Before the South Dakota Public Service Commission

State of South Dakota

In the Matter of the Application of Otter Tail Power Company

For Authority to Increase Rates for Electric Utility

Service in South Dakota

Docket No. EL25-____

Exhibit____(AEB-1)

RETURN OF EQUITY

DIRECT TESTIMONY AND SCHEDULES OF

ANN E. BULKLEY

June 4, 2025

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I. INTRODUCTION AND QUALIFICATIONS

Q. WHAT IS YOUR NAME, BUSINESS ADDRESS, AND POSITION?

A. My name is Ann E. Bulkley. I am a Principal at The Brattle Group (Brattle). My business address is One Beacon Street, Suite 2600, Boston, Massachusetts 02108.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND, AS WELL AS YOUR BUSINESS AND PROFESSIONAL EXPERIENCE.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with more than 30 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. I have included my qualifications and a summary of testimony that I have filed in other proceedings as Exhibit___(AEB-1), Schedule 1 to this testimony.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am submitting this direct testimony before the South Dakota Public Utilities Commission (Commission) on behalf of Otter Tail Power Company (OTP or the Company), a wholly-owned subsidiary of Otter Tail Corporation (OTTR).

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to present evidence and provide a recommendation regarding the appropriate return on equity (ROE) for OTP and to provide an assessment of the capital structure to be used for ratemaking purposes.

Q. ARE YOU SPONSORING ANY EXHIBITS OR SCHEDULES IN SUPPORT OF YOUR DIRECT TESTIMONY?

A. Yes. My analyses and recommendations are supported by the data presented in Exhibit___(AEB-1), Schedules 2 through 15.

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT LED TO YOUR ROE RECOMMENDATION?

A. I have estimated the Company's cost of equity by applying several traditional estimation methodologies to a proxy group of comparable utilities, including the Discounted Cash Flow (DCF) model, the Capital Asset Pricing Model (CAPM), the Empirical Capital Asset Pricing Model (ECAPM), and a Bond Yield Risk Premium (BYRP or Risk Premium) analysis. My recommendation also takes into consideration the following factors: (1) the Company's small size; (2) limited trading volume; (3) limited institutional ownership; (4) OTP's customer concentration; (5) the Company's capital expenditure requirements; (6) the regulatory environment in which the Company operates; (7) flotation costs; and (8) the Company's proposed capital structure as compared to the capital structures of the proxy group companies. While I do not make specific adjustments to my ROE recommendation for these factors, I did consider them in the aggregate when determining where my recommended ROE falls within the range of the analytical results.

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

A. The remainder of my direct testimony is organized as follows:

- Section III provides a summary of my analyses and conclusions.
- Section IV reviews the regulatory guidelines pertinent to the development of the cost of capital.
- Section V discusses current and projected capital market conditions and the effect of those conditions on the Company's cost of equity.
- Section VI explains my selection of the proxy group for the Company.

- Section VII describes my analyses and the basis for my recommended ROE in this proceeding.
- Section VIII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized in this proceeding.
- Section IX assesses the proposed capital structure as compared to the proxy group.
- Section X presents my conclusions and recommendations for the market cost of equity.

III. SUMMARY OF ANALYSIS AND CONCLUSIONS

Q. PLEASE SUMMARIZE THE KEY FACTORS CONSIDERED IN YOUR ANALYSES AND UPON WHICH YOU BASE YOUR RECOMMENDED ROE.

A. The key factors that I considered in my cost of equity analyses and recommended ROE for the Company in this proceeding are:

- The United States Supreme Court's *Hope* and *Bluefield* decisions,[1] which established the standards for determining a fair and reasonable authorized ROE for public utilities, including consistency of the allowed return with the returns of other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and the requirement that the result lead to just and reasonable rates.
- The effect of current and prospective capital market conditions on the cost of equity estimation models and on investors' return requirements.
- The results of several analytical approaches that provide estimates of the Company's cost of equity. Because the Company's authorized ROE should be a forward-looking estimate over the period during which the rates will be in effect, these analyses rely on forward-looking inputs and assumptions

[1] Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944) ("Hope"); Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) ("Bluefield").

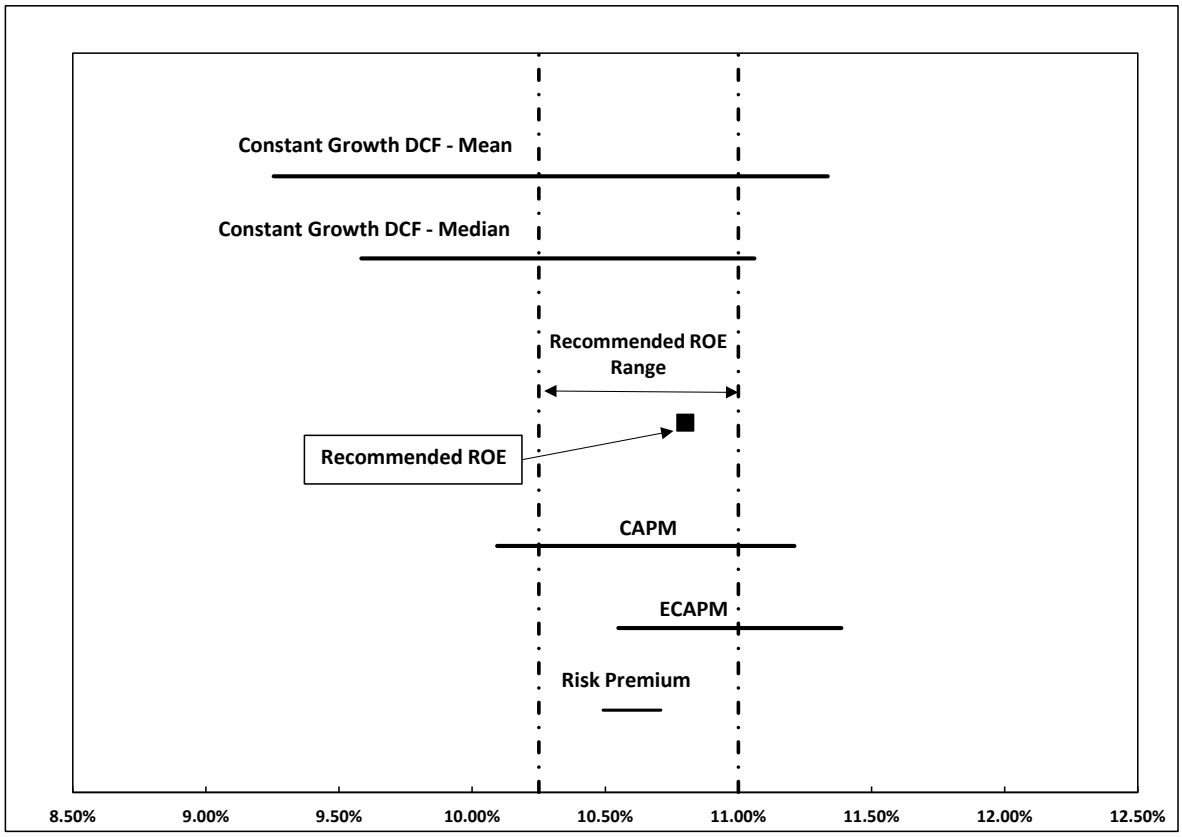
(e.g., projected analyst growth rates in the DCF model, forecasted risk-free rate and market risk premium in the CAPM analysis).

- Although the companies in my proxy group are generally comparable to OTP, each company is unique, and no two companies have the exact same business and financial risk profiles. Accordingly, I considered the Company's regulatory, business, and financial risks relative to the proxy group of comparable companies in determining where the Company's ROE should fall within the reasonable range of analytical results to appropriately account for any residual differences in risk.

Q. WHAT ARE THE RESULTS OF THE MODELS THAT YOU HAVE USED TO ESTIMATE THE COST OF EQUITY FOR OTP?

A. Figure 1 summarizes the range of results produced by the constant growth DCF, CAPM, ECAPM, and Bond Yield Plus Risk Premium analysis.

Figure 1: Summary of Cost of Equity Analytical Results



Q. WHAT IS YOUR RECOMMENDED ROE FOR OTP IN THIS PROCEEDING?

A. Considering the analytical results presented in Figure 1, and discussed further throughout my testimony, current and prospective capital market conditions, as well as the level of risk faced by OTP's operations in South Dakota relative to the proxy group, I conclude that the range of reasonable ROEs for OTP is 10.25 to 11.00, and within that range, I recommend an ROE of 10.80 percent.

Q. IS OTP'S REQUESTED CAPITAL STRUCTURE REASONABLE AND APPROPRIATE?

A. Yes. The Company's proposed equity ratio of 53.54 percent is well within the range of the actual capital structures of the utility operating subsidiaries of the proxy group companies.

IV. REGULATORY PRINCIPLES AND GUIDELINES

Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES TO BE USED IN ESTABLISHING THE COST OF CAPITAL FOR A REGULATED UTILITY.

A. The U.S. Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's authorized ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) that the end result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[2]

Q. HOW DID THE COURT CONNECT THE ACHIEVEMENT OF A FAIR RATE OF RETURN TO THE PROVISION OF UTILITY SERVICE?

A. In *Bluefield*, the Court noted a proper rate of return not only assures "confidence in the financial soundness of the utility and should be adequate, under efficient

[2] *Hope,* 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).

and economical management, to maintain and support its credit [but also] enable[s the utility] to raise the money necessary for the proper discharge of its public duties."[3] As the Court further explained in *Hope*, "[t]he rate-making process … involves balancing of the investor and consumer interests."[4]

Q. HAS THE COMMISSION PROVIDED SIMILAR GUIDANCE IN ESTABLISHING THE APPROPRIATE RETURN ON COMMON EQUITY?

A. Yes, it has. In Docket No. EL11-019 for Northern States Power Company, the Commission stated that:

> Determining a reasonable ROE rests primarily on sound judgment looking at the overall results of the analysis. Under SDCL 49-34A-8 and relevant case law, rates set in this proceeding must be just and reasonable. *Federal Power commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).
>
> The just and reasonable test focuses on whether the "total effect of the rate order [is] unreasonable." *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 310 (1989). Under the just and reasonable test "it is the result reached, not the method employed that is controlling" and "the impact of the rate order which counts." *Hope, supra*, at 602. The South Dakota Supreme Court recognized that rates that do not yield a fair return are unreasonable. *In Re Northwestern Bell*, 43 N.W.2d 553, 555 (S.D. 1950). The rate of a return must be "commensurate with returns on other investments of corresponding risks" and "be sufficient … to attract capital." *Northwestern Public Service v. Cities of Chamberlain et al*, 265 N.W.2d 867, 873 (S.D. 1978).
>
> "The ratemaking process under the Act, i.e. the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests." *Hope, supra*, at 603. "Regulation may, consistently with the Constitution, limit stringently the return recovered on investment, for investors' interests provide only one of the variables in the constitutional calculus of reasonableness." *Permian Basin Area Rate Cases*, 390 U.S. 747, 769 (1968).[5]

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[3] *Bluefield*, 262 U.S. at 679, 693.

[4] *Hope*, 320 U.S. at 591, 603.

[5] Docket No. EL11-019, The Mater of the Application of Northern States Power Company DBA Xcel Energy for Authority to Increase its Electric Rates, Final Decision and Order, (Jul. 2, 2012), at 4.

This guidance is in accordance with my view that an allowed rate of return must be sufficient to enable regulated companies, like OTP, the ability to attract capital on reasonable terms.

Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY TO EARN AN ROE THAT IS ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?

A. An authorized ROE that is adequate to attract capital at reasonable terms enables the utility to continue to provide safe, reliable electric service while maintaining its financial integrity. That return should be commensurate with returns required by investors elsewhere in the market for investments of comparable risk. It is important to recognize that equity investors have a choice of where to invest capital. If the authorized ROE is not comparable to the returns available for comparable risk investments, it is not just the value to current equity holders that will be harmed, but rather, access to incremental equity is also affected. It is reasonable to expect that equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting the Company's ability to attract new equity capital at reasonable cost.

Q. IS A UTILITY'S ABILITY TO ATTRACT CAPITAL ALSO AFFECTED BY THE ROES THAT ARE AUTHORIZED FOR OTHER UTILITIES?

A. Yes. Utilities compete directly for capital with other investments of similar risk, which include other utilities. Therefore, the ROE authorized for a utility sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. Put another way: the cost of capital represents an opportunity cost to investors. If higher returns are available for other investments of comparable or lower risk, over the same time period, investors have an incentive to direct their capital to those alternative investments. Thus, an authorized ROE significantly

below authorized ROEs for other utilities can inhibit the utility's ability to attract capital for investment.

Q. IS THE REGULATORY FRAMEWORK, INCLUDING THE AUTHORIZED ROE AND EQUITY RATIO, IMPORTANT TO THE FINANCIAL COMMUNITY?

A. Yes. The regulatory framework is one of the most important factors in debt and equity investors' assessments of risk. Specifically regarding debt investors, credit rating agencies consider the authorized ROE and equity ratio for regulated utilities to be very important for two reasons: (1) they help determine the cash flows and credit metrics of the regulated utility; and (2) they provide an indication of the degree of regulatory support for credit quality in the jurisdiction. To the extent that the authorized returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk assessment of the regulatory jurisdiction in which the company operates. Not only do credit ratings affect the overall cost of borrowing, but they also act as a signal to equity investors about the risk of investing in the equity of a company.

Q. WHAT IS THE STANDARD FOR SETTING THE ROE IN ANY JURISDICTION?

A. The stand-alone ratemaking principle is the foundation of jurisdictional ratemaking. This principle requires that the rates that are charged in any operating jurisdiction be for the costs incurred in that jurisdiction. The stand-alone ratemaking principle ensures that customers in each jurisdiction only pay for the costs of the service provided in that jurisdiction, which is not influenced by the business operations in other operating companies. In order to maintain this principle, the cost of equity analysis is performed for an individual operating company as a stand-alone entity. As such, I have evaluated the investor-required return for OTP's electric operations in South Dakota.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY GUIDELINES?

A. The ratemaking process is premised on the principle that, in order for investors and companies to commit the capital needed to provide safe and reliable utility services, a utility must have a reasonable opportunity to recover the return of, and the market-required return on, its invested capital. This is particularly true for utilities, which are capital-intensive operations and are required to make investments in a variety of economic and financial market conditions. Preserving that ability benefits both investors and customers.

Accordingly, the Commission's order in this proceeding should establish rates that provide the Company with a reasonable opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises with similar risk. It is important for the ROE authorized in this proceeding to take into consideration current and projected capital market conditions, as well as investors' expectations and requirements for both risks and returns. Because utility operations are capital-intensive, regulatory decisions should enable the utility to attract capital at reasonable terms under a variety of economic and financial market conditions. Providing the opportunity to earn a market-based cost of capital supports the financial integrity of the Company, which is in the interest of both customers and shareholders.

V. CAPITAL MARKET CONDITIONS

Q. IS IT IMPORTANT TO ANALYZE CURRENT AND PROSPECTIVE CAPITAL MARKET CONDITIONS AS PART OF THE COE ANALYSIS?

A. Yes. Capital market conditions influence cost of equity models by affecting inputs in the model at the time the analysis is performed. While the ROE that is established in a rate proceeding is intended to be forward-looking, the analyst uses

current and projected market data, specifically stock prices, dividends, growth rates, and interest rates, in the models to estimate the required return for the subject company.

Analysts and regulatory commissions recognize that current market conditions affect the results of the cost of equity estimation models. Accordingly, it is important to consider the effect of these conditions on the models when determining an appropriate range for the ROE and the recommended ROE for a future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the cost of equity estimation models will not provide an accurate estimate of investors' required return during that rate period. Therefore, it is very important to consider projected market data to estimate the return for that forward-looking period.

Q. HOW HAVE INTEREST RATES CHANGED SINCE THE COMPANY'S LAST RATE DETERMINATION?

A. As shown in Figure 2 both short-term and long-term interest rates are significantly higher than at the time that the Company's last rate case was decided in May 2019. Further, while inflation has receded from the levels seen in 2022, it remains elevated when compared to the level at the time of the Company's last rate decision.

Figure 2: Change in Market Conditions Since Company's Last Rate Case

Docket	Date	Federal Funds Rate	30-Day Avg of 30-Year Treasury Bond Yield	Core Inflation Rate
D-EL18-021	5/14/2019	2.38%	2.83%	1.97%
Current	4/30/2025	4.33%	4.53%	2.81%
Change		1.95%	1.71%	0.84%

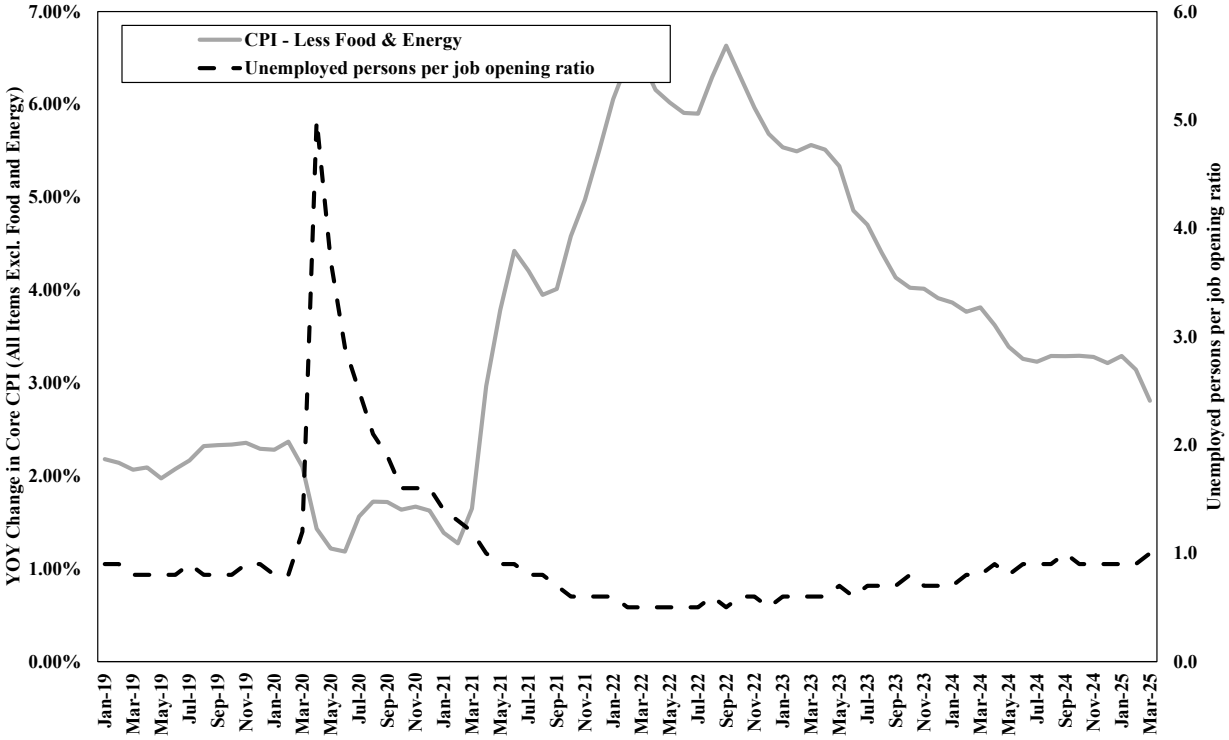
Q. WHAT HAS THE LEVEL OF INFLATION BEEN OVER THE PAST FEW YEARS?

A. As shown in Figure 3, year-over-year core inflation increased steadily beginning in early 2021, rising from 1.40 percent in January 2021 to a high of 6.64 percent in September 2022, which was the largest 12-month increase since 1982.[6] While core inflation has declined in response to the Federal Reserve's monetary policy, it continues to remain above the Federal Reserve's target level of 2.00 percent.

Because the Federal Reserve's dual mandate is to promote stable prices and employment, considering employment data, in addition to inflation, is important. The ratio of unemployed persons per job opening was 1.00 in March 2025 (the most recent data available at the time of this testimony) and has been consistently at or below 1.00 since April 2021, suggesting a tighter labor market. This indicates sustained strength in the labor market, allowing the Federal Reserve to prioritize reducing inflation by pursuing the necessary restrictive monetary policy needed to achieve its 2.00 percent target benchmark.

[6] Reade Pickert, Core US inflation rises to 40-year high, securing big Fed hike, Bloomberg, (October 13, 2022).

Figure 3: Core Inflation and Unemployed Persons-to-Job Openings, January 2019 – April 2025[7]



Q. WHAT POLICY ACTIONS DID THE FEDERAL RESERVE ENACT TO RESPOND TO INCREASED INFLATION?

A. The dramatic increase in inflation prompted the Federal Reserve to pursue an aggressive normalization of monetary policy, removing the accommodative policy programs used to mitigate the economic effects of COVID-19. Between the March 2022 Federal Open Market Committee (FOMC) meeting and the July 2023 FOMC meeting, the Federal Reserve increased the target federal funds rate through a series of increases from a range of 0.00 – 0.25 percent to a range of 5.25 percent to 5.50 percent.

[7] Figure 3 presents the year-over-year change in core inflation, as measured by the Consumer Price Index (CPI) excluding food and energy prices as published by the Bureau of Labor Statistics. I considered core inflation because it is the preferred inflation indicator of the Federal Reserve for determining the direction of monetary policy. Core inflation is preferred by the Federal Reserve because it removes the effect of food and energy prices, which can be highly volatile.

Q. HOW HAVE YIELDS ON LONG-TERM GOVERNMENT BONDS RESPOND TO THE FEDERAL RESERVE'S NORMALIZATION OF MONETARY POLICY?

A. Since the Federal Reserve's December 2021 meeting, the yield on 10-year Treasury bonds increased by over 350 basis points, increasing from 1.47 percent on December 15, 2021, to a peak of 4.98 percent in October 2023. It currently remains well above 2021 levels (*i.e.*, 4.58 percent as of May 21, 2025).[8]

Q. DID THE FEDERAL RESERVE RECENTLY REDUCE THE FEDERAL FUNDS RATES?

A. Yes. The Federal Reserve did recently reduce the federal funds rate by 50 basis points in September 2024, 25 basis points in November 2024, and 25 basis points in December 2024 noting at the September meeting the reduction was due to the risks associated with both inflation and the labor market becoming more balanced given the effectiveness of restrictive monetary policy in combatting inflation. However, the Federal Reserve left rates unchanged at the most recent FOMC meetings in January, March and May 2025.

Q. WHAT IS THE EXPECTED PATH OF MONETARY POLICY OVER THE NEAR-TERM?

A. At the May 2025 FOMC meeting, Chairman Powell noted that the economy is in a "solid position", the labor market is at or near "maximum employment" and inflation has declined "a great deal" but does still remain above the 2 percent long-term target.[9] As a result, the FOMC decided to maintain the current federal fund rate range of 4.25 percent to 4.50 percent.[10] Regarding the possible path of monetary policy, Chairman Powell acknowledged increased uncertainly due to the implementation of significant policy changes (*i.e.,* trade, immigration, fiscal policy

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8 S&P Capital IQ Pro.

9 Transcript of Chair Powell's Press Conference, (May 7, 2025).

10 *Id.*

and regulation), in particular, the tariff increases which were much larger than expected and, if sustained, could lead to both higher inflation and increased unemployment.[11] However, Chairman Powell stated that monetary policy is well positioned to wait for greater clarity on the effects of the policy changes.[12] While the FOMC did not produce economic projections at the May 2025 meeting, the FOMC's forecast of the federal funds rate at the March 2025 meeting remained unchanged from the December 2024 meeting, forecasting just two rate cuts before the end of 2025.[13]

Q. WHAT HAS HAPPENED TO THE YIELDS ON LONG-TERM GOVERNMENT BONDS SINCE THE FOMC REDUCED THE FEDERAL FUNDS RATE IN SEPTEMBER 2024?

A. As shown in Figure 4 below, while the yield on the 10-year treasury bond declined prior to the time of the first federal funds rate cut, the yield has increased since the September 2024 FOMC meeting. As of May 21, 2025, the 10-year Treasury bond yield was 4.58 percent, which is consistent with levels seen in May 2024, several months prior to the reductions in the federal funds rate.

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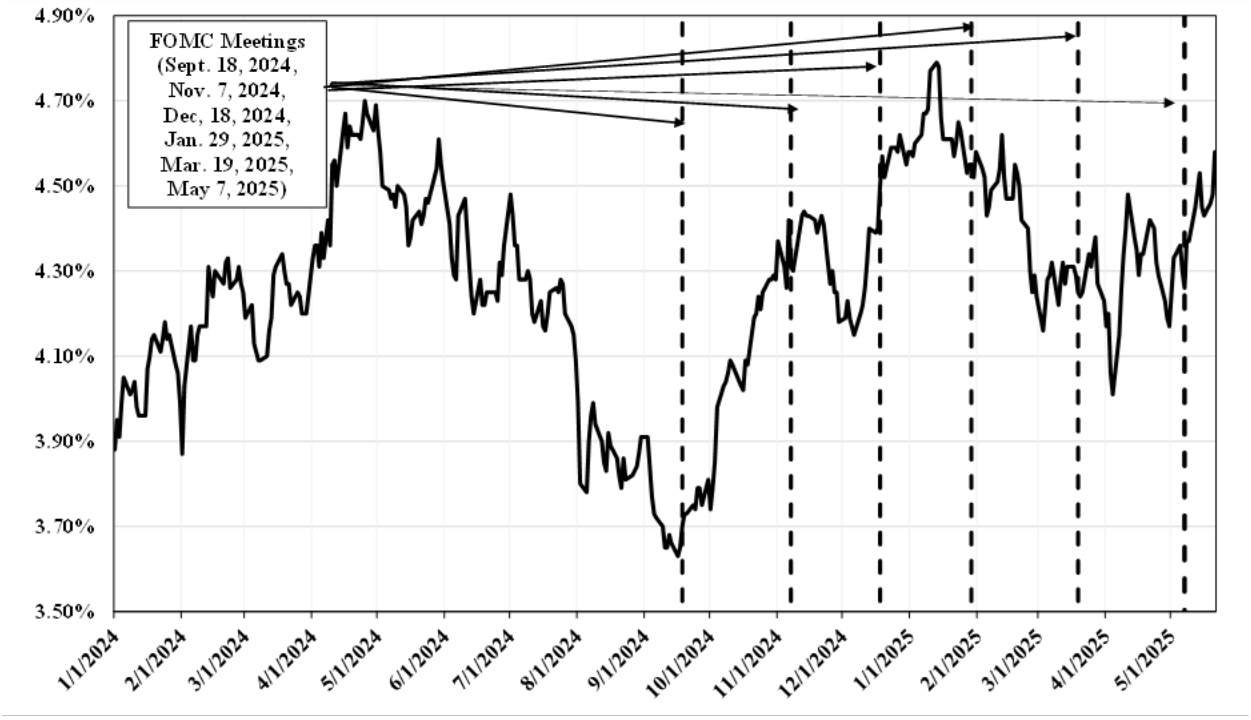
11 *Id.*

12 *Id.*

13 Federal Reserve, Summary of Economic Projections, March 19, 2025, at 2.

Figure 4: 10-Year Treasury Bond Yield, January 2024 through May 21, 2025[14]



Q. WHY HAVE LONG-TERM INTEREST RATES INCREASED SINCE THE FEDERAL RESERVE REDUCED THE FEDERAL FUNDS RATE IN SEPTEMBER?

A. Investors view key elements of proposed economic plans, such as tax cuts, immigration policy, and tariffs, as inflationary. According to a recent Reuters article, the increase in long-term government bond yields was initially related to investors responding to the expected outcome of the 2024 election and has continued since that time.[15] For example, on April 2, 2025, a significant set of tariffs on each of the U.S.'s trading partners was announced, a policy initiative that is largely viewed as inflationary. Inflation affects bonds, in particular long-term government bonds, because it erodes the value of future bonds payments. Therefore, in an inflationary environment, investors will demand higher returns

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14 S&P Capital IQ Pro.

15 Davide Barbuscia and Lewis Krauskopf, "Bond rebound uncertain as Trump plans overshadow Fed rate cuts," Reuters, November 8, 2024.

on bonds to compensate for the added risk of inflation thus bond prices decline and the yields on bonds increase. The longer the duration of the bond, the greater the effect of inflation, which is why inflation risk is greater for long-term government bonds. The significant tariff policy increases the risk that inflation will remain elevated, which is why the yields on long-term bonds have not decreased and in fact have increased since the Federal Reserve reduced the federal funds rate. Further, the use of tariffs strains the relationship with trading partners, which could result in a reduction in the foreign demand for long-term U.S. government bonds resulting in additional upward pressure on long-term government bond yields.[16]

Q. WHAT ARE EXPECTATIONS FOR THE YIELDS ON LONG-TERM GOVERNMENT BONDS?

A. Economists and analysts are expecting elevated rates. Blue Chip Financial Forecasts provides a forecast from economists on the 30-year Treasury bond. In the most recent published Blue Chip Financial Forecasts report, economists projected the 30-year treasury rate to remain relatively stable and decrease only slightly from 4.50 percent in Q3/2025 to 4.40 percent in Q3/2026.[17] Additionally, the consensus estimate over the longer-term (*i.e.,* 2026-2030) as published in the December 2024 Blue Chip Financial Forecasts report was 4.30 percent.[18] This is important because it means that long-term interest rates are expected to remain elevated during the period that the Company's rates will be in effect.

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16 Vanjani, Karishma. "U.S. Treasury Bonds Sell Off as 30-Year Yield Rises Most Since 1982," *Barron's*, April 9, 2025.

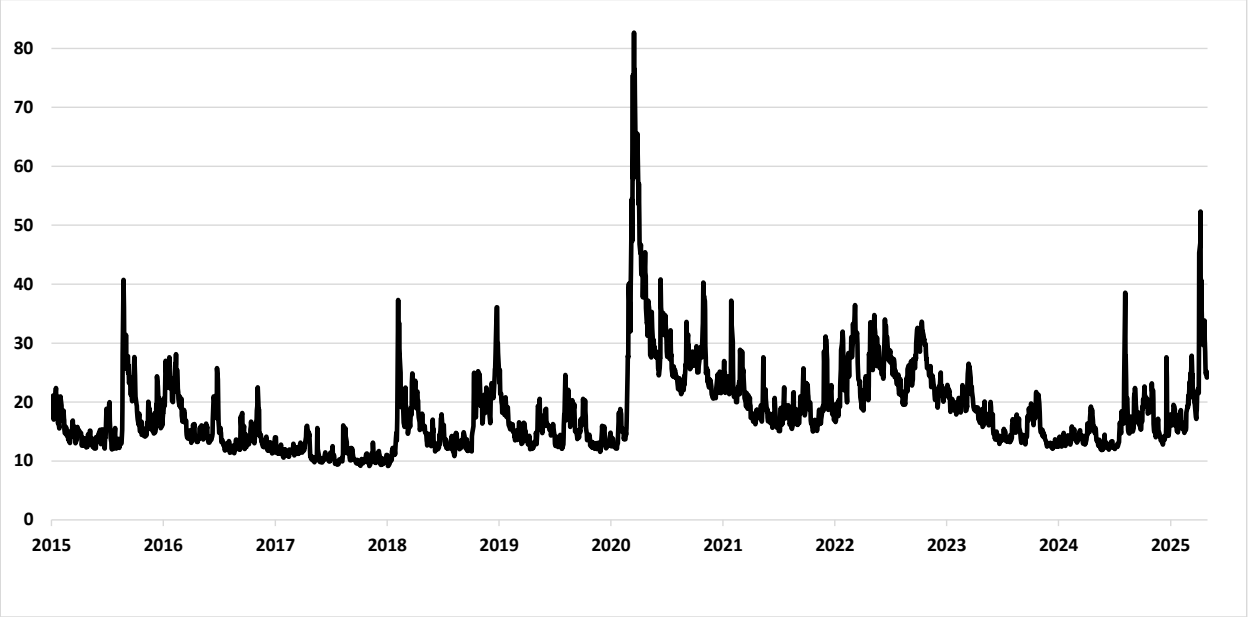
17 Blue Chip Financial Forecasts, Vol. 44, No. 5, May 1, 2025, at 2.

18 Blue Chip Financial Forecasts, Vol. 43, No. 12, November 27, 2024, at 14.

Q. IS THERE HEIGHTENED VOLATILITY IN FINANCIAL MARKETS?

A. Yes, financial markets have been extremely volatile since President Trump announced a significant set of tariffs on April 2, 2025. For example, as shown in Figure 5, the CBOE Volatility Index (VIX), which measures investors' expectation of volatility in the S&P 500 over the next 30 days, has been above 24 since April 2, 2025, and peaked at 52.33 on April 8, 2025. The VIX has not reached 50.00 since April 2020 during the height of the COVID-19 pandemic. The high level of uncertainty associated with the economic effects of the new tariff policy has resulted in significant volatility increasing the risk of holding equity investments and implying an increase in the cost of equity.

Figure 5: CBOE VIX – January 2015 – April 2025[19]



Q. ARE THERE OTHER INDICATORS THAT SHOW UNCERTAINTY HAS INCREASED RECENTLY?

A. Yes. In addition to the recent high volatility as measured by the VIX, the University of Michigan's consumer sentiment index indicates consumer sentiment is at its

[19] Bloomberg Professional.

second lowest point since 1952 and that inflation expectations are at the highest levels in 44 years.[20] Furthermore, a recent Bank of America Global Fund Manager Survey conducted in April 2025, shows investor sentiment at its 5th lowest point since the study began in 2001.[21]

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF CURRENT MARKET CONDITIONS ON THE COST OF EQUITY FOR THE COMPANY?

A. It is important to consider current and projected market conditions in setting the forward-looking ROE due to its effect on the estimated cost of equity. Long-term interest rates remain elevated and are expected to continue to remain elevated as a result of inflationary policies such as tariffs, immigration policy, and tax cuts. While the FOMC reduced the federal funds rate three times at the end of 2024, rates were unchanged at the first meetings of 2025 and the Federal Reserve is in wait and see mode and will rely on incoming data to determine when it is appropriate to adjust the federal funds rate. With higher expected interest rates, borrowing is more expensive, which in turn raises the cost of capital. As a result, investors demand higher returns on equity, leading to an increase in the cost of equity.

VI. PROXY GROUP SELECTION

Q. PLEASE PROVIDE A BRIEF PROFILE OF OTP.

A. OTP is a vertically integrated electric distribution company that is a wholly-owned subsidiary of Otter Tail Corporation. OTP North electric service to more than 134,000 customers in South Dakota, South Dakota and Minnesota [22]

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[20] Harriet Torry. "'From anxious to petrified': Consumer sentiment plunges further," Wall Street Journal. April 11, 2025.

[21] Michael Hartnett et al., "Global Fund Manager Survey: The Bear Necessities," BoA Global Research. April 15, 2025.

[22] Otter Tail Corporation, 2024 SEC Form 10-K, at 6.

(approximately 9 percent of which are located in South Dakota).[23] OTP had operating revenues of $525 million in 2024.[24] OTP owns generation facilities, including coal, natural gas, wind, and solar generation facilities. OTP has an investment grade long-term rating of BBB+ (Outlook: Stable) from S&P, a rating of A3 (Outlook: Negative) from Moody's Investor Services, and BBB+ (Outlook: Stable) from Fitch Ratings.[25]

Q. WHY HAVE YOU USED A GROUP OF PROXY COMPANIES TO ESTIMATE THE COST OF EQUITY FOR OTP?

A. One of the purposes of this proceeding is to estimate the cost of equity for an electric company that is not itself publicly traded. Because the cost of equity is a market-based concept and because OTP's operations do not make up the entirety of a publicly traded entity, it is necessary to establish a group of companies that are both publicly traded and generally comparable to OTP in certain fundamental business and financial respects to serve as its "proxy" in the cost of equity estimation process. As discussed below, however, OTP has risk factors that differentiate it from the companies in my proxy group.

Further, even if OTP were a publicly traded entity, it is possible that transitory events could bias its market value over a given period. A significant benefit of using a proxy group is that it moderates the effects of unusual events that may be associated with any one company. The companies included in the proxy group all possess a set of operating and risk characteristics that are generally comparable to OTP's and thus provide a reasonable basis to derive and estimate the appropriate cost of equity for OTP.

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[23] Company provided data.

[24] Otter Tail Corporation, 2024 SEC Form 10-K, at 34.

[25] S&P Global Ratings, September 23, 2024; Moody's Investor Services, August 1, 2024; and Fitch Ratings, September 10, 2024.

Q. HOW DID YOU SELECT THE COMPANIES INCLUDED IN YOUR PROXY GROUP?

A. I began with the group of 36 companies that *Value Line* classifies as electric utilities and applied the following screening criteria to select companies that:

- pay consistent quarterly cash dividends, because companies that do not pay a dividend cannot be analyzed using the constant growth DCF model;
- have investment grade long-term issuer ratings;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- own regulated generation assets that are included in rate base;
- derive more than 40.00 percent of their megawatt-hour sales from their owned generation facilities;
- derive more than 60.00 percent of their total operating income from regulated electric operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

I developed the screening criteria and thresholds for each screen based on judgment with the intention of balancing the need to maintain a proxy group that is of sufficient size against establishing a proxy group of companies that are comparable in business and financial risk to the Company.

Q. DID YOU INCLUDE OTTR IN YOUR PROXY GROUP?

A. No. Consistent with my general practice of excluding the subject company, or its parent holding company, from the proxy group, I excluded OTTR from my proxy group for OTP.

Q. WHAT IS THE COMPOSITION OF YOUR PROXY GROUP?

A. The proxy group consists of the following twenty companies shown in Figure 6.

Figure 6: Proxy Group

Company	Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avista Corporation	AVA
CMS Energy Corporation	CMS
Dominion Resources, Inc.	D
DTE Energy Company	DTE
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
PPL Corporation	PPL
Southern Company	SO
Xcel Energy Inc.	XEL

VII. COST OF EQUITY ESTIMATION

Q. PLEASE BRIEFLY DISCUSS THE ROE IN THE CONTEXT OF THE REGULATED RATE OF RETURN.

A. The overall rate of return for a regulated utility is the weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. The ROE is the cost of common equity capital in the utility's capital structure for ratemaking purposes. While the costs of debt and preferred stock can be directly observed, the cost of equity is market-based and, therefore, must be estimated based on observable market data.

Q. HOW IS THE REQUIRED COST OF EQUITY DETERMINED?

A. The required cost of equity is estimated by using one or more analytical techniques that rely on market-based data to quantify investor expectations regarding required equity returns, adjusted for certain incremental costs and risks. Informed judgment is then applied to determine where the company's cost of equity falls within the range of results. The key consideration in determining the cost of equity is to ensure that the methodologies employed reasonably reflect investors' views of

the financial markets in general, as well as the subject company (in the context of the proxy group), in particular.

Q. WHAT METHODS DID YOU USE TO ESTABLISH YOUR RECOMMENDED ROE IN THIS PROCEEDING?

A. I considered the results of the constant growth DCF model, the CAPM model, the ECAPM model, and the Bond Yield Plus Risk Premium methodology. As discussed in more detail below, a reasonable cost of equity estimate appropriately considers alternative methodologies and the reasonableness of their individual and collective results.

Q. IS IT IMPORTANT TO USE MORE THAN ONE ANALYTICAL APPROACH TO ESTIMATE THE COST OF EQUITY?

A. Yes. Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin[26] suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[27] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.

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[26] Copeland, Tom, Tim Koller and Jack Murrin. Valuation: Measuring and Managing the Value of Companies. New York, McKinsey & Company, Inc., 3rd Ed., 2000, at 214.

[27] Brigham, Eugene and Louis Gapenski. Financial Management: Theory and Practice. Orlando, Dryden Press, 1994, at 341.

A. Constant Growth DCF Model

Q. PLEASE DESCRIBE THE DCF APPROACH.

A. The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its most general form, the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

Where P_0 represents the current stock price, D1…D∞ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

$$k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

Equation [2] is often referred to as the constant growth DCF model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF MODEL?

A. The constant growth DCF model requires the following four assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions are violated, considered judgment and/or specific adjustments should be applied to the results.

Q. WHAT MARKET DATA DID YOU USE TO CALCULATE THE DIVIDEND YIELD IN YOUR CONSTANT GROWTH DCF MODEL?

A. The dividend yield in my constant growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended April 25, 2025.

Q. WHY DID YOU USE 30-, 90-, AND 180-DAY AVERAGING PERIODS?

A. In my constant growth DCF model, I use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the cost of equity is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long term.

Q. DID YOU MAKE ANY ADJUSTMENTS TO THE DIVIDEND YIELD TO ACCOUNT FOR PERIODIC GROWTH IN DIVIDENDS?

A. Yes. Because utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected first-year dividend yield is, on average, representative of the coming twelve-month period, and does not overstate the aggregated dividends to be paid during that time.

Q. WHY IS IT IMPORTANT TO SELECT APPROPRIATE MEASURES OF LONG-TERM GROWTH IN APPLYING THE DCF MODEL?

A. In its constant growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth estimate in perpetuity. In order to reduce the long-term growth rate to a single measure, one must assume that the dividend payout ratio remains constant and that earnings per share (EPS), dividends per share, and book value per share all grow at the same constant rate. However, over the long run, dividend growth can only be sustained by earnings growth, meaning earnings are the fundamental driver of a company's ability to pay dividends. Therefore, projected EPS growth is the appropriate measure of a company's long-term growth. In contrast, changes in a company's dividend payments are based on management decisions related to cash management and other factors. For example, a company may decide to retain

earnings rather than pay out a portion of those earnings to shareholders through dividends. Therefore, dividend growth rates are less likely than earnings growth rates to accurately reflect investor perceptions of a company's growth prospects. Accordingly, I have incorporated a number of sources of long-term EPS growth rates into the constant growth DCF model.

Q. WHICH SOURCES OF LONG-TERM EARNINGS GROWTH RATES DID YOU USE?

A. My constant growth DCF model incorporates three sources of long-term earnings per share (EPS) growth rates: (1) Zacks Investment Research (Zacks); (2) S&P Capital IQ; and (3) Value Line.

Q. HAVE YOU PREVIOUSLY RELIED ON PROJECTED EPS GROWTH RATES PROVIDED BY YAHOO! FINANCE?

A. Yes, however, Yahoo! Finance no longer reports consensus projected 3- to 5-year EPS growth rates. As a result, I now instead rely on the consensus projected 3- to 5-year EPS growth rates reported by S&P Capital IQ Pro.

Q. HOW DID YOU CALCULATE THE RANGE OF RESULTS FOR THE CONSTANT GROWTH DCF MODELS?

A. I calculated a low-end result for the DCF models using the minimum growth rate of the three sources (i.e., the lowest of the Zacks, S&P Capital IQ, and Value Line projected earnings growth rates) for each of the proxy group companies. I used a similar approach to calculate a high-end result, using the maximum growth rate of the three sources for each proxy group company. Lastly, I also calculated results using the average growth rate from all three sources for each proxy group company.

Q. WHAT ARE THE RESULTS OF YOUR DCF ANALYSES?

A. The results of my constant growth DCF analyses are presented in Exhibit___(AEB-1), Schedule 4 and are summarized below in Figure 7.

Figure 7: Discounted Cash Flow Results

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.17%	10.42%	11.25%
90-Day Avg. Stock Price	9.28%	10.53%	11.36%
180-Day Avg. Stock Price	9.31%	10.56%	11.39%
Average	9.25%	10.50%	11.34%
Median Results:			
30-Day Avg. Stock Price	9.48%	10.19%	10.97%
90-Day Avg. Stock Price	9.56%	10.26%	11.14%
180-Day Avg. Stock Price	9.71%	10.55%	11.07%
Average	9.58%	10.33%	11.06%

B. CAPM Analysis

Q. PLEASE BRIEFLY DESCRIBE THE CAPM.

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security.[28] This second component is the product of the market risk premium and the beta coefficient, which measures the relative riskiness of the security being evaluated. The CAPM is defined by four components:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

K_e = the required market cost of equity;

β = beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

[28] Systematic risk is the risk inherent in the entire market or market segment, which cannot be diversified away using a portfolio of assets. Unsystematic risk is the risk of a specific company that can, theoretically, be mitigated through portfolio diversification.

In this specification, the term ($r_m - r_f$) represents the market risk premium. According to the theory underlying the CAPM, because unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [4]$$

The variance of the market return (*i.e.*, Variance (r_m)) is a measure of the uncertainty of the general market, and the Covariance between the return on a specific security and the general market (*i.e.*, Covariance (r_e, r_m)) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, beta represents the risk of the security relative to the general market.

Q. WHAT RISK-FREE RATE DID YOU USE IN YOUR CAPM ANALYSIS?

A. I rely on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds of 4.68 percent;[29] (2) the average projected 30-year Treasury yield for the third quarter of 2025 through the third quarter of 2026, which is 4.44 percent;[30] and (3) the average projected 30-year U.S. Treasury bond yield for 2026 through 2030, which is 4.30 percent.[31]

Q. WHAT BETA COEFFICIENTS DID YOU USE IN YOUR CAPM ANALYSIS?

A. As shown on Exhibit___(AEB-1), Schedule 5, I used the beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The beta coefficients reported by Bloomberg are calculated using ten years of weekly returns

[29] Bloomberg Professional as of April 25, 2025.

[30] *Blue Chip Financial Forecasts*, Vol. 44, No. 5, May 1, 2025, at 2.

[31] *Blue Chip Financial Forecasts*, Vol. 43, No. 12, November 27, 2024, at 14.

relative to the S&P 500 Index. The Value Line beta coefficients are calculated based on five years of weekly returns relative to the New York Stock Exchange Composite Index. Additionally, as shown in Exhibit___(AEB-1), Schedule 6, I also consider an additional CAPM analysis that relies on the long-term average utility beta coefficient for the companies in my proxy group, which is calculated as an average of the Value Line beta coefficients for the companies in my proxy group from 2013 through 2024.

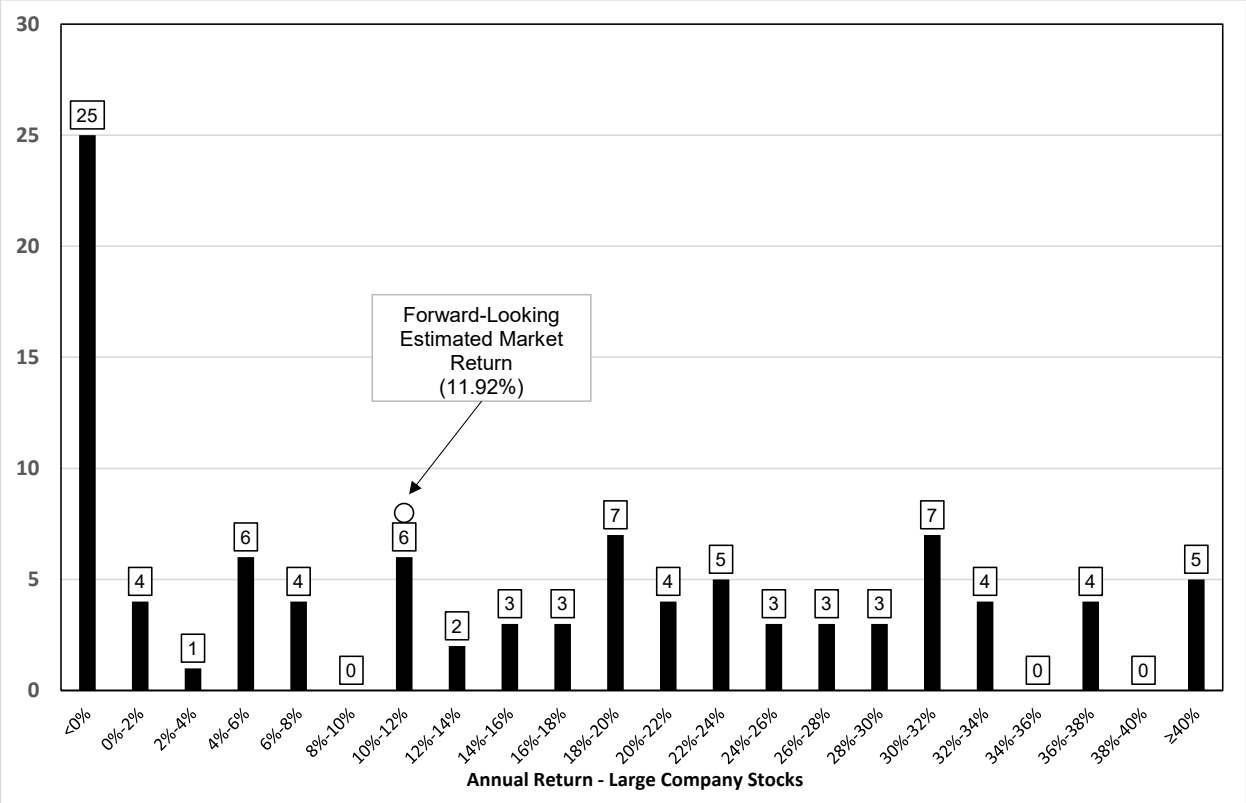
Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM IN THE CAPM?

A. I estimated the market risk premium as the difference between the implied expected equity market return and the risk-free rate. As shown in Exhibit___(AEB-1), Schedule 7, the expected market return is calculated using the constant growth DCF model discussed previously as applied to the companies in the S&P 500 Index. Based on an estimated market capitalization-weighted dividend yield of 1.52 percent and a weighted long-term growth rate of 10.32 percent, the estimated required market return for the S&P 500 Index as of April 25, 2025 is 11.92 percent.

Q. HOW DOES THE CURRENT EXPECTED MARKET RETURN COMPARE TO OBSERVED HISTORICAL MARKET RETURNS?

A. As shown in Figure 8, given the range of annual equity returns that have been observed over the past century, a current expected market return of 11.92 percent is not unreasonable. In 55 out of the past 99 years (or approximately 56 percent of observations), the realized equity market return was at least 11.92 percent or greater.

Figure 8: Realized U.S. equity market returns (1926-2024) [32]



Q. DID YOU CONSIDER ANOTHER FORM OF THE CAPM IN YOUR ANALYSIS?

A. Yes, I did. I have also considered the results of an ECAPM in estimating the cost of equity for OTP. [33] The ECAPM calculates the product of the adjusted beta coefficient and the market risk premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the market risk premium without any effect from the beta coefficient. The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

Where:

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[32] Depicts total annual returns on large company stocks, as reported in the 2023 Kroll SBBI Yearbook for 1926-2022 and from S&P Capital IQ Pro for 2023-2024.

[33] *See, e.g.*, Morin, Roger A. New Regulatory Finance. Public Utilities Reports, Inc., 2006, at 189.

k_e = the required market cost of equity;

β = Adjusted beta coefficient of an individual security;

rf = the risk-free rate of return; and

r_m = the required return on the market as a whole.

In essence, the ECAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low beta coefficients such as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted betas in the traditional CAPM, but rather it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[34]

Consistent with my CAPM, my application of the ECAPM uses the same three yields on the 30-year Treasury bonds as the risk-free rate, forward-looking market risk premium estimates, and beta coefficients.

Q. WHAT ARE THE RESULTS OF YOUR CAPM AND ECAPM ANALYSES?

A. The results of my CAPM and ECAPM analyses are presented in Exhibit___(AEB-1), Schedule 5 and summarized below in Figure 9.

[34] *Id*. at 191.

Figure 9: CAPM and ECAPM Results

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Value Line Beta	11.21%	11.19%	11.17%
Bloomberg Beta	10.18%	10.13%	10.09%
Long-term Avg. Beta	10.30%	10.25%	10.22%
ECAPM			
Value Line Beta	11.39%	11.37%	11.36%
Bloomberg Beta	10.62%	10.57%	10.55%
Long-term Avg. Beta	10.71%	10.67%	10.64%

C. Bond Yield Plus Risk Premium Analysis

Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH.

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as bondholders. In other words, because returns to equity holders have greater risk than returns to bondholders, equity investors must be compensated to bear that risk. Thus, risk premium approaches estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I use actual authorized returns for vertically integrated electric companies as the historical measure of the cost of equity to determine the risk premium.

Q. ARE THERE OTHER CONSIDERATIONS THAT SHOULD BE ADDRESSED IN CONDUCTING THIS ANALYSIS?

A. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates (*i.e.*, as interest rates increase, the equity risk premium decreases, and vice versa). Consequently, it is important to develop an

analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of Treasury bond yields. When the authorized ROEs for electric utilities serve as the measure of required equity returns and the yield on the long-term Treasury bond is defined as the relevant measure of interest rates, the risk premium is the difference between those two points.[35]

Q. IS THE BOND YIELD PLUS RISK PREMIUM ANALYSIS RELEVANT TO INVESTORS?

A. Yes. Investors are aware of authorized ROEs in other jurisdictions, and they consider those authorizations as a benchmark for a reasonable level of equity returns for utilities of comparable risk operating in other jurisdictions. Because my Bond Yield Plus Risk Premium analysis is based on authorized ROEs for utility companies relative to corresponding Treasury yields, it provides relevant information to assess the return expectations of investors in the current interest rate environment.

Q. WHAT DID YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS REVEAL?

A. As shown in Figure 10, from 1980 through April 2025, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(T) \quad [6]$$

Where:

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[35] *See e.g.*, Berry, S. Keith. "Interest Rate Risk and Utility Risk Premia during 1982-93." Managerial and Decision Economics, Vol. 19, No. 2, March, 1998 (the author used a similar methodology, including using authorized ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates). *See also* Harris, Robert S. "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return." *Financial Management*, Spring 1986, at 66.

RP = Risk Premium (difference between authorized ROEs and the yield on 30-year U.S. Treasury bonds)

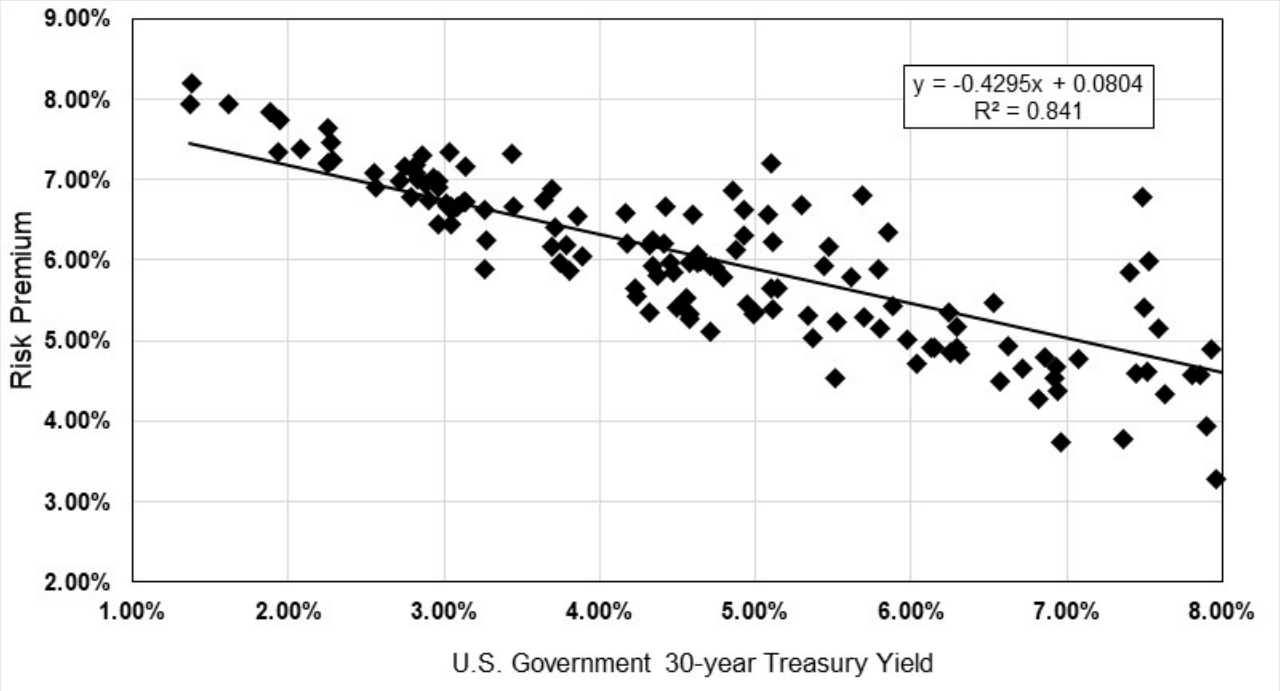
a = intercept term

b = slope term

T = 30-year U.S. Treasury bond yield

Data regarding allowed ROEs were derived from all vertically integrated electric rate cases as reported by Regulatory Research Associates (RRA).[36] This equation's coefficients were statistically significant at the 99.00 percent level.

Figure 10: Risk Premium Regression Analysis



Q. WHAT ARE THE RESULTS OF YOUR BYRP ANALYSIS?

A. Figure 11 presents the results of my BYRP analysis, which is also presented in more detail in Exhibit___(AEB-1), Schedule 8.

[36] The data was screened to eliminate limited issue rider cases, transmission-only cases, distribution-only cases and cases that were silent with respect to the authorized ROE.

Figure 11: BYRP Results

	30-Year Treasury Bond Yield		
	Current 30-Day Average	Near-Term Projected	Long-Term Projected
Bond Yield Risk Premium	10.71%	10.57%	10.49%

Q. HOW DID THE RESULTS OF THE BOND YIELD RISK PREMIUM INFORM YOUR RECOMMENDED ROE FOR OTP?

A. I have considered the results of the Bond Yield Risk Premium analysis in my recommended ROE for OTP. As noted, investors consider the authorized ROE of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The BYRP analysis considers this comparison by estimating the return expectations of investors based on the current and past authorized ROEs of U.S. vertically integrated electric utilities.

VIII. REGULATORY AND BUSINESS RISK

Q. TAKEN ALONE, DO THE RESULTS FROM THE COST OF EQUITY ESTIMATION MODELS FOR THE PROXY GROUP PROVIDE AN APPROPRIATE ESTIMATE OF THE COST OF EQUITY FOR THE COMPANY?

A. No. These results provide only a range of the appropriate estimate of the Company's cost of equity. There are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

A. Small Size

Q. DO SMALLER SIZE FIRMS, INCLUDING UTILITIES, FACE HIGHER RISKS?

A. Yes. Both the financial and academic communities have long accepted the proposition that the cost of equity for small firms is subject to a "size effect." While

empirical evidence of the size effect often is based on studies of industries other than regulated utilities, utility analysts also have noted the risk associated with small market capitalizations. Specifically, an analyst for Ibbotson Associates noted:

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[37]

Q. HOW DOES THE SMALLER SIZE OF A UTILITY AFFECT ITS BUSINESS RISK?

A. In general, smaller companies are less able to withstand adverse events that affect their revenues and expenses. The impact of weather variability, the loss of large customers to bypass opportunities, the destruction of demand as a result of general macroeconomic conditions, or fuel price volatility will have a proportionately greater impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue producing investments, such as system maintenance and replacements, will put proportionately greater pressure on customer costs, potentially leading to customer attrition or demand reduction. Taken together, these risks affect the return required by investors for smaller companies.

Q. HOW DO OTP'S ELECTRIC OPERATIONS IN SOUTH DAKOTA COMPARE IN SIZE TO THE PROXY GROUP COMPANIES?

A. Comparing the market capitalization of OTTR and the common equity of OTP to the proxy group demonstrates that both the holding company and the electric service operations of OTP in South Dakota are substantially smaller than the median of the proxy group. Exhibit No.___(AEB-1), Schedule 9 provides the actual market capitalization for the proxy group companies and OTTR and

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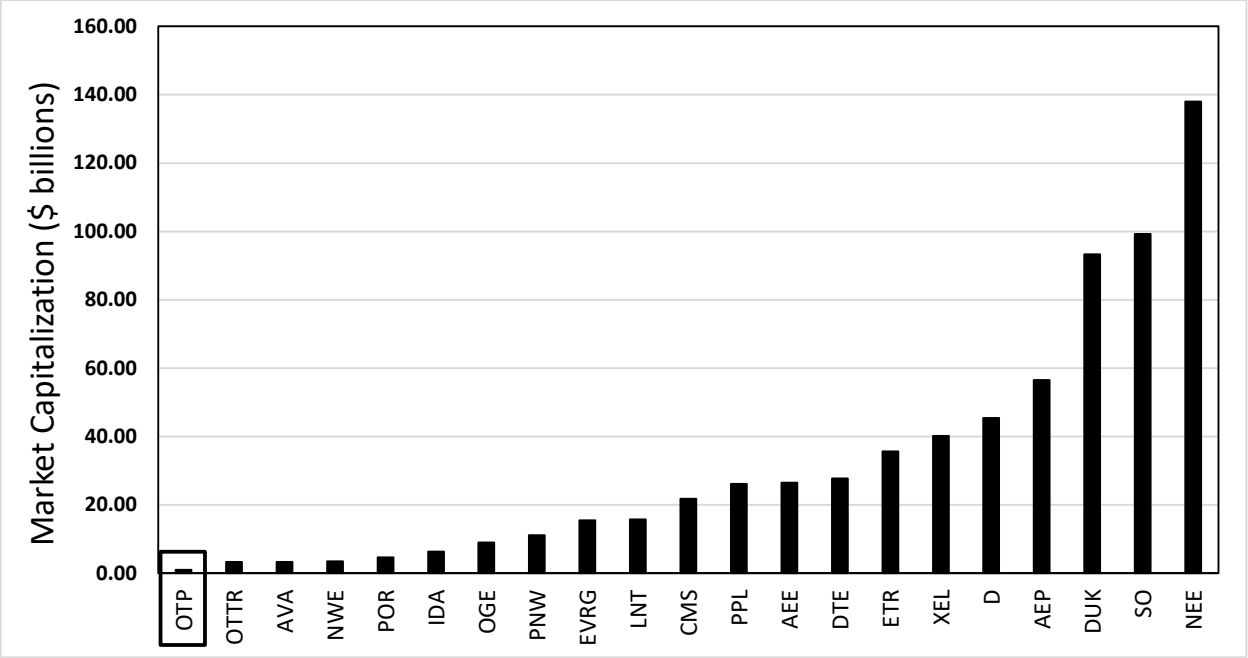
[37] Annin, Michael. "Equity and the Small-Stock Effect." Public Utilities Fortnightly, October 15, 1995.

estimates the common equity for OTP (*i.e.,* the implied market capitalization if OTP's electric service operations in South Dakota were a stand-alone publicly-traded entity).[38] Figure 12 below shows that the common equity for OTP is the lowest, and far below, any of the proxy group companies.

Figure 12: Market Capitalization of the Proxy Group Companies and OTTR[39]



Q. DID YOU ESTIMATE A SMALL SIZE RISK PREMIUM FOR OTP?

A. Yes. Given this relative size information, it is possible to estimate the impact of size on the cost of equity for the Company using Kroll Cost of Capital Navigator data that estimates the stock risk premia based on the size of a company's market capitalization.[40] As shown in Exhibit No.____(AEB-1), Schedule 9, the median market capitalization of the proxy group is approximately $26.19 billion, which

[38] To estimate the size of the Company relative to the proxy group, I calculated the equity balance of OTP's capital structure of $104.03 million by multiplying the Company's test year rate base by the Company's proposed common equity ratio of 53.54 percent.

[39] Exhibit___(AEB-1), Schedule 9.

[40] Kroll, Cost of Capital Navigator – Size Premium: Annual data as of 12/21/2024.

corresponds to the second decile of Kroll's market capitalization data.[41] Based on Kroll's analysis, that decile corresponds to a size premium of 0.33 percent (*i.e.*, 33 basis points). In comparison, OTP's common equity of approximately $104 million falls within the tenth decile, which corresponds to a size premium of 4.47 percent (*i.e.*, 447 basis points). The difference between the size premium for the Company and the size premium for the proxy group is 414 basis points (*i.e.*, 4.47 percent minus 0.33 percent).

Q. WERE UTILITY COMPANIES INCLUDED IN *KROLL'S* SMALL SIZE RISK PREMIUM STUDY?

A. Yes. As shown in Exhibit 7.2 of the Kroll (formerly Duff & Phelps) 2019 Valuation Handbook, OGE Energy Corp. had the largest market capitalization of the companies contained in the fourth decile, which indicates that Kroll has included utility companies in its size risk premium study.[42]

Q. IS THE SIZE PREMIUM APPLICABLE TO COMPANIES IN REGULATED INDUSTRIES?

A. Yes. For example, Zepp (2003) provided the results of two studies that showed evidence of the required risk premium for small water utilities. The first study, which was conducted by the Staff of the California Public Utilities Commission, computed proxies for beta risk using accounting data from 1981 through 1991 for 58 water utilities and concluded that smaller water utilities had greater risk and required higher returns on equity than larger water utilities.[43] The second study examined the differences in required returns over the period of 1987 through 1997 for two large and two small water utilities in California. As Zepp (2003) showed,

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41 *Id.*

42 Kroll. Valuation Handbook: Guide to Cost of Capital. 2019, Exhibit 7.2.

43 Zepp, Thomas M. "Utility Stocks and the Size Effect—Revisited." The Quarterly Review of Economics and Finance, Vol. 43, No. 3, 2003, at 578–582.

the required return for the two small water utilities calculated using the DCF model was on average 99 basis points higher than the two larger water utilities.[44]

Additionally, Chrétien and Coggins (2011) studied the CAPM and its ability to estimate the risk premium for the utility industry, and in particular subgroups of utilities.[45] The article considered the CAPM, the Fama-French three-factor model, and a model similar to the ECAPM, which as previously discussed, I have also considered in estimating the cost of equity for the Company. In the study, the Fama-French three-factor model explicitly included an adjustment to the CAPM for risk associated with size. As Chrétien and Coggins (2011) show, the beta coefficient on the size variable for the U.S. natural gas utility group was positive and statistically significant indicating that small size risk was relevant for regulated natural gas utilities.[46]

Q. HAVE REGULATORS IN OTHER JURISDICTIONS MADE A SPECIFIC RISK ADJUSTMENT TO THE COST OF EQUITY RESULTS BASED ON A COMPANY'S SMALL SIZE?

A. Yes. In Order No. 15, the Regulatory Commission of Alaska (RCA) concluded that Alaska Electric Light and Power Company (AEL&P) was riskier than the proxy group companies due to small size as well as other business risks. The RCA did "not believe that adopting the upper end of the range of ROE analyses in this case, without an explicit adjustment, would adequately compensate AEL&P for its greater risk."[47] Thus, the RCA awarded AEL&P an ROE of 12.875 percent, which was 108 basis points above the highest cost of equity estimate from any model

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44 *Id.*

45 Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." Energy Studies Review, Vol. 18, No. 2, 2011.

46 *Id.*

47 Regulatory Commission of Alaska, Docket No. U-10-29, Order No. 15, September 2, 2011, at 37.

presented in the case.[48] Similarly, the RCA has also noted that small size, as well as other business risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas supply risk, geographic isolation and economic conditions, increased the risk of ENSTAR Natural Gas Company.[49] Ultimately, the RCA concluded that:

> Although we agree that the risk factors identified by ENSTAR increase its risk, we do not attempt to quantify the amount of that increase. Rather, we take the factors into consideration when evaluating the remainder of the record and the recommendations presented by the parties. After applying our reasoned judgment to the record, we find that 11.875% represents a fair ROE for ENSTAR.[50]

Additionally, the Minnesota Public Utilities Commission (Minnesota PUC) authorized an ROE for OTP above the mean DCF results as a result of multiple factors, including OTP's small size. The Minnesota PUC stated:

> The record in this case establishes a compelling basis for selecting an ROE above the mean average within the DCF range, given Otter Tail's unique characteristics and circumstances relative to other utilities in the proxy group. These factors include the company's relatively smaller size, geographically diffuse customer base, and the scope of the Company's planned infrastructure investments.[51]

Finally, in Opinion Nos. 569 and 569-A, the Federal Energy Regulatory Commission (FERC) adopted a size premium adjustment in its CAPM estimates for electric utilities. In those decisions, the FERC noted that "the size adjustment

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48 *Id.*, at 32 and 37.

49 Regulatory Commission of Alaska, Docket No. U-16-066, Order No. 19, September 22, 2017, at 50-52.

50 *Id.*

51 Minnesota Public Utilities Commission, Docket No. E017/GR-15-1033, Order, August 16, 2016, at 55.

was necessary to correct for the CAPM's inability to fully account for the impact of firm size when determining the cost of equity."[52]

Q. HOW HAVE YOU CONSIDERED THE SMALLER SIZE OF OTP IN YOUR RECOMMENDATION OF THE COMPANY'S ROE IN THIS PROCEEDING?

A. While I have estimated the effect of the Company's small size on the cost of equity, I am not proposing a specific adjustment for this risk factor. Rather, I believe it is important to consider the small size of the Company's electric operations in South Dakota in the determination of where, within the range of analytical results, the Company's required cost of equity falls. All else equal, the additional risk associated with the Company's small size supports an ROE toward the upper end of the range of results from the cost of equity estimation models.

B. Trading Volumes

Q. WHAT IS TRADING VOLUME AND WHAT EFFECT DOES A COMPANY'S TRADING VOLUME HAVE ON A LARGE INVESTOR'S ABILITY TO SELL A STAKE IN THE COMPANY?

A. Trading volume in this case refers to the number of publicly traded shares of a company. Institutional investors[53] often hold a large volume of shares in each investment. A smaller company (such as OTTR) often has a lower number of shares outstanding and fewer shares traded than larger firms. Institutional ownership of stock in a smaller company may limit the investor's ability to sell its shares without affecting the market price of the company, which presents a liquidity risk. Thus,

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52 Ass'n. of Businesses Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc., 171 FERC ¶ 61,154 (2020), at ¶ 75. The U.S. Court of Appeals recently vacated FERC Order No. 569 decisions that related to its risk premium model and remanded the case to FERC to reopen the proceedings. However, in its decision, the Court did not reject FERC's inclusion of the size premium to estimate the CAPM. (See, United States Court of Appeals Case No. 16-1325, Decision No. 16-1325, August 9, 2022, at 20).

53 Institutional ownership refers to the degree to which a company's common stock is held by large financial institutions, endowments, insurance companies, and mutual funds.

investors in companies with lower trading volume typically require a higher expected return as compensation for the liquidity risk.[54]

Q. HOW DO OTTER TAIL CORPORATION'S DAILY TRADING VOLUMES COMPARE TO OTHER UTILITIES IN THE PROXY GROUP?

A. The daily trading volumes of OTTR are far below those of the proxy group, as shown below in Figure 13. OTTR ranges between 7-9 percent that of total share volumes traded for the proxy group, or between 71-89 percent by volume as a proportion of outstanding shares, over a number of periods. Further, while OTTR was added to the S&P SmallCap 600 Index on February 23, 2023 (announced on February 16, 2023)[55], the averages for the time period after OTTR was added to the S&P SmallCap 600 Index (*i.e.*, 30-day, 90-day, 180-day, January 2025 – April 2025, and January 2024 – April 2025), OTTR is approximately 9 percent that of total share volumes traded for the proxy group, or between 83-89 percent by volume as a proportion of outstanding shares. As a result, despite the addition to the S&P SmallCap 600, OTTR's daily trading volumes are still below those of the proxy group.

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[54] Liquidity risk is defined as a financial risk associated with the inability to trade a financial asset quickly enough in the market without adversely impacting the asset's market price. An illiquid asset is one held long term, such as a home, while a liquid asset is one that can be quickly traded without a significant value loss, such as marketable securities.

[55] S&P Global, "UFP Industries Set to Join S&P MidCap 400; Otter Tail to Join S&P SmallCap 600," February 16, 2023.

Figure 13: Trading Volume Analysis[56]

Average Since	OTTR/Proxy Group	
	By Volume	By Volume As % of Shares Outs.
30-Day Avg.	9%	83%
90-day Avg.	9%	86%
180-day Avg.	9%	89%
2025 YTD	9%	84%
Jan 2024 - Present	9%	85%
Jan 2023 - Present	8%	81%
Jan 2022 - Present	8%	77%
Jan 2021 - Present	7%	71%

Q. WHAT IS YOUR CONCLUSION REGARDING THE TRADING VOLUME ANALYSIS?

A. OTTR has very low trading volume relative to the proxy group. As a result, the trading volume disparity between OTTR and the proxy group indicate illiquidity with regard to OTTR shares, underscoring a higher cost of equity for OTTR and its subsidiary OTP.

C. Institutional Ownership

Q. WHAT IS "INSTITUTIONAL OWNERSHIP" AND HOW DOES IT RELATE TO COMMON EQUITY?

A. Institutional ownership refers to the degree to which a company's common stock is held by large financial institutions, endowments, insurance companies, and mutual funds. This differs from "retail ownership," which refers to common stock ownership by individual investors. Institutional investors typically have more resources and access to in-depth research than do retail owners, and thus, often take larger positions in a company's stock. Companies benefit from institutional

[56] Source: S&P Capital IQ Pro. See also Exhibit___(AEB-1), Schedule 10. Daily Average Volumes for OTTR excludes 2/17/2023 through 2/23/2023. The addition of OTTR to the S&P SmallCap 600 caused a brief significant increase trading volumes for OTTR between 2/17/2023 and 2/23/2023 that is not representative of the normal trading volume for OTTR.

investors as an important source of additional demand for a company's equity and as an efficient source of equity capital. Companies with lower levels of institutional ownership are at a disadvantage, lacking access to efficient capital.

Q. HOW DOES OTTR COMPARE TO THE PROXY GROUP IN TERMS OF INSTITUTIONAL OWNERSHIP?

A. As shown on Exhibit___(AEB-1), Schedule 11, as of May 5, 2025, approximately 72.39 percent of OTTR's common equity stock is held by institutional investors, compared to 84.16 percent for the proxy group average. OTTR's institutional ownership is also at the very low-end of the range for the proxy group.

D. Customer Concentration

Q. PLEASE SUMMARIZE OTP'S CUSTOMER CONCENTRATION RISK.

A. OTP serves approximately 12,000 customers in South Dakota, all in the northeastern portion of the State.[57] As shown below in Figure 14, 58.13 percent of OTP's electric sales were derived from industrial load. Based on 2024 data, OTP's combined industrial and commercial sales are the highest of the companies in the proxy group.[58]

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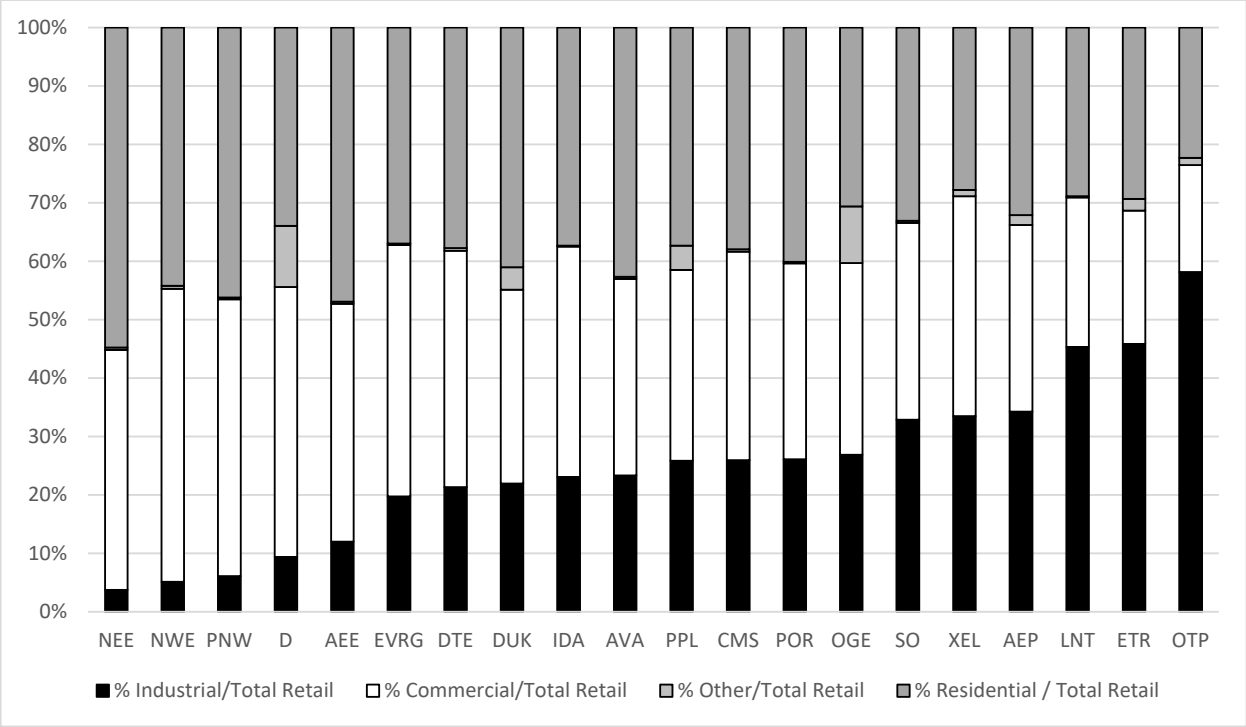
57 Otter Tail Power Company, 2023 ESG Report, p. 3.

58 Does not include "other" commercial or residential customers.

Figure 14: Customer Concentration – 2024 Sales[59]



Q. HOW DOES CUSTOMER CONCENTRATION AND THE COMPANY'S SERVICE TERRITORY AFFECT BUSINESS RISK?

A. An extremely high concentration of industrial and large commercial customers results in higher business risk. Since the customers are large, they can represent a significant portion of a company's sales, which could be lost if a customer goes out of business or otherwise stops taking service from the utility. As noted by Dhaliwal, Judd, Serfling and Shaikh in their article, *Customer Concentration Risk and the Cost of Equity Capital,* there can be significant risks related to a single customer representing a large portion of sales:

> Depending on a major customer for a large portion of sales can be risky for a supplier for two primary reasons. First, a supplier faces the risk of losing substantial future sales if a major customer becomes financially distressed or declares bankruptcy, switches to a different supplier, or decides to develop products internally.

[59] Source: S&P Global Market Intelligence (FERC Form 1). Other sales includes: Total Public Street and Highway Lighting, Other Sales to Public Authorities, Sales to Railroad and Railways, and Interdepartmental Sales.

> Consistent with this notion, Hertzel et al. (2008) and Kolay et al. (2015) document negative supplier abnormal stock returns to the announcement that a major customer declares bankruptcy. Further, a customer's weak financial condition or actions could signal inherent problems about the supplier's viability to its remaining customers and lead to compounding losses in sales. Second, a supplier faces the risk of losing anticipated cash flows from being unable to collect outstanding receivables if the customer goes bankrupt. This assertion is consistent with the finding that suppliers offering customers more trade credit experience larger negative abnormal stock returns around the announcement of a customer filing for Chapter 11 bankruptcy (Jorion and Zhang, 2009; Kolay et al., 2015).[60]

Therefore, a company that has a high degree of customer concentration will be inherently riskier than a company that derived income from a larger customer base. Furthermore, as Dhaliwal, Judd, Serfling and Shaik detail in the article, the increased risk associated with a more concentrated customer base will have the effect of increasing a company's cost of equity.[61]

Q. WHAT ASPECTS OF CUSTOMER CONCENTRATION SHOULD BE CONSIDERED IN THE ASSESSMENT OF OTP'S BUSINESS RISK RELATIVE TO THE COMPANIES IN THE PROXY GROUP?

A. There are two: (1) a disproportionately large, single customer; and (2) industry concentration.

Q. ARE OTP'S REMAINING COMMERCIAL AND INDUSTRIAL CUSTOMERS CONCENTRATED IN CERTAIN INDUSTRIES?

A. Yes. A large portion of OTP's electric sales in South Dakota were to industrial customers that operate in the agricultural industry. Moreover, since the economy within and around OTP's service territories are reliant on the agricultural industry, OTP's commercial and residential customers also rely on the industry for sales and employment. For example, the agricultural and forestry sectors in South Dakota

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60 Dhaliwal, Dan S., J. Scott Judd, Matthew A. Serfling, and Sarah Shaikh. "Customer Concentration Risk and the Cost of Equity Capital." SSRN Electronic Journal (2016): 1-2. Web.

61 *Id.,* at 4.

account for 29 percent of the state's output and 21 percent of state's total jobs.[62] Therefore, fluctuations in the business cycle, commodity prices, and ongoing trade disputes and current tariff policies could adversely impact economic conditions in OTP's service territory. This could result in a reduction in sales to industrial customers. Further, if agricultural customers reduce output due to weak economic conditions, the effect would be compounded by a decline in local employment, which would also reduce electric sales to OTP's residential and commercial customers.

Q. WHAT IS YOUR CONCLUSION REGARDING OTP'S CUSTOMER CONCENTRATION RISK AND ITS EFFECT ON THE COST OF EQUITY?

A. OTP is heavily reliant on sales to industrial and large commercial customers. As noted above, in 2024, 58.13 percent of OTP's electric sales by volume were to industrial customers. This concentration is higher than all of the proxy group companies in 2024. A high degree of customer concentration increases OTP's risk related to competition from alternative energy sources and economic conditions. Increased customer diversity decreases the effect that any one customer can have on a company's sales. Therefore, the risk of eroding revenue resulting from customer concentration is higher for OTP than the proxy group companies on average. All else equal, this results in an above average risk profile for the Company when compared to the proxy group; thus, supporting an ROE towards the high-end of my recommended ROE range.

[62] Decision Innovation Solutions, 2021 Economic Contribution Study of South Dakota Agriculture, Ethanol and Forestry, July 2021.

E. Capital Expenditures

Q. PLEASE SUMMARIZE THE COMPANY'S CAPITAL EXPENDITURE REQUIREMENTS.

A. As of December 31, 2024, OTP had net utility plant in Minnesota, North Dakota and South Dakota of approximately $2.5 billion, and the Company currently projects capital expenditures for 2025 through 2029 of approximately $1.4 billion.[63] Therefore, the Company's projected capital expenditures represent approximately 56.73 percent of its net utility plant as of December 31, 2024.

Q. HOW IS THE COMPANY'S RISK PROFILE AFFECTED BY ITS SUBSTANTIAL CAPITAL EXPENDITURE REQUIREMENTS?

A. As with any utility faced with substantial capital expenditure requirements, the Company's risk profile may be adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under-recovery or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics.

Q. DO CREDIT RATING AGENCIES RECOGNIZE THE RISKS ASSOCIATED WITH ELEVATED LEVELS OF CAPITAL EXPENDITURES?

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. To that point, S&P explains the importance of regulatory support for large capital projects:

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were

[63] Otter Tail Corporation, 2024 Form 10-K, at 40 and 66.

> extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[64]

Recently, S&P evaluated the capital expenditure trends in the utility sector, noting that the balance between operating with negative discretionary cash flow from operations offset by reliable access to capital markets for financing may be tested through ever-increasing capital expenditure requirements as a result of the transformation of the energy sector through the focus on low/no carbon generation, electrification, and the replacement of aging infrastructure:

> We expect rising capital spending and increasing cash flow deficits that are not sufficiently funded in a credit-supportive manner will continue to pressure the industry's financial performance. Its average funds from operations (FFO) to debt was about 15% in 2021 and has gradually fallen to about 13.5%, primarily reflecting rising leverage (see chart 20). Given our expectations for continued increasing capital spending over the next decade, we expect financial performance and credit quality will continue to be pressured.[65]

Therefore, to the extent that OTP's rates do not permit the opportunity to recover its full cost of doing business, OTP will face increased recovery risk and thus increased pressure on its credit metrics.

Q. HOW DO OTP'S CAPITAL EXPENDITURE REQUIREMENTS COMPARE TO THOSE OF THE PROXY GROUP COMPANIES?

A. As shown in Exhibit___(AEB-1), Schedule 12, I calculated the ratio of expected capital expenditures to net utility plant for OTP and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2025-2029 by its total net utility plant as of December 31, 2024. As

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64 S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

65 S&P Global Ratings, "Industry Credit Outlook 2025, North American Regulated Utilities: Capex and climate change pressures credit quality," January 14, 2025, at 10.

shown therein OTP's ratio of capital expenditures as a percentage of net utility plant is slightly greater than the median for the proxy group.

Q. DOES OTP HAVE THE ABILITY TO RECOVER CERTAIN CAPITAL EXPENDITURES BETWEEN RATE CASES?

A. Yes. OTP has an opportunity to recover certain capital expenditures in South Dakota through its Phase-in Rider (PIR) and Transmission Cost Recovery Rider (TCR). These tracking mechanisms allow for recovery of certain costs in between rate cases for costs related to new generation facilities, new transmission facilities, and advanced grid infrastructure projects.

Q. DOES THE AVAILABILITY OF THESE RIDERS JUSTIFY ADJUSTING THE ROE AUTHORIZED IN THIS CASE?

A. No. The cost of equity analysis is conducted using market data for a proxy group of comparable companies and necessarily considers the relative risk of the subject company and the proxy group in the final determination of the ROE. Accordingly, although OTP's use of the capital tracking mechanisms may reduce its own risk, the appropriate point of comparison is whether those tracking mechanisms are reducing risk relative to the proxy group, which I discuss below.

Q. HOW DOES THE EXISTENCE OF THESE TRACKERS COMPARE WITH THE CAPITAL INVESTMENT AND OTHER TRACKERS THAT HAVE BEEN IMPLEMENTED BY THE PROXY COMPANIES?

A. As shown in Exhibit___(AEB-1), Schedule 13, 67 out of 95 (or approximately 71 percent) of the operating companies held by the proxy group recover costs through capital tracking mechanisms. So, while OTP's capital tracking mechanisms are a positive aspect of South Dakota regulation, as shown in Exhibit___(AEB-1), Schedule 13, such clauses have become commonplace in utility regulation. As a result, OTP's capital tracking mechanisms do not reduce the Company's risk vis-à-vis that of the proxy group.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF OTP'S CAPITAL SPENDING REQUIREMENTS ON ITS RISK PROFILE AND COST OF CAPITAL?

A. The Company's capital expenditure requirements as a percentage of net utility plant are significant and will continue over the next few years. Additionally, similar to a number of the operating subsidiaries of the proxy group, OTP can recover some portion of the Company's projected capital expenditures through capital tracking mechanisms. Therefore, I conclude that, the Company's risk profile regarding capital expenditures is consistent with that of the proxy group.

F. Regulatory Risk

Q. PLEASE EXPLAIN HOW THE REGULATORY ENVIRONMENT AFFECTS INVESTORS' RISK ASSESSMENTS.

A. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have a reasonable opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms, and doing so balances the long-term interests of investors and customers. To achieve this balance, the Company must be able to finance its operations assuming a reasonable opportunity to earn an appropriate return on invested capital to maintain an acceptable financial profile. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

From the perspective of debt investors, the authorized return should enable the utility to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its systems, and maintain the necessary levels of liquidity to fund unexpected events.

This financial liquidity must be derived not only from internally-generated funds, but also by efficient access to capital markets. Moreover, because fixed income investors have many investment alternatives, even within a given market sector, the utility's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

In addition, equity investors require that the authorized return be adequate to provide a risk-comparable return on the equity portion of the utility's capital investments. Because equity investors are the residual claimants on the utility's cash flows (which is to say that the equity return is subordinate to interest payments), they are particularly concerned with the strength of regulatory support and its effect on future cash flows.

Q. HOW DO CREDIT RATING AGENCIES CONSIDER REGULATORY RISK IN ESTABLISHING A COMPANY'S CREDIT RATING?

A. Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength. Of these criteria, regulatory framework and the ability to recover costs and earn returns are each given a broad rating factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the overall assessment of business and financial risk for regulated utilities.[66]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "we assess regulatory advantage because the influence of the regulatory framework and regime is of critical

[66] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, August 6, 2024, at 2.

importance. It defines the environment in which a utility operates and has a significant bearing on a utility's financial performance."[67] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[68]

Q. HAS FITCHRATINGS DISCUSSED ITS VIEWS ON THE IMPORTANCE OF THE REGULATORY ENVIRONMENT FOR OTP?

A. Yes. In a recent rating report, FitchRatings identified a balanced regulatory environment, constructive regulatory outcomes, strong credit metrics, and timely return on invested capital as key drivers in the credit rating.[69]

Q. HOW DOES THE REGULATORY ENVIRONMENT IN WHICH A UTILITY OPERATES AFFECT ITS ACCESS TO AND COST OF CAPITAL?

A. The regulatory environment can significantly affect both the access to, and cost of, capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "[u]tility rates are set in a political/regulatory process rather than a competitive or free-market process; thus, the regulatory framework is a key determinant of the credit quality of a utility."[70] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[t]he regulatory framework is important because it provides the basis for decisions that affect

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67 Standard & Poor's Global Ratings, "Sector-Specific Corporate Methodology," April 4, 2024, at 147.

68 *Id.*

69 FitchRatings, Rating Report, Otter Tail Corporation; Otter Tail Power, September 10, 2024 at 2-3.

70 Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, August 6, 2024, at 8.

utilities, including rate-setting as well as the consistency and predictability of regulatory decision-making."[71]

Q. HAVE YOU CONDUCTED ANY ANALYSIS OF THE REGULATORY FRAMEWORK IN SOUTH DAKOTA RELATIVE TO THE JURISDICTIONS IN WHICH THE COMPANIES IN YOUR PROXY GROUP OPERATE?

A. Yes. I have evaluated the regulatory framework in South Dakota on three factors that are important in terms of providing a regulated utility a reasonable opportunity to earn its authorized ROE. These are: (1) test year convention (*i.e.*, forecast vs. historical); (2) use of revenue decoupling mechanisms or other clauses that provide revenue stabilization; and (3) the prevalence of capital cost recovery between rate cases. The results of this regulatory risk assessment are shown in Exhibit___(AEB-1), Schedule 13 and are summarized below.

Test Year Convention: OTP is relying on a historical test year adjusted for known and measurable changes in South Dakota. However, as shown in Exhibit___(AEB-1), Schedule 13, approximately 52 percent of the operating companies held by the proxy group provide service in jurisdictions that use a fully or partially forecasted test year. Forecast test years have been relied on for several years and produce cost estimates that are more reflective of future costs which results in more accurate recovery of incurred costs and mitigates the regulatory lag associated with historical test years.

Volumetric Risk: OTP does not currently have protection against volumetric risk through a revenue decoupling mechanism, formula-based rate, or a straight fixed-variable rate design, but OTP does have a Phase In rider, which addresses the change in sales between rate proceedings. This is generally consistent with approximately 61 percent of the operating companies held by the

[71] *Id.*

proxy group have some form of revenue stabilization that allow them to break the link between customer usage and revenues.

Capital Cost Recovery: OTP does have the opportunity to recover certain capital expenditures through capital tracking mechanisms. Similarly, approximately 71 percent of the utility operating subsidiaries of the proxy group companies have some form of capital cost recovery mechanism in place.

Q. IS THERE EVIDENCE THAT OTP HAS BEEN UNABLE TO EARN ITS AUTHORIZED RETURN ON EQUITY?

A. Yes. As shown in Figure 15, the Company has not earned its authorized ROE for the past six years. As seen, on average, the Company has underearned its authorized ROE by 232 basis points over this period.

Figure 15: OTP Earned v. Authorized ROE[72]

	Earned ROE	Authorized ROE	Difference
2018	5.01%	8.75%	-3.74%
2019	6.97%	8.75%	-1.78%
2020	3.57%	8.75%	-5.18%
2021	7.20%	8.75%	-1.55%
2022	8.21%	8.75%	-0.54%
2023	7.60%	8.75%	-1.15%
Average	**6.43%**	**8.75%**	**-2.32%**

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE PERCEIVED RISKS RELATED TO THE SOUTH DAKOTA REGULATORY ENVIRONMENT?

A. As discussed throughout this section of my testimony, Moody's, S&P, and FitchRatings have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. While the Company does have some adjustment mechanisms that allow for the recovery of capital between rate proceedings, OTP's rates are set using a

[72] Provided by the Company.

historical test year, which has contributed to the Company's inability to earned its authorized ROE in each of the last six years. As discussed previously, the majority of the proxy group companies are relying on forecasted test years, which mitigate some of the risk resulting from relying on historical test years. Based on this analysis, I conclude that the Company has greater than average regulatory risk when compared to the proxy group.

G. Flotation Costs

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These costs include out-of-pocket expenditures for preparation, filing, underwriting, and other issuance costs.

Q. WHY IS IT IMPORTANT TO CONSIDER FLOTATION COSTS IN THE ALLOWED ROE?

A. A regulated utility must have the opportunity to earn an ROE that is both competitive and compensatory to attract and retain new investors. To the extent that a company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby diluting equity share value.

Q. ARE FLOTATION COSTS PART OF THE UTILITY'S INVESTED COSTS OR PART OF THE UTILITY'S EXPENSES?

A. Flotation costs are part of the invested costs of the utility, which are properly reflected on the balance sheet under "paid in capital." They are not current expenses, and, therefore, are not reflected on the income statement. Rather, like investments in rate base or the issuance costs of long-term debt, flotation costs are incurred over time. As a result, the great majority of a utility's flotation costs are incurred prior to the test year but remain part of the cost structure that exists during the test year and beyond, and as such, should be recognized for ratemaking

purposes. Therefore, it is irrelevant whether an issuance occurs during the test year or is planned for the test year because failure to allow recovery of past flotation costs may deny the Company the opportunity to earn its required rate of return in the future.

Q. PLEASE PROVIDE AN EXAMPLE OF WHY A FLOTATION COST ADJUSTMENT IS NECESSARY TO COMPENSATE INVESTORS FOR THE CAPITAL THEY HAVE INVESTED.

A. Suppose OTTR, the parent company of OTP, issues stock with a value of $100, and an equity investor invests $100 in OTTR in exchange for that stock. Further, suppose that, after paying flotation costs associated with the equity issuance, which include fees paid to underwriters and attorneys, among others, OTTR ends up with only $97 of net issuance proceeds rather than the $100 the investor contributed. OTTR invests that $97 in plant used to serve its customers, which becomes part of rate base. Absent a flotation cost adjustment, the investor will thereafter earn a return on only the $97 invested in rate base, even though she contributed $100. Making a small flotation cost adjustment gives the investor a reasonable opportunity to earn the authorized return, rather than the lower return that results when the authorized return is applied to an amount less than what the investor contributed.

Q. IS THE DATE OF OTTR'S LAST ISSUANCE OF COMMON EQUITY IMPORTANT IN THE DETERMINATION OF FLOTATION COSTS?

A. No. As shown in Exhibit___(AEB-1), Schedule 14, OTTR has closed on several equity issuances over the past several years, including an approximately $36 million at-the-market (ATM) issuance in 2020.[73] However, it is important to recognize flotation costs for all equity issuances since these costs reduce the permanent capital structure of the company. Therefore, the vintage of the issuance

[73] Issuance information provided by OTP.

is not particularly important because an investor should have a reasonable opportunity to earn a return on the full amount of capital that she has contributed in every year of the investment. As noted in my earlier example, the investor contributed $100, but due to flotation costs, OTTR only ends up with $97 to invest in rate base. Without the recognition of flotation costs, the investor will only earn a return on the $97 invested in rate base in year 1 as well as every subsequent year of the investment. Therefore, adjusting the ROE in year 1 to recognize flotation costs will only award the opportunity for the investor earn a return on her full investment in year 1 and then in year 2 and after the investor will still only earn a return on the $97 invested in rate base. As a result, the ROE should be adjusted for flotation costs in every year, regardless of the vintage of the issuance, because as long as the $100 is invested, the investor should have a reasonable opportunity to earn a return on the entire amount.

Q. IS THE NEED TO CONSIDER FLOTATION COSTS ELIMINATED BECAUSE OTP IS A WHOLLY OWNED SUBSIDIARY OF OTTR?

A. No, it is not. Although OTP is a wholly owned subsidiary of OTTR, it is appropriate to consider flotation costs. A wholly owned subsidiary receives equity capital from its parent and provides returns on the capital that rolls up to the parent, which is designated to attract and raise capital based upon the returns of its subsidiary, or subsidiaries. To deny recovery of issuance costs associated with the capital that is invested in the subsidiaries ultimately penalizes the investors that fund utility operations and inhibits the utility's ability to obtain new equity capital at a reasonable cost. This is particularly important for OTP because, as I previously discussed, it is planning significant capital expenditures over the next several years.

Q. IS THE NEED TO CONSIDER FLOTATION COSTS RECOGNIZED BY THE ACADEMIC AND FINANCIAL COMMUNITIES?

A. Yes, it is. The need to reimburse shareholders for the lost returns associated with equity issuance costs is recognized by the academic and financial communities in the same spirit that investors are reimbursed for the costs of issuing debt. This treatment is consistent with the philosophy of a fair rate of return. According to Dr. Shannon Pratt:

> Flotation costs occur when new issues of stock or debt are sold to the public. The firm usually incurs several kinds of flotation or transaction costs, which reduce the actual proceeds received by the firm. Some of these are direct out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and prospectus preparation costs. Because of this reduction in proceeds, the firm's required returns on these proceeds equate to a higher return to compensate for the additional costs. Flotation costs can be accounted for either by amortizing the cost, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.[74]

Further, Dr. Myron Gordon recognized that the DCF model did not include the cost of floating a new stock issue and proposed a means for regulators to recognize these costs in his text on the subject.[75]

Q. HAS THE COMMISSION FOUND THAT FLOTATION COST ADJUSTMENTS FOR THE RECOVERY OF EQUITY ISSUANCE COSTS ARE APPROPRIATE?

A. Yes, it has. The Commission has allowed flotation costs in recent cases. For example, the Commission determined that the recovery of flotation costs was appropriate in both its 2012 decision for Northern State Power Company[76] and its decision in the Company's last rate proceeding.[77]

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74 Pratt, Shannon P. Cost of Capital Estimation and Applications. Second Edition, at 220-21.

75 Gordon, Myron, "The Cost of Capital to a Public Utility", 1974, pp. 164-166.

76 Docket No. EL11-019, The Mater of the Application of Northern States Power Company DBA Xcel Energy for Authority to Increase its Electric Rates, Final Decision and Order, (Jul. 2, 2012), at 6.

77 Docket No. EL18-021, In The Mater of the Application of Otter Tail Power Company for Authority to Increase its Electric Rates, Final Decision and Order, (May 30, 2019), at 8.

Q. WHAT IS THE EFFECT OF FLOTATION COSTS ON OTP'S COST OF EQUITY?

A. My flotation cost calculation is based on the costs of issuing equity that were incurred by OTTR in each of the company's common equity issuances since 2004. As shown in Exhibit___(AEB-1), Schedule 14, based on the flotation costs of previous issuances, the impact on the proxy group's cost of equity amounts to 11 basis points (*i.e.*, 0.11 percent) based on the median and 13 basis points (*i.e.*, 0.13 percent) based on the mean.

Q. DO YOUR FINAL COST OF EQUITY MODEL RESULTS INCLUDE AN ADJUSTMENT FOR FLOTATION COST RECOVERY?

A. No, I did not make an explicit adjustment for flotation costs to any of the quantitative results of my cost of equity models. Rather, I considered the incremental cost associated with stock issuance as part of my overall recommendations regarding the range of reasonable ROEs and ultimate recommended ROE.

IX. CAPITAL STRUCTURE

Q. IS THE CAPITAL STRUCTURE OF THE COMPANY AN IMPORTANT CONSIDERATION IN THE DETERMINATION OF THE APPROPRIATE ROE?

A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as OTP. All else equal, a higher debt ratio increases the risk to equity investors. For debt holders, higher debt ratios result in a greater portion of the available cash flow being required to meet debt service, thereby increasing the risk associated with the payments on debt. The result of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more significant for common equity shareholders, whose claim on the cash flow of the Company is secondary to the claim of debt holders. Therefore, the greater the debt service requirement, the less cash flow available for common equity holders. To the extent the equity ratio is reduced, it is necessary to increase the authorized ROE to

compensate investors for the greater financial risk associated with a lower equity ratio.

Q. WHAT IS OTP'S PROPOSED CAPITAL STRUCTURE?

A. The Company proposes to establish a capital structure consisting of 53.54 percent common equity and 46.46 percent long-term debt.

Q. DID YOU CONDUCT ANY ANALYSIS TO DETERMINE IF THIS REQUESTED EQUITY RATIO WAS REASONABLE?

A. Yes. I compared the Company's proposed capital structure relative to the actual capital structures of the utility operating subsidiaries of the companies in the proxy group. Since the ROE is set based on the return that is derived from the risk-comparable proxy group, it is reasonable to look to the average capital structure for the proxy group to benchmark the equity ratios for the Company.

Q. PLEASE DISCUSS YOUR ANALYSIS OF THE CAPITAL STRUCTURES OF THE PROXY GROUP COMPANIES.

A. I calculated the average proportion of common equity, long-term debt, preferred equity and short-term debt for the most recent eight quarters for each of the companies in the proxy group at the operating subsidiary level. As shown on Exhibit___(AEB-1), Schedule 15, the average common equity ratio for the operating subsidiaries of the proxy group companies was 51.35 percent (within a range from 45.33 percent to 58.67 percent). Given that OTP's proposed equity ratio of 53.54 percent is well within the range of equity ratios for the utility operating subsidiaries of the proxy group companies, I consider its proposed equity ratio to be reasonable.

Q. ARE THERE OTHER FACTORS TO BE CONSIDERED IN SETTING THE COMPANY'S CAPITAL STRUCTURE?

A. Yes, there are other factors that should be considered in setting the Company's capital structure, namely the challenges that the credit rating agencies have highlighted as placing pressure on the credit metrics for utilities.

For example, Moody's recently maintained its "stable" 2025 outlook for the regulated gas and electric utilities sector on the expectation of continued regulatory support, which includes supportive legislation, timely recovery of excess purchased power costs, and weather-related cost recovery. Moody's "stable" rating also considers its expectations for declining interest rates and inflation, as well as favorable natural gas prices. Moody's makes clear that constructive regulatory outcomes that promote timely cost recovery is the key factor in supporting utility credit quality.[78]

S&P continues to maintain a negative outlook for the utility industry, noting that downgrades have outpaced upgrades for the fifth consecutive year and the most common investor-owned utility credit rating is a "BBB+".[79] S&P expects the industry to have increased cash flow deficits as a result of significant capital spending.[80] Weak common equity issuance contributes pressure to the industry's financial health. The utility industry will need ongoing access to capital markets to fund the capital expenditures. Furthermore, S&P also notes that there is a significantly increased physical risk due to climate change and elevated wildfire risk.

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78 Moody's Investors Service, Outlook. "Outlook Stable; regulatory support, economic factors offset financial pressure." November 7, 2024

79 S&P Global Ratings. Industry Credit Outlook 2025, "North American Regulated Utilities: Capex and climate change pressure credit quality." January 14, 2025

80 *Id*.

Fitch Ratings ("Fitch") has a "neutral" outlook for the utility industry noting that moderation in inflation and "subdued" commodity costs have eased pressures on customer bills. However, Fitch cautions that utility capital expenditures are expected to grow at a "double-digit rate" and thus, rate case outcomes will be key to watch as regulators balance rate requests and customer bill pressures.[81]

The credit rating agencies' continued concerns over increased capital expenditures underscore the importance of maintaining adequate cash flow metrics for the Company in the context of this proceeding.

Q. WILL THE CAPITAL STRUCTURE AND ROE AUTHORIZED IN THESE PROCEEDINGS AFFECT THE COMPANY'S ACCESS TO CAPITAL AT REASONABLE RATES?

A. Yes. The level of earnings authorized by the Commission directly affects the Company's ability to fund their operations with internally generated funds. Both bond investors and rating agencies expect a significant portion of ongoing capital investments to be financed with internally generated funds.

It also is important to realize that because a utility's investment horizon is very long, investors require the assurance of a sufficiently high return to satisfy the long-run financing requirements of the assets placed into service. Those assurances, which often are measured by the relationship between internally generated cash flows and debt (or interest expense), depend quite heavily on the capital structure. As a consequence, both the ROE and capital structure are very important to debt and equity investors, particularly given the capital market conditions discussed previously.

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[81] Fitch Ratings. "North American Utilities, Power & Gas Outlook 2025." December 5, 2024, at 1

Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE EQUITY RATIO FOR OTP?

A. Considering the actual capital structures of the utility operating subsidiaries of the proxy group, I believe that the Company's proposed common equity ratio of 53.54 percent is reasonable. The proposed equity ratio is well within the range of equity ratios established by the capital structures of the utility operating subsidiaries of the proxy companies.

X. CONCLUSION AND RECOMMENDATION

Q. WHAT IS YOUR CONCLUSION REGARDING A FAIR ROE FOR OTP?

A. Figure 16 summarizes the results of my cost of equity analyses. Based on the quantitative and qualitative analyses presented in my direct testimony, and the business and financial risks of the Company as compared to the proxy group, an ROE of 10.80 percent reasonable.

Figure 16: Summary of Analytical Results

Constant Growth DCF

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.17%	10.42%	11.25%
90-Day Avg. Stock Price	9.28%	10.53%	11.36%
180-Day Avg. Stock Price	9.31%	10.56%	11.39%
Average	9.25%	10.50%	11.34%
Median Results:			
30-Day Avg. Stock Price	9.48%	10.19%	10.97%
90-Day Avg. Stock Price	9.56%	10.26%	11.14%
180-Day Avg. Stock Price	9.71%	10.55%	11.07%
Average	9.58%	10.33%	11.06%

CAPM / ECAPM / Bond Yield Risk Premium

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Value Line Beta	11.21%	11.19%	11.17%
Bloomberg Beta	10.18%	10.13%	10.09%
Long-term Avg. Beta	10.30%	10.25%	10.22%
ECAPM			
Value Line Beta	11.39%	11.37%	11.36%
Bloomberg Beta	10.62%	10.57%	10.55%
Long-term Avg. Beta	10.71%	10.67%	10.64%
Bond Yield Risk Premium	10.71%	10.57%	10.49%

Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO OTP'S PROPOSED CAPITAL STRUCTURE?

A. My conclusion is that the Company's proposal to establish a capital structure consisting of 53.54 percent common equity and 46.46 percent long-term debt is reasonable when compared to actual capital structures of the proxy group companies.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.