utilities. Section VI describes my analyses and the analytical basis for the recommendation of the appropriate ROE for OG&E. Section VII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized for the Company in this case. Section VIII assesses the Company's proposed capital structure as compared to the proxy group. Section IX presents my conclusions and recommendations for the market cost of equity.

II. SUMMARY OF ANALYSES AND CONCLUSIONS

Q. Please provide a brief overview of the analyses that led to your ROE recommendation.

A. As discussed in more detail in Section VI, in developing my ROE recommendation, I applied the Constant Growth form of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), the Empirical Capital Asset Pricing Model ("ECAPM"), and the Bond Yield Plus Risk Premium Approach. I also considered several additional risk factors that affect the Company's required ROE, including: (1) the Company's capital expenditure requirements; (2) the regulatory risks including cost recovery, inflation and authorized ROEs; and (3) Flotation Costs. In addition, I consider the risk associated with capital attraction in a market where there is increased demand for capital to advance climate initiatives, replace aging infrastructure and maintain safe and reliable service. Finally, I review the Winter Storm Uri event in the context of the importance of the financial health of the Company. While I did not make any specific adjustments to my ROE estimates for any of these factors, I did take them into consideration in aggregate when determining where the Company's Cost of Equity falls

within the range of analytical results. Finally, I considered the Company's proposed capital structure as compared to the capital structures of the proxy companies.[2]

Q. Please summarize the key factors considered in your analyses and upon which you base your recommended ROE.

A. In developing my recommended ROE for OG&E, I considered the following:

- The *Hope* and *Bluefield* decisions[3] that established the standards for determining a fair and reasonable allowed ROE, 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 projected capital market conditions on investors' return requirements.
- The results of several analytical approaches that provide estimates of the Company's cost of equity.
- The Company's regulatory, business, and financial risks relative to the proxy group of comparable companies, and the implications of those risks.

Q. Please explain how you considered those factors.

A. After considering these factors and the results of my analyses, I relied on the range of results produced by the Constant Growth DCF model, the CAPM and ECAPM and a Bond Yield Plus Risk Premium analysis. As shown in Figure 1, these ROE estimation models produce a wide range of results. My conclusion as to where, within that range of results,

---

[2] The selection and purpose of developing a group of comparable companies will be discussed in detail in Section V of my Direct Testimony.

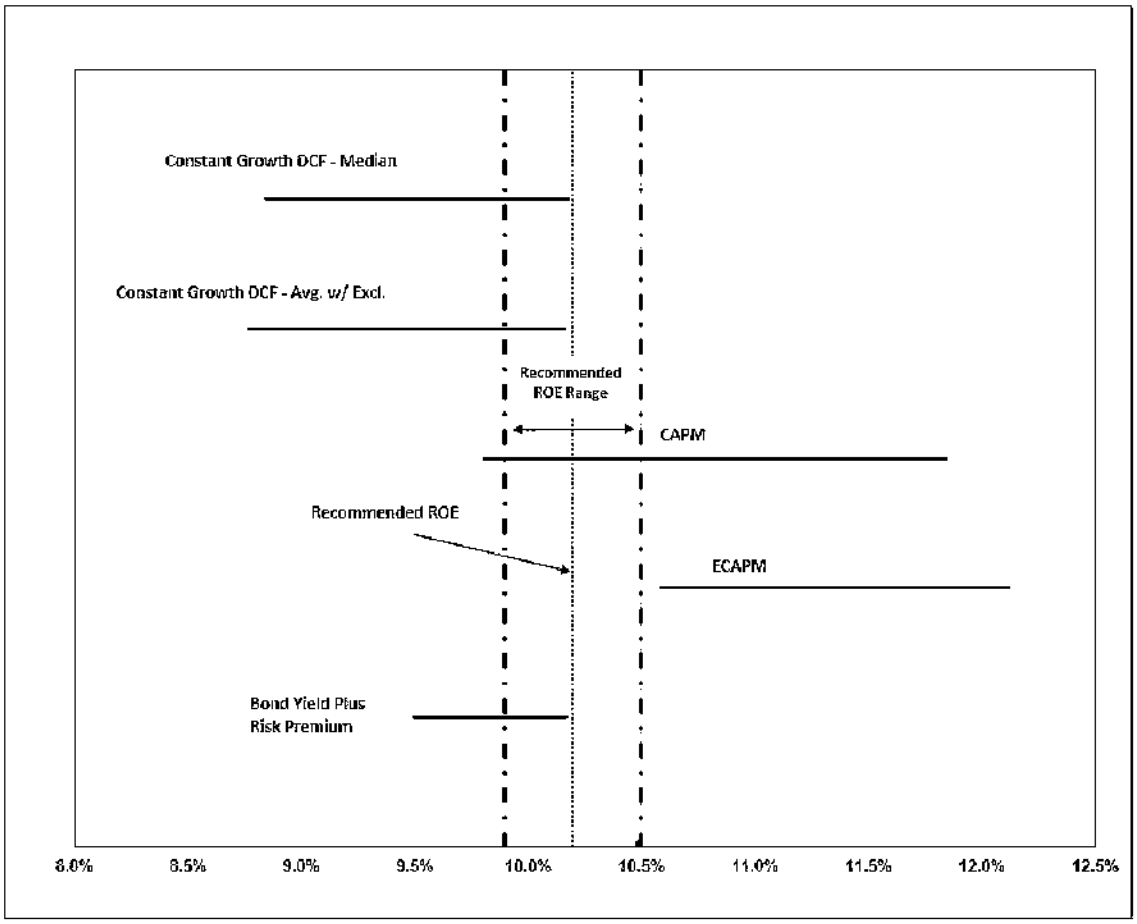
[3] Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944); Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923).

OG&E's cost of equity falls is based on my assessment of market conditions, and the Company's business and financial risk relative to the proxy group. Although the companies in my proxy group are generally comparable to OG&E, each company is unique, and no two companies have the exact same business and financial risk profiles. Accordingly, I considered the Company's business and financial risk in the aggregate in comparison to that of the proxy group companies when determining where the Company's ROE falls within the reasonable range of analytical results to account for any residual differences in risk.

Q. Please summarize the results of the ROE estimation models that you considered to establish the range of ROEs for OG&E.

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[4]



As shown in Figure 1 (and in Exhibit AEB-2), the range of results produced by the ROE estimation models is wide. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results varies considerably across methodologies. As a result, my ROE recommendation considers the range of results of the Constant Growth DCF model, as well as the results of the CAPM, ECAPM, and Bond Yield Plus Risk Premium analyses. My ROE recommendation also

[4] Constant Growth DCF analysis - Average w/ Exclusions represents the DCF results excluding the results for individual companies that did not meet the minimum threshold of 7 percent.

considers OG&E's company-specific risk factors and current and prospective capital market conditions.

Q. What is your recommended ROE for OG&E?

A. Based on the analytical results presented in Figure 1, as well as the level of regulatory, business, and financial risk faced by OG&E relative to the proxy group, I believe a range from 9.90 to 10.50 percent is reasonable. This recommendation reflects the range of results for the proxy group companies, the relative risk of OG&E as compared to the proxy group, and current capital market conditions. Within that range, an ROE of 10.20 percent is reasonable.

Q. Please summarize the analysis you conducted in determining that OG&E's requested capital structure is reasonable and appropriate.

A. Based on the analysis presented in Section VIII of my testimony, I conclude that OG&E's proposed 53.37 percent common equity is reasonable. To determine if OG&E's requested capital structure was reasonable, I reviewed the capital structures of the utility subsidiaries of the proxy companies. As shown in Exhibit AEB-14, the results of that analysis demonstrate that the average equity ratios for the utility operating companies of the proxy group range from 46.97 percent to 60.85 percent, with an average of 53.21 percent. Comparing the recommended equity ratio to the proxy group demonstrates that the Company's requested equity ratio is below the average equity ratio for the utility operating subsidiaries of the proxy group companies. Further, the Company's proposed equity ratio is reasonable considering the negative effect of the Tax Cuts and Jobs Act ("TCJA") and COVID-19 on the cash flows and credit metrics of regulated utilities.

III. REGULATORY GUIDELINES

Q. Please describe the guiding principles to be used in establishing the cost of capital for a regulated utility.

A. The United States Supreme Court's precedent-setting *Hope and Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's allowed 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) the principle that the result reached, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[5]

Q. Has the Commission provided similar guidance in establishing the appropriate return on common equity?

A. Yes. In its Order in Cause No. PUD 200600285, the Commission cited the Oklahoma Supreme Court (*Southwestern Public Service Company v. State of Oklahoma, 637 P2d 92*) which stated, in relevant part:

> "The constitutional safeguard afforded to a utility is summarized in *Alabama Public Service Com. v. South Cent. Bell Tel. Co., (Ala., 348 So.2d 443)* as follows: 'The just compensation safeguarded to a utility by the 14th Am. to the U.S. Const. is a reasonable return on the value of the property used at the time that is being used for the public service, and rates not sufficient to yield that return are confiscatory. The determination of a fair rate of return is governed by the following legal principles: (1) it cannot be developed by a rule of thumb calculation, but must be determined in the exercise of a fair, enlightened and independent judgment in light of all relevant facts; (2) it must be equal to that generally being earned by others in the same general locality in business undertakings attended by corresponding risks, and uncertainties; (3) it must be sufficient to insure the investor's confidence in the financial soundness of the utility enterprise and

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

> enough to maintain and support its credit so that it will be able to raise the money necessary to improve and expand its service to the discharge of all its public duties; (4) in determining the reasonableness of its rates it is necessary to consider effect of the rates imposed in the light of the utility's present situation and in light of its requirements and opportunities."[6]

Based on these standards, the authorized ROE should provide the Company with a fair and reasonable return and should provide access to capital on reasonable terms in a variety of market conditions.

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 ROE that is adequate to attract capital at reasonable terms enables the Company to continue provide safe, reliable electric service while maintaining its financial integrity. To the extent the Company is provided the opportunity to earn its market-based cost of capital, neither customers nor shareholders are disadvantaged. While it is important to provide access to capital on reasonable terms during all market conditions, the importance of financial strength becomes more apparent in periods of market distress or in extreme circumstances such as the Extreme Winter Weather event, when utilities needed to access the capital markets to continue to provide safe and reliable service.

Q. Is a utility's ability to attract capital also affected by the ROEs that are authorized for other utilities?

A. Yes. OG&E competes directly for capital with other investments of similar risk, which include other vertically integrated electric utilities. The ROE awarded to a utility sends an

[6] Order No. 545168, Cause No. PUD 200600285, Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in its Rates and Charges for Electric Service in the State of Oklahoma, issued October 9, 2007, at 134.

important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. The cost of capital represents an opportunity cost to investors. If higher returns are available for other investments of comparable risk, investors have an incentive to direct their capital to those investments. Thus, an authorized ROE that is not commensurate with authorized ROEs for other vertically integrated electric utilities can inhibit OG&E's ability to attract capital for investment in Oklahoma.

Q. What are your conclusions regarding regulatory guidelines?

A. The ratemaking process is premised on the principle that a utility must have the opportunity to recover the return of, and the market-required return on, its invested capital. 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; doing so balances the long-term interests of the utility and its customers.

The financial community carefully monitors the current and expected financial condition of utility companies and the regulatory frameworks in which they operate. In that respect, the regulatory framework is one of the most important factors in both debt and equity investors' assessments of risk. The Commission's order in this proceeding, therefore, should establish rates that provide the Company with the opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms under a variety of economic and financial market conditions; (2) sufficient to ensure good financial management and firm integrity; and (3) commensurate with returns on investments in enterprises with similar risk. Providing OG&E the opportunity to earn its market-based cost of capital

supports the financial integrity of the Company, which is in the interest of both customers and shareholders.

Q. Does the fact that the Company is owned by OGE Energy Corp., a publicly-traded company, affect your analysis?

A. No, it does not. In this proceeding, consistent with stand-alone ratemaking principles, it is appropriate to establish the cost of equity for OG&E, not its publicly-traded parent OGE Energy Corp. More importantly however, it is appropriate to establish a return on equity and capital structure that provide OG&E the ability to attract capital on reasonable terms, on a stand-alone basis, and within the OGE Energy Corp.'s system.

IV. CAPITAL MARKET CONDITIONS

Q. Why is it important to analyze capital market conditions?

A. The ROE estimation models rely on market data that are either specific to the proxy group, in the case of the DCF model, or to the expectations of market risk, in the case of the CAPM. The results of the ROE estimation models can be affected by prevailing market conditions 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 ROE estimation models to estimate the required return for the subject company. Therefore, it is important to evaluate how market conditions have affected the results of the models in the evaluation of the appropriate weight to place on the results of the ROE estimation models. For example, stock prices affect the dividend yield in the DCF model. If stock prices are

unsustainably high, the dividend yield in the DCF model may be unsustainably low, and the result of the model will understate the cost of equity.

As discussed in the remainder of this section, analysts and regulatory commissions have concluded that current market conditions have affected the results of the ROE estimation models. As a result, it is important to consider the effect of these conditions on the ROE estimation models when determining the appropriate range and 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 ROE 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. What factors are affecting the cost of equity for regulated utilities in the current and prospective capital markets?

A. The cost of equity for regulated utility companies is being affected by several factors in the current and prospective capital markets, including: (1) the dramatic shifts in market conditions during 2020, the economic recovery in 2021 and the expectations for 2022, and the effect of these changes on the assumptions used in the ROE estimation models; and (2) effects of federal tax reform on utility cash flows. In this section, I discuss each of these factors and how it affects the models used to estimate the cost of equity for regulated utilities.

Q. Have state regulatory commissions considered market events and the utility's ability to attract capital in determining the equity return?

A. Yes. In a recent rate case for Consumers Energy Company, the Michigan Public Service Commission ("Michigan PSC") noted that it is important to consider how a utility's access to capital could be affected in the near-term as a result of market reactions to global events like those that have occurred in the recent past.[7] Specifically, the Michigan PSC noted that:

> [i]n setting the ROE at 9.90%, the Commission believes there is an opportunity for the company to earn a fair return during this period of atypical market conditions. This decision also reinforces the belief, as stated in the Commission's March 29 order, "that customers do not benefit from a lower ROE if it means the utility has difficulty accessing capital at attractive terms and in a timely manner." These conditions still hold true based on the evidence in the instant case. The fact that other utilities have been able to access capital despite lower ROEs, as argued by many intervenors, is also a relevant consideration. *It is also important to consider how extreme market reactions to global events, as have occurred in the recent past, may impact how easily capital will be able to be accessed during the future test period should an unforeseen market shock occur. The Commission will continue to monitor a variety of market factors in future rate cases to gauge whether volatility and uncertainty continue to be prevalent issues that merit more consideration in setting the ROE.*[8]

The Michigan PSC references "global events" and the overall effect the events could have on the ability of a utility to access capital. Consistent with the Michigan PSC's views, it is important to consider current market conditions and the impact of those conditions on the access to and cost of capital, and to position utilities to be able to maintain access in rapidly changing market conditions.

---

[7] Michigan Public Service Commission Order, Cause No. U-20697, Consumers Energy Company, December 17, 2020, at 165.

[8] *Id.*, at 43 (emphasis added).

A. Economic Recovery and Performance of the Utility Sector

Q. Please summarize how current market conditions are affecting the investor-required ROE.

A. As is discussed in more detail in the remainder of this section of my testimony, recent and projected market conditions demonstrate that the investor-required return on equity is increasing. Specifically, I address that increasing yields on bonds, rising inflation and the cyclicality of investment in the utilities sector are creating upward pressure on the investor-required return on equity.

Q. Do recent economic projections indicate the expectation for a continued economic recovery in 2022?

A. Yes. The Federal Open Market Committee ("FOMC") is composed of twelve members including the Board of Governors of the Federal Reserve system and presidents of the Federal Reserve Banks. The FOMC reviews economic and financial conditions, determines the appropriate stance for monetary policy and assess the risks to its long-run goals of price stability and economic growth. The FOMC issued its Summary of Economic Projections in December 2021, where the FOMC's median projection for GDP growth from Q4 2021 to Q4 2022 is 4.0 percent.[9] The Congressional Budget Office ("CBO") issued an update to its outlook on economic conditions on July 1, 2021. In that report, the CBO projected strong GDP growth for 2021 and beyond and significant strength in overall economic conditions including:

[9] Federal Open Market Committee, Summary of Economic Projections at 2 (Dec. 15, 2021).

- Real GDP growth of 7.4 percent in 2021 and 3.1 percent in 2022, which is a significant change from the negative 2.4 percent growth rate in 2020;
- Inflation indicators at or above the 2.0 percent threshold in 2021 and continuing through 2031;
- Labor force expected to be restored to pre-pandemic levels in 2022; and
- Interest rates on federal borrowing increasing through 2031.[10]

Q. These trends indicate strong economic recovery over the next year, with robust consumer spending expected.Please summarize the recent monetary policy of the Federal Reserve.

A. In response to the COVID-19 pandemic, the Federal Reserve:

- Decreased the Federal Funds rate twice in March 2020, resulting in a target range of 0.00 percent to 0.25 percent;
- Increased its holdings of both Treasury and mortgaged-back securities;
- Started expansive programs to support credit to large employers – the Primary Market Corporate Credit Facility to provide liquidity for new issuances of corporate bonds; and the Secondary Market Corporate Credit Facility to provide liquidity for outstanding corporate debt issuances; and
- Supported the flow of credit to consumers and businesses through the Term Asset-Backed Securities Loan Facility.

In addition, Congress also passed the Coronavirus Aid, Relief, and Economic Security ("CARES") Act in March 2020, the Consolidated Appropriations Act, 2021 in December 2020 and the American Rescue Plan Act in March 2021, which included $2.2. trillion, $900 billion and $1.9 trillion, respectively, in fiscal stimulus aimed at also

[10] Congressional Budget Office, An Update to the Budget and Economic Outlook 2021 to 2031, July 2021.

mitigating the economic effects of COVID-19. These expansive monetary and fiscal programs mitigated the economic effects of the COVID-19 pandemic and are currently providing additional support as the economy recovers from the COVID-19 recession.

Q. Are there indications the Federal Reserve will start to slowly end some of the accommodative policy tools that were used to support the economy during COVID-19?

A. Yes. Most recently at the December 15, 2021 meeting, in response to inflation exceeding the Federal Reserve's target of 2 percent for a sustained period of time, the Federal Reserve decided to increase the pace of its taper of bond purchases. Beginning in January 2022, the Federal Reserve will reduce asset purchases of Treasuries by $20 billion and mortgage-backed securities by $10 billion on a monthly basis.[11] This change is double the initial plan outlined at the November 2, 2021 meeting which called for reducing asset purchases of Treasuries by $10 billion and mortgage-backed securities by $5 billion on a monthly.[12] Moreover, the Federal Reserves' FOMC is now forecasting three increases in the federal funds rate by the end of 2022[13] which is a substantial increase from the one increase that was forecasted by the FOMC at the September 22, 2021 meeting.[14]

---

[11] Federal Reserve, Press Release, (Dec. 15, 2021).

[12] Federal Reserve, Press Release, (Nov. 3, 2021).

[13] Federal Reserve, Summary of Economic Projections, (Dec. 15, 2021).

[14] Federal Reserve, Summary of Economic Projections, (Sept. 22, 2021).

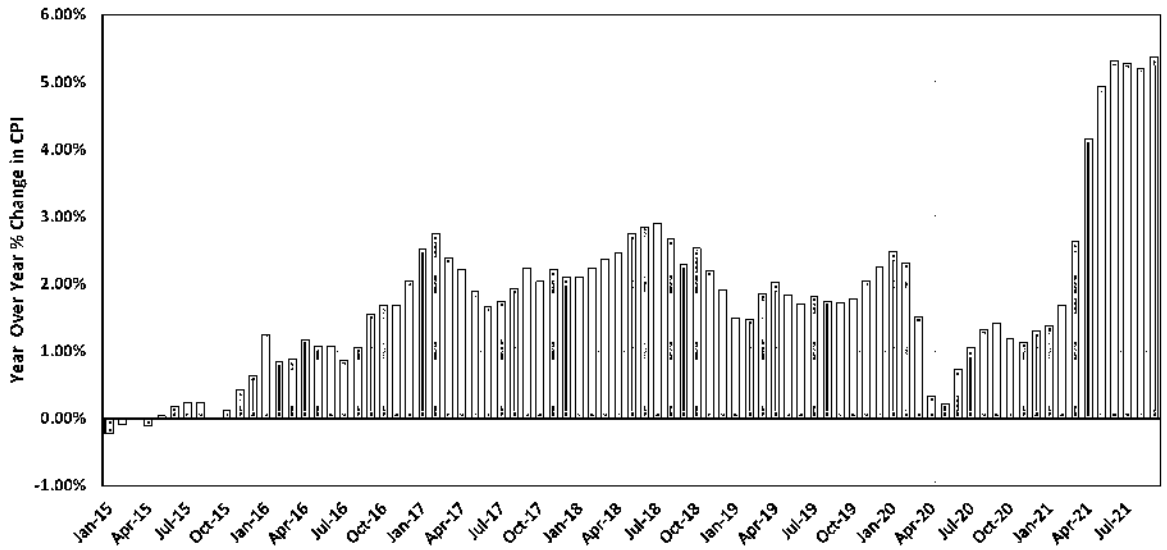
Q. Why has the Federal Reserve decided to normalize monetary policy?

A. The Federal Reserve has accelerated plans to normalize monetary policy in response to increasing inflation. While the Federal Reserve initially viewed inflation as transitory, it has been higher and more persistent than the target levels and is expected to continue in 2022.

Q. How significant is the increase in inflation in 2021?

A. Very significant. As shown in Figure 2, the YOY change in the Consumer Price Index ("CPI") published by the Bureau of Labor statistics has increased steadily in 2021 rising from 1.37 percent in January to 6.88 percent in November. The 6.88 percent YOY in the CPI in November 2021 is the largest 12-month increase since 1982 and is significantly greater than any level seen since January 2008.

Figure 2: Consumer Price Index – YOY Percent Change – January 2015 – September 2021[15]



[15] Source: Bureau of Labor Statistics, shaded area indicates the COVID-19 pandemic recession.

Q. What are investors' expectations for inflation over the near-term?

A. Investors expect inflation to persist into 2022. For example, Goldman Sachs forecasts consumer price inflation excluding food and energy costs to still be above 4 percent when the Federal Reserve ends their tapering of bond purchases in 2022.[16] Similarly, respondents to the recent CNBC Fed Survey, indicated the CPI is expected to rise 3.5 percent in 2022 which is an increase from the September Survey of 3.00 percent.[17] Finally, Kiplinger recently noted the following regarding inflation expectations over the near-term:

> Inflation at the end of next year should be about 2.7%, down from 6.6% at the end of 2021. It's expected that an easing of supply chain shortages next year will bring some price relief, especially to sky-high motor vehicle prices. But, these shortages are expected to only gradually resolve during 2022. Also, worker shortages may last longer than expected, keeping wage growth high and forcing businesses to pass some of those costs on to consumers. So, inflation should remain higher than its 1.7% average over the past ten years.[18]

According to Kiplinger, the higher levels of inflation will likely result in the Federal Reserve increasing the federal funds rate in 2022 instead of 2023 as originally planned.[19]

Q. What effect will inflation have on long-term interest rates?

A. Inflation and the Federal Reserve's normalization of monetary policy will likely result in increases in long-term interest rates. Specifically, inflation reduces the purchasing power of the future interest payments an investor expects to receive over the duration of the bond. This

---

[16] Kennedy, Simon. "Goldman Now Sees Fed Hiking Rates in July as Inflation Lingers." Bloomberg.com, Bloomberg, 30 Oct. 2021, https://www.bloomberg.com/news/articles/2021-10-30/goldman-now-sees-fed-hiking-rates-in-july-as-inflation-lingers.

[17] Liesman, Steve. "Investors Expect a Faster Pace for Fed Rate Hikes, CNBC Survey Shows." CNBC, CNBC, 2 Nov. 2021, https://www.cnbc.com/2021/11/02/investors-expect-a-faster-pace-for-fed-rate-hikes-cnbc-survey-shows.html.

[18] Payne, David, "Inflation hits 30-year High," Kiplinger, November 11, 2021.

[19] Ibid.

risk increases the longer the duration of the bond. As a result, if investors expect increased levels of inflation, they will require higher yields to compensate for the increased risk of inflation which means interest rates will increase.

Q. What have equity analysts said about long-term government bond yields?

A. Several equity analysts have noted that they expect economic conditions to continue to improve and thus the yields on long-term government bonds to continue to increase through the end of 2022. As shown in Figure 3, according to six different equity analysts, the yield on the 10-year Treasury Bond is expected to range from 1.75 percent to 2.50 percent in 2022 which is 17 to 92 basis points greater than the current 30-day average yield on the 10-year Treasury Bond as of November 30, 2021, of 1.58 percent. Specifically, Morgan Stanley recently noted the following regarding the expectation for long-term government bond yields in 2022:

> Continued strong growth in 2022, alongside receding but above-target inflation, keeps the Fed patient, yet gradually moving toward rate hikes, and keeps Treasury yields moving higher.[20]

[20] "Factbox: Wall Street Forecasts for the U.S. Dollar and 10-Year Treasury Yield in 2022." Reuters, Thomson Reuters, 18 Nov. 2021, https://www.reuters.com/markets/us/wall-street-forecasts-us-dollar-10-year-treasury-yield-2022-2021-11-18/.

Figure 3: Equity Analysts Forecast of the 10-year Treasury Yield[21]

Bank	10-year U.S. Treasury Yield	
	30-day Average as of November 30, 2021	2022 Forecast
Barclays	1.58%	1.75%
Morgan Stanley	1.58%	2.10%
Goldman Sachs	1.58%	2.00%
JP Morgan	1.58%	2.10%
Wells Fargo Investment Institute	1.58%	2.00% - 2.50%
Amundi	1.58%	1.80% - 2.00%

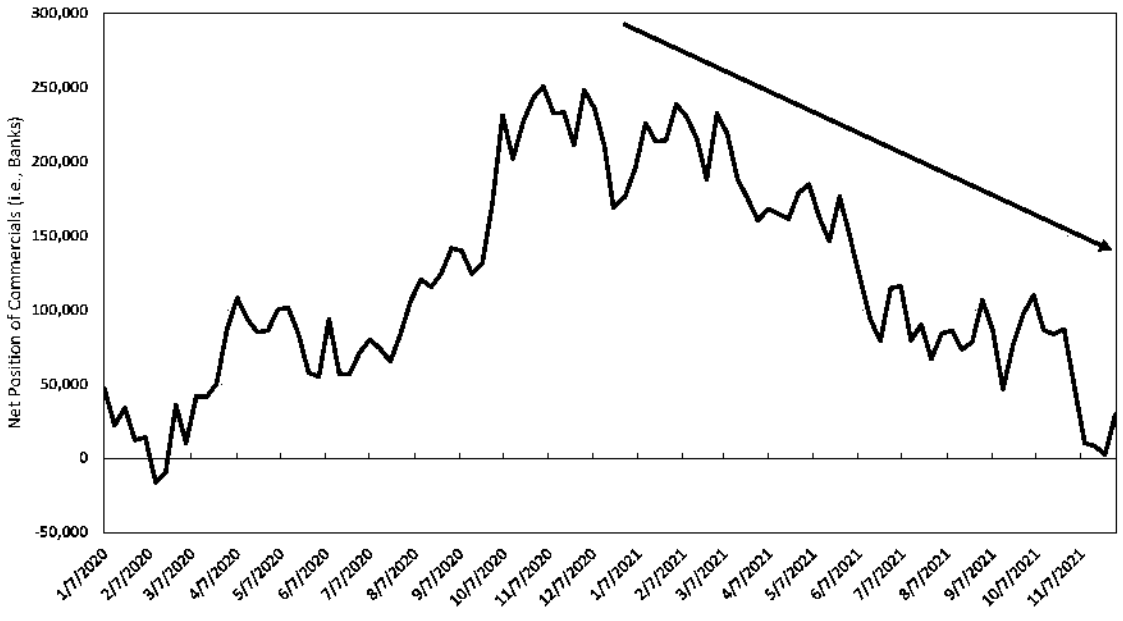
Q. Have you considered any additional indicators which may imply long-term interest rates are expected to increase?

A. Yes, I have. I considered the net position of commercials (i.e., banks) in U.S. Treasury Bond futures contracts as reported in the Commitment of Traders ("COT") Report produced by the Commodity Futures Trading Commission ("CFTC"). A net position is defined as the total number of long positions in a futures contract minus the total number of short positions in a futures contract. A long position means that an investor agrees to purchase an asset in the future at a specified price today and therefore the investor profits if the price of the underlying asset increases. Conversely, short position is when an investor agrees to sell an asset at a time in the future at a specified price today and the investor profits if the price of the asset declines. Therefore, if banks are increasing the number of

[21] "Factbox: Wall Street Forecasts for the U.S. Dollar and 10-Year Treasury Yield in 2022." Reuters, Thomson Reuters, 18 Nov. 2021, https://www.reuters.com/markets/us/wall-street-forecasts-us-dollar-10-year-treasury-yield-2022-2021-11-18/.

short positions and thus have a declining net position, the banks are assuming that the price of the asset will decline. As shown in Figure 4, the net position of banks in U.S. Treasury Bonds has been decreasing since the end of 2020. Therefore, banks are forecasting a decrease in the price of long-term government bonds and thus the yields (which are inversely related to the price) to increase over the near-term.

Figure 2: Commitment of Traders Report – Net Position of Commercials (i.e., Banks) in U.S. Treasury Bond Futures Contracts[22]



Q. How do equity analysts expect the utilities sector to perform in an increasing interest rate environment?

A. Equity analysts project that utilities are expected to continue to underperform the broader market as interest rates increase. For example, in a recent article, Barron's conducted its

[22] Commitment of Traders Report, as of November 30, 2021 - https://www.cftc.gov/MarketReports/CommitmentsofTraders/HistoricalCompressed/index.htm

Big Money poll of professional investors regarding the outlook for the next twelve months. Approximately 60 percent of respondents projected the yield on the 10-year Treasury Bond will be 2.00 percent or greater at the end of the next twelve months which is an increase from the current 30-day average 10-year Treasury Bond yield as of September 30, 2021 of 1.35 percent.[23] Furthermore, the professional investors surveyed by Barron's selected the utility sector as the sector which will perform the worst over the next twelve months indicating they are projecting that utilities will underperform the broader market in 2022.

Other equity analysts concur with this conclusion. Fidelity recently recommended underweighting the utility sector and noted that "|w|eak fundamentals and high valuations could be headwinds for utilities and real estate, especially if rates increase."[24] In its 2021 Midyear Outlook, Well Fargo classified the utility sector as "most unfavorable" as economic growth continues to rebound.[25] Finally, Charles Schwab has classified the utilities sector overall as "Underperform," noting negatives for the sector that include "interest rates are expected to recover from recent decline" and "economic recovery makes the sector less attractive, relative to other sectors".[26]

---

[23] Jasinski, Nicholas. Stocks Are Still the Place to Be, Our Exclusive Big Money Poll Finds. Barron's, 16 Oct. 2021, https://www.barrons.com/articles/stock-market-covid-economy-outlook-51634312012?mod=hpsubnav&tesla=y.

[24] Fidelity, "Q4 2021 sector scorecard," October 27, 2021.

[25] Well Fargo Investment Institute, 2021 Midyear Outlook, June 2021.

[26] Charles Schwab, "Schwab Sector Insights: A view on 11 Equity Sectors," September 30, 2021.

Q. How has the utility sector performed historically during periods where the yield curve is steepening, and the economy is in the early stage of the business cycle?

A. In a recent report, Fidelity noted that the utility sector has historically been one of the worst performing sectors during the early phase of the business cycle with a geometric average return of -10.5 percent.[27] This conclusion is further supported by studies conducted by both Goldman Sachs and Deutsche Bank that examined the sensitivity of share prices of different industries to changes in interest rates over the past five years. Both Goldman Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships with bond yields (i.e., increases in bond yields resulted in the decline of utility share prices).[28] This is important because if the utility sector underperforms over the near term, and prices of utility stocks decline, then the DCF model, which relies on historical averages of share prices, is likely to understate the cost of equity for the Company over the near term or the period that Company's rates will be in effect.

Q. Why do utilities historically underperform in the early stage of the business cycle?

A. Utilities are considered a defensive sector and are therefore affected less by changes in the business cycle relative to other market sectors since consumers need energy during all phases of the business cycle. Therefore, utilities tend to perform well during periods of uncertainty where the prospect of slowing economic growth increases. As Fidelity noted historically utilities outperform the market in latter and recession phases of the business cycle.[29] This relationship mostly held during the past few years as the share prices of

---

[27] Fidelity Investments, "The Business Cycle Approach to Equity Sector Investing," 2020.

[28] Lee, Justina. "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks." Bloomberg.com, 11 Mar. 2021, www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks.

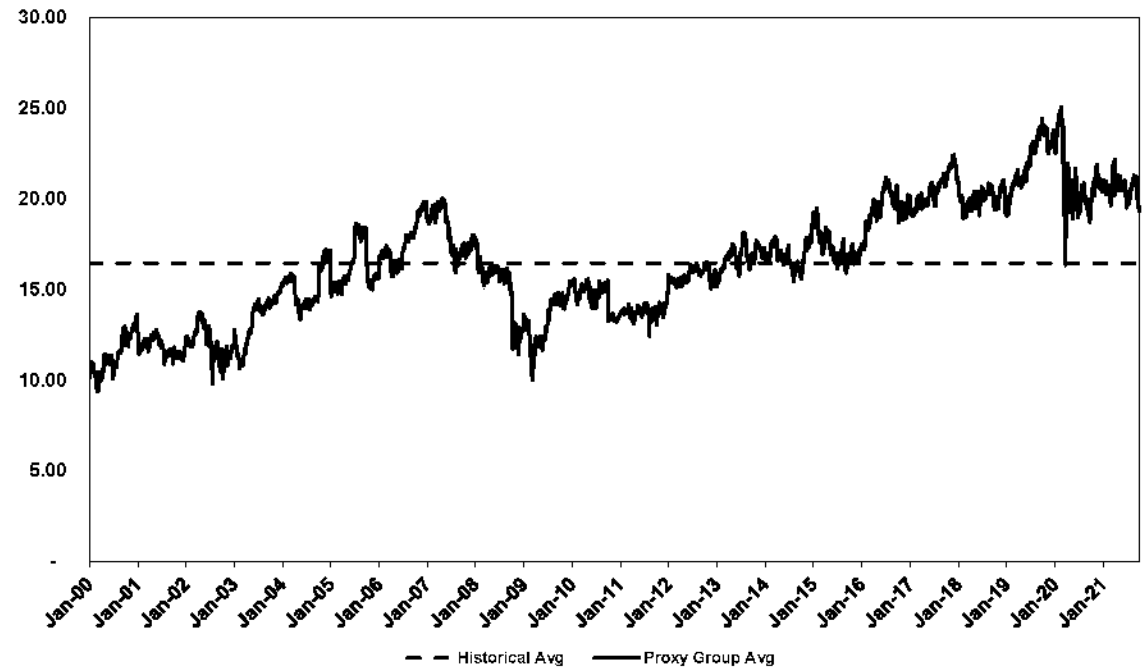
[29] Fidelity Investments, "The Business Cycle Approach to Equity Sector Investing," 2020.

utilities were bid up to unsustainable levels as investors responded to economic uncertainty due to the trade war between the U.S. and China and ultimately the COVID-19 pandemic.

Q. How do the recent valuations of utilities compare to historical averages?

A. The utility sector's valuations remain above the long-term historical average. As shown in Figure 5, the price-to-earnings ("P/E") ratio of the proxy group is currently approximately 19.34, or above the long-term average of the proxy group over this period of approximately 16.45. It is not reasonable to expect the proxy group utilities to maintain P/E ratios that are above long-term averages over the long term.

Figure 3: P/E Ratios of Proxy Group Relative to the Long-Term Average, January 2000 – September 2021[30]

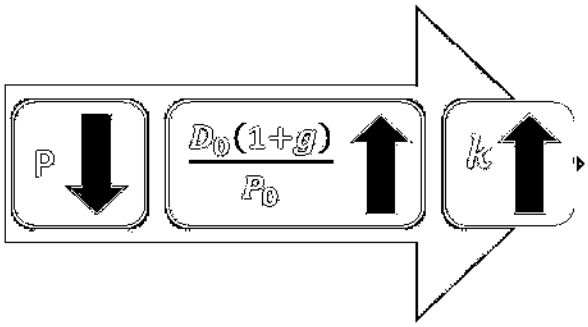


Q. What is the effect of expected market conditions on the DCF model?

A. If the utility sector underperforms over the near term as expected, and prices of utility stocks decline, then the DCF model, which relies on historical averages of share prices, is likely to understate the cost of equity. For example, Figure 6 below summarizes the effect of a decline in share price on the dividend yield and thus the cost of equity estimated by the Constant Growth DCF model.

[30] Bloomberg Professional.

Figure 4: The Effect of a decline in Stock Prices on the Constant Growth DCF model



A decline in stock prices will increase the dividend yields and thus the estimate of the ROE produced by the Constant Growth DCF model. Therefore, this expected change in market conditions supports consideration of the range of ROE results produced by the mean to mean-high DCF results since the mean DCF results would likely understate the cost of equity during the period that the Company's rates will be in effect. Moreover, prospective market conditions warrant consideration of other ROE estimation models such as the CAPM, ECAPM and Bond Yield Plus Risk Premium, which may better reflect expected market conditions. For example, two out of three inputs to the CAPM (*i.e.*, the market risk premium and risk-free rate) are forward-looking.

B. Effect of Tax Reform on the ROE and Capital Structure

Q. Please summarize the effect of Tax Reform on the ROE and Capital Structure

A. Tax reform resulted in a reduction in the cash flow metrics for utility companies as a result of the loss of bonus depreciation and the return of excess Accumulated Deferred Income Taxes ("ADIT"). The credit metrics reflect the utility's ability to cover their fixed income obligations. To the extent that these metrics deteriorate, and there is greater risk related to the coverage of fixed obligations, the investor-required return on equity will also increase. As is discussed in the remainder of this section, following the implementation of Tax

Reform credit rating agencies identified increased risk resulting from the deterioration of credit metrics and proposed as a solution increasing the ROE and/or the equity ratios of utilities to stabilize credit metrics.

Q. Should the effect of tax reform be considered in determining the cost of equity for the Company?

A. Yes. The credit rating agencies have commented on the adverse effect of the TCJA on the cash flows of regulated utilities.[31] Specifically, the TCJA has reduced utility revenues due to lower federal income taxes in the revenue requirement, the end of bonus depreciation, and the requirement to return excess accumulated deferred income taxes. This change in revenue reduced funds from operations metrics across the sector, and absent regulatory mitigation strategies, has led to weaker credit metrics and negative ratings actions for some utilities.[32]

Q. What has been the effect of the TCJA on utility financial risk?

A. The TCJA reduced utilities' financial flexibility through the loss of bonus depreciation and the return of excess Accumulated Deferred Income Taxes ("ADIT"). In 2018 when the TCJA was passed, credit rating agencies initially revised the outlook on utilities.

Q. Does tax reform continue to present challenges for utilities?

A. Yes. The TCJA resulted in a permanent change in the cash flow metrics of utilities. Credit rating agencies have recognized this change in metrics and have proposed that increasing

---

[31] Standard & Poor's Ratings, "Industry Top Trends 2019, North America Regulated Utilities", November 8, 2018; FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector", January 24, 2018.

[32] *Ibid.*

ROEs and the use of thicker equity layers can improve credit metrics. Since 2018, Moody's has downgraded the credit ratings of more than 30 utilities related in part to the TCJA beginning in June 2018 and continuing into 2021.

Q. Did the Company experience a downgrade related to cash flow metrics resulting from tax reform?

A. Yes. OG&E was downgraded twice by Moody's since the implementation of the TCJA in December 2017. In July 2018, OG&E was downgraded from a rating of A1 to A2 and in May 2019, OG&E was downgraded from a rating of A2 to A3. In both cases, the negative cash flow effects of the passage of tax reform in December 2017 was cited as a reason for the credit rating downgrade. In May 2019, Moody's noted:

> "We expect OG&E's financial metrics to remain significantly below historical levels due to higher debt levels and lagging cash flow from tax reform" said Ryan Wobbrock, Vice President -- Senior Credit Officer, "With cash flow to debt ratios now in the low-20% range, OG&E's financial profile is more comparable to A3 integrated utility peers" added Wobbrock.[33]

[33] Moody's Investors Service, "Rating Action: Moody's downgrades Oklahoma Gas & Electric to A3 and affirms OGE Energy at Baa1; outlooks stable, May 31, 2019.

Q. Have state regulatory commissions recognized that the TCJA has had an adverse impact on utility cash flows?

A. Yes. The Oregon Public Utilities Commission ("Oregon PUC"),[34] the Wyoming Public Service Commission ("Wyoming PSC")[35] and the Utah Public Service Commission ("Utah PSC")[36] have acknowledged the negative effect of the TCJA on the cash flow of utilities.

Further, in a December 2019 order for Georgia Power Company, the Georgia Public Service Commission found it appropriate to authorize a higher equity ratio as a means to address the negative impacts of the TCJA:

> As pointed out by the Company, in April 2018, this Commission adjusted the Company's equity ratio upward from the 51%, which was previously approved in the 2013 Rate Case, to 55% as part of the Tax Cuts and Jobs Act settlement between the Company and Commission PIA Staff in Docket No. 36989 ("Tax Reform Settlement"). The equity adjustment approved in the Tax Reform Settlement was implemented to address the negative implications of tax reform, provide support for maintaining the Company's credit profile, and allow the Company timely access to capital markets and the ability to borrow at reasonable interest rates. Based on the evidence presented, the Commission finds and concludes that the Settlement Agreement's proposed capital structure of 56% common equity level is just and reasonable considering all the evidence presented and is necessary to avoid a credit rating downgrade.[37]

---

[34] *See* In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue 3,500,000 Shares of Common Stock, Docket UF 4308, Order No. 19-067 (Feb. 23, 2019); In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue and Sell $600,000,000 of Debt Securities, UF 4313, Order No. 19-249 (July 30, 2019); In the Matter of Portland General Electric Company, Request for Authority to Extend the Maturity of an Existing $500 Million Revolving Credit Agreement, Docket UF 4272(3), Order No. 19-025 (Jan. 23, 2019).

[35] In the Matter of Questar Gas Company dba Dominion Energy Wyoming's Application for Approval of Amended Stipulation Previously Approved in Docket No. 30010-150-GA-16, Docket No. 30010-180-GA-18 (Record No. 15138) (Aug. 20, 2019).

[36] Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

[37] Georgia Public Service Commission Docket No. 42516, Short Order Adopting Settlement Agreement as Modified, December 17, 2019, at 7-8.

C. Conclusion

Q. What are your conclusions regarding the effect of current market conditions on the cost of equity for the Company?

A. The important conclusions regarding capital market conditions are:

- As markets continue to rebound from the uncertainty and volatility that characterized capital markets in 2020 and interest rates continue to increase from the market lows in August 2020, it is reasonable that equity investors would require a higher return on equity to compensate for the additional risk associated with owning common stock. Likewise, if electric utilities continue to underperform the broader market, as expected by analysts, this will indicate additional risk associated with these investments.
- Investors' current expectations regarding the economy highlights the importance of using forward-looking inputs in the models used to estimate the cost of equity. Current utility valuations are still well above the long-term average. Because the dividend yield is calculated as the dividend divided by the price, the current high valuations result in low dividend yields for utilities, which means that DCF models using recent historical data likely underestimate investors' required return over the period that rates will be in effect.
- Further, expectations of higher interest rates and inflation affect the Company's ability to earn its authorized ROE and increase the risk associated with the Company's capital investment plan.
- Credit rating agencies have demonstrated concern about the cash flow metrics of utilities, related to the negative effects of both current market conditions and the TCJA, which increases investor risk expectations for utilities. Therefore, it is increasingly important to consider a rate of return and capital structure that support the Company's cash flow metrics to enable OG&E the ability to attract capital at reasonable terms during the period that rates will be in effect.

V. PROXY GROUP SELECTION

Q. Please provide a brief profile of OG&E.

A. OG&E is an electric utility company that is a wholly-owned subsidiary of OGE Energy Corp. The Company operates in Oklahoma and western Arkansas. In Oklahoma, the Company provides electric utility service to approximately 867,389 residential, commercial and industrial customers.[38] As of December 31, 2020, OG&E's net utility electric plant in service in Oklahoma was approximately $13,436.1 million.[39] In addition, OG&E had total electric sales in 2020 of approximately 29 million MWh, made up of 33.76 percent residential, 21.72 percent commercial, 14.48 percent industrial, and 31.03 percent other.[40,41] OG&E currently has an investment grade long-term rating of A- (Outlook: Negative) from S&P and A3 (Outlook: Negative) from Moody's.[42]

Q. Why have you used a group of proxy companies to estimate the cost of equity for OG&E?

A. In this proceeding, we focus on estimating the cost of equity for an electric utility company that is not itself publicly traded. Because the cost of equity is a market-based concept and because OG&E's operations do not make up the entirety of a publicly traded entity, it is necessary to establish a group of companies that is both publicly traded and comparable to

[38] OG&E SEC form 10-K, p. 55.
[39] *Id.*, at p. 82.
[40] *Id.*, at p. 7.
[41] *Id.*
[42] S&P Global Market Intelligence, November 2, 2021.

the Company in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process.

Even if OG&E was 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 proxy companies used in my analyses all possess a set of operating and risk characteristics that are substantially comparable to the Company, and thus provide a reasonable basis to derive and estimate the appropriate ROE for OG&E.

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 from S&P and/or Moody's;
- Are covered by at least two utility industry analysts;
- 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;
- Have more than 5 percent of owned regulated generation capacity come from regulated coal-fired power plants;
- Derive more than 40 percent of its megawatt-hour sales from its owned generation facilities.

- Derive more than 60 percent of their total operating income from regulated operations;
- Derive more than 60 percent of their total regulated operating income from regulated electric operations; and
- We're not parties to a merger or transformative transaction during the analytical periods relied on.

Q. Did you include OGE Energy Corp. in your analysis?

A. No. In order to avoid the circular logic that otherwise would occur, it is my practice to exclude the subject company, or its parent holding company, from the proxy group.

Q. Did you exclude any other companies from the proxy group?

A. Yes. Similar to the reason that I exclude transformative transactions; because the stock price can be affected by one-time events, I also excluded Pinnacle West Capital Corporation from the proxy group. The stock price of Pinnacle West Capital Corporation decreased approximately 24 percent over a two-month period from October through November 2021 resulting from a negative regulatory decision for its largest operating company, Arizona Public Service Company. Therefore, I have excluded this company from the proxy group.

Q. What is the composition of your proxy group?

A. The screening criteria discussed above are shown in Exhibit AEB-3 and resulted in a proxy group consisting of the companies shown in Figure 7 below.

Figure 5: Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avista Corporation	AVA
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
MGE Energy, Inc.	MGEE
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
Otter Tail Corporation	OTTR
Portland General Electric Company	POR
Southern Company	SO
Xcel Energy Inc.	XEL

VI. COST OF EQUITY ESTIMATION

Q. Please briefly discuss the ROE in the context of the regulated rate of return ("ROR").

A. The ROE is the cost rate applied to the equity capital in the ROR. The ROR 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. 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 ROE determined?

A. The required ROE is estimated by using one or more analytical techniques that rely on market-based data to quantify investor expectations regarding 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 determine OG&E's ROE?

A. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM, and a Bond Yield Plus Risk Premium analysis. As discussed in more detail below, a reasonable ROE estimate appropriately considers alternative methodologies and the reasonableness of their individual and collective results.

A. Importance of Multiple Analytical Approaches

Q. Why is it important to use more than one analytical approach?

A. 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[43] suggest using the CAPM and other models, while Brigham and Gapenski[44] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.

Q. Do current market conditions increase the importance of using more than one analytical approach?

A. Yes. Low interest rates and the effects of the investor "flight to quality" can be seen in high utility share valuations, relative to historical levels and relative to the broader market. Higher utility stock valuations produce lower dividend yields and result in lower cost of equity estimates from a DCF analysis. Low interest rates also affect the CAPM in two ways: (1) the risk-free rate is lower, and (2) because the market risk premium is a function of interest rates, (i.e., it is the return on the broad stock market less the risk-free interest rate), the risk premium should move higher when interest rates are lower. Therefore, it is important to use multiple analytical approaches to moderate the impact that the current low interest rate environment is having on the ROE estimates for the proxy group and, where possible, consider using projected market data in the models to estimate the return for the forward-looking period.

---

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

[44] Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

Q. Are you aware of any other regulatory commissions that have recognized the importance of considering the results of multiple models?

A. Yes, several regulatory commissions consider the results of multiple ROE estimation methodologies such as the DCF, CAPM, ECAPM and Bond Yield Plus Risk Premium in determining the authorized ROE, including the Minnesota Public Utilities Commission ("Minnesota PUC")[45], the Michigan PSC[46], the Iowa Utilities Board ("IUB")[47], the Washington Utilities and Transportation Commission ("Washington UTC")[48] and the New Jersey Board of Public Utilities ("NJBPU")[49]. For example, the Washington UTC has repeatedly emphasized that it "places value on each of the methodologies used to calculate the cost of equity and does not find it appropriate to select a single method as being the most accurate or instructive."[50] The Washington UTC has also explained that "|f|inancial circumstances are constantly shifting and changing, and we welcome a robust and diverse record of evidence based on a variety of analytics and cost of capital methodologies."[51]

Additionally, in its recent order for DTE Gas Company ("DTE Gas") in Case No. U-18999, the Michigan PSC considered the results of each of the models presented by the ROE witnesses which included the DCF, CAPM, ECAPM and Bond Yield Plus Risk

---

[45] Docket No. G011/GR-17-563, Findings of Fact, Conclusions and Order, at 27; Docket No. E015/GR-16-664, Findings of Fact, Conclusions and Order, at 60-61

[46] Michigan Public Service Commission Order, DTE Gas Company, Case No. U-18999, September 13, 2018, at 45-47.

[47] Iowa Utilities Board, Iowa-American Water Company, RPU-2016-0002, Final Decision and Order issued February 27, 2017, at 35.

[48] *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-130043, Order 05, n. 89 (Dec. 4, 2013); *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-100749, Order 06, ¶ 91 (March 25, 2011).

[49] NJBPU Docket No. ER12111052, OAL Docket No. PUC16310-12, Order Adopting Initial Decision with Modifications and Clarifications, March 18, 2015, at 71.

[50] *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-130043, Order 05, n. 89 (Dec. 4, 2013).

[51] *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-100749, Order 06, ¶ 91 (March 25, 2011).

Premium in the determination of the authorized ROE.[52] The Commission also considered authorized ROEs in other states, increased volatility in capital markets and the company-specific business risks of DTE Gas.

Q. What are your conclusions about the results of the DCF and CAPM models?

A. Recent market data that is used as the basis for the assumptions for both models have been affected by market conditions. As a result, relying exclusively on historical assumptions in these models, without considering whether these assumptions are consistent with investors' future expectations, will underestimate the cost of equity that investors would require over the period that the rates in this case are to be in effect. In this instance, relying on the historically low dividend yields that are not expected to continue over the period that the new rates will be in effect will underestimate the ROE for OG&E.

Furthermore, as discussed in Section IV above, long-term interest rates have increased since August 2020 and this trend is expected to continue over the near-term as the economy enters the recovery phase of the business cycle. Therefore, the use of current averages of Treasury bond yields as the estimate of the risk-free rate in the CAPM is not appropriate since recent market conditions are not expected to continue over the long-term. Instead, analysts should rely on projected yields of Treasury Bonds in the CAPM. The projected Treasury Bond yields results in CAPM estimates that are more reflective of the market conditions that investors expect during the period that the Company's rates will be in effect.

[52] Michigan Public Service Commission Order, DTE Gas Company, Case No. U-18999, September 13, 2018, at 45-47.

B. 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:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_\infty}{(1+k)^\infty} \qquad |1|$$

Where P_0 represents the current stock price, $D_1 \ldots D_\infty$ 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:

$$k = \frac{D_0(1+g)}{P_0} + g \qquad |2|$$

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 September 30, 2021.

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 ROE 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. However, the averaging periods that I use rely on historical data that are not consistent with the forward-looking market expectations. Therefore, the results of my Constant Growth DCF model using historical data may underestimate the forward-looking cost of equity. As a result, I place more weight on the mean to mean-high results produced by my Constant Growth DCF model.

Q. Did you make any adjustments to the dividend yield to account for periodic growth in dividends?

A. Yes, I did. 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. To reduce the long-term growth rate to a single measure, one must assume that the payout ratio remains constant and that earnings per share, dividends per share and book value per share all grow at the same constant rate. Over the long run, however, dividend growth can only be sustained by earnings growth. Therefore, it is important to incorporate a variety of sources of long-term earnings 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 growth rates: (1) Zacks Investment Research; (2) Yahoo! Finance; and (3) Value Line Investment Survey.

Q. How did you calculate the range of results for the Constant Growth DCF Models?

A. I calculated the low result for my DCF model using the minimum growth rate (*i.e.*, the lowest of the Value Line, Yahoo! Finance, and Zacks earnings growth rates) for each of the proxy group companies. Thus, the low result reflects the minimum DCF result for the proxy group. I used a similar approach to calculate the high results, using the highest growth rate for each proxy group company. The mean results were calculated using the average growth rates from all sources.

Q. Did you review the DCF results for individual companies in your proxy group?

A. Yes, I did. It is important to review the DCF results of the individual companies included in the proxy to ensure that the DCF results of each company provide a sufficient return increment above the long-term debt costs to compensate investors for the added risk of an equity investment.

Q. How did you determine the low-end threshold that would be used to evaluate the DCF results for the individual companies in your proxy group?

A. The average credit rating for the companies in my proxy group is BBB+ from S&P and Baa1 from Moody's. The average yield on Moody's Baa-rated utility bonds for the 30 trading days ending September 30, 2021 was 3.19 percent.[53] Therefore, for example, a 7.00 percent DCF result would only provide a risk premium of 381 basis points above Baa-rated utility bonds. As a result, I have determined that a Constant Growth DCF result lower than 7.00 percent would not provide equity investors a sufficient risk premium above long-term debt costs.

Q. How did you address the DCF results for individual companies in your proxy group that were below 7 percent?

A. I developed two approaches to account for the DCF results for individual companies in my proxy group that were below 7 percent. In the first approach, I excluded the DCF results that were below 7 percent and then calculated the mean DCF result for the proxy group. Since the mean can be affected by outlier results, it is important to exclude the individual results for companies that would not provide a sufficient return requirement above long-

[53] Source: Bloomberg Professional.

term debt costs. In the second approach, I relied on the median DCF result for the proxy group as opposed to the mean and did not exclude any DCF results for individual companies. In general, the median is not affected to a large degree by the presence of outliers and thus can be applied when it is determined that a data may include outliers.

Q. What were the results of your Constant Growth DCF analyses?

A. Figure 8 (see also Exhibit AEB-4) summarizes the results of my DCF analyses. As shown in Figure 8, the median and mean DCF results range from 9.48 percent to 9.62 percent, and the median high and mean high results are in the range of 10.19 percent to 10.23 percent. While I also summarize the low DCF results, given the expected underperformance of utility stocks and thus the likelihood that the DCF model is understating the cost of equity, I do not believe it is appropriate to consider the low DCF results at this time.

Figure 6: Constant Growth Discounted Cash Flow Results

Constant Growth DCF - Median			
	Median Low	**Median**	**Median High**
30-Day Average	8.92%	9.58%	10.19%
90-Day Average	8.79%	9.48%	10.16%
180-Day Average	8.81%	9.52%	10.17%
Constant Growth DCF - Average w/ Exclusions			
	Mean Low	**Mean**	**Mean High**
30-Day Average	8.68%	9.52%	10.12%
90-Day Average	8.70%	9.54%	10.14%
180-Day Average	8.92%	9.62%	10.23%

Q. What are your conclusions about the results of the DCF models?

A. As discussed previously, one primary assumption of the Constant Growth DCF model is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. Since utility stocks are expected to underperform the broader market over the near-

term as interest rates increases, it is important to consider the results of the DCF models with caution. As discussed in Section VI of my Direct Testimony, as interest rates increase, investors have historically rotated out of this sector resulting in a decline in utility stock prices. A decline in stock prices results in an increase in the dividend yield in the DCF model, which results in a higher ROE. This means that the results of the current DCF models are below where they would otherwise be under more normal market conditions. Therefore, while I have given weight to the results of the Constant Growth DCF model, my recommendation also gives weight to the results of other ROE estimation models.

C. 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, systematic risk of that security. 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.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

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

Where:

K_e = the required market ROE;

β = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

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. Systematic risk is measured by Beta. Beta is a measure of the volatility of a security as compared to the market as a whole. Beta is defined a:

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

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 relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds, which is 1.93 percent;[54] (2) the average projected 30-year U.S. Treasury bond yield for the first quarter of 2022 through the first quarter of 2023, which is 2.50 percent;[55] and (3) the average projected 30-year U.S. Treasury bond yield for 2023 through 2027, which is 3.50 percent.[56]

---

[54] Bloomberg Professional as of September 30, 2021.

[55] Blue Chip Financial Forecasts, Vol. 40, No. 10, October 1, 2021, at 2.

[56] Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 14.

Q. Would you place more weight on one of these scenarios?

A. Yes. Based on current market conditions, I place more weight on the results of the projected yields on the 30-year Treasury bonds. As discussed previously, the estimation of the cost of equity in this case should be forward-looking because it is the return that investors would receive over the future rate period. Therefore, the inputs and assumptions used in the CAPM analysis should reflect the expectations of the market at that time. While I have included the results of a CAPM analysis that relies on the current average risk-free rate, this analysis fails to take into consideration the effect of the market's expectations for interest rate increases on the cost of equity.

Q. What Beta coefficients did you use in your CAPM analysis?

A. As shown on Exhibit AEB-5, I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

Additionally, as shown in Exhibit AEB-5 and AEB-6, I also considered an additional CAPM analysis which relies on the long-term average utility Beta coefficient for the companies in my proxy group. The long-term average utility Beta coefficient was calculated as an average of the Value Line Beta coefficients for the companies in my proxy group from 2011 through 2020.

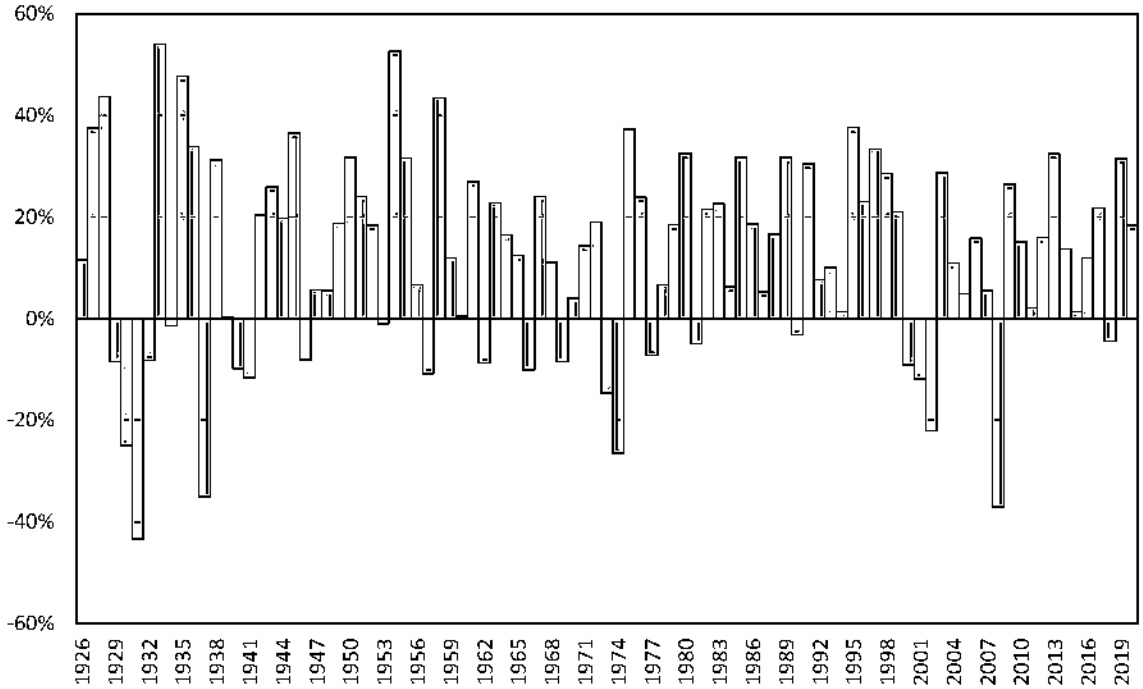
Q. How did you estimate the market risk premium in the CAPM?

A. As shown in Exhibit AEB-7, I estimated the Market Risk Premium ("MRP") as the difference between the implied expected equity market return and the risk-free rate. The expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index. In my calculation of the market return, I included companies in the S&P 500 that: 1) had either a dividend yield or Value Line long-term earnings projection; and 2) had a Value Line long-term earnings growth rate that was greater than 0 percent and less than or equal to 20 percent. Based on an estimated market capitalization-weighted dividend yield of 1.56 percent and a weighted long-term growth rate of 11.29 percent, the estimated required market return for the S&P 500 Index is 12.94 percent.

Q. How does the current expected market return of 12.94 percent compare to observed historical market returns?

A. Given the range of annual equity returns that have been observed over the past century (shown in Figure 9), a current expected return of 12.94 percent is not unreasonable. In 49 out of the past 95 years (or approximately 52 percent of observations), the realized equity return was at least 12.94 percent or greater.

Figure 7: Realized U.S. equity market returns (1926-2020) [57]



Q. Did you consider another form of the CAPM in your analysis?

A. Yes. I have also considered the results of an ECAPM or alternatively referred to as the Zero-Beta CAPM[58] in estimating the cost of equity for OG&E. 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:

[57] Depicts total annual returns on large company stocks, as reported in the 2021 Duff and Phelps SBBI Yearbook.

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

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

Where:

k_e = the required market ROE;

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 Empirical form of the CAPM 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; 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.[59]

As with the CAPM, my application of the ECAPM uses the forward-looking market risk premium estimates, the three yields on 30-year Treasury securities noted earlier as the risk-free rate, and the Bloomberg, Value Line, and long-term average Beta coefficients.

Q. What are the results of your CAPM analyses?

A. As shown in Figure 10 (see also Exhibit AEB-5), my traditional CAPM analysis produces a range of returns from 9.81 percent to 11.85 percent. The ECAPM analysis results range from 10.59 percent to 12.12 percent.

[59] *Id.*, at 191.

Figure 8: CAPM Results

	Current Risk-Free Rate (1.93%)	Q1 2022 – Q1 2023 Projected Risk-Free Rate (2.50%)	2023-2027 Projected Risk-Free Rate (3.50%)
CAPM			
Value Line Beta	11.66%	11.73%	11.85%
Bloomberg Beta	10.75%	10.87%	11.07%
Long-term Avg. Beta	9.81%	9.97%	10.40%
ECAPM			
Value Line Beta	11.98%	12.03%	12.12%
Bloomberg Beta	11.30%	11.38%	11.53%
Long-term Avg. Beta	10.59%	10.71%	11.04%

D. 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 a bondholder. That is, because returns to equity holders have greater risk than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, 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 used actual authorized returns for electric utility 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, there are. 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. That is, 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 U.S. Treasury bond yields. If we let authorized ROEs for electric utilities serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[60]

Q. Is the Bond Yield Plus Risk Premium analysis relevant to investors?

A. Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they consider those awards 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.

Q. What did your Bond Yield Plus Risk Premium analysis reveal?

A. As shown in Figure 11 below, from 1992 through September 2021, 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:

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

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

Where:

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

a = intercept term

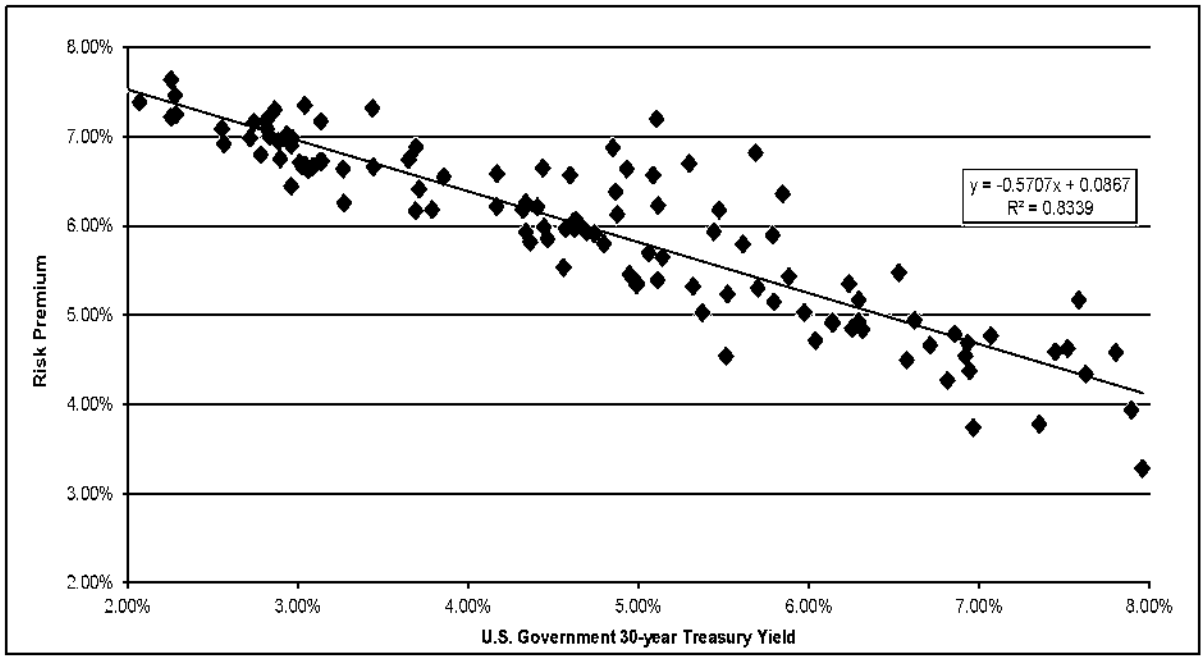
b = slope term

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

Data regarding allowed ROEs were derived from 666 vertically integrated electric utility rate cases from 1992 through September 2021 as reported by Regulatory Research Associates ("RRA").[61] This equation's coefficients were statistically significant at the 99.00 percent level.

[61] This analysis began with a total of 1,321 electric utility cases, which were screened to eliminate limited issue rider cases, transmission cases, distribution only cases, and cases that did not specify an authorized ROE. After applying those screening criteria, the analysis was based on data for 666 cases.

Figure 9: Risk Premium Results



As shown on Exhibit AEB-8, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 1.93 percent), the risk premium would be 7.57 percent, resulting in an estimated ROE of 9.49 percent. Based on the near-term (Q1 2022 – Q1 2023) projections of the 30-year U.S. Treasury bond yield (i.e., 2.50 percent), the risk premium would be 7.24 percent, resulting in an estimated ROE of 9.74 percent. Based on longer-term (2023 – 2027) projections of the 30-year U.S. Treasury bond yield (i.e., 3.50 percent), the risk premium would be 6.67 percent, resulting in an estimated ROE of 10.17 percent.

Q. How did the results of the Bond Yield Risk Premium inform your recommended ROE for OG&E?

A. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for OG&E. As noted above, investors consider the ROE award of a

company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The Bond Yield Plus Risk Premium analysis considers this comparison by estimating the return expectations of investors based on the current and past ROE awards of electric utilities across the U.S.

VII. REGULATORY AND BUSINESS RISKS

Q. Do the DCF, CAPM and ECAPM results for the proxy group, taken alone, provide an appropriate estimate of the cost of equity for OG&E?

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.

E. Capital Expenditures

Q. Please summarize the Company's capital expenditure requirements.

A. The Company's current projections for 2021 through 2025 include approximately $4.1 billion in capital investments over the next five years.[62] The Company's capital investment projections do not include the updates resulting from the October 2021 Integrated Resources Plan nor do they include additional investments needed to address customer growth and grid resiliency improvements in 2022 and beyond. Based on the Company's net utility plant of approximately $8.78 billion as of December 31, 2020,[63] the Company's

[62] Data provided by OG&E.

[63] *Ibid.*

identified capital expenditures are approximately 47 percent of OG&E's net utility plant as of December 31, 2020.

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, a risk that is exacerbated in times of higher inflation; 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 a significant amount of 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 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]

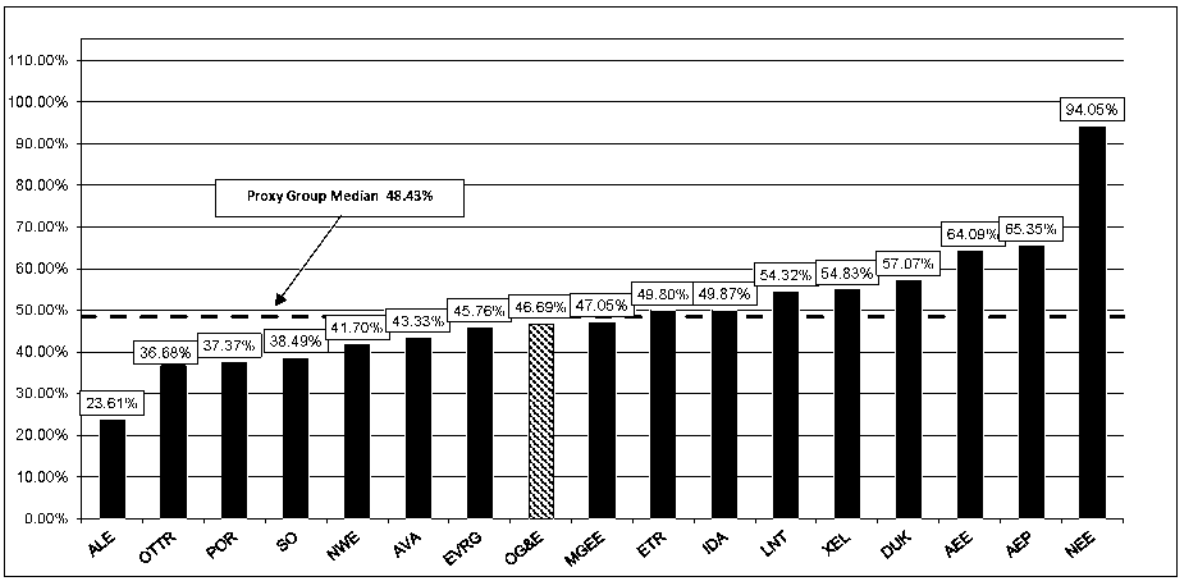
Therefore, to the extent that OG&E's rates do not continue to permit the recovery its capital investments on a regular basis, the Company would face increased recovery risk and thus increased pressure on its credit metrics.

Q. How do OG&E's capital expenditure requirements compare to those of the proxy group companies?

A. As shown in Exhibit AEB-10, I calculated the ratio of expected capital expenditures to net utility plant for OG&E and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2022-2025 by its total net utility plant as of December 31, 2020. As shown in Exhibit AEB-10 (see also Figure 12 below), OG&E's ratio of capital expenditures as a percentage of net utility plant is 46.69 percent, which is slightly below the median for the proxy group companies of 48.43 percent. However, 51.19 percent of the operating subsidiaries of the proxy group companies have capital expenditure tracking mechanisms. OG&E does not have a similar mechanism which results in greater overall risk for OG&E as compared with the proxy group companies.

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

Figure 10: Comparison of Capital Expenditures – Proxy Group Companies



1 **Q. Does OG&E have a comprehensive capital tracking mechanism to recover the costs**
2 **associated with its capital expenditures plan between rate cases?**

3 A. Currently, OG&E has a Grid Enhancement Mechanism ("GEM") which allows the
4 Company to recover a portion of the costs associated with grid enhancement capital
5 expenditures that have been placed in service in 2020 and 2021.[65] However, it is important
6 to note that the majority of the costs included in OG&E's capital expenditures plan do not
7 qualify for cost recovery through the GEM. In fact, the GEM is limited to $7 million
8 annually. Therefore, considering the mechanisms currently authorized for the Company,
9 OG&E would still depend on rate case filings for the majority of its capital cost recovery.

[65] The Company also has a Southwest Power Pool Cost Tracker, however this tracker passes through the costs of third-party owned transmission projects.

Q. How would the Company's proposed PBR affect the Company's ability to recover capital expenditures between rate cases?

A. The Company's proposed PBR would allow it to adjust rates annually if earnings reflecting total cost of service, including incremental capital investment, are outside of the approved ROE bandwidth of 50 basis points above or below the authorized ROE. Therefore, if the variance is less than 50 basis points below or above the authorized ROE, there would be no adjustment to OG&E's rates in the following year under the proposal. OG&E would still carry the entire risk for instances where the earned ROE was below the authorized ROE but not greater than 50 basis points below the authorized ROE. Further, the PBR is still subject to full prudence review, therefore while the PBR sets a schedule for the timing of reviewing investments, it does not guarantee recovery. As a result, the Company's proposed PBR mitigates but does not eliminate the cost recovery risk associated with OG&E's elevated capital expenditures plan.

Q. Have you reviewed the capital cost recovery mechanism available to the companies in your proxy group?

A. Yes, I have. As shown in Exhibit AEB-11, approximately 50.59 percent of the operating companies held by the proxy group recover costs through capital tracking mechanisms. Further, approximately 17.65 percent of the proxy group companies have formula rate plans, which allow for periodic adjustments to rates. Since a majority of the proxy group companies have already implemented capital cost recovery mechanisms, OG&E would not have less risk than the benchmark group if the Company's proposed PBR was approved. However, to the extent that OG&E is not granted its proposed PBR in this rate case, the

Company's risk would be elevated relative to the proxy group due to the limited capital cost recovery available to OG&E between rate cases through the GEM.

Q. What are your conclusions regarding the effect of the Company'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, while OG&E does have the GEM to recover qualifying capital costs and is proposing a PBR, the mechanisms do not entirely mitigate the risk associated with OG&E's significant capital expenditure plan. Moreover, a majority of the operating subsidiaries of the proxy companies have either a comprehensive capital tracking mechanism to recover their projected capital expenditures or operate under a PBR. As a result, if OG&E's proposed PBR is authorized, the Company would have comparable risk to the proxy group. However, if the Company's PBR proposal is not granted than the Company will have greater risk relative to the proxy group companies which warrants an authorized ROE above the proxy group mean.

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 the 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; doing so balances the long-term interests of investors and customers. Utilities must

finance their operations and require the opportunity to earn a reasonable return on their invested capital to maintain their financial profiles. OG&E is no exception. 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.

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. Please explain how 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, liquidity, and key financial metrics. 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: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[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. 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, "[f]or rate regulated utilities, which typically operate as a monopoly, the regulatory environment and how the utility adapts to that environment are the most

[66] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

[67] Standard & Poor's Global Ratings, Ratings Direct, U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others, June 25, 2018, at 2.

[68] *Id.*, at 1.

important credit considerations."[69] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "|b|roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[70]

Q. Have you conducted any analysis of the regulatory framework in Oklahoma relative to the jurisdictions in which the companies in your proxy group operate?

A. Yes. I have evaluated the regulatory framework in Oklahoma considering two factors which are important to ensuring OG&E maintains access to capital at reasonable terms. As I will discuss in more detail below, the two factors are: 1) cost recovery mechanisms which allow a utility to recover costs in a timely manner between rate cases and provide the utility the opportunity to earn its authorized return; and 2) comparable return standard because an awarded ROE that is significantly below the ROEs awarded to other utilities with comparable risks can affect the ability of a utility to attract capital at reasonable terms.

1. Cost Recovery Mechanisms

Q. Have you conducted any analysis to compare the cost recovery mechanisms of OG&E to the cost recovery mechanisms approved in the jurisdictions in which the companies in your proxy group operate?

A. Yes. I selected four mechanisms that are important to provide a regulated utility an opportunity to earn its authorized ROE. These are: 1) test year convention (i.e., forecast

[69] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.
[70] *Ibid.*

vs. historical); 2) method for determining rate base (i.e., average vs. year-end); 3) use of revenue decoupling mechanisms or formula-based rates that mitigate volumetric risk; and 4) prevalence of capital cost recovery between rate cases. The results of this cost recovery assessment are shown in Exhibit AEB-11 and are summarized below.

Test year convention: OG&E is relying on a historical test year as of September 30, 2021 with limited "known and measurable" changes occurring within six months of the end of the test year. By contrast, 42 out of 85 (49.41 percent) of the operating companies held by the proxy group provide service in jurisdictions that use either 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. As Lowry, Hovde, Getachew, and Makos explain in their 2010 report, Forward Test Years for US Electric Utilities:

> This report provides an in depth discussion of the test year issue. It includes the results of empirical research which explores why the unit costs of electric IOUs are rising and shows that utilities operating under forward test years realize higher returns on capital and have credit ratings that are materially better than those of utilities operating under historical test years. The research suggests that shifting to a future test year is a prime strategy for rebuilding utility credit ratings as insurance against an uncertain future.[71]

Rate Base: The Company's rate base is determined using the year-end rate base method which is consistent with the proxy group since 39 out of 85 (45.88 percent)

[71] M.N. Lowry, D. Hovde, L. Getachew, and M. Makos, Forward Test Years for US Electric Utilities, prepared for Edison Electric Institute, August 2010, at 1.

of the operating companies provide service in jurisdictions where rate base is determined using the year-end method.

Non-Volumetric Rate Design: OG&E does have partial protection against volumetric risk in Oklahoma through an Energy Efficiency Program ("EEP") Rider which allows the Company to recover lost net revenue ("LNR") as a result of energy efficiency programs. Additionally, the Company is proposing a PBR which would allow OG&E to adjust rates annually if earnings are outside of an approved ROE bandwidth. Similarly, 48 out of 85 (56.47 percent) of the operating companies held by the proxy group have non-volumetric rate design through either straight fixed variable rate design, revenue decoupling mechanisms or formula rate plans that allow them to break the link between customer usage and revenues.

Capital Cost Recovery: OG&E has a capital tracking mechanism (i.e., "GEM") to recover a limited amount of capital investment costs between rate cases. Additionally, the Company's proposed PBR would allow OG&E to recover prudently-incurred, incremental capital investment on an annual basis. As discussed above, approximately 50.59 percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism in place. Further, approximately 17.65 percent have formula rate plans which allow for periodic increases in rates if earnings are outside of an approved bandwidth. Therefore, if the Company's proposed PBR is granted, I conclude the Company is comparable to the proxy group companies in the ability to recover capital costs. However, the Company's risk would increase relative to the proxy group if the Company's proposed PBR were not approved.

2. Inflation

Q. How does inflation affect the Company's overall risk profile?

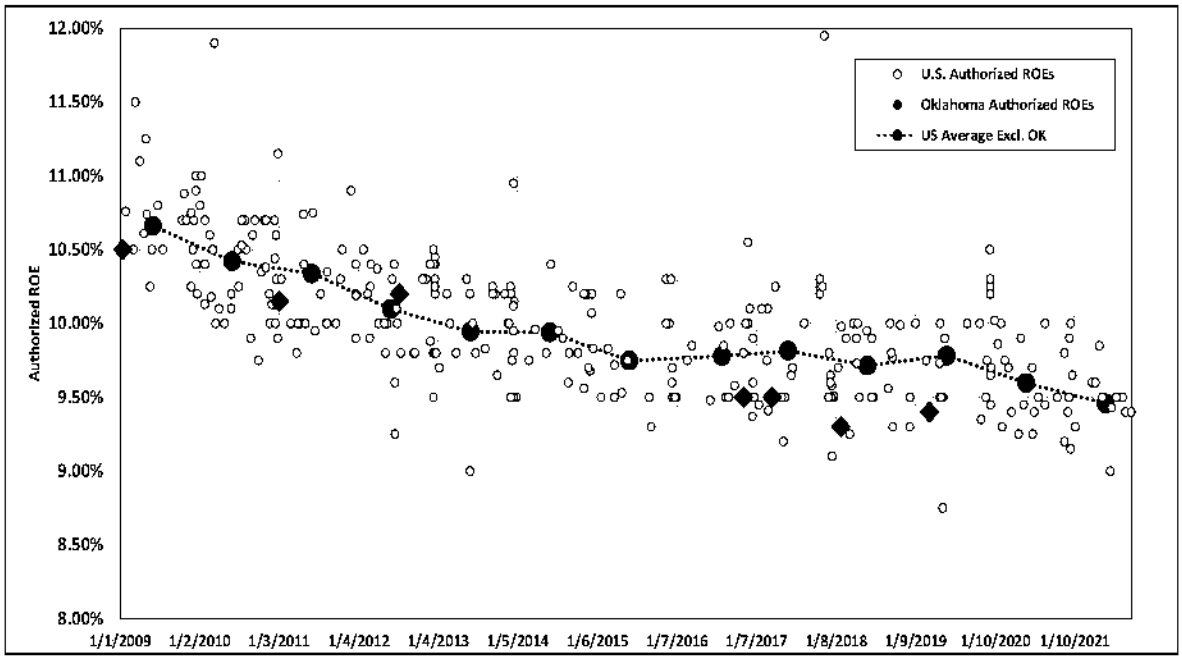
A. Inflation increases the overall operating risk of the company. Current levels of inflation are considerably higher than the Federal Reserve's target of 2.0 percent. As of November 2021, the year over year change inflation was 6.88 percent. While some amount of inflation can be offset through efficiencies and growth in operations, current levels are likely to result in regulatory lag, as operations and maintenance expenses increase significantly beyond the levels established in the test period for ratemaking purposes. Without the ability to adjust for inflationary pressure, it is likely that higher than normal inflation will reduce the likelihood that the Company will earn the authorized ROE that is determined in this rate proceeding. To the extent that cash flow is affected by inflation, credit metrics will also be stressed, potentially resulting in increased pressure on credit metrics.

3. Authorized ROEs

Q. How do recent returns in Oklahoma compare to the authorized returns in other jurisdictions?

A. Figure 13 below shows the authorized returns for vertically integrated electric utilities in other jurisdictions since January 2009, and the returns authorized in Oklahoma for electric companies. While partially the result of settlement agreements approved by the Commission, as shown in Figure 13, the authorized returns for electric companies in Oklahoma have been below the average authorized ROE for vertically integrated electric utilities in other jurisdictions over the past five years.

Figure 11: Comparison of Oklahoma and U.S. Authorized Electric Returns[72]



Q. Should the Commission be concerned about authorizing equity returns that are at the low end of the range established by other state regulatory jurisdictions?

A. Yes. Placing OG&E at the low end of authorized ROEs outside Oklahoma over the longer term can negatively affect the Company's access to capital and the overall cost of capital. As I discuss below, the recent negative rate case determination, including a below average authorized ROE, for Arizona Public Service resulted in a 24 percent decline in the share price for Pinnacle West Capital, increasing the overall cost of equity for that company.

Second, as noted in Sections IV and VI, the economy is in the expansion phase of the business cycle; thus, interest rates are expected to increase, and utilities are expected to

[72] S&P Capital IQ Pro. Includes only vertically integrated electric utility ROEs between January 1, 2009, and September 30, 2021. The chart excludes the authorized returns in Vermont since they are established based on a formulaic approach that is directly linked to interest rates and therefore is affected by market conditions and monetary policy.

underperform over the near-term. If utility stocks underperform over the near-term then utility dividend yields will increase resulting in higher estimates of the ROE results produced by the DCF model. Therefore, the results of the DCF model will underestimate investors' expected ROE over the time period in which OG&E's rates will be in effect. As a result, it is important that the Commission consider, the results of alternative methods such as the forward looking CAPM, ECAPM, and Bond Yield Plus Risk Premium and the returns that have been authorized by other electric utilities across the U.S.

Q. Do credit rating agencies consider the authorized ROE in the overall risk assessment of a utility?

A. Yes, they do. To the extent that the 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. It is important to consider credit ratings because they affect the overall cost of borrowing, and they act as a signal to equity investors about the risk of investing in the equity of a company. Therefore, lower credit ratings can affect both the cost of debt and equity. Examples of recent credit rating agency responses include ALLETE, Inc. and Pinnacle West Capital Corporation. Moody's downgraded ALLETE, Inc. from A3 to Baa1 primarily based on the less than favorable outcome in Minnesota Power's last fully litigated rate case in Minnesota which included what Moody's noted was a below average authorized ROE of 9.25 percent.[73] In addition, FitchRatings downgraded CenterPoint Energy Houston Electric's ("CEHE") Long-Term Issuer Default rating from A- to BBB+ and revised the

[73] Moody's Investors Service, Credit Opinion: ALLETE, Inc. Update following downgrade, at 3 (April 3, 2019).

rating outlook from Stable to Negative following the approval of an unfavorable outcome in a recent rate case in Texas.[74] Finally, FitchRatings recently downgraded and maintained a negative outlook for Arizona Public Service Company ("APS") and its parent, Pinnacle West Capital Corporation, following the hearings conducted by the Arizona Corporation Commission ("ACC") in October 2021 regarding APS' current rate case proceeding.[75] While the ACC had not issued a final order in APS' rate case at the time, FitchRatings noted that the developments at the hearing in October indicate a likely credit negative outcome that will negatively affect the financial metrics of both APS and Pinnacle West Capital Corporation. It is also important to note that Moody's recently placed both APS and Pinnacle West Capital Corporation on review for downgrade following the ACC hearing in October.[76]

Q. How has the market responded to the return authorized in the APS proceeding?

A. The market had a strong negative response to the ROE determination in the APS proceeding. S&P Global Market Intelligence (Regulatory Research Associates) noted that noted that this decision was "among the lowest ROEs RRA had encountered in its coverage of vertically integrated electric utilities in the past 30 years". Guggenheim Securities LLC, an equity analyst that follows Pinnacle West Capital, the parent company of APS, informed its clients that the "Arizona Corporation Commission is now confirmed to be the single

---

[74] FitchRatings, Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative, February 19, 2020.

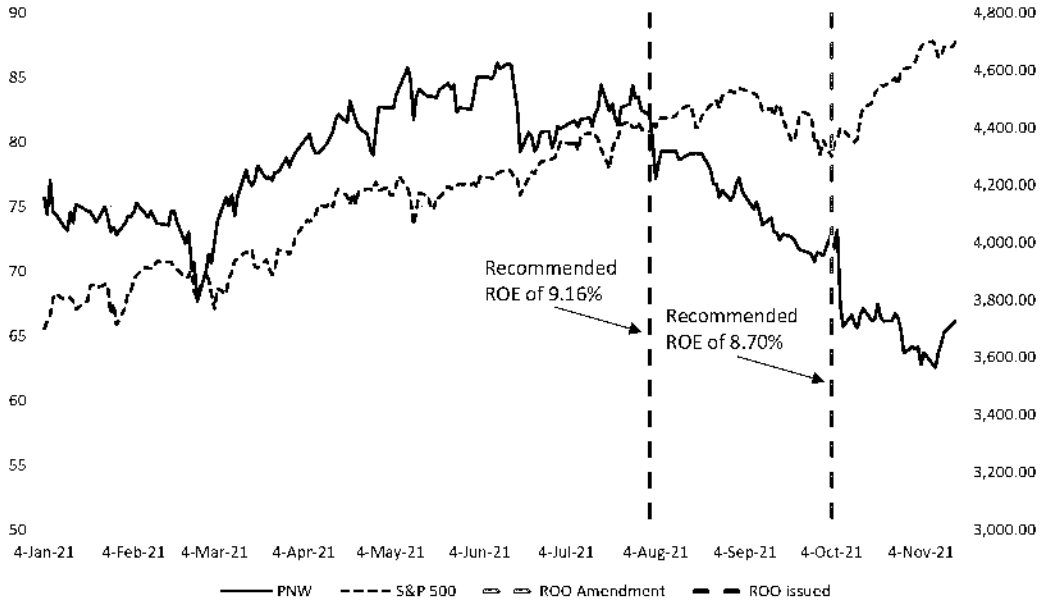
[75] FitchRatings, "Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative," October 12, 2021.

[76] Moody's Investors Service, "Rating Actions: Moody's places Pinnacle West and Arizona Public Service ratings on review for downgrade," October 12, 2021.

most value destructive regulatory environment in the country as far as investor-owned utilities are concerned".

As shown in Figure 14 below, shares of Pinnacle West stock, the parent company of APS, have experienced a significant decline since the Commission first introduced its proposal to authorize an ROE that was well below the national average.

Figure 12: Pinnacle West Capital Stock Price vs. S&P 500 utilities.



Q. How should the Commission use the information regarding authorized ROEs in other jurisdictions in determining the ROE for OG&E?

A. As discussed above, the companies in the proxy group operate in multiple jurisdictions across the U.S. Since OG&E must compete directly for capital with investments of similar risk, it is appropriate to review the authorized ROEs in other jurisdictions. The comparison is important because investors are considering the authorized returns across the U.S. and are likely to invest equity in those utilities with the highest returns.

Q. Have you developed any additional analyses to evaluate the regulatory environment in Oklahoma as compared to the jurisdictions in which the companies in your proxy group operate?

A. Yes. I have conducted two additional analyses to compare the regulatory framework of Oklahoma to the jurisdictions in which the companies in the proxy group operate. Specifically, I considered two different rankings: (1) the Regulatory Research Associates ("RRA") ranking of regulatory jurisdictions; and (2) S&P's ranking of the credit supportiveness of regulatory jurisdictions.

Q. Please explain how you used the RRA ratings to compare the regulatory jurisdictions of the proxy group companies with the Company's regulatory jurisdiction.

A. RRA develops their ranking based on their assessment of how investors perceive the regulatory risk associated with ownership of utility securities in that jurisdiction, specifically reflecting their assessment of the probable level and quality of earnings to be realized by the State's utilities as a result of regulatory, legislative, and court actions. RRA assigns a ranking for each regulatory jurisdiction between "Above Average/1" to "Below Average/3," with nine total rankings between these categories. I applied a numeric ranking system to the RRA rankings with "Above Average/1" assigned the highest ranking ("1") and "Below Average/3" assigned the lowest ranking ("9"). As shown in Exhibit AEB-12, the Oklahoma regulatory environment is ranked as "Average/2," while the proxy group is ranked between "Average/1" and "Average/2".

Q. How did you conduct your analysis of the S&P Credit Supportiveness?

A. S&P classifies the regulatory jurisdictions into five categories ranging from "Credit Supportive" to "Most Credit Supportive" based on the level of credit supportiveness. Similar to the RRA regulatory ranking analysis discussed above, I assigned a numerical ranking to each jurisdiction ranked by S&P, from most credit supportive ("1") to credit supportive ("5"). As shown in Exhibit AEB-13, the proxy group is ranked between very credit supportive and highly credit supportive while the Oklahoma regulatory jurisdiction is only ranked as more credit supportive. Thus, Oklahoma is perceived as being below the average for the proxy group.

Q. What are your conclusions regarding the perceived risks related to the Oklahoma regulatory environment?

A. As discussed throughout this section of my testimony, both Moody's and S&P have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Considering the regulatory adjustment mechanisms, many of the companies in the proxy group have timely cost recovery through forecasted test years, year-end rate base, cost recovery trackers and revenue stabilization mechanisms (such as formula rate plans). Therefore, if the Company's PBR is approved, OG&E would have similar cost recovery risk as the proxy group. Although, the Company's proposed PBR would not fully mitigate either volumetric risk or the cost recovery risk associated with the Company's capital expenditures plan. Additionally, authorized ROEs in Oklahoma have been below the average authorized ROEs for vertically integrated electric utilities across the U.S. Moreover, the RRA jurisdictional ranking and the S&P credit supportiveness ranking for Oklahoma indicates

greater risk than the average for the proxy group. Ultimately, I conclude that the Company has slightly greater than average regulatory risk when compared to the proxy group indicating that the authorized ROE for OG&E should be above the proxy group mean

Finally, while my analysis assumes that the Company's proposed PBR will be approved, the business risk of OG&E would increase if the Commission does not approve the Company's proposal. Thus, if the PBR is not approved then the authorized ROE for OG&E should be placed at the high-end of my recommended ROE range of 9.90 percent to 10.50 percent.

G. Flotation Cost

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 cost is incurred prior to the test year but remains 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 OG&E the opportunity to earn its required ROR 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 OGE Energy Corp. issues stock with a value of $100, and an equity investor invests $100 in OGE Energy Corp. in exchange for that stock. Further suppose that, after paying the flotation costs associated with the equity issuance, which include fees paid to underwriters and attorneys, among others, OGE Energy Corp. ends up with only $97 of issuance proceeds, rather than the $100 the investor contributed. OGE Energy Corp. 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 OGE Energy Corp. last issued common equity important in the determination of flotation costs?

A. No. As shown in Exhibit AEB-9, OGE Energy Corp. closed on an equity issuance of approximately $115 million (for a total of 5.3 million shares of common stock) in August 2003. The vintage of the issuance, however, is not particularly important because the investor suffers a shortfall in every year that he should have a reasonable opportunity to earn a return on the full amount of capital that he has contributed. Returning to my earlier example, the investor who contributed $100 is entitled to a reasonable opportunity to earn a return on $100 not only in the first year after the investment, but in every subsequent year in which he has the $100 invested. Leaving aside depreciation, which is dealt with separately, there is no basis to conclude that the investor is entitled to earn a return on $100 in the first year after issuance, but thereafter is entitled to earn a return on only $97. 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 recognized by the academic and financial communities?

A. Yes. 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 ROR. 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.[77]

Q. How did you calculate the flotation costs for OG&E?

A. My flotation cost calculation is based on the costs of issuing equity that were incurred by OGE Energy Corp. in its most recent common equity issuance. Those issuance costs were applied to my proxy group. Applying the actual issuance costs for OGE Energy Corp. provided in Exhibit AEB-9, to the DCF analysis, the flotation costs are estimated to be 0.15 percent (i.e., 15 basis points).

Q. Do your final results include an adjustment for flotation cost recovery?

A. No. I did not make an explicit adjustment for flotation costs to any of my quantitative analyses. Rather, I provide the above result for consideration in my recommended ROE range, which reflects the range of results from my Constant Growth DCF, CAPM, ECAPM and Bond Yield Plus Risk Premium analyses.

H. Increased Demand for Access to Capital

Q. Are you aware of the trends in capital investment in the utilities sector?

A. Yes. Over the last several years electric utility capital investment has increased substantially, responding to the need to replace and upgrade existing aging infrastructure. More recently, the trend of accelerated capital expenditures has expanded to include

[77] Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

electric, natural gas and water utilities, driven by aging infrastructure, the need to modernize infrastructure and the expanding role of environmental, social and governance considerations in investment decisions. In particular, capital investment in electric utilities is focused on hardening the infrastructure, expanding to include renewal resources, energy efficiency, retirement of generation assets and the transition to decarbonization.

Q. What is the magnitude of the investment in infrastructure that is planned for the utilities segment?

A. Standard & Poor's forecasts renewable energy investment to reach $13.94 billion in 2021, increasing 5 percent in 2022 to $14.59 billion. In addition, the water utility segment is projected to require $385 billion to $1.3 trillion over the next 20 years to expand and modernize water, wastewater and storm water systems. Finally, natural gas utilities are projected to invest $20.9 billion to replace aging distribution system assets and to meet federal and state level safety mandates.[78]

Q. How does the increased demand for capital in the industry affect a company's access to capital?

A. Given the magnitude of the capital investment programs, it is necessary for the regulatory construct to provide strong financial support for regulated utilities to be able to access capital on reasonable terms. Increased pressure on credit metrics resulting from significant capital programs creates incremental risk to equity investors that should be addressed in the authorized ROE. As I will discuss in more detail below, S&P expects utilities to

[78] S&P Global Market Intelligence, "The Big Picture: 2022 Electric, Natural Gas and Water Utilities Outlook: October 2021 at 4.

increase leverage to fund capital expenditure plans necessary to reduce greenhouse gas emission and improve safety and reliability which will place continued pressure on cash flows over the near-term.[79] In addition, increased demand for capital has the potential to create additional competition for investment in the industry, placing increasing pressure on returns.

Q. Is this a company-specific risk?

A. While the overall market pressure is created by the industry, the need to maintain the financial strength of the utility to support the capital plan is a company-specific risk factor that will likely affect the access to and cost of capital to achieve these large-scale investments. Therefore, companies with stronger financial profiles will have greater access to capital on more reasonable terms, which benefits customers.

Q. What is your conclusion about the implication of market demand for capital on the overall return for OG&E?

A. It is important to recognize the need to maintain strong financial metrics to be able to access capital on reasonable terms. Consistent with the *Hope* and *Bluefield* principles, it is necessary that OG&E has access to capital on reasonable terms and that the return provided is commensurate with the return on other investments of similar risk. This is particularly important in a period of elevated capital investment in the company and in the market overall, as companies continue to compete for capital to meet their investment initiatives.

[79] S&P Global Ratings, "North American Regulated Utilities' Credit Quality Begins the Year on A Downward Path," April 7, 2021.

I. February 2021 Winter Storm and Fuel Cost Recovery Risk

Q. What are the important financial considerations resulting from the 2021 Winter Storm Event?

A. On February 7, 2021, an extreme weather event ("Extreme Weather Event") resulted in increased demand for and prices of spot market natural gas purchases for both end use gas consumption and electric power generation. As a result of this event the Company's energy costs increased significantly, on short notice, requiring immediate access to capital markets to finance supplies to maintain reliability.

Q. What was the total of the increased costs incurred by OG&E during the Extreme Winter Event between February 7-21, 2021?

A. OG&E estimates that it spent approximately $1 billion on a total company basis for natural gas purchases and net SPP energy purchases during the period of February 7-21.[80] As Company Witness Donald Rowlett noted in his testimony in Cause No. 202100072, this total cost exceeds the Company's entire fuel cost for 2020 which was $516 million.[81] Further, the Company obtained a $1 billion credit commitment in order to pay the Company's bills associated with the Extreme Winter Event. This credit commitment represented a 30 percent increase to the Company's existing outstanding long-term debt of

---

[80] In the Matter of the Application of Oklahoma Gas and Electric Company for a Financing Order Pursuant to the February 2021 Regulated Utility Consumer Protection Act Approving Securitization of Costs Arising From the Winter Weather Event of February 2021, Cause No. 202100072, Oklahoma Corporation Commission, Direct Testimony of Donald R. Rowlett, June 18, 2021, at 12.

[81] *Id.*, at 6.

\$3.5 billion as of December 31, 2020.[82] The Company estimated that of the total incremental cost associated with the Extreme Winter Event, \$838.6 million was specific to OG&E's Oklahoma jurisdiction.[83]

Q. Has the Company recovered these costs?

A. The Commission recently approved a Settlement Agreement established between the Company and the parties in Cause No. PUD 202100072 to recover the majority of the costs incurred due to the Extreme Winter Event using securitization as outlined in the Act.[84] The settlement agreement estimates a total cost of the Extreme Winter Event for the Company's Oklahoma jurisdiction of \$748.9 million with the parties stipulating that \$739 million of the incurred costs should be deemed prudent by the Commission.[85] Further, the settlement agreement stipulates that the total cost of the Extreme Winter Event to be recovered inclusive of financing and securitization costs is \$760 million.

---

[82] In the Matter of the Application of Oklahoma Gas and Electric Company for a Financing Order Pursuant to the February 2021 Regulated Utility Consumer Protection Act Approving Securitization of Costs Arising From the Winter Weather Event of February 2021, Cause No. 202100072, Oklahoma Corporation Commission, Direct Testimony of Charles B. Walworth, June 18, 2021, at 3.

[83] In the Matter of the Application of Oklahoma Gas and Electric Company for a Financing Order Pursuant to the February 2021 Regulated Utility Consumer Protection Act Approving Securitization of Costs Arising From the Winter Weather Event of February 2021, Cause No. 202100072, Oklahoma Corporation Commission, Direct Testimony of Donald R. Rowlett, June 18, 2021, at 12.

[84] Cause No. PUD 202100072, Order No. 722254, December 16, 2021, para 31.

[85] In the Matter of the Application of Oklahoma Gas and Electric Company for a Financing Order Pursuant to the February 2021 Regulated Utility Consumer Protection Act Approving Securitization of Costs Arising From the Winter Weather Event of February 2021, Cause No. 202100072, Oklahoma Corporation Commission, Settlement Agreement, October 8, 2021, at 1.

Q. How was the Company's financial risk profile been affected by this event?

A. On February 25, 2021, Moody's downgraded the outlook of OG&E and OGE Energy Corp to negative due primarily to uncertainty surrounding the recovery period of the costs incurred during the Extreme Winter Event. Specifically, Moody's noted:

> The negative outlook on OGE's rating is consistent with that of its primary subsidiary, OG&E, and reflects the increased regulatory uncertainty related to the recovery timeline of the cost incurred to procure natural gas for generation. If the timeframe of the cost recovery is several years, we expect credit metrics to be pressured and fall below 19% for OG&E and 20% for OGE on a sustained basis.[86]

Similarly, on March 5, 2021, S&P also downgraded the outlook of OG&E and OGE Energy Corp. to negative as a result of the increased energy costs associated with the Extreme Winter Event. Specifically, S&P noted:

> The rating agency's negative outlook on parent company OGE reflects its expectation of "weaker financial measures directly associated" with February's extreme winter weather, refinancing risk associated with an expected 364-day, $1 billion term loan to cover those costs, and uncertainty regarding the recovery of fuel and purchased power costs. S&P Global Ratings also cited execution risk associated with Energy Transfer LP closing its previously announced all-equity acquisition of Enable Midstream Partners, in which OGE owns a 25.5% limited partner interest and 50% general partner interest.
>
> Ratings' negative outlook on OG&E reflects the possibility that the company's financial measures, including the ratio of funds from operations to debt, could consistently weaken to below 15% over the next 12 months.[87]

---

[86] Moody's Investor Service, Rating Action: Moody's changes outlook of OGE, OG&E to negative, February 25, 2021.

[87] S&P Capital IQ Pro, "S&P revises OGE Energy, utility subsidiary outlooks to negative on winter costs", March 5, 2021.

Q. What are your conclusions regarding the importance of maintaining the financial health of the Company?

A. Financial circumstances resulting from events such as the Extreme Weather Event demonstrate the importance of having access to capital on reasonable terms at all times. This event was sudden and unexpected and required the financing of $1 billion in short-term debt which the Company has been required to continue to finance along with its existing operations and the ongoing capital expenditure requirements needed to provide reliable and safe service to customers. Without strong financial metrics, the Company may not have had the necessary immediate access to capital or may have had to access capital on unfavorable terms that would have increased costs to customers. Further, without sufficient financial strength, the need to access $1 billion to finance fuel could have impaired the Company's normal required access to capital for ongoing operations. Further, it is important to recognize that the rating agencies responded negatively, creating additional risk for the Company in the debt markets. These facts demonstrate the need to ensure that the outcomes of ratemaking decisions provide sufficient financial stability to be able to carry these significant financial burdens, as they arise unexpectedly. The credit rating agencies have historically looked to thicker equity ratios and higher ROEs as the levers to ensure that the coverage ratios of the utilities have the necessary flexibility to meet these types of extreme operating requirements.

VIII. CAPITAL STRUCTURE

Q. Is the capital structure of the Company an important consideration in the determination of the appropriate ROE?

A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to 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, who are the residual claimants on the cash flow of the Company. Therefore, the greater the debt service requirement, the less cash flow is available for common equity holders.

Q. What is OG&E's proposed capital structure?

A. The Company's proposal is to establish a capital structure consisting of 53.37 percent common equity and 46.63 percent long-term debt.

Q. Did you conduct any analysis to determine if the requested equity ratio was reasonable?

A. Yes, I did. I reviewed the Company's proposed capital structure and the capital structures of the utility operating subsidiaries of the proxy companies. Because the ROE is set based on the return that is derived from the risk-comparable proxy group, it is reasonable to look to the proxy group average capital structure to benchmark the equity ratio for the Company.

Q. Please discuss your analysis of the capital structures of the proxy group companies.

A. I calculated the mean proportions of common equity, long-term debt, and preferred equity over the most recent eight quarters[88] for each of the companies in my proxy group at the operating subsidiary level. My analysis of the capital structures of the companies in the proxy group is provided in Exhibit AEB-14. As shown in that Exhibit, the mean equity ratio for the proxy group at the operating utility company level is 53.21 percent. The average equity ratios for the utility operating companies held by the proxy group range from a low of 46.97 percent to a high of 60.85 percent. OG&E's proposed equity ratio of 53.37 percent is well within the range of equity ratios for the utility operating subsidiaries of the proxy group companies and is therefore reasonable.

Q. Are there other factors to be considered in setting the Company's capital structure?

A. Yes. The credit rating agencies' response to the TCJA must also be considered when determining the equity ratio. As discussed previously in my testimony, all three rating agencies have noted that the TCJA has negative implications for utility cash flows. S&P and FitchRatings have specifically identified increasing the equity ratio as one approach to ensure that utilities have sufficient cash flows following the tax cuts and the loss of bonus depreciation. Furthermore, Moody's downwardly revised the rating outlook for the entire utilities sector in June 2018 and (as discussed in Section IV of my Direct Testimony) has continued to downgrade the ratings of utilities based in part on the negative effects of the TCJA on cash flows.

[88] The source data for this analysis is the operating company data provided in FERC Form 1 reports. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from the third quarter of 2019 through the second quarter of 2021.

Additionally, it is also important to consider the negative effects of COVID-19 on the credit metrics of utilities. In April 2020, Standard & Poor's downwardly revised the outlook on the entire North American utilities sector and noted that COVID-19 would create incremental pressure on credit metrics and that a recession would lead to an increasing number of credit rating downgrades and negative outlooks.[89]

Finally, S&P has continued to maintain a negative outlook for the utility industry in 2021 noting that so far in 2021 downgrades have outpaced upgrades with the median rating of the industry approaching the BBB category which would be the first time that has ever occurred.[90] S&P expects continued pressure on cash flows over the near-term as utilities continue to increase leverage to fund capital expenditure plans necessary to reduce greenhouse gas emission and improve safety and reliability.[91] The credit ratings agencies' continued concerns over the negative effects of the TCJA, COVID-19 and increased capital expenditures, underscores the importance of maintaining adequate cash flow metrics for the industry. This is also particularly important for OG&E since the Company was downgraded twice by Moody's due to increased capital expenditures and the effect of the TCJA on the Company's cash flows. Furthermore, as noted above, the Company recently had its outlook downgraded by both Moody's and S&P due to the incremental fuel costs incurred during the Extreme Winter Event and uncertainty regarding cost recovery.

---

[89] Standard & Poor's Ratings Direct, COVID-19: The Outlook for North American Regulated Utilities Turns Negative, April 2, 2020.

[90] S&P Global Ratings, "North American Regulated Utilities' Credit Quality Begins the Year on A Downward Path," April 7, 2021.

[91] Ibid.

Q. Is there a relationship between the equity ratio and the authorized ROE?

A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as OG&E. 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. 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. Furthermore, considering the capital market conditions discussed in Section IV, the authorized ROE and capital structure take on even greater significance.

Q. What is your conclusion regarding an appropriate equity ratio for OG&E?

A. Considering the actual capital structures of the proxy group operating companies, I believe that OG&E's proposed common equity ratio of 53.37 percent is reasonable. The proposed

equity ratio is well within the range established by the capital structures of the utility operating subsidiaries of the proxy companies. In addition, based on the cash flow concerns raised by credit rating agencies as a result of the TCJA, COVID-19 and increased capital expenditures, it is reasonable to rely on a higher equity ratio than the Company may have relied on in prior rate cases.

IX. CONCLUSIONS AND RECOMMENDATION

Q. What is your conclusion regarding a fair ROE for OG&E?

A. Figure 15 below provides a summary of my analytical results. Based on these results, the qualitative analyses presented in my Direct Testimony, the business and financial risks of OG&E compared to the proxy group, and the effects of Federal tax reform and COVID-19 on the cash flow metrics of utilities, it is my view that an ROE of 10.20 percent is reasonable and would fairly balance the interests of customers and shareholders. This ROE would enable the Company to maintain its financial integrity and therefore its ability to attract capital at reasonable rates under a variety of economic and financial market conditions, including the current environment where companies are competing for capital to advance sizable investment programs while continuing to provide safe, reliable and affordable electric utility service to customers in Oklahoma.

Figure 13: Summary of Analytical Results

Constant Growth DCF - Median			
	Median Low	Median	Median High
30-Day Average	8.92%	9.58%	10.19%
90-Day Average	8.79%	9.48%	10.16%
180-Day Average	8.81%	9.52%	10.17%
Constant Growth DCF - Average w/ exclusions[92]			
	Mean Low	Mean	Mean High
30-Day Average	8.68%	9.52%	10.12%
90-Day Average	8.70%	9.54%	10.14%
180-Day Average	8.92%	9.62%	10.23%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.66%	11.73%	11.85%
Bloomberg Beta	10.75%	10.87%	11.07%
Long-term Avg. Beta	9.81%	9.97%	10.40%
ECAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.98%	12.03%	12.12%
Bloomberg Beta	11.30%	11.38%	11.53%
Long-term Avg. Beta	10.59%	10.71%	11.04%
Bond Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Bond Yield Plus Risk Premium Results	9.49%	9.74%	10.17%

1

[92] Constant Growth DCF analysis - Average w/ Exclusions represents the DCF results excluding the results for individual companies that did not meet the minimum threshold of 7 percent.

Q. What is your conclusion with respect to OG&E's proposed capital structure?

A. My conclusion is that OG&E's proposal to establish a capital structure consisting of 53.37 percent common equity, and 46.63 percent long-term debt is reasonable when compared to the capital structures of the companies in the proxy group and taking in consideration the effect of the TCJA, increased capital expenditures and COVID-19 on cash flows and therefore should be adopted.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

ANN E. BULKLEY
Senior Vice President

Ms. Bulkley has more than two decades of management and economic consulting experience in the energy industry. Ms. Bulkley has extensive state and federal regulatory experience on both electric and natural gas issues including rate of return, cost of equity and capital structure issues. Ms. Bulkley has provided expert testimony on the cost of capital in nearly 100 regulatory proceedings before 32 state regulatory commissions and the Federal Energy Regulatory Commission. In addition to her regulatory experience, Ms. Bulkley has provided valuation and appraisal services for a variety of purposes including the sale or acquisition of utility assets, regulated ratemaking, ad valorem tax disputes, and other litigation purposes. In addition, Ms. Bulkley has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring and regulatory and litigation support. Prior to joining Concentric, Ms. Bulkley held senior expertise-based consulting positions at several firms, including Reed Consulting Group and Navigant Consulting, Inc. where she specialized in valuation. Ms. Bulkley holds an M.A. in economics from Boston University and a B.A. in economics and finance from Simmons College. Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis and Ratemaking

Ms. Bulkley has provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking. Specific services have included: cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies; development of merchant function exit strategies; analysis and program development to address residual energy supply and/or provider of last resort obligations; stranded costs assessment and recovery; performance-based ratemaking analysis and design; and many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation).

Cost of Capital

Ms. Bulkley has provided expert testimony on the cost of capital and capital structure in nearly 100 regulatory proceedings before state and federal regulatory commissions in the United States.

Ratemaking

Ms. Bulkley has assisted several clients with analysis to support investor-owned and municipal utility clients in the preparation of rate cases. Sample engagements include:

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.

Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Analyzed and evaluated rate application. Attended hearings and conducted

investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

Valuation

Ms. Bulkley has provided valuation services to utility clients, unregulated generators and private equity clients for a variety of purposes including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. Ms. Bulkley's appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal Practice.

Representative projects/clients have included:

- Prepared appraisals of electric utility transmission and distribution assets for ad valorem tax purposes.
- Prepared appraisals of several hydroelectric generating facilities for ad valorem tax purposes.
- Conducted appraisals of fossil fuel generating facilities for ad valorem tax purposes.
- Conducted appraisals of generating assets for the purposes of unwinding sale-leaseback agreements.
- Confidential Utility Client: Prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract.
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Prepared fair value rate base analyses for Northern Indiana Public Service Company for several electric rate proceedings. Valuation approaches used in this project included income, cost and comparable sales approaches.

- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support for and prepared appraisal reports of generation assets to be used in ad valorem tax disputes.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Prepared Feasibility Reports analyzing the expected net benefits resulting from municipal ownership of investor-owned utility operations.
- Prepared independent analyses of proposal for the proposed government condemnation of the investor-owned utilities in the State of Maine and the formation of a Public Power District.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

Strategic and Financial Advisory Services

Ms. Bulkley has assisted several clients across North America with analytically based strategic planning, due diligence and financial advisory services.

Representative projects include:

- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.
- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)
Senior Vice President
Vice President
Assistant Vice President
Project Manager

Navigant Consulting, Inc. (1995 – 2002)
Project Manager

Cahners Publishing Company (1995)
Economist

EDUCATION

Boston University
M.A., Economics, 1995

Simmons College
B.A., Economics and Finance, 1991

CERTIFICATIONS

Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
Southwest Gas Corporation	12/21	Southwest Gas Corporation	Docket No. G-01551A-21-0368	Return on Equity
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
Arkansas Public Service Commission				
Oklahoma Gas and Electric Co	10/21	Oklahoma Gas and Electric Co	Docket No. D-18-046-FR	Return on Equity
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
California Public Utilities Commission				
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity
Colorado Public Utilities Commission				
Public Service Company of Colorado	07/21	Public Service Company of Colorado	21AL-0317E	Return on Equity
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Connecticut Public Utilities Regulatory Authority				
United Illuminating	05/21	United Illuminating	Docket No. 17-12-03RE11	Return on Equity
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
Federal Energy Regulatory Commission				
Florida Gas Transmission	02/21	Florida Gas Transmission	Docket No. RP21-441	Return on Equity
TransCanyon	01/21	TransCanyon	Docket No. ER21-1065	Return on Equity
Duke Energy	12/20	Duke Energy	Docket No. EL21-9-000	Return on Equity
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
Idaho Public Utilities Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-21-07	Return on Equity
Illinois Commerce Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
Indiana Utility Regulatory Commission				
Indiana Michigan Power Co.	07/21	Indiana Michigan Power Co.	IURC Cause No. 45576	Return on Equity
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
Iowa Department of Commerce Utilities Board				
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
Kansas Corporation Commission				
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Maine Public Utilities Commission				
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
Maryland Public Service Commission				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
Massachusetts Appellate Tax Board				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
Massachusetts Department of Public Utilities				
National Grid USA	11/20	Boston Gas Company	DPU 20-120	Return on Equity
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Michigan Gas Utilities Corporation	03/21	Michigan Gas Utilities Corporation	Case No. U-20718	Return on Equity
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
Minnesota Public Utilities Commission				
CenterPoint Energy Resources	11/21	CenterPoint Energy Resources	D-G-008/GR-21-435	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Allete, Inc. d/b/a Minnesota Power	11/21	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-21-630	Return on Equity
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
Allete, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
Missouri Public Service Commission				
Ameren Missouri	03/21	Ameren Missouri	Docket No. ER-2021-0240 Docket No. GR-2021-0241	Return on Equity
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
New Hampshire - Board of Tax and Land Appeals				
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
New Hampshire-Merrimack County Superior Court				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
New Hampshire-Rockingham Superior Court				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	EO18101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
New Mexico Public Regulation Commission				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
New York State Department of Public Service				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Corning Natural Gas Corporation	07/21	Corning Natural Gas Corporation	Case No. 21-G-0394	Return on Equity
Central Hudson Gas and Electric Corporation	08/20	Central Hudson Gas and Electric Corporation	Electric 20-E-0428 Gas 20-G-0429	Return on Equity
Niagara Mohawk Power Corporation	07/20	National Grid USA	Case No. 20-E-0380 20-G-0381	Return on Equity
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/19	New York State Electric and Gas Company Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Electric 17-E-0459 Gas 17-G-0460	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-E-0283 Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
North Dakota Public Service Commission				
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-379	Return on Equity
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
Oklahoma Corporation Commission				
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Oregon Public Service Commission				
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
Pennsylvania Public Utility Commission				
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
South Dakota Public Utilities Commission				
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
Utah Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/21	Virginia American Water Company, Inc.	Docket No. PUR-2021-00255	Return on Equity
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
West Virginia Public Service Commission				
West Virginia American Water Company	04/21	West Virginia American Water Company	Case No. 21-02369-W-42T	Return on Equity
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
Wisconsin Public Service Commission				
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
Wyoming Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity

Direct Exhibit AEB-2
Page 1 of 2

SUMMARY OF ROE ANALYSES RESULTS[1]

Constant Growth DCF - Median			
	Median Low	Median	Median High
30-Day Average	8.92%	9.58%	10.19%
90-Day Average	8.79%	9.48%	10.16%
180-Day Average	8.81%	9.52%	10.17%
Constant Growth Average	8.84%	9.53%	10.17%
Constant Growth DCF - Average w/ exclusions			
	Mean Low	Mean	Mean High
30-Day Average	8.68%	9.52%	10.12%
90-Day Average	8.70%	9.54%	10.14%
180-Day Average	8.92%	9.62%	10.23%
Constant Growth Average	8.77%	9.56%	10.17%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.66%	11.73%	11.85%
Bloomberg Beta	10.75%	10.87%	11.07%
Long-Term Avg. Beta	9.81%	9.97%	10.26%
ECAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.98%	12.03%	12.12%
Bloomberg Beta	11.30%	11.38%	11.53%
Long-Term Avg. Beta	10.59%	10.71%	10.93%
Treasury Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Analysis	9.49%	9.74%	10.17%
Risk Premium Mean Result		9.80%	

	X	Y
Constant Growth DCF - Median	8.84%	5
	9.53%	5
	10.17%	5
Constant Growth DCF - Avg. W/ Excl.	8.77%	4
	9.56%	4
	10.17%	4
CAPM	9.81%	3
	11.85%	3
ECAPM	10.59%	2
	12.12%	2
Bond Yield Plus Risk Premium	9.49%	1
	10.17%	1
Recommended ROE Range	9.90%	0
	9.90%	7
Recommended ROE Range	10.50%	0
	10.50%	7
Recommended ROE	10.20%	0
	10.20%	7

Notes:
[1] Constant Growth DCF analysis - Average w/ Exclusions represents the DCF results excluding the results for individual companies that did not meet the minimum threshold of 7 percent.