.97%	10.18%	2.79%
1988	12.80%	10.84%	1.96%
1987	12.98%	10.57%	2.41%
1986	13.99%	10.40%	3.59%
1985	15.18%	12.72%	2.46%
1984	15.34%	14.20%	1.14%
1983	15.37%	13.55%	1.82%
1982	15.79%	16.11%	-0.32%
1981	15.22%	16.03%	-0.81%
1980	14.23%	13.64%	0.59%
Averages[3]	*11.64%*	*8.24%*	*3.40%*

[1] *SNL Financial LC (https://platform.mi.spglobal.com/web/client?auth=inherit#industry/statisticsAndGraphs; available at www.snl.com)*
[2] *Mergent Bond Record, January 2021, Vol. 87, No. 1, pg. 251,* and earlier editions.

CONVENTIONAL RISK-PREMIUM ANALYSIS OF ELECTRIC UTILITIES' AUTHORIZED RATES OF RETURN ON EQUITY AND CONCURRENT BOND YIELDS



Computation of ROE

Avg Seasoned Baa Bond Yield, Feb. 2020 - Jan. 2021:		3.56%
Average bond yield over study period:	-	8.24%
Change in bond yield:		-4.68%
Risk Premium/Interest Rate Relationship:	x	-0.4457
Adjustment to average risk premium:		2.09%
Average Risk Premium over Study Period:	+	3.40%
Adjusted Risk Premium:		5.49%
Avg Seasoned Baa Bond Yield:	+	3.56%
Implied Cost of Equity:		***9.05%***

CAPITAL ASSET PRICING MODEL

Estimated Cost of Equity

Ticker Symbol	Company	Risk-Free Rate[1]	Value Line Beta[2]	Market Risk Premium[3]	CAPM Cost of Equity
LNT	Alliant Energy	1.78%	0.85	6.12%	6.98%
AEE	Ameren Corporation	1.78%	0.85	6.12%	6.98%
AVA	Avista Corporation	1.78%	0.95	6.12%	7.59%
BKH	Black Hills Corporation	1.78%	1.00	6.12%	7.90%
ED	Consolidated Edison, Inc.	1.78%	0.75	6.12%	6.37%
DTE	DTE Energy	1.78%	0.95	6.12%	7.59%
DUK	Duke Energy Corporation	1.78%	0.85	6.12%	6.98%
EIX	Edison International	1.78%	0.95	6.12%	7.59%
EVRG	Evergy, Inc.	1.78%	1.00	6.12%	7.90%
ES	Eversource Energy	1.78%	0.90	6.12%	7.29%
FTS	Fortis Inc.	1.78%	0.80	6.12%	6.68%
NEE	NextEra Energy, Inc.	1.78%	0.90	6.12%	7.29%
NWE	NorthWestern Corporation	1.78%	0.95	6.12%	7.59%
OGE	OGE Energy	1.78%	1.10	6.12%	8.51%
OTTR	Otter Tail Corporation	1.78%	0.85	6.12%	6.98%
PNW	Pinnacle West	1.78%	0.90	6.12%	7.29%
POR	Portland General	1.78%	0.85	6.12%	6.98%
PEG	Public Service Enterprise Grou	1.78%	0.90	6.12%	7.29%
WEC	WEC Energy	1.78%	0.80	6.12%	6.68%
XEL	Xcel Energy	1.78%	0.80	6.12%	6.68%
				Average	***7.26%***

Sources: [1]U.S. Treasury (http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=longtermrateYear&year=2021); data for treasury 20-year constant maturity rates from December 16, 2020, through March 15, 2021.

[2] *Value Line Investment Report*, December 11, 2020, and January 22 and February 12, 2021.

[3]Data from Duff and Phelps, 2020, which was formerly included in annual publication of Valuation Handbook - U.S. Guide to Cost of Capital (Duff & Phelps); arithmetic mean of large-company stocks from 1926 to 2019 minus the arithmetic mean of long-term government bonds for the same time period.

RETURN ON EQUITY

Summary

Single-stage DCF	
Range	Point Estm.
6.59%-12.00%	9.38%
Multi-stage DCF	
Range	Point Estm.
7.26%-9.99%	9.31%
Combined DCF	
Range	Point Estm.
6.59%-12.00%	9.35%

Risk Premium	
Range	Point Estm.
N/A	9.05%

Final Estimate

Range	9.05%-9.35%
Point Estimate	***9.35%***
Staff Adjustment	-0.125%
Staff Final ROE	***9.225%***

Mark Filarowicz, CFA, CPA
Public Utility Commission of Texas
List of Previous Testimony

Docket No. 51611
Application of Sharyland Utilities, L.L.C. for Authority to Change Rates
Testimony on Rate of Return filed March 12, 2021

Docket No. 50734
Application of Oncor Electric Delivery Company LLC for Approval to Amend Its Distribution Cost Recovery Factor
Testimony in Support of Stipulation filed June 24, 2020

Docket No. 49421
Application of CenterPoint Energy Houston Electric, LLC for Authority to Change Rates
Testimony on Accounting Position and Revenue Requirement Model filed June 12, 2019

Docket No. 47588
Review of Rate Case Expenses Incurred by Southwestern Public Service Company in Docket No. 47527
Testimony on Rate-Case Expenses and in Support of Stipulation filed May 23, 2019

Docket No. 49057
Application of Entergy Texas, Inc. To Set a Transmission Cost Recovery Factor
Testimony on Accounting Position and Revenue Requirement Model filed March 25, 2019

Docket No. 48371
Entergy Texas, Inc.'s Statement of Intent and Application for Authority to Change Rates
Testimony on Rate of Return filed August 8, 2018

Docket No. 48325
Application of Oncor Electric Delivery Company LLC for Authority to Decrease Rates
Testimony on Accounting Position and Effects of the Tax Cuts and Jobs Act of 2017 filed August 8, 2018
Testimony in Support of Stipulation filed September 11, 2018
Errata filed September 13, 2018

Docket No. 47527
Application of Southwestern Public Service Company for Authority to Change Rates
Testimony on Rate of Return filed May 2, 2018

Docket No. 46328
Review of Rate Case Expenses Incurred by Southwestern Public Service Company and Municipalities in Docket No. 45524
Testimony on Rate-Case Expenses and in Support of Stipulation filed November 30, 2017

Docket No. 46831
Application of El Paso Electric Company to Change Rates
Testimony on Rate of Return filed June 30, 2017

Docket No. 47032
Application of CenterPoint Houston Electric, LLC for Approval to Amend Its Distribution Cost Recovery Factor
Testimony on Accounting Position, DCRF Revenue Requirement, and Rate-Case Expenses filed June 7, 2017

Docket No. 45524
Application of Southwestern Public Service Company for Authority to Change Rates
Testimony on Accounting Position and Cost of Service filed August 23, 2016
Testimony in Support of Stipulation filed December 8, 2016

Docket No. 45475
Review of Rate Case Expenses Incurred by El Paso Electric Company and Municipalities in Docket No. 44941
Testimony on Rate-Case Expenses and in Support of Stipulation filed July 21, 2016

Docket No. 44941
Application of El Paso Electric Company to Change Rates
Testimony on Rate-Case Expenses and in Support of Stipulation filed July 21, 2016

Docket No. 45084
Application of Entergy Texas, Inc. for Approval of a Transmission Cost Recovery Factor
Testimony on Accounting Position and TCRF Revenue Requirement filed November 24, 2015
Errata filed December 10, 2015

Docket No. 45083
Application of Entergy Texas, Inc. for Approval to Amend Its Distribution Cost Recovery Factor
Testimony on Accounting Position and DCRF Revenue Requirement filed October 23, 2015