- have positive long-term earnings growth forecasts from at least two equity analysts.
- have investment grade long-term issuer ratings from both S&P and Moody's.
- own generation assets included in rate base
- have more than 40 percent of company-owned generation;
- derive more than 60 percent of total operating income from regulated operations;
- derive more than 80 percent of their total regulated operating income from regulated electric operations; and
- were not party to a merger or transformative transaction during the analytical period considered.

Q43. Did you exclude any other companies from the proxy group?

A43. Yes. I also excluded Pinnacle West Capital Corporation ("PNW") and Hawaiian Electric Industries, Inc. ("HE"). For PNW, the share price 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 ("APS"). Therefore, similar to the reason that I exclude transformative transactions; because the stock price can be affected by one-time events, I also excluded PNW from the proxy group.

HE's operations are concentrated on the islands of Hawaii; therefore, the company faces geographic concentration risk. As HE noted in the company's 2021 Form10-K:

> The Company is subject to the risks associated with the geographic concentration of its businesses and current lack of interconnections that could result in service interruptions at the Utilities or higher default rates on loans held by ASB [American Savings Bank].[38]

[38] Hawaii Electric Industries, Inc., 2021 Form 10-K, at 23.

The increased risk of service interruptions resulting from HE's geographic location which could result in revenue loss and increased costs is a risk unique to HE and would not apply to utilities located on the U.S. mainland. Furthermore, HE's unregulated operations which represent approximately 33 percent of the company's operation income in 2021 are concentrated in the banking sector through the ownership of American Savings Bank ("ASB").[39] ASB also only operates on Hawaii; thus, all of the company's consumer and commercial loans are to customers on Hawaii. If Hawaii were to face an adverse economic or political event, ASB could face severe financial effects given the company's geographic concentration in Hawaii.[40] As a result, I have excluded HE from my proxy group considering HE's unique geographical risks.

Q44. What is the composition of your proxy group?

A44. The screening criteria discussed above is shown in Exhibit No. ___(AEB-2), Schedule 3 and resulted in a proxy group consisting of the companies shown in Figure 10 below .

Figure 10: Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG

[39] *Id.*, at 86.
[40] *Id.*, at 20.

IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Otter Tail Corporation	OTTR
Portland General Electric Company	POR
Southern Company	SO
Xcel Energy Inc.	XEL

VI. COST OF EQUITY ESTIMATION

Q45. Please briefly discuss the ROE in the context of the regulated rate of return.

A45. The overall rate of return for a regulated utility is based on its 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 cost 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.

Q46. How is the required ROE determined?

A46. While the cost of debt can be directly observed, the cost of equity and the required ROE are market-based and, therefore, must be estimated based on observable market information. The required ROE is determined by using one or more analytical techniques that rely on market data to quantify investor expectations regarding the range of required equity returns. Informed judgment is applied, based on the results of those analyses, to determine where within the range of results the cost of equity for a company falls. As a general proposition, the key consideration in determining the cost of equity is to ensure

that the methodologies employed reasonably reflect investors' views of the financial markets, the proxy group companies, and the subject company's risk profile.

Q47. What methods did you use to determine the Company's ROE?

A47. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM, and the 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

Q48. Why is it important to use more than one analytical approach?

A48. 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. A number of 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 of the models available for estimating the Cost of Equity are subject to limiting assumptions or other methodologies constraints. Consequently, many well-regarded finance texts recommended using multiple approaches when estimating the Cost of Equity. For example, Copeland, Koller, and Murrin[41] suggest using the CAPM and

[41] 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.

Arbitrage Pricing Theory model, while Brigham and Gapenski[42] recommend the CAPM, DCF, and "bond yield plus risk premium" approaches.

Q49. Do current market conditions support the use of more than one analytical approach?

A49. Yes. The effect of the low interest rate environment can be seen in the low dividend yields for utilities which result in DCF cost of equity estimates that are understating the forward-looking cost of equity. The CAPM and Bond Yield Plus Risk Premium method offer some balance to the sensitivity of the DCF model to low Treasury yields. Low interest rates might 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. However, when applied appropriately, the CAPM will take into account the relationship between ROE and interest rates through the market risk premium component. 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, especially the DCF analysis, and where possible consider using projected market data in the models to estimate the return for the forward-looking period.

Q50. Are you aware of any regulatory commissions that have recognized the importance of considering the results of multiple models?

A50. Yes, several regulatory commissions consider the results of multiple ROE estimation methodologies such as the DCF, CAPM, and ECAPM in determining the authorized ROE,

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

including the Minnesota Public Utilities Commission ("Minnesota PUC")[43], the Michigan Public Service Commission ("Michigan PSC")[44], the Iowa Utilities Board ("IUB")[45], the Washington Utilities and Transportation Commission ("Washington UTC")[46] and the New Jersey Board of Public Utilities ("NJBPU")[47]. 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."[48] 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."[49]

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, and ECAPM in the determination of the authorized ROE.[50] The Commission also considered authorized ROEs in other states, increased volatility in capital markets and the company-specific business risks of DTE Gas.

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[43] 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.

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

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

[46] *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).

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

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

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

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

Q51. What are your conclusions about the results of the DCF and CAPM models?

A51. 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 Montana-Dakota.

Furthermore, as discussed in Section IV above, long-term interest rates have increased since August 2020 and this trend is expected to continue as the Federal Reserve normalizes monetary policy in response to increased inflation. 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 result 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.

B. Constant Growth DCF Model

Q52. Please describe the DCF approach.

A52. 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:

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

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

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

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

Q53. What assumptions are required for the Constant Growth DCF model?

A53. The Constant Growth DCF model requires the following assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ("P/E") ratio; and (4) a discount rate greater than the expected growth rate. To the extent any of these assumptions is violated, considered judgment and/or specific adjustments should be applied to the results.

Q54. What market data did you use to calculate the dividend yield in your Constant Growth DCF model?

A54. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annual dividend and average closing stock prices over the 30-, 90-, and 180-trading days as of March 31, 2022.

Q55. Why did you use three averaging periods for stock prices?

A55. In my Constant Growth DCF model, I use an average of recent trading days to calculate the price 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, as discussed above, recent market data is not representative of expected market conditions over the long-term. 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 median to median-high results produced by my Constant Growth DCF model.

Q56. Did you make any adjustments to the dividend yield to account for periodic growth in dividends?

A56. 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.

Q57. Why is it important to select appropriate measures of long-term growth in applying the DCF model?

A57. In its Constant Growth form, the DCF model (i.e., Equation [2]) assumes a single long-term growth rate in perpetuity. To reduce the long-term growth rate to a single measure, one must assume that the dividend payout ratio remains constant and that earnings per share, 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.

Q58. What sources of long-term growth rates did you rely on in your Constant Growth DCF model?

A58. My Constant Growth DCF model incorporates the following sources of long-term growth rates: (1) consensus long-term earnings growth estimates from Zacks Investment Research; (2) consensus long-term earnings growth estimates from Thomson First Call (provided by Yahoo! Finance); and (3) long-term earnings growth estimates from Value Line.

Q59. How did you calculate the expected dividend yield?

A59. I adjusted the dividend yield to reflect the growth rate that was being used in that particular scenario. This ensures that the growth rate used in the dividend yield calculation and the growth rate used as the "g" term of the DCF model are internally consistent.

Q60. How did you calculate the range of results for the Constant Growth DCF model?

A60. I calculated the low DCF result using the minimum growth rate (i.e., the lowest of the Thomson First Call, Zacks, and Value Line 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.

Q61. Please summarize the results of your Constant Growth DCF analyses.

A61. Figure 11 (see also Exhibit No. ___(AEB-2), Schedule 4), present the results of the Constant Growth DCF analyses using a 30-Day, 90-Day, or 180-Day average for the

closing stock price of the proxy groups as of March 31, 2022. The mean results range from 9.34 percent to 9.42 percent. The mean high results range from 10.25 percent to 10.33 percent. The median and median high results range from 9.50 percent to 9.56 percent and 10.18 percent to 10.24 percent respectively.

Figure 11: Summary of Constant Growth DCF Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.33%	9.34%	10.25%
90-Day Average	8.36%	9.37%	10.28%
180-Day Average	8.41%	9.42%	10.33%
	Median Low	Median	Median High
30-Day Average	7.98%	9.50%	10.18%
90-Day Average	8.02%	9.40%	10.21%
180-Day Average	8.15%	9.56%	10.24%

Q62. What are your conclusions about the results of the Constant Growth DCF model?

A62. As discussed previously, one primary assumption of the 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 increase, it is important to consider the results of the DCF models with caution because the DCF tends to understate the cost of equity in rising interest rate and higher inflationary environments, which, as discussed previously, currently exist. 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. Capital Asset Pricing Model

Q63. Please briefly describe the Capital Asset Pricing Model ("CAPM")

A63. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security. Systematic risk is the risk inherent in the entire market or market segment. This form of risk cannot be diversified away using a portfolio of assets. Non-systematic risk is the risk of a specific company that can 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 ROR; and

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

In this specification, the term ($r_m - r_f$) represents the Market Risk Premium. According to the theory underlying the CAPM, since unsystematic risk can be diversified away, investors should only be concerned with systematic 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 as:

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

The variance of the market return (i.e., Variance (r_m)) is a measure of the uncertainty of the general market. 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.

Q64. What risk-free rate did you use in your CAPM analysis?

A64. 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 (i.e., 2.37 percent);[51] (2) the projected 30-year U.S. Treasury bond yield for Q3 2022 through Q3 2023 (i.e., 3.12 percent);[52] and (3) the projected 30-year U.S. Treasury bond yield for 2023 through 2027 (i.e., 3.40 percent).[53]

Q65. Would you place more weight on one of these scenarios?

A65. 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

[51] Bloomberg, as of March 31, 2022
[52] Blue Chip Financial Forecasts, Vol. 41, No. 4, April 1, 2022, at 2.
[53] Blue Chip Financial Forecasts, Vol. 40, No. 12, December 1, 2021, at 14.

rate, this analysis fails to take into consideration the effect of the market's expectations for interest rate increases on the cost of equity.

Q66. What beta coefficients did you use in your CAPM analysis?

A66. As shown in Exhibit No. ___(AEB-2), Schedule 5, I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg 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 No. ___(AEB-2), Schedule 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 2013 through 2021.

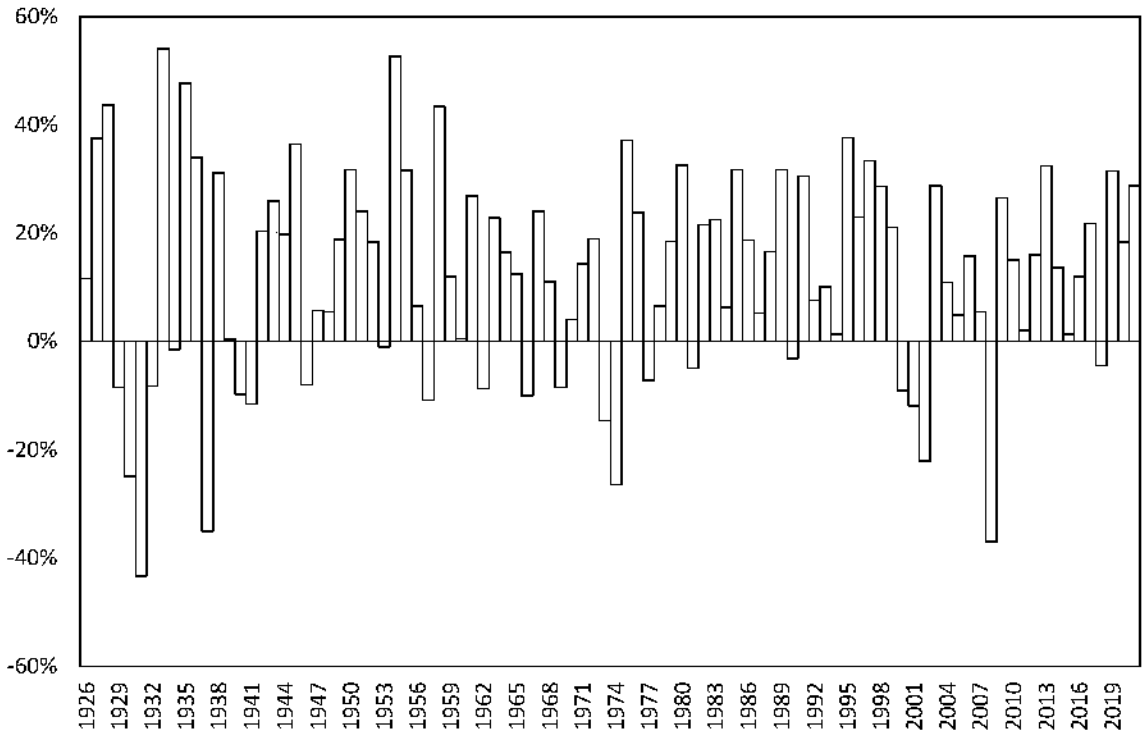
Q67. How did you estimate the Market Risk Premium in the CAPM?

A67. I estimated the Market Risk Premium ("MRP") as the difference between the implied expected equity market return and the risk-free rate. As shown in Exhibit No. ___(AEB-2), Schedule 7, 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. Based on an estimated market capitalization-weighted dividend yield of 1.61 percent and a weighted long-term growth rate of 10.99 percent, the estimated required market return for the S&P 500 Index is 12.68 percent.

Q68. How does the current expected market return of 12.68 percent compare to observed historical market returns?

A68. Given the range of annual equity returns that have been observed over the past 96 years (shown in Figure 12 below), a current expected return of 12.68 percent is not unreasonable. In 50 of the past 96 years (i.e., in approximately half of all observations), the realized total equity return was at least 12.68 percent or greater.

Figure 12: Realized U.S. Equity Market Returns (1926-2021)[54]



Q69. Did you consider another form of the CAPM in your analysis?

A69. Yes. I have also considered the results of an Empirical CAPM ("ECAPM" or alternatively referred to as the Zero-Beta CAPM)[55] in estimating the cost of equity for MDU-ND. The ECAPM calculates the product of the adjusted Beta coefficient and the market risk

[54] Depicts total annual returns on large company stocks, as reported in the 2022 Duff & Phelps SBBI Yearbook.
[55] See e.g., Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 189.

premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the market risk premium, without any effect from the Beta coefficient. The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

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

Where:

k_e = the required market ROE

β = Adjusted Beta coefficient of an individual security

r_f = the risk-free rate of return

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.[56]

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.

[56] *Id.*, at 191.

Q70. What are the results of your CAPM analyses?

A70. As shown in Figure 13 (see also Exhibit No. ___(AEB-2), Schedule 5), my traditional CAPM analysis produces a range of returns from 10.04 percent to 11.63 percent. The ECAPM analysis results range from 10.70 percent to 11.89 percent.

Figure 13: CAPM and ECAPM Results

	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
CAPM			
Value Line Beta	11.51%	11.60%	11.63%
Bloomberg Beta	10.71%	10.85%	10.90%
Long-term Avg. Beta	10.04%	10.24%	10.31%
ECAPM			
Value Line Beta	11.80%	11.87%	11.89%
Bloomberg Beta	11.20%	11.31%	11.35%
Long-term Avg. Beta	10.70%	10.85%	10.90%

D. Bond Yield Plus Risk Premium Analysis

Q71. Please describe the Bond Yield Plus Risk Premium approach.

A71. 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.

Q72. Are there other considerations that should be addressed in conducting this analysis?

A72. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). 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.[57]

Q73. Is the Bond Yield Plus Risk Premium analysis relevant to investors?

A73. Yes. 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.

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[57] *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.

Q74. What did your Bond Yield Plus Risk Premium analysis reveal?

A74. As shown in Figure 14 below, from 1992 through March 2022, 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:

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

Where

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

a = intercept term

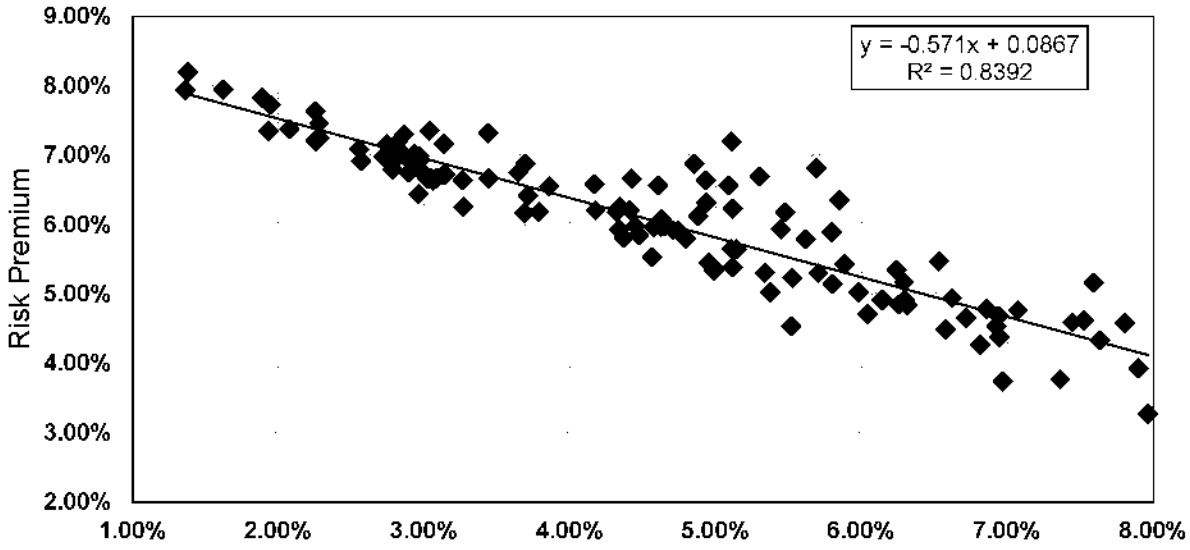
b = slope term

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

Data regarding allowed ROEs were derived from 681 vertically integrated electric utility rate cases from 1992 through March 2022 as reported by Regulatory Research Associates ("RRA").[58] This equation's coefficients were statistically significant at the 99.00 percent level.

[58] This analysis began with a total of 1,371 cases and was screened to eliminate limited issue rider cases, transmission-only cases, distribution cases, and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 681 cases.

Figure 14: Risk Premium Results



As shown on Exhibit No. ___(AEB-2), Schedule 8, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 2.37 percent), the risk premium would be 7.31 percent, resulting in an estimated ROE of 9.68 percent. Based on the near-term (Q3 2022 – Q3 2023) projections of the 30-year U.S. Treasury bond yield (i.e., 3.12 percent), the risk premium would be 6.88 percent, resulting in an estimated ROE of 10.00 percent. Based on longer-term (2023-2027) projections of the 30-year U.S. Treasury bond yield (i.e., 3.40 percent), the risk premium would be 6.73 percent, resulting in an estimated ROE of 10.13 percent.

Q75. How did the results of the Bond Yield Risk Premium inform your recommended ROE for Montana-Dakota?

A75. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for Montana-Dakota. As noted above, investors consider the ROE determination by a regulator when assessing the risk of that company as compared to

utilities of comparable risk operating in other jurisdictions. The risk premium analysis takes into account this comparison by estimating the return expectations of investors based on the current and past ROE awards of electric utilities across the US.

VII. REGULATORY AND BUSINESS RISKS

Q76. Do the DCF, CAPM, and ECAPM results for the proxy group, taken alone, provide an appropriate estimate of the cost of equity for Montana-Dakota?

A76. No. These results provide only a range of the appropriate estimate of the Company's cost of equity. There are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

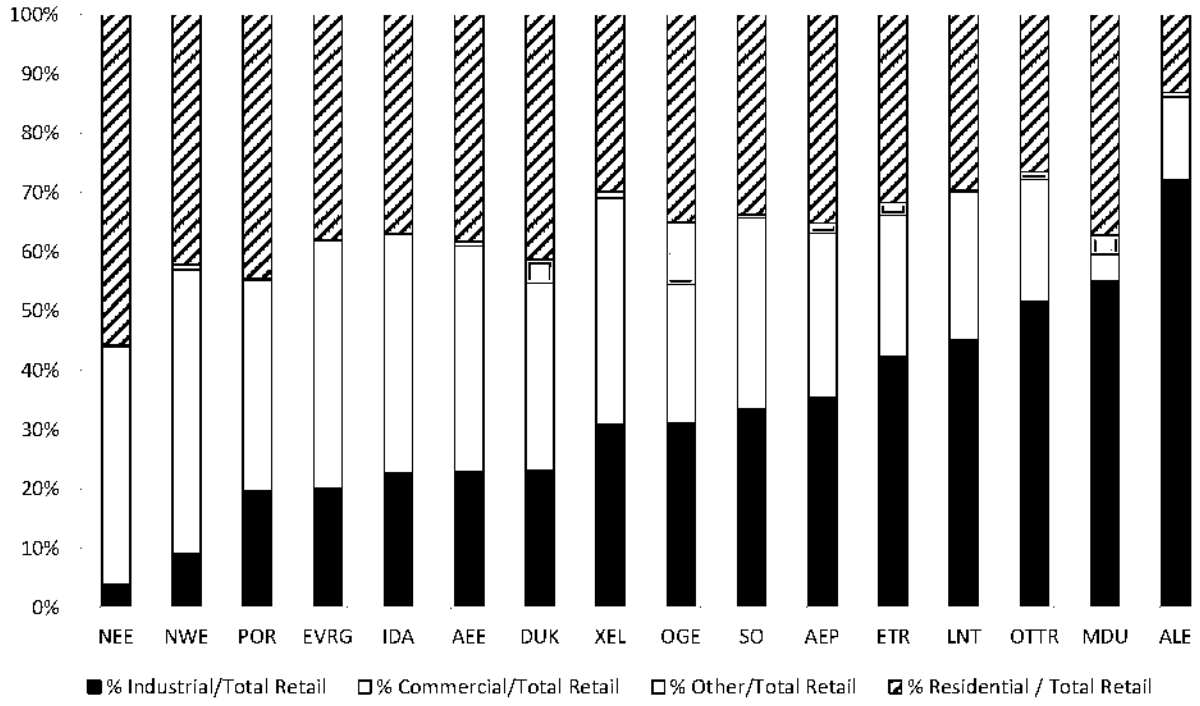
A. Service Territory Risk

Q77. Please summarize Montana-Dakota's service territory risk.

A77. As noted above, Montana-Dakota provides electric service to approximately 93,000 customers in North Dakota. The Company's service area is in Central and Western North Dakota, where a number of Montana-Dakota's large general service customers are engaged in crude oil refining, oil and natural gas production, precious metal refining and manufacturing. As I will discuss in more detail below, the oil and natural gas production industry represents a large portion of the economy in North Dakota and supports the Company's residential and commercial customers. Approximately 55 and 56 percent of Montana-Dakota's 2020 and 2021 total retail kWh electric sales in North Dakota were derived from the large general customer class. As shown in Figure 15, Montana-Dakota's

large general service sales volume as a percentage of total retail electric sales was higher than all but one of the companies in the proxy group.[59]

Figure 15: Customer Concentration[60]



Q78. How does customer concentration and the Company's service territory affect business risk?

A78. An extremely high concentration of industrial customers results in higher business risk. Since the customers are large, they can represent a significant portion of a company's sales which could be lost if a customer goes out of business. Moreover, the loss of large industrial customers would have an effect on the local economy which would ultimately also affect

[59] Does not include "other", commercial or residential customers.
[60] Source: S&P Capital IQ Pro - Other sales includes: Total Public Street and Highway Lighting, Other Sales to Public Authorities, Sales to Railroad and Railways, and Interdepartmental Sales.

the sales to residential and commercial customers. As noted by Dhaliwal, Judd, Serfling and Shaikh in their article, *Customer Concentration Risk and the Cost of Equity Capital*:

> Depending on a major customer for a large portion of sales can be risky for a supplier for two primary reasons. First, a supplier faces the risk of losing substantial future sales if a major customer becomes financially distressed or declares bankruptcy, switches to a different supplier, or decides to develop products internally. Consistent with this notion, Hertzel et al. (2008) and Kolay et al. (2015) document negative supplier abnormal stock returns to the announcement that a major customer declares bankruptcy. Further, a customer's weak financial condition or actions could signal inherent problems about the supplier's viability to its remaining customers and lead to compounding losses in sales. Second, a supplier faces the risk of losing anticipated cash flows from being unable to collect outstanding receivables if the customer goes bankrupt. This assertion is consistent with the finding that suppliers offering customers more trade credit experience larger negative abnormal stock returns around the announcement of a customer filing for Chapter 11 bankruptcy (Jorion and Zhang, 2009; Kolay et al., 2015).[61]

Therefore, a company that has a high degree of customer concentration will be inherently riskier than a company that derived income from a larger customer base. Furthermore, as Dhaliwal, Judd, Serfling and Shaik detail in the article, the increased risk associated with a more concentrated customer base will have the effect of increasing a company's cost of equity.[62]

Q79. Please describe how changes in economic conditions and the interdependent nature of Montana-Dakota's service territory can affect its business risk?

A79. While Montana-Dakota doesn't necessarily depend on any one major customer, it is important to note that one large general service customer in the oil refining industry did comprise 8.87 percent of the Company's 2021 total retail electric sales. Furthermore, the Company has a high concentration of large general service customers. Montana-Dakota's

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

[62] *Id.*, at 4.

major large general service customers are engaged in industries such as crude oil refining, oil and natural gas production, precious metal refining and manufacturing. Additionally, North Dakota's state economy depends on the oil and natural gas production industry; thus the industry also supports the Company's commercial and residential customers. It is well-documented that the oil and natural gas production industry is very cyclical. Additionally, like other industries, the oil and natural gas production industries are also dependent on the general business cycle. As a result, the production of the customers could change based on general or industry specific economic conditions thereby impacting the customers' energy consumption.

Furthermore, the oil and natural gas production industries could also be facing a downward trend in overall demand over the long-term given state, national and global initiatives to significantly reduce carbon emissions by 2050. In addition, achieving long-term carbon emissions goals requires the steady reduction in emissions over time which means investment is needed in the near-term to begin to reduce the carbon emissions associated with natural gas and oil production. In fact, many companies in the oil and natural gas industry have set their own carbon emissions goals as part of their environmental social governance plans ("ESG"). For example, as noted in a recent article in the Williston Herald, the recent recovery in oil and gas production in North Dakota has been slower than expected given the increase in oil prices due in part to lack of infrastructure to transport the oil and natural gas to market because of companies' carbon gas capture rate goals:

> North Dakota Pipeline Authority Justin Kringstad has talked about this issue [lack of infrastructure to transport the gas to market] frequently. Even 5 percent growth in oil production would be difficult, as things stand now, when it comes to gas

> takeaway. That sets a new ceiling, as many companies have set ambitious 98 and 99 percent gas capture rates for their ESG goals.[63]

Companies are currently weighing the cost/benefit of making additional investments over the near-term to increase oil and natural gas production in industries that could face significant declines in demand over time to meet long-term carbon emissions standards. This means the oil and natural gas industry in North Dakota is unlikely to experience significant growth even if commodity prices continue to increase in the near-term. The lack of growth in the near-term and the expected decline in demand for oil and natural gas over the long-term, increases uncertainty and the risk for Montana-Dakota because as I will discuss in more detail below, the economy of the Company's service territory is heavily dependent on the oil and natural gas industry.

Q80. How has employment in the oil and natural gas production industry faired in recent economic conditions?

A80. Figure 16 below contains data on mining and logging employment in North Dakota from January 2006 through February 2022. I reviewed mining and logging employment[64] because this data series considers employment in the oil and natural gas production industry. As shown in Figure 16, mining and logging employment in North Dakota has been highly dependent on the price of oil which has been very volatile since 2006. In fact, the decline in the price of oil that began in 2014 and ended in 2016 resulted in a decrease in mining and logging employment in North Dakota from 31,600 in October 2014 to a low

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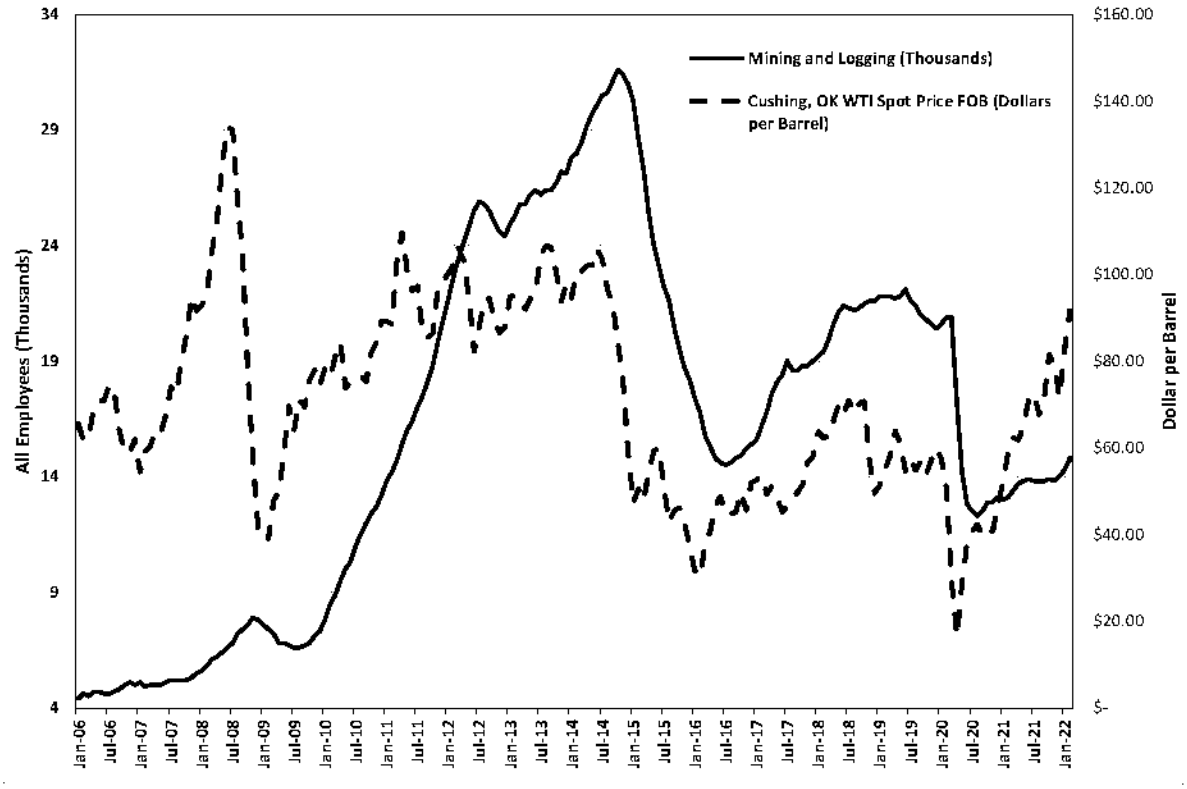
[63] Jean, Renee, "Labor, lack of infrastructure are taking the top off North Dakota's oil and gas recovery," Williston Herald, February 21, 2022. https://www.willistonherald.com/news/oil_and_energy/labor-lack-of-infrastructure-are-taking-the-top-off-north-dakotas-oil-and-gas-recovery/article_68672a6c-935c-11ec-a69c-df734464fc8d.html

[64] Logging is not a significant source of employment in North Dakota; however, the Bureau of Labor Statistics combines mining and logging employment when reporting state level employment statistics.

of 14,500 in July 2016 (i.e., a decline of approximately 50 percent). Furthermore, while oil prices have increased significantly over the past year from the lows in 2020 that occurred as a result of the COVID-19 pandemic, mining and logging employment in North Dakota has not yet similarly recovered due in part to the transportation constraints and carbon emissions standards discussed above.

Figure 16: North Dakota Mining and Logging Employment (Thous.) & West Texas Intermediate Spot Price for a Barrel of Oil[65]



Q81. Are Montana-Dakota's electric sales dependent on the oil refining and natural gas and oil production industries?

A81. Yes. As discussed above, a large portion of the Company's electric sales were to large general service customers some of which operate in the natural gas and oil production and

[65] Source: Bureau of Labor Statistics and the EIA.

oil refining industries. Moreover, since the economy in Western North Dakota is heavily reliant on the oil and natural gas production industry, Montana-Dakota's commercial and residential customers also rely on the industry for sales and employment. For example, a recent study conducted by North Dakota State University noted the oil and gas industries contribution to the North Dakota economy in 2019:

> Overall, the industry was estimated to support 59,100 jobs in the state having a $4.45 billion payroll. The industry's economic contribution was estimated at $40.2 billion in 2019. The industry was estimated to contribute $25 billion to North Dakota's gross state product. The industry was responsible for $3.8 billion in local and state government revenues.[66]

The study further noted that while the industry has not recovered to the levels of production seen in 2014, the oil and gas industry is still one of the key contributors to the North Dakota economy.[67] Therefore, fluctuations in the price of oil as a result of the overall business cycle or external events that occur in the industry as well as the expected overall decline in the demand for oil over the long-term due to carbon emission standards and goals could have a significant effect on the economic conditions in Montana-Dakota's service territory in the near- and long-term. This could result in a reduction in sales to large general service customers. Additionally, if large general service customers reduce output, the effect would be compounded by a decline in local employment which would also reduce the electric sales for Montana-Dakota's residential and commercial customers.

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[66] Bangsund, Dean, and Nancy Hodur, "Petroleum Industry's Economic Contribution to North Dakota in 2019," North Dakota State University, February 2021, at 31.

[67] *Ibid.*

Q82. What is your conclusion regarding the Company's service territory and its effect on the cost of equity for Montana-Dakota?

A82. Montana-Dakota is heavily reliant on sales to large general service customers. As noted above, approximately 56 percent of Montana-Dakota's 2021 total electric sales in North Dakota were to large general service customers. This concentration is higher than all but one of the proxy group companies. A high degree of customer concentration increases Montana-Dakota's risk related to customer migration and changes in economic conditions. This risk is greater in Montana-Dakota's service territory because the residential and commercial customers rely on the success of the oil and natural gas production industry for sales and employment. Increased customer and economic diversity decreases the effect that any one customer or industry can have on a company's sales. Thus, Montana-Dakota's service territory, where large general service customers represent a large portion of electric sales and commercial and residential customers rely economically on the success of the one industry segment, implies that Montana-Dakota has an above average risk profile when compared to the companies in the proxy group.

B. Regulatory Environment

Q83. Please explain how the regulatory framework affects investors' risk assessments.

A83. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility services, the subject utility must have the opportunity to recover invested capital and the market-required return on such capital. Regulatory commissions recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms, which balances the long-term interests of investors and customers. In that respect,

the regulatory framework in which a utility operates is one of the most important factors considered in both debt and equity investors' risk assessments.

Because investors have many investment alternatives, even within a given market sector, the Company's authorized returns must be adequate on a relative basis to ensure their ability to attract capital under a variety of economic and financial market conditions. From the perspective of debt investors, the authorized return should enable the Company to generate the cash flow needed to meet their near-term financial obligations, make the capital investments needed to maintain and expand their systems, and maintain sufficient levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally generated funds, but also from efficient access to capital markets.

From the perspective of equity investors, the authorized return must be adequate to provide a risk-comparable return on the equity portion of the Company's capital investments. Because equity investors are the residual claimants on the Company's cash flows (that is, debt interest must be paid prior to any equity dividends), equity investors are particularly concerned with the regulatory framework in which a utility operates and its effect on future earnings and cash flows.

Q84. Please explain how credit rating agencies consider the regulatory framework in establishing a company's credit rating.

A84. 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. [68]

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." [69] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory environment in which investor-owned regulated utilities operate: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[70]

Q85. How does the regulatory environment in which a utility operates affect its access to and cost of capital?

A85. 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 important credit considerations."[71] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[b]roadly

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

[69] 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.

[70] *Id.*, at 1.

[71] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, at 6 (June 23, 2017).

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." [72]

Q86. Have you conducted any analysis of the regulatory framework in North Dakota relative to the jurisdictions in which the companies in your proxy group operate?

A86. Yes. I have evaluated the regulatory framework in North Dakota considering two factors which are important to ensuring Montana-Dakota 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) the ability of the Company to earn its authorized ROE because while an authorized ROE may be consistent with the authorized ROEs of other comparable vertically integrated electric utilities, if the Company is unable to earn its authorized ROE, Montana-Dakota's ability to attract capital at reasonable terms could be affected.

1. Cost Recovery Mechanisms

Q87. Have you conducted any analysis to compare the cost recovery mechanisms of Montana-Dakota to the cost recovery mechanisms approved in the jurisdictions in which the companies in your proxy group operate?

A87. 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 vs. historical); 2) method for determining rate base (i.e., average vs. year-end); 3) use of

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[72] *Ibid.*

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 No. ___(AEB-2), Schedule 9 and are summarized below.

Test year convention: Montana-Dakota is proposing to use projected test years as of December 31, 2022 and December 31, 2023 in North Dakota which is similar to the proxy group. As shown in Exhibit No. ___(AEB-2), Schedule 9, 50.00 percent of the proxy group provide service in jurisdictions that use a fully or partially forecast test year.

Rate base: Montana-Dakota's rate base in North Dakota is determined based on the average of the beginning and ending test year rate base balances, while 46.15 percent of the operating companies held by proxy group are allowed to use year-end rate base, meaning that the rate base includes capital additions that occurred in the second half of the test year and is more reflective of total net utility plant going forward.

Non-Volumetric Rate Design: Montana-Dakota has not requested approval of a non-volumetric rate design mechanism such as straight fixed variable rate design, a revenue decoupling mechanism or a formula rate plan and thus does not have protection against volumetric risk in North Dakota. However, 44 out of 78 (56.41 percent) of the operating companies held by the proxy group have some form of non-volumetric rate design that allow them to break the link between customer usage and revenues.

Capital Cost Recovery: As discussed above, Montana-Dakota does have capital tracking mechanisms and is proposing to use a fully forecast test year which will allow the Company to recover a portion of its capital expenditures plan. Similarly, 56.41

percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism in place.

2. Earned ROE

Q88. Is there evidence that Montana-Dakota has been unable to earn its authorized ROE?

A88. Yes. As shown in Figure 17, Montana-Dakota's electric operations in North Dakota has persistently under-earned its authorized ROE in each year since 2015. Over this period, the average earned ROE on the Company's electric operations in North Dakota was 8.59 percent, as compared with the average authorized ROE of 9.96 percent, for an average under-earning of 137 basis points per year. This under-earning occurred despite the fact that Montana-Dakota relied on a forecast test year and was allowed to recover a portion of qualifying capital investments through capital tracking mechanisms.

Figure 17: Montana-Dakota's Earned vs. Authorized ROE (2015-2021)

	EARNED ROE	AUTHORIZED ROE	EARNINGS DIFFERENTIAL (BPS)
2015	6.88%	10.75%	-387
2016	9.27%	10.75%	-148
2017	9.09%	9.65%	-56
2018	8.89%	9.65%	-76
2019	8.82%	9.65%	-83
2020	9.39%	9.65%	-26
2021	7.83%	9.65%	-182
Average	**8.59%**	**10.02%**	**-137**

Q89. What is your conclusion regarding the regulatory framework in North Dakota as compared with the jurisdictions in which the proxy group companies operate?

A89. 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 more timely cost recovery through forecasted test years, year-end rate base, cost recovery trackers and revenue stabilization mechanisms than Montana-Dakota has in North Dakota. While Montana-Dakota relies on a forecast test year and has capital tracking mechanisms, the Company does not have a revenue decoupling mechanism to mitigate volumetric risk and determines rate base using the average method. Additionally, the Company has not earned its authorized ROE since 2015. For these reasons, I conclude that Montana-Dakota has greater than average regulatory risk when compared to the proxy group, indicating that the authorized ROE for Montana-Dakota should be higher than the proxy group median.

C. Flotation Cost

Q90. What are flotation costs?

A90. 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.

Q91. Why is it important to consider flotation costs in the allowed ROE?

A91. 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.

Q92. Are flotation costs part of the utility's invested costs or part of the utility's expenses?

A92. 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 Montana-Dakota the opportunity to earn its required ROR in the future.

Q93. Please provide an example of why a flotation cost adjustment is necessary to compensate investors for the capital they have invested.

A93. Suppose MDU Resources issues stock with a value of $100, and an equity investor invests $100 in MDU Resources 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, MDU Resources ends up with only $97 of issuance proceeds, rather than the $100 the investor contributed. MDU Resources 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.

Q94. Is the date of MDU Resources' last issued common equity important in the determination of flotation costs?

A94. No. As shown in Exhibit No. ___(AEB-2), Schedule 10, MDU Resources closed on equity issuances of approximately $58 million and $54 million (for a total of 4.7 million shares of common stock) in November 2002 and February 2004, respectively. 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.

Q95. Is the need to consider flotation costs recognized by the academic and financial communities?

A95. 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.[73]

Q96. How did you calculate the flotation costs for MDU Resources?

A96. My flotation cost calculation is based on the costs of issuing equity that were incurred by MDU Resources in its two most recent common equity issuance. These issuance costs were applied to my proxy group. Applying the actual issuance costs for MDU Resources provided in Exhibit No. ___(AEB-2), Schedule 10, to the DCF analysis, the flotation costs are estimated to be 0.13 percent (i.e., 13 basis points).

Q97. Do your final results include an adjustment for flotation cost recovery?

A97. 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, which reflects the range of results from my Constant Growth DCF, CAPM, ECAPM and Risk Premium analyses.

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

VIII. CAPITAL STRUCTURE

Q98. Is the capital structure of the Company an important consideration in the determination of the appropriate ROE?

A98. Yes, it is. Assuming other factors are 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.

Q99. What is Montana-Dakota's proposed capital structure?

A99. Montana-Dakota's is proposing a projected capitalization for 2022 that is composed of 50.787 percent equity, 46.688 long-term debt and 2.525 percent short-term debt. The Company's proposed capitalization for 2023 is composed of 50.810 percent equity, 44.587 percent long-term debt and 4.603 percent short-term debt.

Q100. Did you conduct any analysis to determine if this projected equity ratio was reasonable?

A100. 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.

Q101. Please discuss your analysis of the capital structures of the proxy group companies.

A101. I calculated the mean proportions of common equity, long-term debt and short-term debt for the most recent eight quarters[74] for each of the companies in the proxy group at the operating subsidiary level. My analysis of the capital structures of the proxy group companies is provided in Exhibit No. ___(AEB-2), Schedule 11. As shown in Exhibit No. ___(AEB-2), Schedule 11, the equity ratios for the proxy group ranged from 46.83 percent to 59.91 percent, with an average of 52.35 percent. Montana-Dakota's proposed equity ratios of 50.787 percent in 2022 and 50.810 percent in 2023 are below the average equity ratio for the utility operating subsidiaries of the proxy group and are therefore reasonable.

Q102. Are there other factors to be considered in setting the Company's capital structure?

A102. The credit rating agencies' response to the Tax Cuts and Jobs Act of 2017 ("TCJA") must also be considered when determining the equity ratio. All three rating agencies have noted that the TCJA has negative implications for utility cash flows. S&P and Fitch specifically identified increasing the equity ratio as one approach to ensure that utilities have sufficient cash flows following the federal income tax rate reductions and the loss of bonus depreciation. As S&P noted "[r]egulators must also recognize that tax reform is a strain on utility credit quality, and we expect companies to request stronger capital structures and other means to offset some of the negative impact".[75] Furthermore, Moody's downgraded the rating outlook for the entire utilities sector in June 2018 and has continued to

[74] 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 fourth quarter of 2019 through the third quarter of 2021.

[75] Standard & Poor's Ratings, "U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound", January 24, 2018, at 5.

downgrade the ratings of utilities based in part on the negative effects of the TCJA on cash flows.

S&P continues to maintain a negative outlook for the utility industry in 2022 and noted that since downgrades outpaced upgrades for a second consecutive year in 2021 for the first time ever the median investor-owned utility credit rating fell to the "BBB" category.[76] Further, 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. Finally, S&P also highlighted inflation, higher interest rates and rising commodity prices as additional risks that could further constrain the credit metrics for utilities over the near-term. In regards to inflation S&P noted:

> Inflation recently spiked to its highest level in decades after rising for several consecutive months in 2021. Given the sustained increase to the U.S. consumer price index in 2021, inflation no longer appears to be just transitory and may have financial implications for the investor-owned North American regulated utility industry. Because of the regulatory lag within the industry, inflation, which causes prices to rise, typically leads to a weakening of financial performance. The regulatory lag is the timing difference between when costs are incurred and when regulators allow those costs to be fully recovered from ratepayers.[77]

The credit ratings agencies continued concerns over the negative effects or the TCJA, inflation, and increased capital expenditures underscores the importance of maintaining adequate cash flow metrics for the industry, as a whole, and Montana-Dakota, particularly, in the context of this proceeding.

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[76] S&P Global Ratings, "For The First Time Ever, The Median Investor-Owned Utility Ratings Falls To The 'BBB' Category," January 20, 2022.

[77] Ibid.

Q103. Is there a relationship between the equity ratio and the authorized ROE?

A103. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as Montana-Dakota. 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.

Q104. What is your conclusion regarding an appropriate equity ratio for Montana-Dakota?

A104. Considering the actual capital structures of the proxy group operating companies, I believe that Montana-Dakota's proposed common equity ratios of 50.787 percent for 2022 and 50.810 percent for 2023 are reasonable. These projected equity ratios are well within the range of equity ratios established by the capital structures of the utility operating subsidiaries of the proxy companies. Finally, based on the cash flow concerns raised by credit rating agencies as a result of the TCJA, inflation, 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. CONCLUSION AND RECOMMENDATION

Q105. What is your conclusion regarding a fair ROE for Montana-Dakota?

A105. Figure 18 below provides a summary of my analytical results for the proxy group. Based on these results, the qualitative analyses presented in my Direct Testimony, the business and financial risks of Montana-Dakota compared to the proxy group, and current conditions in capital markets including the expectation for rising interest rates and increase in inflationary pressure, it is my view that an ROE of 10.50 percent is reasonable and would fairly balance the interests of customers and shareholders. This ROE would enable the

Company to maintain its ability to attract capital at reasonable rates under a variety of economic and financial market conditions, while continuing to provide safe, reliable, and affordable electric utility service to customers in North Dakota.

Figure 18: Summary of Analytical Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.33%	9.34%	10.25%
90-Day Average	8.36%	9.37%	10.28%
180-Day Average	8.41%	9.42%	10.33%
	Median Low	Median	Median High
30-Day Average	7.98%	9.50%	10.18%
90-Day Average	8.02%	9.40%	10.21%
180-Day Average	8.15%	9.56%	10.24%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.51%	11.60%	11.63%
Bloomberg Beta	10.71%	10.85%	10.90%
Long-Term Avg. Beta	10.04%	10.24%	10.31%
ECAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.80%	11.87%	11.89%
Bloomberg Beta	11.20%	11.31%	11.35%
Long-Term Avg. Beta	10.70%	10.85%	10.90%
Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Results	9.68%	10.00%	10.13%
ROE Recommendation			
Range of Reasonableness		9.90%	10.75%
Recommendation		10.50%	

Q106. What is your conclusion regarding the Company's proposed common equity ratio?

A106. I conclude that Montana-Dakota's projected rate-making capital structures are reasonable when compared to the capital structures of the companies in the proxy group and taking in consideration the effect of the TCJA, and increased capital expenditures on cash flows and therefore should be adopted.

Q107. Does this conclude you direct testimony?

A107. Yes, it does.

Brattle

Ann E. Bulkley

PRINCIPAL

Boston 508.981.0866 Ann.Bulkley@brattle.com

With more than 25 years of experience in the energy industry, Ms. Bulkley specializes in regulatory economics for the electric and natural gas sectors, including rate of return, cost of equity, and capital structure issues.

Ms. Bulkley has extensive state and federal regulatory experience, and she 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 (FERC).

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, she has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring, and regulatory and litigation support.

Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

Prior to joining Brattle, Ms. Bulkley was a Senior Vice President at an economic consultancy and held senior positions at several other consulting firms.

AREAS OF EXPERTISE

- Regulatory Economics, Finance & Rates
- Regulatory Investigations & Enforcement
- Tax Controversy & Transfer Pricing
- Electricity Litigation & Regulatory Disputes
- M&A Litigation

EDUCATION

- **Boston University**
  MA in Economics
- **Simmons College**
  BA in Economics and Finance

PROFESSIONAL EXPERIENCE

- **The Brattle Group (2022–Present)**
  Principal
- **Concentric Energy Advisors, Inc. (2002–2021)**
  Senior Vice President
  Vice President
  Assistant Vice President
  Project Manager
- **Navigant Consulting, Inc. (1997–2002)**
  Project Manager
- **Reed Consulting Group (1995-1997)**
  Consultant- Project Manager
- **Cahners Publishing Company (1995)**
  Economist

SELECTED CONSULTING EXPERIENCE & EXPERT TESTIMONY

REGULATORY ANALYSIS AND RATEMAKING

Have provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking, with specific services including:

- 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
- Many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation)

COST OF CAPITAL

Have 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

Have 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. Along with analyzing and evaluating rate application, attended hearings and conducted investigation of rate application for regulatory staff. And prepared, supported, and defended recommendations for revenue requirements and rates for the company. Additionally, developed rates for gas utility for transportation program and ancillary services.

VALUATION

Have 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. 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.
- For a 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, and 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 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

Have 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.

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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
Indiana Utility Regulatory Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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				
Evergy Missouri West	1/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Evergy Missouri Metro	1/22	Evergy Missouri Metro	File No. ER-2022-0129	Return on Equity
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
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				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New York State Department of Public Service				
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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	02/22	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-399	Return on Equity
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.	04/22	Pennsylvania-American Water Company	Docket No. R-2020-3031672 (water) Docket No. R-2020-3031673 (wastewater)	Return on Equity
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				
Alliant Energy		Alliant Energy		Return on Equity
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

CERTIFICATIONS/ACCREDITATIONS

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

SUMMARY OF ROE ANALYSES RESULTS

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.33%	9.34%	10.25%
90-Day Average	8.36%	9.37%	10.28%
180-Day Average	8.41%	9.42%	10.33%
Constant Growth Average	8.37%	9.38%	10.29%
	Median Low	Median	Median High
30-Day Average	7.98%	9.50%	10.18%
90-Day Average	8.02%	9.40%	10.21%
180-Day Average	8.15%	9.56%	10.24%
Constant Growth Average	8.05%	9.49%	10.21%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.51%	11.60%	11.63%
Bloomberg Beta	10.71%	10.85%	10.90%
Long-term Avg. Beta	10.04%	10.24%	10.31%
ECAPM			
Value Line Beta	11.80%	11.87%	11.89%
Bloomberg Beta	11.20%	11.31%	11.35%
Long-term Avg. Beta	10.70%	10.85%	10.90%
Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Results	9.68%	10.00%	10.13%

PROXY GROUP SCREENING DATA AND RESULTS - FINAL PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Company	Ticker	Dividends	S&P Credit Rating Between BBB- and AAA	Covered by More Than 1 Analyst	Positive Growth Rates from at least two sources (Value Line, Yahoo! First Call, and Zacks)	Generation Assets Included in Rate Base	% Company-Owned Generation > 40%	% Regulated Operating Income > 60%	% Regulated Electric Operating Income > 80%	Announced Merger
ALLETE, Inc.	ALE	Yes	BBB	Yes	Yes	Yes	46.42%	95.6%	97.18%	No
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	Yes	69.07%	96.6%	91.18%	No
Ameren Corporation	AEE	Yes	BBB+	Yes	Yes	Yes	76.86%	100.0%	85.23%	No
American Electric Power Company, Inc.	AEP	Yes	A-	Yes	Yes	Yes	53.74%	95.4%	100.00%	No
Duke Energy Corporation	DUK	Yes	BBB+	Yes	Yes	Yes	82.70%	99.4%	90.89%	No
Entergy Corporation	ETR	Yes	BBB+	Yes	Yes	Yes	66.73%	100.0%	99.47%	No
Evergy, Inc.	EVRG	Yes	A-	Yes	Yes	Yes	64.10%	100.0%	100.00%	No
IDACORP, Inc.	IDA	Yes	BBB	Yes	Yes	Yes	71.93%	99.8%	100.00%	No
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	Yes	97.24%	85.1%	100.00%	No
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	Yes	57.89%	99.7%	84.22%	No
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	Yes	57.21%	100.0%	100.00%	No
Otter Tail Corporation	OTTR	Yes	BBB	Yes	Yes	Yes	56.26%	62.7%	100.00%	No
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	Yes	62.41%	100.0%	100.00%	No
Southern Company	SO	Yes	BBB+	Yes	Yes	Yes	78.45%	84.6%	80.48%	No
Xcel Energy Inc.	XEL	Yes	A-	Yes	Yes	Yes	57.43%	100.0%	86.47%	No

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional
[3] Source: Yahoo! Finance and Zacks
[4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
[5] to [6] Source: S&P Capital IQ Pro
[7] to [8] Source: Form 10-K's for 2021, 2020, and 2019
[9] Source: S&P Capital IQ Pro Financial News Releases

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30-DAY CONSTANT GROWTH DCF – MONTANA-DAKOTA PROXY GROUI

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$2.60	$64.44	4.03%	4.15%	6.00%	5.67%	n/a	5.84%	9.82%	9.99%	10.16%
Alliant Energy Corporation	LNT	$1.71	$59.72	2.86%	2.94%	4.50%	6.10%	6.10%	5.57%	7.43%	8.51%	9.05%
Ameren Corporation	AEE	$2.36	$87.98	2.68%	2.78%	6.50%	7.40%	7.20%	7.03%	9.27%	9.81%	10.18%
American Electric Power Company, Inc.	AEP	$3.12	$93.63	3.33%	3.43%	6.50%	6.10%	5.80%	6.13%	9.23%	9.57%	9.94%
Duke Energy Corporation	DUK	$3.94	$104.74	3.76%	3.88%	7.00%	5.85%	6.10%	6.32%	9.72%	10.20%	10.89%
Entergy Corporation	ETR	$4.04	$109.57	3.69%	3.78%	3.00%	6.00%	6.00%	5.00%	6.74%	8.78%	9.80%
Evergy, Inc	EVRG	$2.29	$64.00	3.58%	3.69%	7.50%	5.12%	6.10%	6.24%	8.79%	9.93%	11.21%
IDACORP, Inc.	IDA	$3.00	$108.85	2.76%	2.81%	4.00%	4.40%	4.30%	4.23%	6.81%	7.05%	7.22%
NextEra Energy, Inc	NEE	$1.70	$80.31	2.12%	2.22%	11.00%	9.95%	8.80%	9.92%	11.01%	12.14%	13.23%
NorthWestern Corporation	NWE	$2.52	$59.44	4.24%	4.31%	2.00%	4.50%	3.10%	3.20%	6.28%	7.51%	8.84%
OGE Energy Corporation	OGE	$1.64	$38.44	4.27%	4.37%	6.50%	3.90%	3.50%	4.63%	7.84%	9.00%	10.91%
Otter Tail Corporation	OTTR	$1.65	$62.03	2.66%	2.75%	4.50%	9.00%	n/a	6.75%	7.22%	9.50%	11.78%
Portland General Electric Company	POR	$1.72	$52.99	3.25%	3.35%	7.00%	7.15%	4.60%	6.25%	7.92%	9.60%	10.51%
Southern Company	SO	$2.64	$67.65	3.90%	4.00%	5.50%	6.20%	4.00%	5.23%	7.98%	9.24%	10.22%
Xcel Energy Inc.	XEL	$1.95	$69.08	2.82%	2.91%	6.00%	6.90%	6.40%	6.43%	8.91%	9.35%	9.82%
Mean				3.33%	3.43%	5.83%	6.28%	5.54%	5.92%	8.33%	9.34%	10.25%
Median				3.33%	3.43%	6.00%	6.10%	6.00%	6.13%	7.98%	9.50%	10.18%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of March 31, 2022
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]

90-DAY CONSTANT GROWTH DCF – MONTANA-DAKOTA PROXY GROUI

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$2.60	$63.95	4.07%	4.18%	6.00%	5.67%	n/a	5.84%	9.85%	10.02%	10.19%
Alliant Energy Corporation	LNT	$1.71	$59.27	2.89%	2.97%	4.50%	6.10%	6.10%	5.57%	7.45%	8.53%	9.07%
Ameren Corporation	AEE	$2.36	$87.24	2.71%	2.80%	6.50%	7.40%	7.20%	7.03%	9.29%	9.83%	10.21%
American Electric Power Company, Inc.	AEP	$3.12	$89.41	3.49%	3.60%	6.50%	6.10%	5.80%	6.13%	9.39%	9.73%	10.10%
Duke Energy Corporation	DUK	$3.94	$103.21	3.82%	3.94%	7.00%	5.85%	6.10%	6.32%	9.78%	10.25%	10.95%
Entergy Corporation	ETR	$4.04	$108.85	3.71%	3.80%	3.00%	6.00%	6.00%	5.00%	6.77%	8.80%	9.82%
Evergy, Inc	EVRG	$2.29	$65.13	3.52%	3.63%	7.50%	5.12%	6.10%	6.24%	8.73%	9.87%	11.15%
IDACORP, Inc.	IDA	$3.00	$109.01	2.75%	2.81%	4.00%	4.40%	4.30%	4.23%	6.81%	7.04%	7.21%
NextEra Energy, Inc	NEE	$1.70	$83.19	2.04%	2.14%	11.00%	9.95%	8.80%	9.92%	10.93%	12.06%	13.16%
NorthWestern Corporation	NWE	$2.52	$57.75	4.36%	4.43%	2.00%	4.50%	3.10%	3.20%	6.41%	7.63%	8.96%
OGE Energy Corporation	OGE	$1.64	$37.44	4.38%	4.48%	6.50%	3.90%	3.50%	4.63%	7.96%	9.12%	11.02%
Otter Tail Corporation	OTTR	$1.65	$64.39	2.56%	2.65%	4.50%	9.00%	n/a	6.75%	7.12%	9.40%	11.68%
Portland General Electric Company	POR	$1.72	$52.15	3.30%	3.40%	7.00%	7.15%	4.60%	6.25%	7.97%	9.65%	10.57%
Southern Company	SO	$2.64	$66.93	3.94%	4.05%	5.50%	6.20%	4.00%	5.23%	8.02%	9.28%	10.27%
Xcel Energy Inc.	XEL	$1.95	$68.03	2.87%	2.96%	6.00%	6.90%	6.40%	6.43%	8.95%	9.39%	9.87%
Mean				3.36%	3.46%	5.83%	6.28%	5.54%	5.92%	8.36%	9.37%	10.28%
Median				3.49%	3.60%	6.00%	6.10%	6.00%	6.13%	8.02%	9.40%	10.21%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-day average as of March 31, 2022
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]

180-DAY CONSTANT GROWTH DCF – MONTANA-DAKOTA PROXY GROUI

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$2.60	$64.61	4.02%	4.14%	6.00%	5.67%	n/a	5.84%	9.81%	9.98%	10.14%
Alliant Energy Corporation	LNT	$1.71	$58.72	2.91%	2.99%	4.50%	6.10%	6.10%	5.57%	7.48%	8.56%	9.10%
Ameren Corporation	AEE	$2.36	$86.15	2.74%	2.84%	6.50%	7.40%	7.20%	7.03%	9.33%	9.87%	10.24%
American Electric Power Company, Inc.	AEP	$3.12	$87.74	3.56%	3.66%	6.50%	6.10%	5.80%	6.13%	9.46%	9.80%	10.17%
Duke Energy Corporation	DUK	$3.94	$103.02	3.82%	3.95%	7.00%	5.85%	6.10%	6.32%	9.79%	10.26%	10.96%
Entergy Corporation	ETR	$4.04	$107.44	3.76%	3.85%	3.00%	6.00%	6.00%	5.00%	6.82%	8.85%	9.87%
Evergy, Inc	EVRG	$2.29	$65.21	3.51%	3.62%	7.50%	5.12%	6.10%	6.24%	8.72%	9.86%	11.14%
IDACORP, Inc.	IDA	$3.00	$107.01	2.80%	2.86%	4.00%	4.40%	4.30%	4.23%	6.86%	7.10%	7.27%
NextEra Energy, Inc	NEE	$1.70	$82.83	2.05%	2.15%	11.00%	9.95%	8.80%	9.92%	10.94%	12.07%	13.17%
NorthWestern Corporation	NWE	$2.52	$59.06	4.27%	4.34%	2.00%	4.50%	3.10%	3.20%	6.31%	7.54%	8.86%
OGE Energy Corporation	OGE	$1.64	$35.92	4.57%	4.67%	6.50%	3.90%	3.50%	4.63%	8.15%	9.31%	11.21%
Otter Tail Corporation	OTTR	$1.65	$60.70	2.72%	2.81%	4.50%	9.00%	n/a	6.75%	7.28%	9.56%	11.84%
Portland General Electric Company	POR	$1.72	$50.78	3.39%	3.49%	7.00%	7.15%	4.60%	6.25%	8.07%	9.74%	10.66%
Southern Company	SO	$2.64	$65.46	4.03%	4.14%	5.50%	6.20%	4.00%	5.23%	8.11%	9.37%	10.36%
Xcel Energy Inc.	XEL	$1.95	$67.11	2.91%	3.00%	6.00%	6.90%	6.40%	6.43%	8.99%	9.43%	9.91%
Mean				3.40%	3.50%	5.83%	6.28%	5.54%	5.92%	8.41%	9.42%	10.33%
Median				3.51%	3.62%	6.00%	6.10%	6.00%	6.13%	8.15%	9.56%	10.24%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-day average as of March 31, 2022
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VL BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	2.37%	0.90	12.68%	10.31%	11.65%	11.91%
Alliant Energy Corporation	LNT	2.37%	0.85	12.68%	10.31%	11.13%	11.52%
Ameren Corporation	AEE	2.37%	0.80	12.68%	10.31%	10.62%	11.13%
American Electric Power Company, Inc	AEP	2.37%	0.75	12.68%	10.31%	10.10%	10.75%
Duke Energy Corporation	DUK	2.37%	0.85	12.68%	10.31%	11.13%	11.52%
Entergy Corporation	ETR	2.37%	0.95	12.68%	10.31%	12.17%	12.29%
Evergy, Inc.	EVRG	2.37%	0.95	12.68%	10.31%	12.17%	12.29%
IDACORP, Inc.	IDA	2.37%	0.80	12.68%	10.31%	10.62%	11.13%
NextEra Energy, Inc.	NEE	2.37%	0.95	12.68%	10.31%	12.17%	12.29%
NorthWestern Corporation	NWE	2.37%	0.95	12.68%	10.31%	12.17%	12.29%
OGE Energy Corporation	OGE	2.37%	1.05	12.68%	10.31%	13.20%	13.07%
Otter Tail Corporation	OTTR	2.37%	0.85	12.68%	10.31%	11.13%	11.52%
Portland General Electric Company	POR	2.37%	0.90	12.68%	10.31%	11.65%	11.91%
Southern Company	SO	2.37%	0.95	12.68%	10.31%	12.17%	12.29%
Xcel Energy Inc.	XEL	2.37%	0.80	12.68%	10.31%	10.62%	11.13%
Mean						11.51%	11.80%
Median						11.65%	11.91%

Notes:
[1] Source: Bloomberg Professional, as of March 31, 2022
[2] Source: Value Line
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & VL BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q3 2022 - Q3 2023)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	3.12%	0.90	12.68%	9.56%	11.73%	11.96%
Alliant Energy Corporation	LNT	3.12%	0.85	12.68%	9.56%	11.25%	11.61%
Ameren Corporation	AEE	3.12%	0.80	12.68%	9.56%	10.77%	11.25%
American Electric Power Company, Inc	AEP	3.12%	0.75	12.68%	9.56%	10.29%	10.89%
Duke Energy Corporation	DUK	3.12%	0.85	12.68%	9.56%	11.25%	11.61%
Entergy Corporation	ETR	3.12%	0.95	12.68%	9.56%	12.20%	12.32%
Evergy, Inc.	EVRG	3.12%	0.95	12.68%	9.56%	12.20%	12.32%
IDACORP, Inc.	IDA	3.12%	0.80	12.68%	9.56%	10.77%	11.25%
NextEra Energy, Inc.	NEE	3.12%	0.95	12.68%	9.56%	12.20%	12.32%
NorthWestern Corporation	NWE	3.12%	0.95	12.68%	9.56%	12.20%	12.32%
OGE Energy Corporation	OGE	3.12%	1.05	12.68%	9.56%	13.16%	13.04%
Otter Tail Corporation	OTTR	3.12%	0.85	12.68%	9.56%	11.25%	11.61%
Portland General Electric Company	POR	3.12%	0.90	12.68%	9.56%	11.73%	11.96%
Southern Company	SO	3.12%	0.95	12.68%	9.56%	12.20%	12.32%
Xcel Energy Inc.	XEL	3.12%	0.80	12.68%	9.56%	10.77%	11.25%
Mean						11.60%	11.87%
Median						11.73%	11.96%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 4, April 1, 2022, at 2
[2] Source: Value Line
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VL BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2023 - 2027)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm – Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	3.40%	0.90	12.68%	9.28%	11.75%	11.99%
Alliant Energy Corporation	LNT	3.40%	0.85	12.68%	9.28%	11.29%	11.64%
Ameren Corporation	AEE	3.40%	0.80	12.68%	9.28%	10.82%	11.29%
American Electric Power Company, Inc	AEP	3.40%	0.75	12.68%	9.28%	10.36%	10.94%
Duke Energy Corporation	DUK	3.40%	0.85	12.68%	9.28%	11.29%	11.64%
Entergy Corporation	ETR	3.40%	0.95	12.68%	9.28%	12.22%	12.33%
Evergy, Inc.	EVRG	3.40%	0.95	12.68%	9.28%	12.22%	12.33%
IDACORP, Inc.	IDA	3.40%	0.80	12.68%	9.28%	10.82%	11.29%
NextEra Energy, Inc.	NEE	3.40%	0.95	12.68%	9.28%	12.22%	12.33%
NorthWestern Corporation	NWE	3.40%	0.95	12.68%	9.28%	12.22%	12.33%
OGE Energy Corporation	OGE	3.40%	1.05	12.68%	9.28%	13.15%	13.03%
Otter Tail Corporation	OTTR	3.40%	0.85	12.68%	9.28%	11.29%	11.64%
Portland General Electric Company	POR	3.40%	0.90	12.68%	9.28%	11.75%	11.99%
Southern Company	SO	3.40%	0.95	12.68%	9.28%	12.22%	12.33%
Xcel Energy Inc.	XEL	3.40%	0.80	12.68%	9.28%	10.82%	11.29%
Mean						11.63%	11.89%
Median						11.75%	11.99%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 12, December 1, 2021, at 1
[2] Source: Value Line
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & BLOOMBERG BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm – Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	2.37%	0.83	12.68%	10.31%	10.97%	11.40%
Alliant Energy Corporation	LNT	2.37%	0.79	12.68%	10.31%	10.54%	11.07%
Ameren Corporation	AEE	2.37%	0.75	12.68%	10.31%	10.12%	10.76%
American Electric Power Company, Inc	AEP	2.37%	0.77	12.68%	10.31%	10.27%	10.87%
Duke Energy Corporation	DUK	2.37%	0.71	12.68%	10.31%	9.72%	10.46%
Entergy Corporation	ETR	2.37%	0.86	12.68%	10.31%	11.25%	11.61%
Evergy, Inc.	EVRG	2.37%	0.80	12.68%	10.31%	10.60%	11.12%
IDACORP, Inc.	IDA	2.37%	0.82	12.68%	10.31%	10.82%	11.29%
NextEra Energy, Inc.	NEE	2.37%	0.78	12.68%	10.31%	10.44%	11.00%
NorthWestern Corporation	NWE	2.37%	0.89	12.68%	10.31%	11.57%	11.85%
OGE Energy Corporation	OGE	2.37%	0.93	12.68%	10.31%	11.93%	12.12%
Otter Tail Corporation	OTTR	2.37%	0.87	12.68%	10.31%	11.38%	11.71%
Portland General Electric Company	POR	2.37%	0.80	12.68%	10.31%	10.64%	11.15%
Southern Company	SO	2.37%	0.78	12.68%	10.31%	10.40%	10.97%
Xcel Energy Inc.	XEL	2.37%	0.73	12.68%	10.31%	9.95%	10.63%
Mean						10.71%	11.20%
Median						10.60%	11.12%

Notes:
[1] Source: Bloomberg Professional, as of March 31, 202
[2] Source: Bloomberg Professional, based on 10-year weekly returns, as of March 31, 202
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q3 2022 - Q3 2023)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm – Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	3.12%	0.83	12.68%	9.56%	11.09%	11.49%
Alliant Energy Corporation	LNT	3.12%	0.79	12.68%	9.56%	10.69%	11.19%
Ameren Corporation	AEE	3.12%	0.75	12.68%	9.56%	10.31%	10.90%
American Electric Power Company, Inc	AEP	3.12%	0.77	12.68%	9.56%	10.45%	11.00%
Duke Energy Corporation	DUK	3.12%	0.71	12.68%	9.56%	9.94%	10.62%
Entergy Corporation	ETR	3.12%	0.86	12.68%	9.56%	11.36%	11.69%
Evergy, Inc.	EVRG	3.12%	0.80	12.68%	9.56%	10.75%	11.23%
IDACORP, Inc.	IDA	3.12%	0.82	12.68%	9.56%	10.96%	11.39%
NextEra Energy, Inc.	NEE	3.12%	0.78	12.68%	9.56%	10.60%	11.12%
NorthWestern Corporation	NWE	3.12%	0.89	12.68%	9.56%	11.65%	11.91%
OGE Energy Corporation	OGE	3.12%	0.93	12.68%	9.56%	11.99%	12.16%
Otter Tail Corporation	OTTR	3.12%	0.87	12.68%	9.56%	11.48%	11.78%
Portland General Electric Company	POR	3.12%	0.80	12.68%	9.56%	10.79%	11.26%
Southern Company	SO	3.12%	0.78	12.68%	9.56%	10.57%	11.10%
Xcel Energy Inc.	XEL	3.12%	0.73	12.68%	9.56%	10.15%	10.78%
Mean						10.85%	11.31%
Median						10.75%	11.23%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 4, April 1, 2022, at 2
[2] Source: Bloomberg Professional, based on 10-year weekly returns, as of March 31, 202
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2023 - 2027)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm – Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	3.40%	0.83	12.68%	9.28%	11.14%	11.53%
Alliant Energy Corporation	LNT	3.40%	0.79	12.68%	9.28%	10.75%	11.23%
Ameren Corporation	AEE	3.40%	0.75	12.68%	9.28%	10.38%	10.95%
American Electric Power Company, Inc	AEP	3.40%	0.77	12.68%	9.28%	10.51%	11.05%
Duke Energy Corporation	DUK	3.40%	0.71	12.68%	9.28%	10.02%	10.68%
Entergy Corporation	ETR	3.40%	0.86	12.68%	9.28%	11.40%	11.72%
Evergy, Inc.	EVRG	3.40%	0.80	12.68%	9.28%	10.80%	11.27%
IDACORP, Inc.	IDA	3.40%	0.82	12.68%	9.28%	11.01%	11.43%
NextEra Energy, Inc.	NEE	3.40%	0.78	12.68%	9.28%	10.66%	11.17%
NorthWestern Corporation	NWE	3.40%	0.89	12.68%	9.28%	11.68%	11.93%
OGE Energy Corporation	OGE	3.40%	0.93	12.68%	9.28%	12.01%	12.18%
Otter Tail Corporation	OTTR	3.40%	0.87	12.68%	9.28%	11.51%	11.80%
Portland General Electric Company	POR	3.40%	0.80	12.68%	9.28%	10.84%	11.30%
Southern Company	SO	3.40%	0.78	12.68%	9.28%	10.63%	11.14%
Xcel Energy Inc.	XEL	3.40%	0.73	12.68%	9.28%	10.22%	10.84%
Mean						10.90%	11.35%
Median						10.80%	11.27%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 12, December 1, 2021, at 14
[2] Source: Bloomberg Professional, based on 10-year weekly returns, as of March 31, 202
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	2.37%	0.77	12.68%	10.31%	10.33%	10.92%
Alliant Energy Corporation	LNT	2.37%	0.74	12.68%	10.31%	9.99%	10.66%
Ameren Corporation	AEE	2.37%	0.71	12.68%	10.31%	9.70%	10.45%
American Electric Power Company, Inc	AEP	2.37%	0.67	12.68%	10.31%	9.24%	10.10%
Duke Energy Corporation	DUK	2.37%	0.64	12.68%	10.31%	9.02%	9.93%
Entergy Corporation	ETR	2.37%	0.72	12.68%	10.31%	9.82%	10.53%
Evergy, Inc.	EVRG	2.37%	0.98	12.68%	10.31%	12.42%	12.49%
IDACORP, Inc.	IDA	2.37%	0.72	12.68%	10.31%	9.82%	10.53%
NextEra Energy, Inc.	NEE	2.37%	0.71	12.68%	10.31%	9.65%	10.40%
NorthWestern Corporation	NWE	2.37%	0.73	12.68%	10.31%	9.87%	10.58%
OGE Energy Corporation	OGE	2.37%	0.92	12.68%	10.31%	11.88%	12.08%
Otter Tail Corporation	OTTR	2.37%	0.85	12.68%	10.31%	11.13%	11.52%
Portland General Electric Company	POR	2.37%	0.74	12.68%	10.31%	9.99%	10.66%
Southern Company	SO	2.37%	0.63	12.68%	10.31%	8.84%	9.80%
Xcel Energy Inc.	XEL	2.37%	0.64	12.68%	10.31%	8.96%	9.89%
Mean						10.04%	10.70%
Median						9.82%	10.53%

Notes:
[1] Source: Bloomberg Professional, as of March 31, 2022
[2] Source: Schedule 6
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q3 2022 - Q3 2023)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	3.12%	0.77	12.68%	9.56%	10.50%	11.05%
Alliant Energy Corporation	LNT	3.12%	0.74	12.68%	9.56%	10.18%	10.81%
Ameren Corporation	AEE	3.12%	0.71	12.68%	9.56%	9.92%	10.61%
American Electric Power Company, Inc	AEP	3.12%	0.67	12.68%	9.56%	9.49%	10.29%
Duke Energy Corporation	DUK	3.12%	0.64	12.68%	9.56%	9.28%	10.13%
Entergy Corporation	ETR	3.12%	0.72	12.68%	9.56%	10.03%	10.69%
Evergy, Inc.	EVRG	3.12%	0.98	12.68%	9.56%	12.44%	12.50%
IDACORP, Inc.	IDA	3.12%	0.72	12.68%	9.56%	10.03%	10.69%
NextEra Energy, Inc.	NEE	3.12%	0.71	12.68%	9.56%	9.87%	10.57%
NorthWestern Corporation	NWE	3.12%	0.73	12.68%	9.56%	10.08%	10.73%
OGE Energy Corporation	OGE	3.12%	0.92	12.68%	9.56%	11.94%	12.12%
Otter Tail Corporation	OTTR	3.12%	0.85	12.68%	9.56%	11.25%	11.61%
Portland General Electric Company	POR	3.12%	0.74	12.68%	9.56%	10.18%	10.81%
Southern Company	SO	3.12%	0.63	12.68%	9.56%	9.12%	10.01%
Xcel Energy Inc.	XEL	3.12%	0.64	12.68%	9.56%	9.23%	10.09%
Mean						10.24%	10.85%
Median						10.03%	10.69%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 4, April 1, 2022, at 2
[2] Source: Schedule 6
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VALUE LINE LT BETA

$$K = Rf + \beta (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2023 - 2027)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm – Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	3.40%	0.77	12.68%	9.28%	10.57%	11.10%
Alliant Energy Corporation	LNT	3.40%	0.74	12.68%	9.28%	10.26%	10.86%
Ameren Corporation	AEE	3.40%	0.71	12.68%	9.28%	10.00%	10.67%
American Electric Power Company, Inc	AEP	3.40%	0.67	12.68%	9.28%	9.59%	10.36%
Duke Energy Corporation	DUK	3.40%	0.64	12.68%	9.28%	9.38%	10.21%
Entergy Corporation	ETR	3.40%	0.72	12.68%	9.28%	10.10%	10.75%
Evergy, Inc.	EVRG	3.40%	0.98	12.68%	9.28%	12.45%	12.51%
IDACORP, Inc.	IDA	3.40%	0.72	12.68%	9.28%	10.10%	10.75%
NextEra Energy, Inc.	NEE	3.40%	0.71	12.68%	9.28%	9.95%	10.63%
NorthWestern Corporation	NWE	3.40%	0.73	12.68%	9.28%	10.15%	10.79%
OGE Energy Corporation	OGE	3.40%	0.92	12.68%	9.28%	11.96%	12.14%
Otter Tail Corporation	OTTR	3.40%	0.85	12.68%	9.28%	11.29%	11.64%
Portland General Electric Company	POR	3.40%	0.74	12.68%	9.28%	10.26%	10.86%
Southern Company	SO	3.40%	0.63	12.68%	9.28%	9.23%	10.09%
Xcel Energy Inc.	XEL	3.40%	0.64	12.68%	9.28%	9.33%	10.17%
Mean						10.31%	10.90%
Median						10.10%	10.75%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 12, December 1, 2021, at 1
[2] Source: Schedule 6
[3] Source: Schedule 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4]

HISTORICAL BETA - 2013 - 2021

Company	Ticker	[1] 12/31/2013	[2] 12/31/2014	[3] 12/31/2015	[4] 12/31/2016	[5] 12/31/2017	[6] 12/31/2018	[7] 12/31/2019	[8] 12/31/2020	[9] 12/31/2021	[10] Average
ALLETE, Inc.	ALE	0.75	0.80	0.80	0.75	0.80	0.65	0.65	0.85	0.90	0.77
Alliant Energy Corporation	LNT	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.85	0.74
Ameren Corporation	AEE	0.80	0.75	0.75	0.65	0.70	0.55	0.55	0.85	0.80	0.71
American Electric Power Company, Inc.	AEP	0.70	0.70	0.70	0.65	0.65	0.55	0.55	0.75	0.75	0.67
Duke Energy Corporation	DUK	0.65	0.60	0.65	0.60	0.60	0.50	0.50	0.85	0.85	0.64
Entergy Corporation	ETR	0.70	0.70	0.70	0.65	0.65	0.60	0.60	0.95	0.95	0.72
Evergy, Inc.	EVRG						NMF	NMF	1.00	0.95	0.98
IDACORP, Inc.	IDA	0.75	0.80	0.80	0.75	0.70	0.55	0.55	0.80	0.80	0.72
NextEra Energy, Inc.	NEE	0.70	0.70	0.75	0.65	0.65	0.55	0.55	0.90	0.90	0.71
NorthWestern Corporation	NWE	0.70	0.70	0.70	0.70	0.70	0.55	0.60	0.95	0.95	0.73
OGE Energy Corporation	OGE	0.85	0.90	0.95	0.90	0.95	0.85	0.75	1.10	1.05	0.92
Otter Tail Corporation	OTTR	0.95	0.90	0.85	0.85	0.90	0.75	0.70	0.85	0.90	0.85
Portland General Electric Company	POR	0.75	0.80	0.80	0.70	0.70	0.60	0.55	0.85	0.90	0.74
Southern Company	SO	0.55	0.55	0.60	0.55	0.55	0.50	0.50	0.90	0.95	0.63
Xcel Energy Inc.	XEL	0.65	0.65	0.65	0.60	0.60	0.50	0.50	0.80	0.80	0.64
Mean		0.73	0.74	0.75	0.69	0.70	0.59	0.58	0.88	0.89	0.74

Notes:

[1] Value Line, dated December 26, 2013.
[2] Value Line, dated December 31, 2014.
[3] Value Line, dated December 30, 2015.
[4] Value Line, dated December 29, 2016.
[5] Value Line, dated December 28, 2017.
[6] Value Line, dated December 27, 2018.
[7] Value Line, dated December 26, 2019.
[8] Value Line, dated December 30, 2020.
[9] Value Line, dated December 29, 2021.
[10] Average ([1] - [9])

MARKET RISK PREMIUM DERIVED FROM ANALYSTS' LONG-TERM GROWTH ESTIMATES

[1] Estimated Weighted Average Dividend Yield	1.61%
[2] Estimated Weighted Average Long-Term Growth Rate	10.99%
[3] S&P 500 Estimated Required Market Return	12.68%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Value Line Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Agilent Technologies Inc	A	300.11	132.33	39,713.95	0.14%	0.63%	0.00%	11.50%	0.02%
American Airlines Group Inc	AAL	649.16	18.25	11,847.17					
Advance Auto Parts Inc	AAP	61.10	206.96	12,644.84	0.04%	2.90%	0.00%	11.00%	0.00%
Apple Inc	AAPL	16,319.44	174.61	2,849,537.59	9.70%	0.50%	0.05%	14.00%	1.36%
AbbVie Inc	ABBV	1,766.29	162.11	286,332.46	0.97%	3.48%	0.03%	4.50%	0.04%
AmerisourceBergen Corp	ABC	209.14	154.71	32,355.59	0.11%	1.19%	0.00%	6.50%	0.01%
ABIOMED Inc	ABMD	45.52	331.24	15,076.72	0.05%			7.50%	0.00%
Abbott Laboratories	ABT	1,763.48	118.36	208,725.73	0.71%	1.59%	0.01%	10.00%	0.07%
Accenture PLC	ACN	662.43	337.23	223,392.62	0.76%	1.15%	0.01%	12.00%	0.09%
Adobe Inc	ADBE	472.50	455.62	215,280.45	0.73%			15.50%	0.11%
Analog Devices Inc	ADI	523.32	165.18	86,441.17	0.29%	1.84%	0.01%	11.00%	0.03%
Archer-Daniels-Midland Co	ADM	562.48	90.26	50,769.17	0.17%	1.77%	0.00%	12.50%	0.02%
Automatic Data Processing Inc	ADP	420.05	227.54	95,577.04	0.33%	1.83%	0.01%	9.00%	0.03%
Autodesk Inc	ADSK	217.31	214.35	46,579.97	0.16%			18.00%	0.03%
Ameren Corp	AEE	258.09	93.76	24,198.71	0.08%	2.52%	0.00%	6.50%	0.01%
American Electric Power Co Inc	AEP	504.55	99.77	50,338.65	0.17%	3.13%	0.01%	6.50%	0.01%
AES Corp/The	AES	667.40	25.73	17,172.07	0.06%	2.46%	0.00%	14.00%	0.01%
Aflac Inc	AFL	649.37	64.39	41,812.81	0.14%	2.48%	0.00%	9.00%	0.01%
American International Group Inc	AIG	806.25	62.77	50,608.19		2.04%		31.50%	
Assurant Inc	AIZ	57.71	181.83	10,493.05	0.04%	1.50%	0.00%	15.50%	0.01%
Arthur J Gallagher & Co	AJG	209.61	174.60	36,598.60	0.12%	1.17%	0.00%	14.50%	0.02%
Akamai Technologies Inc	AKAM	160.90	119.39	19,209.73	0.07%			9.50%	0.01%
Albemarle Corp	ALB	117.11	221.15	25,899.32	0.09%	0.71%	0.00%	6.50%	0.01%
Align Technology Inc	ALGN	78.80	436.00	34,354.62	0.12%			17.00%	0.02%
Alaska Air Group Inc	ALK	126.09	58.01	7,314.31					
Allstate Corp/The	ALL	278.35	138.51	38,553.70	0.13%	2.45%	0.00%	5.00%	0.01%
Allegion plc	ALLE	88.23	109.78	9,685.89	0.03%	1.49%	0.00%	10.50%	0.00%
Applied Materials Inc	AMAT	883.40	131.80	116,431.46	0.40%	0.79%	0.00%	14.50%	0.06%
Amcor PLC	AMCR	1,513.73	11.33	17,150.53	0.06%	4.24%	0.00%	15.00%	0.01%
Advanced Micro Devices Inc	AMD	1,627.37	109.34	177,936.09	0.61%			17.50%	0.11%
AMETEK Inc	AME	231.17	133.18	30,787.35	0.10%	0.66%	0.00%	9.00%	0.01%
Amgen Inc	AMGN	557.03	241.82	134,700.75	0.46%	3.21%	0.01%	5.50%	0.03%
Ameriprise Financial Inc	AMP	110.58	300.36	33,212.91	0.11%	1.50%	0.00%	13.50%	0.02%
American Tower Corp	AMT	455.89	251.22	114,527.43	0.39%	2.23%	0.01%	9.00%	0.04%
Amazon.com Inc	AMZN	508.84	3,259.95	1,658,806.00				26.50%	
Arista Networks Inc	ANET	307.77	138.98	42,773.46	0.15%			4.50%	0.01%
ANSYS Inc	ANSS	87.03	317.65	27,643.81	0.09%			8.50%	0.01%
Anthem Inc	ANTM	241.30	491.22	118,533.35	0.40%	1.04%	0.00%	12.50%	0.05%
Aon PLC	AON	213.94	325.63	69,666.58	0.24%	0.63%	0.00%	7.00%	0.02%
A O Smith Corp	AOS	131.05	63.89	8,372.72	0.03%	1.75%	0.00%	10.00%	0.00%
APA Corp	APA	346.78	41.33	14,332.25		1.21%			
Air Products and Chemicals Inc	APD	221.72	249.91	55,409.30	0.19%	2.59%	0.00%	12.00%	0.02%
Amphenol Corp	APH	598.94	75.35	45,130.13	0.15%	1.06%	0.00%	12.00%	0.02%
Aptiv PLC	APTV	270.92	119.71	32,431.23				21.50%	
Alexandria Real Estate Equities Inc	ARE	159.94	201.25	32,188.53	0.11%	2.29%	0.00%	9.00%	0.01%
Atmos Energy Corp	ATO	135.43	119.49	16,182.77	0.06%	2.28%	0.00%	7.50%	0.00%
Activision Blizzard Inc	ATVI	780.92	80.11	62,559.74	0.21%	0.59%	0.00%	15.00%	0.03%
AvalonBay Communities Inc	AVB	139.75	248.37	34,710.20	0.12%	2.56%	0.00%	6.50%	0.01%
Broadcom Inc	AVGO	408.28	629.68	257,086.38		2.60%		23.00%	
Avery Dennison Corp	AVY	82.36	173.97	14,327.30	0.05%	1.56%	0.00%	9.00%	0.00%
American Water Works Co Inc	AWK	181.75	165.53	30,085.57	0.10%	1.46%	0.00%	8.50%	0.01%
American Express Co	AXP	757.29	187.00	141,613.04	0.48%	1.11%	0.01%	12.00%	0.06%
AutoZone Inc	AZO	19.85	2,044.58	40,582.87	0.14%			16.50%	0.02%
Boeing Co/The	BA	590.39	191.50	113,058.73					
Bank of America Corp	BAC	8,064.86	41.22	332,433.32	1.13%	2.04%	0.02%	7.50%	0.08%
Baxter International Inc	BAX	503.20	77.54	39,017.90	0.13%	1.44%	0.00%	9.50%	0.01%
Bath & Body Works Inc	BBWI	238.91	47.80	11,419.90		1.67%		26.00%	
Best Buy Co Inc	BBY	225.23	90.90	20,473.23	0.07%	3.87%	0.00%	8.50%	0.01%
Becton Dickinson and Co	BDX	284.77	259.33	73,850.80	0.25%	1.34%	0.00%	6.00%	0.02%
Franklin Resources Inc	BEN	502.12	27.92	14,019.30	0.05%	4.15%	0.00%	11.00%	0.01%
Brown-Forman Corp	BF/B	309.80	67.02	20,762.46	0.07%	1.13%	0.00%	13.00%	0.01%
Biogen Inc	BIIB	146.96	210.60	30,950.41				-10.50%	
Bio-Rad Laboratories Inc	BIO	24.86	563.23	14,003.59	0.05%			9.50%	0.00%
Bank of New York Mellon Corp/The	BK	807.11	49.63	40,056.67	0.14%	2.74%	0.00%	5.00%	0.01%
Booking Holdings Inc	BKNG	40.89	2,348.45	96,023.42	0.33%			14.00%	0.05%
Baker Hughes Co	BKR	953.34	36.41	34,711.15		1.98%			
BlackRock Inc	BLK	152.04	764.17	116,185.94	0.40%	2.55%	0.01%	11.00%	0.04%
Ball Corp	BLL	321.21	90.00	28,909.08		0.89%		21.00%	
Bristol-Myers Squibb Co	BMY	2,125.20	73.03	155,203.58		2.96%			
Broadridge Financial Solutions Inc	BR	116.77	155.71	18,182.72	0.06%	1.64%	0.00%	9.00%	0.01%
Berkshire Hathaway Inc	BRK/B	1,287.63	352.91	454,418.91	1.55%			6.00%	0.09%
Brown & Brown Inc	BRO	282.22	72.27	20,395.75	0.07%	0.67%	0.00%	10.50%	0.01%
Boston Scientific Corp	BSX	1,429.45	44.29	63,310.21	0.22%			16.00%	0.03%
BorgWarner Inc	BWA	239.97	38.90	9,334.95	0.03%	1.75%	0.00%	9.50%	0.00%
Boston Properties Inc	BXP	156.68	128.80	20,179.87		3.04%		-1.50%	
Citigroup Inc	C	1,972.47	53.40	105,330.11	0.36%	3.82%	0.01%	7.00%	0.03%
Conagra Brands Inc	CAG	479.70	33.57	16,103.46	0.05%	3.72%	0.00%	4.50%	0.00%
Cardinal Health Inc	CAH	277.06	56.70	15,709.36	0.05%	3.46%	0.00%	5.00%	0.00%
Carrier Global Corp	CARR	853.01	45.87	39,127.43		1.31%			
Caterpillar Inc	CAT	535.89	222.82	119,406.56	0.41%	1.99%	0.01%	8.00%	0.03%

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Chubb Ltd	CB	426.23	213.90	91,170.38	0.31%	1.50%	0.00%	12.50%	0.04%
Cboe Global Markets Inc	CBOE	106.60	114.42	12,197.40	0.04%	1.68%	0.00%	12.00%	0.00%
CBRE Group Inc	CBRE	332.32	91.52	30,414.20	0.10%			10.00%	0.01%
Crown Castle International Corp	CCI	433.03	184.60	79,937.34	0.27%	3.19%	0.01%	12.00%	0.03%
Carnival Corp	CCL	989.70	20.22	20,011.75					
Ceridian HCM Holding Inc	CDAY	150.11	68.36	10,261.45					
Cadence Design Systems Inc	CDNS	278.38	164.46	45,781.72	0.16%			12.00%	0.02%
CDW Corp/DE	CDW	134.94	178.89	24,140.13	0.08%	1.12%	0.00%	11.00%	0.01%
Celanese Corp	CE	108.03	142.87	15,434.10	0.05%	1.90%	0.00%	6.50%	0.00%
Constellation Energy Corp	CEG	326.66	56.25	18,374.85		1.00%			
Cerner Corp	CERN	293.85	93.56	27,492.23	0.09%	1.15%	0.00%	9.50%	0.01%
CF Industries Holdings Inc	CF	209.11	103.06	21,551.29	0.07%	1.16%	0.00%	19.50%	0.01%
Citizens Financial Group Inc	CFG	422.14	45.33	19,135.74	0.07%	3.44%	0.00%	8.50%	0.01%
Church & Dwight Co Inc	CHD	242.70	99.38	24,119.13	0.08%	1.06%	0.00%	8.00%	0.01%
CH Robinson Worldwide Inc	CHRW	128.64	107.71	13,855.81	0.05%	2.04%	0.00%	9.00%	0.00%
Charter Communications Inc	CHTR	191.49	545.52	104,463.26				21.50%	
Cigna Corp	CI	320.95	239.61	76,903.55	0.26%	1.87%	0.00%	10.00%	0.03%
Cincinnati Financial Corp	CINF	160.44	135.96	21,813.29	0.07%	2.03%	0.00%	15.00%	0.01%
Colgate-Palmolive Co	CL	840.59	75.83	63,742.17	0.22%	2.48%	0.01%	5.00%	0.01%
Clorox Co/The	CLX	123.06	139.03	17,108.75	0.06%	3.34%	0.00%	5.00%	0.00%
Comerica Inc	CMA	131.09	90.43	11,854.38	0.04%	3.01%	0.00%	6.00%	0.00%
Comcast Corp	CMCSA	4,523.79	46.82	211,803.66	0.72%	2.31%	0.02%	10.50%	0.08%
CME Group Inc	CME	359.42	237.86	85,491.40	0.29%	1.68%	0.00%	8.50%	0.02%
Chipotle Mexican Grill Inc	CMG	28.03	1,582.03	44,347.46	0.15%			20.00%	0.03%
Cummins Inc	CMI	142.08	205.11	29,141.00	0.10%	2.83%	0.00%	8.00%	0.01%
CMS Energy Corp	CMS	290.14	69.94	20,292.18	0.07%	2.63%	0.00%	6.50%	0.00%
Centene Corp	CNC	582.88	84.19	49,072.25	0.17%			10.00%	0.02%
CenterPoint Energy Inc	CNP	629.43	30.64	19,285.80	0.07%	2.22%	0.00%	5.00%	0.00%
Capital One Financial Corp	COF	405.67	131.29	53,260.41		1.83%			
Cooper Cos Inc/The	COO	49.30	417.59	20,588.02	0.07%	0.01%	0.00%	19.00%	0.01%
ConocoPhillips	COP	1,296.05	100.00	129,605.10	0.44%	1.84%	0.01%	16.50%	0.07%
Costco Wholesale Corp	COST	443.22	575.85	255,230.54	0.87%	0.55%	0.00%	10.50%	0.09%
Campbell Soup Co	CPB	301.70	44.57	13,446.95	0.05%	3.32%	0.00%	5.50%	0.00%
Copart Inc	CPRT	237.50	125.47	29,798.75	0.10%			12.00%	0.01%
Charles River Laboratories International Inc	CRL	50.80	283.97	14,425.39	0.05%			6.50%	0.00%
salesforce.com Inc	CRM	990.00	212.32	210,196.80	0.72%			20.00%	0.14%
Cisco Systems Inc	CSCO	4,154.17	55.76	231,636.41	0.79%	2.73%	0.02%	8.00%	0.06%
CSX Corp	CSX	2,178.58	37.45	81,587.82	0.28%	1.07%	0.00%	10.00%	0.03%
Cintas Corp	CTAS	102.42	425.39	43,566.74	0.15%	0.89%	0.00%	13.50%	0.02%
Catalent Inc	CTLT	179.13	110.90	19,865.30				21.00%	
Coterra Energy Inc	CTRA	810.98	26.97	21,872.10		8.31%			
Cognizant Technology Solutions Corp	CTSH	524.54	89.67	47,035.05	0.16%	1.20%	0.00%	7.00%	0.01%
Corteva Inc	CTVA	726.77	57.48	41,774.97		0.97%			
Citrix Systems Inc	CTXS	125.91	100.90	12,704.62	0.04%			8.00%	0.00%
CVS Health Corp	CVS	1,312.51	101.21	132,839.14	0.45%	2.17%	0.01%	6.00%	0.03%
Chevron Corp	CVX	1,947.55	162.83	317,120.05		3.49%		25.00%	
Caesars Entertainment Inc	CZR	214.12	77.36	16,564.56					
Dominion Energy Inc	D	810.67	84.97	68,882.97	0.23%	3.14%	0.01%	11.50%	0.03%
Delta Air Lines Inc	DAL	639.93	39.57	25,322.03				49.00%	
DuPont de Nemours Inc	DD	512.91	73.58	37,739.70		1.79%			
Deere & Co	DE	306.78	415.46	127,456.48		1.01%		21.50%	
Discover Financial Services	DFS	282.03	110.19	31,076.67	0.11%	1.82%	0.00%	16.00%	0.02%
Dollar General Corp	DG	228.87	222.63	50,952.88	0.17%	0.99%	0.00%	10.50%	0.02%
Quest Diagnostics Inc	DGX	119.46	136.86	16,348.61	0.06%	1.93%	0.00%	7.50%	0.00%
DR Horton Inc	DHI	354.36	74.51	26,403.21	0.09%	1.21%	0.00%	11.00%	0.01%
Danaher Corp	DHR	715.90	293.33	209,993.48		0.34%		21.00%	
Walt Disney Co/The	DIS	1,820.63	137.16	249,718.02				37.50%	
Discovery Inc	DISCA	171.54	24.92	4,274.85	0.01%			13.50%	0.00%
Discovery Inc	DISCK	330.15	24.97	8,243.95					
DISH Network Corp	DISH	290.57	31.65	9,196.60	0.03%			2.00%	0.00%
Digital Realty Trust Inc	DLR	284.47	141.80	40,337.70		3.44%		-3.50%	
Dollar Tree Inc	DLTR	225.11	160.15	36,051.37	0.12%			10.00%	0.01%
Dover Corp	DOV	144.11	156.90	22,610.23	0.08%	1.27%	0.00%	9.00%	0.01%
Dow Inc	DOW	735.09	63.72	46,839.68		4.39%			
Domino's Pizza Inc	DPZ	36.03	407.01	14,665.79	0.05%	1.08%	0.00%	16.50%	0.01%
Duke Realty Corp	DRE	382.77	58.06	22,223.51	0.08%	1.93%	0.00%	2.50%	0.00%
Darden Restaurants Inc	DRI	127.72	132.95	16,980.91	0.06%	3.31%	0.00%	15.50%	0.01%
DTE Energy Co	DTE	193.74	132.21	25,614.63	0.09%	2.68%	0.00%	4.50%	0.00%
Duke Energy Corp	DUK	769.90	111.66	85,966.92	0.29%	3.53%	0.01%	7.00%	0.02%
DaVita Inc	DVA	96.30	113.11	10,892.49	0.04%			16.00%	0.01%
Devon Energy Corp	DVN	664.20	59.13	39,274.15		6.76%		29.50%	
DXC Technology Co	DXC	244.48	32.63	7,977.32	0.03%			6.00%	0.00%
Dexcom Inc	DXCM	97.39	511.60	49,824.72				34.00%	
Electronic Arts Inc	EA	281.22	126.51	35,577.40	0.12%	0.54%	0.00%	10.50%	0.01%
eBay Inc	EBAY	587.53	57.26	33,641.91	0.11%	1.54%	0.00%	16.50%	0.02%
Ecolab Inc	ECL	286.30	176.56	50,548.42	0.17%	1.16%	0.00%	8.00%	0.01%
Consolidated Edison Inc	ED	354.09	94.68	33,525.24	0.11%	3.34%	0.00%	3.50%	0.00%
Equifax Inc	EFX	122.91	237.10	29,141.72	0.10%	0.66%	0.00%	10.50%	0.01%
Edison International	EIX	380.80	70.10	26,693.80		3.99%			
Estee Lauder Cos Inc/The	EL	232.42	272.32	63,293.70	0.22%	0.88%	0.00%	14.00%	0.03%
Eastman Chemical Co	EMN	128.95	112.06	14,450.14	0.05%	2.71%	0.00%	8.00%	0.00%
Emerson Electric Co	EMR	594.00	98.05	58,241.70	0.20%	2.10%	0.00%	11.50%	0.02%
Enphase Energy Inc	ENPH	133.94	201.78	27,025.61				30.00%	
EOG Resources Inc	EOG	585.39	119.23	69,795.93	0.24%	2.52%	0.01%	16.00%	0.04%
EPAM Systems Inc	EPAM	56.88	296.61	16,870.88				23.50%	
Equinix Inc	EQIX	90.72	741.62	67,280.51	0.23%	1.67%	0.00%	15.00%	0.03%
Equity Residential	EQR	375.92	89.92	33,802.46		2.78%		-2.00%	
Eversource Energy	ES	344.75	88.19	30,403.15	0.10%	2.89%	0.00%	5.50%	0.01%
Essex Property Trust Inc	ESS	65.28	345.48	22,552.59		2.55%		-2.50%	
Eaton Corp PLC	ETN	399.57	151.76	60,638.74	0.21%	2.13%	0.00%	11.50%	0.02%
Entergy Corp	ETR	203.52	116.75	23,760.38	0.08%	3.46%	0.00%	3.00%	0.00%

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Etsy Inc	ETSY	127.03	124.28	15,787.66				29.00%	
Evergy Inc	EVRG	226.99	68.34	15,512.70	0.05%	3.35%	0.00%	7.50%	0.00%
Edwards Lifesciences Corp	EW	621.32	117.72	73,141.44	0.25%			12.50%	0.03%
Exelon Corp	EXC	980.14	47.63	46,683.93		2.83%			
Expeditors International of Washington Inc	EXPD	167.40	103.16	17,268.78	0.06%	1.12%	0.00%	11.50%	0.01%
Expedia Group Inc	EXPE	150.23	195.67	29,395.70					
Extra Space Storage Inc	EXR	134.15	205.60	27,581.86	0.09%	2.92%	0.00%	6.00%	0.01%
Ford Motor Co	F	3,947.97	16.91	66,760.11		2.37%		29.00%	
Diamondback Energy Inc	FANG	177.42	137.08	24,320.05		1.75%			
Fastenal Co	FAST	575.55	59.40	34,187.91	0.12%	2.09%	0.00%	8.50%	0.01%
Meta Platforms Inc	FB	2,309.08	222.36	513,447.03				21.50%	
Fortune Brands Home & Security Inc	FBHS	132.35	74.28	9,830.74	0.03%	1.51%	0.00%	11.00%	0.00%
Freeport-McMoRan Inc	FCX	1,454.78	49.74	72,360.81		1.21%		27.00%	
FactSet Research Systems Inc	FDS	37.80	434.15	16,409.57	0.06%	0.76%	0.00%	9.50%	0.01%
FedEx Corp	FDX	259.18	231.39	59,971.20	0.20%	1.30%	0.00%	13.00%	0.03%
FirstEnergy Corp	FE	570.90	45.86	26,181.61	0.09%	3.40%	0.00%	10.00%	0.01%
F5 Inc	FFIV	60.74	208.95	12,691.21	0.04%			7.00%	0.00%
Fidelity National Information Services Inc	FIS	609.59	100.42	61,215.13		1.87%		28.00%	
Fiserv Inc	FISV	652.20	101.40	66,132.78	0.23%			13.00%	0.03%
Fifth Third Bancorp	FITB	683.67	43.04	29,425.20	0.10%	2.79%	0.00%	11.50%	0.01%
FleetCor Technologies Inc	FLT	77.89	249.06	19,398.54	0.07%			11.00%	0.01%
FMC Corp	FMC	125.89	131.57	16,563.74	0.06%	1.61%	0.00%	10.50%	0.01%
Fox Corp	FOX	247.10	36.28	8,964.64		1.32%			
Fox Corp	FOXA	315.81	39.45	12,458.55	0.04%	1.22%	0.00%	10.50%	0.00%
First Republic Bank/CA	FRC	179.06	162.10	29,025.63	0.10%	0.54%	0.00%	13.50%	0.01%
Federal Realty Investment Trust	FRT	78.69	122.07	9,605.44	0.03%	3.51%	0.00%	2.50%	0.00%
Fortinet Inc	FTNT	160.82	341.74	54,956.92				24.00%	
Fortive Corp	FTV	359.07	60.93	21,877.89	0.07%	0.46%	0.00%	12.00%	0.01%
General Dynamics Corp	GD	278.14	241.18	67,080.84	0.23%	2.09%	0.00%	6.00%	0.01%
General Electric Co	GE	1,101.75	91.50	100,810.22	0.34%	0.35%	0.00%	15.00%	0.05%
Gilead Sciences Inc	GILD	1,253.89	59.45	74,543.58	0.25%	4.91%	0.01%	13.50%	0.03%
General Mills Inc	GIS	602.21	67.72	40,781.80	0.14%	3.01%	0.00%	3.50%	0.00%
Globe Life Inc	GL	99.18	100.60	9,977.31	0.03%	0.83%	0.00%	8.00%	0.00%
Corning Inc	GLW	845.65	36.91	31,212.79	0.11%	2.93%	0.00%	20.00%	0.02%
General Motors Co	GM	1,453.02	43.74	63,555.14	0.22%			12.00%	0.03%
Generac Holdings Inc	GNRC	63.78	297.26	18,960.43				23.50%	
Alphabet Inc	GOOG	315.64	2,792.98	881,576.57				23.50%	
Alphabet Inc	GOOGL	300.76	2,781.35	836,504.92					
Genuine Parts Co	GPC	141.95	126.02	17,888.16	0.06%	2.84%	0.00%	8.50%	0.01%
Global Payments Inc	GPN	281.97	136.84	38,584.50	0.13%	0.73%	0.00%	16.50%	0.02%
Garmin Ltd	GRMN	192.79	118.61	22,866.47	0.08%	2.46%	0.00%	10.00%	0.01%
Goldman Sachs Group Inc/The	GS	341.86	330.10	112,847.66	0.38%	2.42%	0.01%	8.50%	0.03%
WW Grainger Inc	GWW	51.10	515.79	26,357.90	0.09%	1.26%	0.00%	7.00%	0.01%
Halliburton Co	HAL	898.57	37.87	34,028.92	0.12%	1.27%	0.00%	9.50%	0.01%
Hasbro Inc	HAS	138.96	81.92	11,383.60	0.04%	3.42%	0.00%	11.50%	0.00%
Huntington Bancshares Inc/OH	HBAN	1,444.83	14.62	21,123.37	0.07%	4.24%	0.00%	12.00%	0.01%
HCA Healthcare Inc	HCA	302.02	250.62	75,691.75	0.26%	0.89%	0.00%	12.50%	0.03%
Home Depot Inc/The	HD	1,033.35	299.33	309,312.66	1.05%	2.54%	0.03%	10.00%	0.11%
Hess Corp	HES	309.75	107.04	33,155.21		1.40%			
Hartford Financial Services Group Inc/The	HIG	331.65	71.81	23,815.57	0.08%	2.14%	0.00%	6.50%	0.01%
Huntington Ingalls Industries Inc	HII	40.07	199.44	7,990.96	0.03%	2.37%	0.00%	10.00%	0.00%
Hilton Worldwide Holdings Inc	HLT	279.14	151.74	42,356.55					
Hologic Inc	HOLX	251.30	76.82	19,305.10				25.00%	
Honeywell International Inc	HON	685.48	194.58	133,381.09	0.45%	2.01%	0.01%	11.00%	0.05%
Hewlett Packard Enterprise Co	HPE	1,300.14	16.71	21,725.27	0.07%	2.87%	0.00%	6.50%	0.00%
HP Inc	HPQ	1,053.37	36.30	38,237.19	0.13%	2.75%	0.00%	15.50%	0.02%
Hormel Foods Corp	HRL	545.00	51.54	28,089.20	0.10%	2.02%	0.00%	6.50%	0.01%
Henry Schein Inc	HSIC	137.17	87.19	11,960.11	0.04%			7.00%	0.00%
Host Hotels & Resorts Inc	HST	714.15	19.43	13,875.93	0.05%	0.62%	0.00%	8.50%	0.00%
Hershey Co/The	HSY	145.63	216.63	31,547.39	0.11%	1.66%	0.00%	6.00%	0.01%
Humana Inc	HUM	126.74	435.17	55,154.75	0.19%	0.72%	0.00%	12.00%	0.02%
Howmet Aerospace Inc	HWM	418.91	35.94	15,055.45	0.05%	0.22%	0.00%	12.50%	0.01%
International Business Machines Corp	IBM	899.31	130.02	116,928.29	0.40%	5.05%	0.02%	0.50%	0.00%
Intercontinental Exchange Inc	ICE	560.44	132.12	74,044.80	0.25%	1.15%	0.00%	8.00%	0.02%
IDEXX Laboratories Inc	IDXX	84.25	547.06	46,089.26	0.16%			14.00%	0.02%
IDEX Corp	IEX	76.11	191.73	14,591.61	0.05%	1.13%	0.00%	8.00%	0.00%
International Flavors & Fragrances Inc	IFF	254.75	131.33	33,455.66	0.11%	2.41%	0.00%	7.00%	0.01%
Illumina Inc	ILMN	157.08	349.40	54,882.01	0.19%			10.00%	0.02%
Incyte Corp	INCY	221.33	79.42	17,577.63				25.50%	
Intel Corp	INTC	4,088.70	49.56	202,635.77	0.69%	2.95%	0.02%	6.00%	0.04%
Intuit Inc	INTU	282.81	480.84	135,987.32	0.46%	0.57%	0.00%	18.50%	0.09%
International Paper Co	IP	374.89	46.15	17,301.09	0.06%	4.01%	0.00%	12.50%	0.01%
Interpublic Group of Cos Inc/The	IPG	393.96	35.45	13,965.88	0.05%	3.27%	0.00%	12.00%	0.01%
IPG Photonics Corp	IPGP	52.94	109.76	5,810.58	0.02%			17.00%	0.00%
IQVIA Holdings Inc	IQV	190.91	231.21	44,140.76	0.15%			14.50%	0.02%
Ingersoll Rand Inc	IR	407.97	50.35	20,541.19		0.16%			
Iron Mountain Inc	IRM	289.83	55.41	16,059.48	0.05%	4.46%	0.00%	10.00%	0.01%
Intuitive Surgical Inc	ISRG	359.20	301.68	108,361.95	0.37%			13.00%	0.05%
Gartner Inc	IT	82.29	297.46	24,477.09				20.50%	
Illinois Tool Works Inc	ITW	311.90	209.40	65,311.86	0.22%	2.33%	0.01%	11.00%	0.02%
Invesco Ltd	IVZ	454.96	23.06	10,491.42	0.04%	2.95%	0.00%	15.50%	0.01%
Jacobs Engineering Group Inc	J	129.22	137.81	17,807.39	0.06%	0.67%	0.00%	15.00%	0.01%
JB Hunt Transport Services Inc	JBHT	104.85	200.79	21,052.83	0.07%	0.80%	0.00%	11.00%	0.01%
Johnson Controls International plc	JCI	702.63	65.57	46,071.25	0.16%	2.14%	0.00%	14.00%	0.02%
Jack Henry & Associates Inc	JKHY	72.83	197.05	14,350.17	0.05%	0.99%	0.00%	10.50%	0.01%
Johnson & Johnson	JNJ	2,629.62	177.23	466,046.67	1.59%	2.39%	0.04%	8.00%	0.13%
Juniper Networks Inc	JNPR	322.57	37.16	11,986.66	0.04%	2.26%	0.00%	9.00%	0.00%
JPMorgan Chase & Co	JPM	2,952.81	136.32	402,526.92	1.37%	2.93%	0.04%	7.50%	0.10%
Kellogg Co	K	340.16	64.49	21,936.66	0.07%	3.60%	0.00%	3.50%	0.00%
KeyCorp	KEY	920.13	22.38	20,592.49	0.07%	3.49%	0.00%	9.50%	0.01%
Keysight Technologies Inc	KEYS	181.98	157.97	28,746.59	0.10%			13.00%	0.01%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Value Line Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Kraft Heinz Co/The	KHC	1,224.89	39.39	48,248.57	0.16%	4.06%	0.01%	4.00%	0.01%
Kimco Realty Corp	KIM	617.92	24.70	15,262.50	0.05%	3.08%	0.00%	8.50%	0.00%
KLA Corp	KLAC	150.72	366.06	55,170.73		1.15%		21.00%	
Kimberly-Clark Corp	KMB	336.93	123.16	41,496.05	0.14%	3.77%	0.01%	5.50%	0.01%
Kinder Morgan Inc	KMI	2,267.49	18.91	42,878.14	0.15%	5.71%	0.01%	19.00%	0.03%
CarMax Inc	KMX	161.68	96.48	15,598.89	0.05%			13.50%	0.01%
Coca-Cola Co/The	KO	4,335.00	62.00	268,769.69	0.92%	2.84%	0.03%	7.00%	0.06%
Kroger Co/The	KR	723.31	57.37	41,496.18	0.14%	1.46%	0.00%	6.50%	0.01%
Loews Corp	L	246.39	64.82	15,971.26	0.05%	0.39%	0.00%	12.50%	0.01%
Leidos Holdings Inc	LDOS	136.34	108.02	14,727.66	0.05%	1.33%	0.00%	8.50%	0.00%
Lennar Corp	LEN	257.31	81.17	20,885.53	0.07%	1.85%	0.00%	8.50%	0.01%
Laboratory Corp of America Holdings	LH	93.40	263.66	24,625.84	0.08%			6.00%	0.01%
L3Harris Technologies Inc	LHX	193.06	248.47	47,969.62		1.80%			
Linde PLC	LIN	507.23	319.43	162,022.88		1.47%			
LKQ Corp	LKQ	284.99	45.41	12,941.40	0.04%	2.20%	0.00%	14.00%	0.01%
Eli Lilly & Co	LLY	952.35	286.37	272,723.61	0.93%	1.37%	0.01%	11.50%	0.11%
Lockheed Martin Corp	LMT	266.53	441.40	117,648.11	0.40%	2.54%	0.01%	6.50%	0.03%
Lincoln National Corp	LNC	172.46	65.36	11,271.66	0.04%	2.75%	0.00%	11.50%	0.00%
Alliant Energy Corp	LNT	250.48	62.48	15,649.93	0.05%	2.74%	0.00%	4.50%	0.00%
Lowe's Cos Inc	LOW	661.56	202.19	133,761.02	0.46%	1.58%	0.01%	15.50%	0.07%
Lam Research Corp	LRCX	139.50	537.61	74,996.60	0.26%	1.12%	0.00%	17.00%	0.04%
Lumen Technologies Inc	LUMN	1,023.37	11.27	11,533.40	0.04%	8.87%	0.00%	3.50%	0.00%
Southwest Airlines Co	LUV	592.34	45.80	27,129.26				29.50%	
Las Vegas Sands Corp	LVS	763.99	38.87	29,696.37	0.10%			17.00%	0.02%
Lamb Weston Holdings Inc	LW	145.20	59.91	8,699.17	0.03%	1.64%	0.00%	6.00%	0.00%
LyondellBasell Industries NV	LYB	328.01	102.82	33,725.99	0.11%	4.40%	0.01%	5.50%	0.01%
Live Nation Entertainment Inc	LYV	224.63	117.64	26,425.00					
Mastercard Inc	MA	969.73	357.38	346,561.75	1.18%	0.55%	0.01%	13.00%	0.15%
Mid-America Apartment Communities Inc	MAA	115.34	209.45	24,158.17	0.08%	2.08%	0.00%	8.50%	0.01%
Marriott International Inc/MD	MAR	327.25	175.75	57,514.89	0.20%			17.50%	0.03%
Masco Corp	MAS	236.52	51.00	12,062.72	0.04%	2.20%	0.00%	9.00%	0.00%
McDonald's Corp	MCD	743.59	247.28	183,873.70	0.63%	2.23%	0.01%	10.00%	0.06%
Microchip Technology Inc	MCHP	555.99	75.14	41,777.16	0.14%	1.35%	0.00%	10.00%	0.01%
McKesson Corp	MCK	149.80	306.13	45,857.66	0.16%	0.61%	0.00%	10.00%	0.02%
Moody's Corp	MCO	185.38	337.41	62,548.05	0.21%	0.83%	0.00%	9.00%	0.02%
Mondelez International Inc	MDLZ	1,388.33	62.78	87,159.23	0.30%	2.23%	0.01%	8.00%	0.02%
Medtronic PLC	MDT	1,341.54	110.95	148,843.75	0.51%	2.27%	0.01%	8.50%	0.04%
MetLife Inc	MET	825.08	70.28	57,986.48	0.20%	2.73%	0.01%	7.50%	0.01%
MGM Resorts International	MGM	435.33	41.94	18,257.87		0.02%		25.00%	
Mohawk Industries Inc	MHK	65.07	124.20	8,081.82	0.03%			10.50%	0.00%
McCormick & Co Inc/MD	MKC	250.23	99.80	24,972.55	0.09%	1.48%	0.00%	6.00%	0.01%
MarketAxess Holdings Inc	MKTX	37.84	340.20	12,871.47	0.04%	0.82%	0.00%	14.00%	0.01%
Martin Marietta Materials Inc	MLM	62.40	384.89	24,015.21	0.08%	0.63%	0.00%	8.50%	0.01%
Marsh & McLennan Cos Inc	MMC	502.77	170.42	85,681.38	0.29%	1.26%	0.00%	12.00%	0.04%
3M Co	MMM	569.17	148.88	84,738.33	0.29%	4.00%	0.01%	6.00%	0.02%
Monster Beverage Corp	MNST	529.36	79.90	42,295.78	0.14%			13.00%	0.02%
Altria Group Inc	MO	1,817.26	52.25	94,951.68	0.32%	6.89%	0.02%	5.50%	0.02%
Molina Healthcare Inc	MOH	58.67	333.59	19,573.06	0.07%			11.00%	0.01%
Mosaic Co/The	MOS	368.31	66.50	24,492.55		0.68%		56.50%	
Marathon Petroleum Corp	MPC	558.57	85.50	47,758.08		2.71%			
Monolithic Power Systems Inc	MPWR	46.51	485.68	22,588.49	0.08%	0.62%	0.00%	18.00%	0.01%
Merck & Co Inc	MRK	2,527.73	82.05	207,400.57	0.71%	3.36%	0.02%	8.00%	0.06%
Moderna Inc	MRNA	403.02	172.26	69,424.23					
Marathon Oil Corp	MRO	730.77	25.11	18,349.51		1.12%			
Morgan Stanley	MS	1,781.30	87.40	155,685.53	0.53%	3.20%	0.02%	10.50%	0.06%
MSCI Inc	MSCI	81.27	502.88	40,868.05	0.14%	0.83%	0.00%	15.50%	0.02%
Microsoft Corp	MSFT	7,496.87	308.31	2,311,358.76	7.87%	0.80%	0.06%	17.50%	1.38%
Motorola Solutions Inc	MSI	167.45	242.20	40,555.91	0.14%	1.30%	0.00%	8.00%	0.01%
M&T Bank Corp	MTB	129.06	169.50	21,874.99	0.07%	2.83%	0.00%	8.00%	0.01%
Match Group Inc	MTCH	285.15	108.74	31,006.99	0.11%			18.50%	0.02%
Mettler-Toledo International Inc	MTD	22.74	1,373.19	31,220.85	0.11%			13.50%	0.01%
Micron Technology Inc	MU	1,116.67	77.89	86,977.19		0.51%		24.00%	
Norwegian Cruise Line Holdings Ltd	NCLH	417.09	21.88	9,125.84					
Nasdaq Inc	NDAQ	164.41	178.20	29,298.22	0.10%	1.21%	0.00%	6.50%	0.01%
Nordson Corp	NDSN	57.94	227.08	13,157.24	0.04%	0.90%	0.00%	13.50%	0.01%
NextEra Energy Inc	NEE	1,962.75	84.71	166,264.13	0.57%	2.01%	0.01%	11.00%	0.06%
Newmont Corp	NEM	792.55	79.45	62,968.02	0.21%	2.77%	0.01%	9.50%	0.02%
Netflix Inc	NFLX	443.96	374.59	166,304.10				23.50%	
NiSource Inc	NI	405.39	31.80	12,891.24	0.04%	2.96%	0.00%	10.50%	0.00%
NIKE Inc	NKE	1,276.29	134.56	171,737.31		0.91%		27.00%	
NortonLifeLock Inc	NLOK	582.27	26.52	15,441.91	0.05%	1.89%	0.00%	11.00%	0.01%
Nielsen Holdings PLC	NLSN	359.49	27.24	9,792.37		0.88%			
Northrop Grumman Corp	NOC	156.10	447.22	69,811.94	0.24%	1.40%	0.00%	8.50%	0.02%
ServiceNow Inc	NOW	200.00	556.89	111,378.00				44.50%	
NRG Energy Inc	NRG	242.15	38.36	9,289.03		3.65%		-10.50%	
Norfolk Southern Corp	NSC	239.78	285.22	68,389.20	0.23%	1.74%	0.00%	10.00%	0.02%
NetApp Inc	NTAP	222.54	83.00	18,470.49	0.06%	2.41%	0.00%	8.00%	0.01%
Northern Trust Corp	NTRS	207.94	116.45	24,215.06	0.08%	2.40%	0.00%	8.00%	0.01%
Nucor Corp	NUE	268.41	148.65	39,898.40	0.14%	1.35%	0.00%	12.00%	0.02%
NVIDIA Corp	NVDA	2,510.00	272.86	684,878.60		0.06%		21.50%	
NVR Inc	NVR	3.36	4,467.27	15,010.03	0.05%			5.50%	0.00%
Newell Brands Inc	NWL	415.81	21.41	8,902.41		4.30%			
News Corp	NWS	198.48	22.52	4,469.84		0.89%			
News Corp	NWSA	390.87	22.15	8,657.86		0.90%			
NXP Semiconductors NV	NXPI	262.54	185.08	48,590.53	0.17%	1.83%	0.00%	12.00%	0.02%
Realty Income Corp	O	597.90	69.30	41,434.54	0.14%	4.28%	0.01%	3.50%	0.00%
Old Dominion Freight Line Inc	ODFL	114.86	298.68	34,307.58	0.12%	0.40%	0.00%	12.00%	0.01%
Organon & Co	OGN	253.64	34.93	8,859.54		3.21%			
ONEOK Inc	OKE	446.21	70.63	31,516.02	0.11%	5.30%	0.01%	12.00%	0.01%
Omnicom Group Inc	OMC	206.95	84.88	17,565.75	0.06%	3.30%	0.00%	6.00%	0.00%
Oracle Corp	ORCL	2,668.16	82.73	220,736.63	0.75%	1.55%	0.01%	10.00%	0.08%

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O'Reilly Automotive Inc	ORLY	66.30	684.96	45,410.11	0.15%			13.00%	0.02%
Otis Worldwide Corp	OTIS	424.96	76.95	32,700.83		1.25%			
Occidental Petroleum Corp	OXY	936.91	56.74	53,160.22		0.92%		30.50%	
Paramount Global	PARA	607.88	37.81	22,983.83	0.08%	2.54%	0.00%	7.00%	0.01%
Paycom Software Inc	PAYC	60.21	346.38	20,856.93	0.07%			20.00%	0.01%
Paychex Inc	PAYX	361.02	136.47	49,267.99	0.17%	1.93%	0.00%	9.00%	0.02%
People's United Financial Inc	PBCT	429.67	19.99	8,589.12	0.03%	3.65%	0.00%	2.50%	0.00%
PACCAR Inc	PCAR	347.68	88.07	30,619.74	0.10%	1.54%	0.00%	5.00%	0.01%
Healthpeak Properties Inc	PEAK	539.50	34.33	18,521.04		3.50%		-7.50%	
Public Service Enterprise Group Inc	PEG	502.08	70.00	35,145.46	0.12%	3.09%	0.00%	4.00%	0.00%
Penn National Gaming Inc	PENN	168.32	42.42	7,140.26				28.00%	
PepsiCo Inc	PEP	1,383.25	167.38	231,528.22	0.79%	2.57%	0.02%	6.50%	0.05%
Pfizer Inc	PFE	5,647.77	51.77	292,385.26	1.00%	3.09%	0.03%	6.50%	0.06%
Principal Financial Group Inc	PFG	261.23	73.41	19,176.75	0.07%	3.49%	0.00%	6.00%	0.00%
Procter & Gamble Co/The	PG	2,397.07	152.80	366,271.68	1.25%	2.28%	0.03%	6.50%	0.08%
Progressive Corp/The	PGR	584.88	113.99	66,670.36	0.23%	0.35%	0.00%	4.50%	0.01%
Parker-Hannifin Corp	PH	128.48	283.76	36,456.92	0.12%	1.45%	0.00%	13.50%	0.02%
PulteGroup Inc	PHM	241.43	41.90	10,115.71	0.03%	1.43%	0.00%	9.50%	0.00%
Packaging Corp of America	PKG	93.70	156.11	14,628.13	0.05%	2.56%	0.00%	9.00%	0.00%
PerkinElmer Inc	PKI	126.16	174.46	22,009.35	0.07%	0.16%	0.00%	10.00%	0.01%
Prologis Inc	PLD	739.75	161.48	119,454.02	0.41%	1.96%	0.01%	6.00%	0.02%
Philip Morris International Inc	PM	1,550.08	93.94	145,614.70	0.50%	5.32%	0.03%	7.00%	0.03%
PNC Financial Services Group Inc/The	PNC	418.56	184.45	77,203.39	0.26%	2.71%	0.01%	11.50%	0.03%
Pentair PLC	PNR	165.10	54.21	8,950.02	0.03%	1.55%	0.00%	14.00%	0.00%
Pinnacle West Capital Corp	PNW	112.93	78.10	8,819.99		4.35%		0.00%	
Pool Corp	POOL	40.13	422.85	16,967.28	0.06%	0.76%	0.00%	17.00%	0.01%
PPG Industries Inc	PPG	236.15	131.07	30,951.92	0.11%	1.80%	0.00%	10.00%	0.01%
PPL Corp	PPL	735.36	28.56	21,001.94		2.80%			
Prudential Financial Inc	PRU	376.43	118.17	44,482.26	0.15%	4.06%	0.01%	5.50%	0.01%
Public Storage	PSA	175.36	390.28	68,438.33	0.23%	2.05%	0.00%	8.00%	0.02%
Phillips 66	PSX	438.46	86.39	37,878.73	0.13%	4.26%	0.01%	17.00%	0.02%
PTC Inc	PTC	116.95	107.72	12,598.07					
PVH Corp	PVH	68.01	76.61	5,210.02	0.02%	0.20%	0.00%	14.00%	0.00%
Quanta Services Inc	PWR	142.69	131.61	18,779.43	0.06%	0.21%	0.00%	16.50%	0.01%
Pioneer Natural Resources Co	PXD	242.88	250.03	60,728.29		6.05%		23.00%	
PayPal Holdings Inc	PYPL	1,165.01	115.65	134,732.83	0.46%			16.00%	0.07%
QUALCOMM Inc	QCOM	1,127.00	152.82	172,228.14	0.59%	1.78%	0.01%	19.00%	0.11%
Qorvo Inc	QRVO	108.43	124.10	13,456.41	0.05%			14.50%	0.01%
Royal Caribbean Cruises Ltd	RCL	255.00	83.78	21,364.15					
Everest Re Group Ltd	RE	39.27	301.38	11,835.80	0.04%	2.06%	0.00%	11.00%	0.00%
Regency Centers Corp	REG	171.37	71.34	12,225.75	0.04%	3.50%	0.00%	12.50%	0.01%
Regeneron Pharmaceuticals Inc	REGN	106.72	698.42	74,532.59	0.25%			12.50%	0.03%
Regions Financial Corp	RF	937.15	22.26	20,860.87	0.07%	3.05%	0.00%	10.50%	0.01%
Robert Half International Inc	RHI	110.69	114.18	12,638.13	0.04%	1.51%	0.00%	7.50%	0.00%
Raymond James Financial Inc	RJF	207.60	109.91	22,817.54	0.08%	1.24%	0.00%	10.50%	0.01%
Ralph Lauren Corp	RL	46.29	113.44	5,250.68	0.02%	2.42%	0.00%	12.50%	0.00%
ResMed Inc	RMD	146.23	242.51	35,463.21	0.12%	0.69%	0.00%	8.50%	0.01%
Rockwell Automation Inc	ROK	116.20	280.03	32,538.37	0.11%	1.60%	0.00%	10.00%	0.01%
Rollins Inc	ROL	492.46	35.05	17,260.72	0.06%	1.14%	0.00%	10.50%	0.01%
Roper Technologies Inc	ROP	105.60	472.23	49,868.90	0.17%	0.53%	0.00%	8.50%	0.01%
Ross Stores Inc	ROST	350.89	90.46	31,741.69	0.11%	1.37%	0.00%	14.00%	0.02%
Republic Services Inc	RSG	315.79	132.50	41,841.65	0.14%	1.39%	0.00%	10.50%	0.01%
Raytheon Technologies Corp	RTX	1,490.27	99.07	147,640.85	0.50%	2.06%	0.01%	7.50%	0.04%
SBA Communications Corp	SBAC	108.02	344.10	37,168.65		0.83%		42.50%	
Signature Bank/New York NY	SBNY	62.57	293.49	18,363.38	0.06%	0.76%	0.00%	12.00%	0.01%
Starbucks Corp	SBUX	1,150.30	90.97	104,642.79	0.36%	2.15%	0.01%	16.50%	0.06%
Charles Schwab Corp/The	SCHW	1,814.62	84.31	152,990.70	0.52%	0.95%	0.00%	7.00%	0.04%
SolarEdge Technologies Inc	SEDG	55.12	322.37	17,767.42	0.06%			19.50%	0.01%
Sealed Air Corp	SEE	148.16	66.96	9,920.66	0.03%	1.19%	0.00%	13.50%	0.00%
Sherwin-Williams Co/The	SHW	260.55	249.62	65,037.99	0.22%	0.96%	0.00%	11.50%	0.03%
SVB Financial Group	SIVB	58.81	559.45	32,901.25	0.11%			5.00%	0.01%
J M Smucker Co/The	SJM	108.46	135.41	14,686.30	0.05%	2.92%	0.00%	4.00%	0.00%
Schlumberger NV	SLB	1,413.02	41.31	58,371.81	0.20%	1.21%	0.00%	11.50%	0.02%
Snap-on Inc	SNA	53.42	205.48	10,976.13	0.04%	2.76%	0.00%	4.50%	0.00%
Synopsys Inc	SNPS	153.10	333.27	51,023.30	0.17%			14.00%	0.02%
Southern Co/The	SO	1,059.80	72.51	76,846.39	0.26%	3.64%	0.01%	5.50%	0.01%
Simon Property Group Inc	SPG	328.34	131.56	43,196.67	0.15%	5.02%	0.01%	2.50%	0.00%
S&P Global Inc	SPGI	347.03	410.18	142,343.53	0.48%	0.83%	0.00%	10.50%	0.05%
Sempra Energy	SRE	315.77	168.12	53,087.59	0.18%	2.72%	0.00%	10.00%	0.02%
STERIS PLC	STE	100.13	241.77	24,207.70	0.08%	0.71%	0.00%	11.50%	0.01%
State Street Corp	STT	366.07	87.12	31,891.76	0.11%	2.62%	0.00%	8.00%	0.01%
Seagate Technology Holdings PLC	STX	218.90	89.90	19,678.93	0.07%	3.11%	0.00%	16.00%	0.01%
Constellation Brands Inc	STZ	164.34	230.32	37,850.56	0.13%	1.32%	0.00%	5.50%	0.01%
Stanley Black & Decker Inc	SWK	163.41	139.79	22,843.22	0.08%	2.26%	0.00%	6.00%	0.00%
Skyworks Solutions Inc	SWKS	161.67	133.28	21,547.51	0.07%	1.68%	0.00%	15.50%	0.01%
Synchrony Financial	SYF	521.27	34.81	18,145.48	0.06%	2.53%	0.00%	9.50%	0.01%
Stryker Corp	SYK	377.70	267.35	100,978.10	0.34%	1.04%	0.00%	8.50%	0.03%
Sysco Corp	SYY	507.45	81.65	41,433.05	0.14%	2.30%	0.00%	17.50%	0.02%
AT&T Inc	T	7,142.89	23.63	168,786.56	0.57%	4.70%	0.03%	3.00%	0.02%
Molson Coors Beverage Co	TAP	200.60	53.38	10,707.97		2.85%		41.00%	
TransDigm Group Inc	TDG	55.46	651.54	36,135.71	0.12%			16.50%	0.02%
Teledyne Technologies Inc	TDY	46.77	472.63	22,103.01	0.08%			14.50%	0.01%
Bio-Techne Corp	TECH	39.29	433.04	17,013.28	0.06%	0.30%	0.00%	17.50%	0.01%
TE Connectivity Ltd	TEL	325.58	130.98	42,643.81	0.15%	1.71%	0.00%	10.50%	0.02%
Teradyne Inc	TER	162.42	118.23	19,202.56	0.07%	0.37%	0.00%	8.50%	0.01%
Truist Financial Corp	TFC	1,328.99	56.70	75,353.90	0.26%	3.39%	0.01%	7.00%	0.02%
Teleflex Inc	TFX	46.90	354.83	16,642.24	0.06%	0.38%	0.00%	15.00%	0.01%
Target Corp	TGT	462.42	212.22	98,134.35	0.33%	1.70%	0.01%	15.00%	0.05%
TJX Cos Inc/The	TJX	1,175.23	60.58	71,195.31	0.24%	1.95%	0.00%	20.00%	0.05%
Thermo Fisher Scientific Inc	TMO	391.19	590.65	231,057.55	0.79%	0.20%	0.00%	15.50%	0.12%
T-Mobile US Inc	TMUS	1,249.29	128.35	160,346.37	0.55%			7.50%	0.04%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Value Line Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Tapestry Inc	TPR	263.99	37.15	9,807.23	0.03%	2.69%	0.00%	10.00%	0.00%
Trimble Inc	TRMB	251.22	72.14	18,122.72	0.06%			10.00%	0.01%
T Rowe Price Group Inc	TROW	227.81	151.19	34,442.59	0.12%	3.17%	0.00%	12.00%	0.01%
Travelers Cos Inc/The	TRV	241.50	182.73	44,129.48	0.15%	1.93%	0.00%	8.00%	0.01%
Tractor Supply Co	TSCO	112.15	233.37	26,171.51	0.09%	1.58%	0.00%	14.50%	0.01%
Tesla Inc	TSLA	1,033.51	1,077.60	1,113,708.22				51.50%	
Tyson Foods Inc	TSN	292.46	89.63	26,212.74	0.09%	2.05%	0.00%	6.00%	0.01%
Trane Technologies PLC	TT	233.54	152.70	35,661.25		1.76%			
Take-Two Interactive Software Inc	TTWO	115.42	153.74	17,744.06	0.06%			15.00%	0.01%
Twitter Inc	TWTR	800.64	38.69	30,976.80				39.00%	
Texas Instruments Inc	TXN	923.55	183.48	169,452.40	0.58%	2.51%	0.01%	8.50%	0.05%
Textron Inc	TXT	216.33	74.38	16,090.55	0.05%	0.11%	0.00%	8.50%	0.00%
Tyler Technologies Inc	TYL	41.43	444.89	18,432.24	0.06%			14.00%	0.01%
Under Armour Inc	UA	253.22	15.56	3,940.07					
Under Armour Inc	UAA	188.67	17.02	3,211.15				33.00%	
United Airlines Holdings Inc	UAL	323.61	46.36	15,002.61					
UDR Inc	UDR	325.40	57.37	18,668.31	0.06%	2.65%	0.00%	10.50%	0.01%
Universal Health Services Inc	UHS	67.55	144.95	9,791.66	0.03%	0.55%	0.00%	11.00%	0.00%
Ulta Beauty Inc	ULTA	52.33	398.22	20,837.66	0.07%			15.50%	0.01%
UnitedHealth Group Inc	UNH	940.90	509.97	479,830.26	1.63%	1.14%	0.02%	12.00%	0.20%
Union Pacific Corp	UNP	628.39	273.21	171,681.61	0.58%	1.73%	0.01%	9.00%	0.05%
United Parcel Service Inc	UPS	733.44	214.46	157,293.33	0.54%	2.84%	0.02%	11.50%	0.06%
United Rentals Inc	URI	72.19	355.21	25,643.32	0.09%			12.50%	0.01%
US Bancorp	USB	1,485.04	53.15	78,929.82	0.27%	3.46%	0.01%	6.50%	0.02%
Visa Inc	V	1,658.42	221.77	367,788.69	1.25%	0.68%	0.01%	12.00%	0.15%
VF Corp	VFC	388.90	56.86	22,112.97	0.08%	3.52%	0.00%	9.50%	0.01%
Valero Energy Corp	VLO	409.42	101.54	41,572.20	0.14%	3.86%	0.01%	11.00%	0.02%
Vulcan Materials Co	VMC	132.89	183.70	24,412.63	0.08%	0.87%	0.00%	8.50%	0.01%
Vornado Realty Trust	VNO	191.72	45.32	8,688.93		4.68%		-19.00%	
Verisk Analytics Inc	VRSK	161.28	214.63	34,616.17	0.12%	0.58%	0.00%	10.50%	0.01%
VeriSign Inc	VRSN	110.17	222.46	24,507.75	0.08%			8.50%	0.01%
Vertex Pharmaceuticals Inc	VRTX	254.58	260.97	66,436.96	0.23%			18.50%	0.04%
Ventas Inc	VTR	399.55	61.76	24,676.15	0.08%	2.91%	0.00%	10.50%	0.01%
Viatris Inc	VTRS	1,209.58	10.88	13,160.19		4.41%			
Verizon Communications Inc	VZ	4,197.82	50.94	213,837.15	0.73%	5.03%	0.04%	2.50%	0.02%
Westinghouse Air Brake Technologies Corp	WAB	185.29	96.17	17,819.34	0.06%	0.62%	0.00%	9.00%	0.01%
Waters Corp	WAT	60.52	310.39	18,783.56	0.06%			6.00%	0.00%
Walgreens Boots Alliance Inc	WBA	863.77	44.77	38,671.12	0.13%	4.27%	0.01%	7.50%	0.01%
Western Digital Corp	WDC	312.92	49.65	15,536.38				20.50%	
WEC Energy Group Inc	WEC	315.44	99.81	31,483.57	0.11%	2.92%	0.00%	6.00%	0.01%
Welltower Inc	WELL	447.28	96.14	43,001.50	0.15%	2.54%	0.00%	3.50%	0.01%
Wells Fargo & Co	WFC	3,801.59	48.46	184,225.00	0.63%	2.06%	0.01%	5.50%	0.03%
Whirlpool Corp	WHR	58.46	172.78	10,101.06	0.03%	4.05%	0.00%	9.50%	0.00%
Waste Management Inc	WM	415.16	158.50	65,802.86	0.22%	1.64%	0.00%	7.50%	0.02%
Williams Cos Inc/The	WMB	1,217.31	33.41	40,670.43	0.14%	5.09%	0.01%	10.00%	0.01%
Walmart Inc	WMT	2,751.78	148.92	409,795.08	1.40%	1.50%	0.02%	7.50%	0.10%
W R Berkley Corp	WRB	265.19	66.59	17,658.74	0.06%	0.52%	0.00%	17.50%	0.01%
Westrock Co	WRK	263.21	47.03	12,378.95	0.04%	2.13%	0.00%	17.00%	0.01%
West Pharmaceutical Services Inc	WST	74.28	410.71	30,508.36	0.10%	0.18%	0.00%	17.00%	0.02%
Willis Towers Watson PLC	WTW	117.75	236.22	27,813.96	0.09%	1.39%	0.00%	11.00%	0.01%
Weyerhaeuser Co	WY	747.08	37.90	28,314.14		1.90%		22.00%	
Wynn Resorts Ltd	WYNN	115.92	79.74	9,243.30				27.00%	
Xcel Energy Inc	XEL	544.21	72.17	39,275.92	0.13%	2.70%	0.00%	6.00%	0.01%
Exxon Mobil Corp	XOM	4,233.59	82.59	349,652.36		4.26%			
DENTSPLY SIRONA Inc	XRAY	217.55	49.22	10,708.01	0.04%	1.02%	0.00%	12.00%	0.00%
Xylem Inc/NY	XYL	180.09	85.26	15,354.73	0.05%	1.41%	0.00%	6.50%	0.00%
Yum! Brands Inc	YUM	288.98	118.53	34,252.92	0.12%	1.92%	0.00%	10.50%	0.01%
Zimmer Biomet Holdings Inc	ZBH	209.32	127.90	26,772.28	0.09%	0.75%	0.00%	7.00%	0.01%
Zebra Technologies Corp	ZBRA	53.08	413.70	21,959.20	0.07%			10.50%	0.01%
Zions Bancorp NA	ZION	151.90	65.56	9,958.24	0.03%	2.32%	0.00%	7.50%	0.00%
Zoetis Inc	ZTS	471.80	188.59	88,976.76	0.30%	0.69%	0.00%	11.00%	0.03%

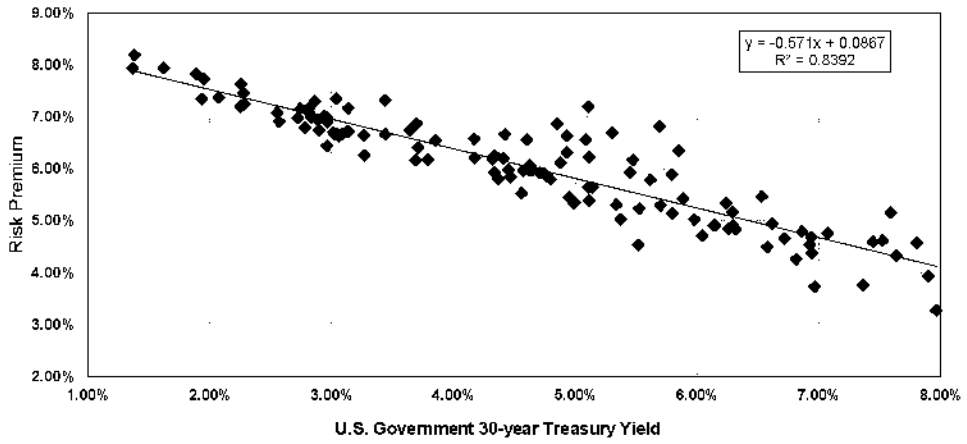
Notes:
[1] Equals sum of Col. [9]
[2] Equals sum of Col. [11]
[3] Equals ((1] x (1 + (0.5 x [2]))) + [2]
[4] Source: Bloomberg Professional as of March 31, 2022
[5] Source: Bloomberg Professional as of March 31, 2022
[6] Equals [4] x [5]
[7] Equals weight in S&P 500 based on market capitalization [6] if Growth Rate >0% and ≤20%
[8] Source: Bloomberg Professional, as of March 31, 2022
[9] Equals [7] x [8]
[10] Source: Value Line. as of March 31, 2022
[11] Equals [7] x [10]

BOND YIELD PLUS RISK PREMIUM

Quarter	[1] Average Authorized VI Electric ROE	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1992.1	12.38%	7.81%	4.58%
1992.2	11.83%	7.90%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.76%
1993.2	11.64%	6.86%	4.78%
1993.3	11.15%	6.32%	4.84%
1993.4	11.04%	6.14%	4.91%
1994.1	11.07%	6.58%	4.49%
1994.2	11.13%	7.36%	3.77%
1994.3	12.75%	7.59%	5.16%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.33%
1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.72%	4.65%
1995.4	11.58%	6.24%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.97%	3.73%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.82%	4.26%
1997.2	11.62%	6.94%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.15%	4.91%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.48%	6.17%
1998.4	12.30%	5.11%	7.19%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.80%	5.14%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.26%	4.84%
2000.1	11.21%	6.30%	4.92%
2000.2	11.00%	5.98%	5.02%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.45%	5.93%
2001.2	11.00%	5.70%	5.30%
2001.3	10.76%	5.53%	5.23%
2001.4	11.99%	5.30%	6.69%
2002.1	10.05%	5.52%	4.53%
2002.2	11.41%	5.62%	5.79%
2002.3	11.65%	5.09%	6.56%
2002.4	11.57%	4.93%	6.63%
2003.1	11.72%	4.85%	6.87%
2003.2	11.16%	4.60%	6.56%
2003.3	10.50%	5.11%	5.39%
2003.4	11.34%	5.11%	6.23%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.34%	5.30%
2004.3	10.75%	5.11%	5.64%
2004.4	11.24%	4.93%	6.31%
2005.1	10.63%	4.71%	5.92%
2005.2	10.31%	4.47%	5.84%
2005.3	11.08%	4.42%	6.66%
2005.4	10.63%	4.65%	5.98%
2006.1	10.70%	4.63%	6.07%
2006.2	10.79%	5.14%	5.64%
2006.3	10.35%	5.00%	5.35%
2006.4	10.65%	4.74%	5.91%
2007.1	10.59%	4.80%	5.79%
2007.2	10.33%	4.99%	5.34%
2007.3	10.40%	4.95%	5.45%
2007.4	10.65%	4.61%	6.04%
2008.1	10.62%	4.41%	6.21%
2008.2	10.54%	4.57%	5.96%
2008.3	10.43%	4.45%	5.98%
2008.4	10.39%	3.64%	6.74%

BOND YIELD PLUS RISK PREMIUM

Quarter	[1] Average Authorized VI Electric ROE	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
2009.1	10.75%	3.44%	7.31%
2009.2	10.75%	4.17%	6.58%
2009.3	10.50%	4.32%	6.18%
2009.4	10.59%	4.34%	6.25%
2010.1	10.59%	4.62%	5.97%
2010.2	10.18%	4.37%	5.81%
2010.3	10.40%	3.86%	6.55%
2010.4	10.38%	4.17%	6.20%
2011.1	10.09%	4.56%	5.53%
2011.2	10.26%	4.34%	5.92%
2011.3	10.57%	3.70%	6.88%
2011.4	10.39%	3.04%	7.35%
2012.1	10.30%	3.14%	7.17%
2012.2	9.95%	2.94%	7.01%
2012.3	9.90%	2.74%	7.16%
2012.4	10.16%	2.86%	7.30%
2013.1	9.85%	3.13%	6.72%
2013.2	9.86%	3.14%	6.72%
2013.3	10.12%	3.71%	6.41%
2013.4	9.97%	3.79%	6.18%
2014.1	9.86%	3.69%	6.16%
2014.2	10.10%	3.44%	6.66%
2014.3	9.90%	3.27%	6.63%
2014.4	9.94%	2.96%	6.98%
2015.1	9.64%	2.55%	7.08%
2015.2	9.83%	2.88%	6.94%
2015.3	9.40%	2.96%	6.44%
2015.4	9.86%	2.96%	6.90%
2016.1	9.70%	2.72%	6.98%
2016.2	9.48%	2.57%	6.91%
2016.3	9.74%	2.28%	7.46%
2016.4	9.83%	2.83%	7.00%
2017.1	9.72%	3.05%	6.67%
2017.2	9.64%	2.90%	6.75%
2017.3	10.00%	2.82%	7.18%
2017.4	9.91%	2.82%	7.09%
2018.1	9.69%	3.02%	6.66%
2018.2	9.75%	3.09%	6.66%
2018.3	9.69%	3.06%	6.63%
2018.4	9.52%	3.27%	6.25%
2019.1	9.72%	3.01%	6.70%
2019.2	9.58%	2.78%	6.79%
2019.3	9.53%	2.29%	7.25%
2019.4	9.89%	2.26%	7.63%
2020.1	9.72%	1.89%	7.83%
2020.2	9.58%	1.38%	8.19%
2020.3	9.30%	1.37%	7.93%
2020.4	9.56%	1.62%	7.94%
2021.1	9.45%	2.07%	7.38%
2021.2	9.47%	2.26%	7.21%
2021.3	9.27%	1.93%	7.34%
2021.4	9.67%	1.95%	7.73%
2022.1	9.45%	2.25%	7.20%
AVERAGE	10.63%	4.58%	6.05%
MEDIAN	10.59%	4.62%	6.18%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.916070
R Square	0.839184
Adjusted R Square	0.837833
Standard Error	0.004186
Observations	121

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.010882	0.010882	620.976321	0.000000
Residual	119	0.002085	0.000018		
Total	120	0.012967			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0867	0.00112	77.57	0.000000	0.084453	0.088878	0.084453	0.088878
U.S. Govt. 30-year Treasury	(0.5710)	0.02291	(24.92)	0.000000	(0.616399)	(0.525651)	(0.616399)	(0.525651)

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	2.37%	7.31%	9.68%
Blue Chip Near-Term Projected Forecast (Q3 2022 - Q3 2023) [5]	3.12%	6.88%	10.00%
Blue Chip Long-Term Projected Forecast (2023-2027) [6]	3.40%	6.73%	10.13%
AVERAGE			9.94%

Notes:
[1] Source: Regulatory Research Associates, rate cases through March 31, 2022
[2] Source: S&P Capital IQ Pro, quarterly bond yields are the average of each trading day in the quarter
[3] Equals Column [1] – Column [2]
[4] Source: S&P Capital IQ Pro, 30-day average as of March 31, 2022
[5] Source: Blue Chip Financial Forecasts, Vol. 41, No. 4, April 1, 2022, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 40, No. 12, December 1, 2021, at 14
[7] See notes [4], [5] & [6]
[8] Equals 0.086666 + (-0.571025 x Column [7])
[9] Equals Column [7] + Column [8]

COMPARISON OF MDU-ND AND PROXY GROUP COMPANIES
RISK ASSESSMENT

				[1]	[2]	[3]	[4]	[5]	[6]	[7]
						Non-Volumetric Rate Design				
Proxy Group Company	Operating Subsidiary	Jurisdiction	Service	Test Year	Rate Base	Revenue Decoupling	Formula-based rates	Straight Fixed-Variable Rate Design	Non-Volumetric Rate Design	Capital Cost Recovery
ALLETE, Inc.	ALLETE (Minnesota Power)	Minnesota	Electric	Fully Forecast	Average	No	No	No	No	No
Alliant Energy Corporation	Interstate Power & Light Co.	Iowa	Electric	Historical	Average	No	No	No	No	No
	Interstate Power & Light Co.	Iowa	Gas	Historical	Average	No	No	No	No	No
	Wisconsin Power & Light Co.	Wisconsin	Electric	Fully Forecast	Average	No	No	No	No	No
	Wisconsin Power & Light Co.	Wisconsin	Gas	Fully Forecast	Average	No	No	No	No	No
Ameren Corporation	Ameren Illinois Co.	Illinois	Electric	Historical	Year End	No	Yes	No	Yes	No
	Ameren Illinois Co.	Illinois	Gas	Fully Forecast	Average	Partial	No	No	Yes	Yes
	Union Electric Co.	Missouri	Electric	Historical	Year End	Partial	No	No	Yes	Yes
	Union Electric Co.	Missouri	Gas	Historical	Year End	Partial	No	No	Yes	Yes
American Electric Power Company, Inc.	Southwestern Electric Power Co.	Arkansas	Electric	Historical	Year End	Partial	Yes	No	Yes	Yes
	Indiana Michigan Power Co.	Indiana	Electric	Fully Forecast	Year End	Partial	No	No	Yes	Yes
	Kentucky Power Co.	Kentucky	Electric	Fully Forecast	Year End	Partial	No	No	Yes	No
	Southwestern Electric Power Co.	Louisiana	Electric	Historical	Year End	Partial	Yes	No	Yes	No
	Indiana Michigan Power Co.	Michigan	Electric	Fully Forecast	Average	No	No	No	No	No
	Ohio Power Co.	Ohio	Electric	Partially Forecast	Year End	Partial	No	No	Yes	Yes
	Public Service Co. of Oklahoma	Oklahoma	Electric	Historical	Year End	Partial	No	No	Yes	Yes
	Kingsport Power Co.	Tennessee	Electric	Fully Forecast	Average	No	No	No	No	No
	AEP Texas	Texas	Electric	Historical	Year End	No	No	No	No	Yes
	Southwestern Electric Power Co.	Texas	Electric	Historical	Year End	No	No	No	No	Yes
	Appalachian Power Co.	Virginia	Electric	Historical	Year End	No	No	No	No	Yes
	Appalachian Power Co./Wheeling Power Co.	West Virginia	Electric	Historical	Average	No	No	No	No	No
Duke Energy Corporation	Duke Energy Florida LLC	Florida	Electric	Fully Forecast	Year End	No	No	No	No	Yes
	Duke Energy Indiana LLC	Indiana	Electric	Historical	Year End	Partial	No	No	Yes	Yes
	Duke Energy Kentucky Inc.	Kentucky	Electric	Fully Forecast	Average	Partial	No	No	Yes	No
	Duke Energy Kentucky Inc.	Kentucky	Gas	Fully Forecast	Average	Partial	No	No	Yes	No
	Duke Energy Carolinas LLC/Duke Energy Progress LLC	North Carolina	Electric	Historical	Year End	No	No	No	No	No
	Piedmont Natural Gas Co. Inc.	North Carolina	Gas	Historical	Year End	Full	No	No	Yes	Yes
	Duke Energy Ohio Inc.	Ohio	Electric	Partially Forecast	Year End	Partial	No	No	Yes	Yes
	Duke Energy Ohio Inc.	Ohio	Gas	Partially Forecast	Year End	No	No	Yes	Yes	Yes
	Duke Energy Carolinas LLC/Duke Energy Progress LLC	South Carolina	Electric	Historical	Year End	No	No	No	No	No
	Piedmont Natural Gas Co. Inc.	South Carolina	Gas	Historical	Year End	Partial	No	No	Yes	No
	Piedmont Natural Gas Co. Inc.	Tennessee	Gas	Fully Forecast	Average	Partial	No	No	Yes	Yes
Entergy Corporation	Entergy Arkansas LLC	Arkansas	Electric	Fully Forecast	Average	Partial	Yes	No	Yes	Yes
	Entergy New Orleans LLC	Louisiana-NOCC	Electric	Partially Forecast	Year End	Partial	Yes	No	Yes	Yes
	Entergy New Orleans LLC	Louisiana-NOCC	Gas	Partially Forecast	Year End	No	Yes	No	Yes	No
	Entergy Louisiana LLC	Louisiana	Electric	Historical	Average	Partial	Yes	No	Yes	Yes
	Entergy Louisiana LLC	Louisiana	Gas	Historical	Average	Partial	Yes	No	Yes	Yes
	Entergy Mississippi LLC	Mississippi	Electric	Fully Forecast	Average	Partial	Yes	No	Yes	No
	Entergy Texas Inc.	Texas	Electric	Historical	Year End	No	No	No	No	Yes
Evergy, Inc.	Evergy Kansas Central Inc	Kansas	Electric	Historical	Year End	Partial	No	No	Yes	No
	Evergy Metro Inc.	Kansas	Electric	Historical	Year End	No	No	No	No	Yes
	Evergy Metro Inc	Missouri	Electric	Historical	Year End	Partial	No	No	Yes	Yes
	Evergy Missouri West Inc.	Missouri	Electric	Historical	Year End	Partial	No	No	Yes	Yes
IDACORP, Inc.	Idaho Power Co.	Idaho	Electric	Partially Forecast	Year End	Full	No	No	Yes	No
	Idaho Power Co.	Oregon	Electric	Partially Forecast	Average	No	No	No	No	No
NextEra Energy, Inc.	Florida Power & Light Co.	Florida	Electric	Fully Forecast	Average	No	No	No	No	Yes
	Gulf Power Co.	Florida	Electric	Fully Forecast	Average	No	No	No	No	Yes
	Pivotal Utility Holdings Inc.	Florida	Gas	Fully Forecast	Average	No	No	No	No	Yes
	Lone Star Transmission LLC	Texas	Electric	Historical	Year End	No	No	No	No	Yes
NorthWestern Corporation	NorthWestern Corporation	Montana	Electric	Historical	Average	Partial	No	No	Yes	No
	NorthWestern Corporation	Montana	Gas	Historical	Average	No	No	No	No	No
	NorthWestern Corporation	Nebraska	Gas	Historical	Year End	No	No	No	No	No
	NorthWestern Corporation	South Dakota	Electric	Historical	Average	No	No	No	No	No
	NorthWestern Corporation	South Dakota	Gas	Historical	Average	No	No	No	No	No
OGE Energy Corporation	Oklahoma Gas and Electric Co.	Arkansas	Electric	Historical	Average	Partial	Yes	No	Yes	Yes
	Oklahoma Gas & Electric Co.	Oklahoma	Electric	Historical	Year End	Partial	No	No	Yes	Yes
Otter Tail Corporation	Otter Tail Power Co.	Minnesota	Electric	Fully Forecast	Average	No	No	No	No	No
	Otter Tail Power Co.	North Dakota	Electric	Fully Forecast	Average	No	No	No	No	Yes
	Otter Tail Power Co.	South Dakota	Electric	Historical	Average	No	No	No	No	Yes
Portland General Electric Company	Portland General Electric Co.	Oregon	Electric	Fully Forecast	Year End	Partial	No	No	Yes	Yes
Southern Company	Alabama Power Co.	Alabama	Electric	Fully Forecast	Average	No	Yes	No	Yes	Yes
	Georgia Power Co.	Georgia	Electric	Fully Forecast	Average	No	Yes	No	Yes	Yes
	Atlanta Gas & Light Co.	Georgia	Gas	Fully Forecast	Average	No	Yes	Yes	Yes	Yes
	Northern Illinois Gas Co.	Illinois	Gas	Fully Forecast	Average	Partial	No	No	Yes	Yes
	Mississippi Power Co.	Mississippi	Electric	Fully Forecast	Year End	Partial	Yes	No	Yes	No
	Chattanooga Gas Co.	Tennessee	Gas	Fully Forecast	Average	Partial	Yes	No	Yes	No
	Virginia Natural Gas Inc.	Virginia	Gas	Historical	Average	Partial	No	No	Yes	Yes
Xcel Energy Inc.	Public Service Co. of Colorado	Colorado	Electric	Historical	Average	Partial	No	No	Yes	Yes
	Public Service Co. of Colorado	Colorado	Gas	Historical	Year End	Partial	No	No	Yes	Yes
	Northern States Power Co.-Minnesota	Minnesota	Electric	Fully Forecast	Average	Partial	Yes	No	Yes	No
	Northern States Power Co.-Minnesota	Minnesota	Gas	Fully Forecast	Average	No	No	No	No	Yes
	Southwestern Public Service Co.	New Mexico	Electric	Historical	Year End	No	No	No	No	No
	Northern States Power Co.-Minnesota	North Dakota	Electric	Fully Forecast	Average	No	No	No	No	Yes
	Northern States Power Co.-Minnesota	North Dakota	Gas	Fully Forecast	Average	No	No	Yes	Yes	No
	Northern States Power Co.-Minnesota	South Dakota	Electric	Historical	Average	Partial	No	No	Yes	Yes

COMPARISON OF MDU-ND AND PROXY GROUP COMPANIES
RISK ASSESSMENT

				[1]		[2]		[3]		[4]		[5]		[6]		[7]	
								Non-Volumetric Rate Design									
Proxy Group Company	**Operating Subsidiary**	**Jurisdiction**	**Service**	**Test Year**		**Rate Base**		**Revenue Decoupling**		**Formula-based rates**		**Straight Fixed-Variable Rate Design**		**Non-Volumetric Rate Design**		**Capital Cost Recovery**	
	Southwestern Public Service Co.	Texas	Electric	Historical		Year End		No		No		No		No		Yes	
	Northern States Power Co.-Wisconsin	Wisconsin	Electric	Fully Forecast		Average		No		No		No		No		No	
	Northern States Power Co.-Wisconsin	Wisconsin	Gas	Fully Forecast		Average		No		No		No		No		No	
								Revenue Decoupling		Formula-based rates		SFV Rates Design		Non-Volumetric Rate Design		CCRM	
Proxy Group Average				Fully Forecast	32	Year End	36	Full	2	Yes	16	Yes	3	Yes	44	Yes	44
				Partially Forecast	7	Average	42	Partial	35	No	62	No	75	No	34	No	34
				Historical	39			No	41								
				Forecast	50.00%	Year End	46.15%	RDM	47.44%	Yes	20.51%	Yes	3.85%	Yes	56.41%	CCRM	56.41%
MDU-ND [8]				Fully Forecast		Average		No		No		No		No		Yes	

Notes:
[1] Sources: Regulatory Research Associates, effective as of March 31, 2022
[2] Sources: Regulatory Research Associates, effective as of March 31, 2022
[3] Sources: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit. NWE Electric Montana - Company 2020 Form 10-K. PSCO Electric CO and Southern TN - S&P Capital IQ Pro.
[4] Sources: Company Form 10-K, Company Tariffs, S&P Capital IQ Pro
[5] Sources: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.
[6] Equals IF(AND([3]=No, [4]=No, [5]=No), No, Yes)
[7] Sources: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.
[8] Data provided by MDU-ND

PU-22
Exhibit No. ___(AEB-2)
Schedule 9
Page 2 of 2

FLOTATION COST ADJUSTMENT -- MONTANA-DAKOTA PROXY GROUP

Company	Date [i]	[1] Shares Issued (000)	[2] Offering Price	[3] Under-writing Discount [ii]	[4] Offering Expense ($000)	[5] Net Proceeds Per Share	[6] Total Flotation Costs ($000)	[7] Gross Equity Issue Before Costs ($000)	[8] Net Proceeds ($000)	[9] Flotation Cost Percentage
MDU Resources Group	2/4/2004	2,300	$ 23.32	$ 0.7930	$ 350	$ 22.37	$ 2,174	$ 53,636	$ 51,462	4.05%
MDU Resources Group	11/19/2002	2,400	$ 24.00	$ 0.7200	$ 193	$ 23.20	$ 1,921	$ 57,600	$ 55,680	3.33%
							$ 4,094	$ 111,236	$ 107,142	3.68%

[i] Offering Completion Date
[ii] Underwriting discount was calculated as the market price minus the offering price when not explicitly given in the prospectus.

The flotation cost adjustment is derived by dividing the dividend yield by 1 − F (where F = flotation costs expressed in percentage terms), or by 0.9632, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

$$k = \frac{D \times (1 + 0.5g)}{P \times (1 - F)} + g$$

Company	Ticker	[10] Annualized Dividend	[11] Stock Price	[12] Dividend Yield	[13] Expected Dividend Yield	[14] Expected Dividend Yield Adjusted for Flotation Costs	[15] Value Line Earnings Growth	[16] Yahoo! Finance Earnings Growth	[17] Zacks Earnings Growth	[18] Average Earnings Growth	[19] ROE	[20] ROE Adjusted for Flotation Costs
ALLETE, Inc.	ALE	$2.60	$64.44	4.03%	4.15%	4.31%	6.00%	5.67%	n/a	5.84%	9.99%	10.15%
Alliant Energy Corporation	LNT	$1.71	$59.72	2.86%	2.94%	3.06%	4.50%	6.10%	6.10%	5.57%	8.51%	8.62%
Ameren Corporation	AEE	$2.36	$87.98	2.68%	2.78%	2.88%	6.50%	7.40%	7.20%	7.03%	9.81%	9.92%
American Electric Power Company, Inc.	AEP	$3.12	$93.63	3.33%	3.43%	3.57%	6.50%	6.10%	5.80%	6.13%	9.57%	9.70%
Duke Energy Corporation	DUK	$3.94	$104.74	3.76%	3.88%	4.03%	7.00%	5.85%	6.10%	6.32%	10.20%	10.35%
Entergy Corporation	ETR	$4.04	$109.57	3.69%	3.78%	3.92%	3.00%	6.00%	6.00%	5.00%	8.78%	8.92%
Evergy, Inc.	EVRG	$2.29	$64.00	3.58%	3.69%	3.83%	7.50%	5.12%	6.10%	6.24%	9.93%	10.07%
IDACORP, Inc.	IDA	$3.00	$108.85	2.76%	2.81%	2.92%	4.00%	4.40%	4.30%	4.23%	7.05%	7.16%
NextEra Energy, Inc.	NEE	$1.70	$80.31	2.12%	2.22%	2.31%	11.00%	9.95%	8.80%	9.92%	12.14%	12.22%
NorthWestern Corporation	NWE	$2.52	$59.44	4.24%	4.31%	4.47%	2.00%	4.50%	3.10%	3.20%	7.51%	7.67%
OGE Energy Corporation	OGE	$1.64	$38.44	4.27%	4.37%	4.53%	6.50%	3.90%	3.50%	4.63%	9.00%	9.17%
Otter Tail Corporation	OTTR	$1.65	$62.03	2.66%	2.75%	2.86%	4.50%	9.00%	n/a	6.75%	9.50%	9.61%
Portland General Electric Company	POR	$1.72	$52.99	3.25%	3.35%	3.48%	7.00%	7.15%	4.60%	6.25%	9.60%	9.73%
Southern Company	SO	$2.64	$67.65	3.90%	4.00%	4.16%	5.50%	6.20%	4.00%	5.23%	9.24%	9.39%
Xcel Energy Inc.	XEL	$1.95	$69.08	2.82%	2.91%	3.02%	6.00%	6.90%	6.40%	6.43%	9.35%	9.46%
Mean											9.34%	9.47%
Flotation Cost Adjustment											[21]	0.13%

Notes:
[1]-[4] Sources: MDU Resources Group - Prospectus dated February 4, 2004 and Prospectus dated November 19, 2002.
[5] Equals [8]/[1]
[6] Equals [4] + ([1] x [3])
[7] Equals [1] x [2]
[8] Equals [7] - [6]
[9] Equals [6] / [7]
[10] Source: Bloomberg Professional
[11] Source: Bloomberg Professional, equals 30-day average as of March 31, 2022
[12] Equals [10] / [11]
[13] Equals [12] x (1 + 0.5 x [18])
[14] Equals [13] / (1 − Flotation Cost)
[15] Source: Value Line
[16] Source: Yahoo! Finance
[17] Source: Zacks
[18] Equals Average ([15], [16], [17])
[19] Equals [13] + [18]
[20] Equals [14] + [18]
[21] Equals Average ([20]) − Average ([19])

CAPITAL STRUCTURE ANALYSIS

		Most Recent 8 Quarters (2019Q4 - 2021Q3)				
Proxy Group Company	Ticker	Common Equity Ratio	Long-Term Debt Ratio	Preferred Equity Ratio	Short-term Debt Ratio	Total Capitalization
ALLETE, Inc.	ALE	56.83%	43.11%	0.00%	0.06%	100.00%
Alliant Energy Corporation	LNT	50.94%	46.17%	1.65%	1.24%	100.00%
Ameren Corporation	AEE	52.06%	46.18%	0.75%	1.01%	100.00%
American Electric Power Company, Inc.	AEP	47.41%	50.81%	0.00%	1.78%	100.00%
Duke Energy Corporation	DUK	52.14%	46.59%	0.00%	1.27%	100.00%
Entergy Corporation	ETR	46.85%	53.03%	0.11%	0.01%	100.00%
Evergy, Inc.	EVRG	57.78%	39.15%	0.00%	3.06%	100.00%
IDACORP, Inc.	IDA	53.86%	45.86%	0.28%	0.00%	100.00%
NextEra Energy, Inc.	NEE	59.91%	38.11%	0.00%	1.99%	100.00%
NorthWestern Corporation	NWE	47.02%	52.13%	0.00%	0.85%	100.00%
OGE Energy Corporation	OGE	53.59%	45.72%	0.00%	0.69%	100.00%
Otter Tail Corporation	OTTR	52.26%	46.13%	0.00%	1.62%	100.00%
Portland General Electric Company	POR	46.83%	51.11%	0.00%	2.06%	100.00%
Southern Company	SO	53.97%	44.97%	0.57%	0.49%	100.00%
Xcel Energy Inc.	XEL	53.73%	45.69%	0.00%	0.57%	100.00%
Average		52.35%	46.32%	0.22%	1.11%	
Median		52.26%	46.13%	0.00%	1.01%	
Maximum		59.91%	53.03%	1.65%	3.06%	
Minimum		46.83%	38.11%	0.00%	0.00%	

Notes:

[1] Ratios are weighted by actual common capital, preferred capital, long-term debt and short-term debt of the operating subsidiaries.

[2] Electric and Natural Gas operating subsidiaries with data listed as N/A from S&P Capital IQ Pro have been excluded from the analysis.

STATE OF NORTH DAKOTA

PUBLIC SERVICE COMMISSION

Montana-Dakota Utilities Co.
2022 Electric Rate Increase
Application

Case No. PU-22-194

Findings of Fact, Conclusions of Law and Order

June 6, 2023

Appearances

Commissioners Randy Christmann, Sheri Haugen-Hoffart, and Julie Fedorchak. Paul R. Sanderson, Evenson Sanderson, PC, 1100 College Drive, Suite 5, Bismarck, ND 58501, appearing on behalf of Montana-Dakota Utilities Co.

Mitchell D. Armstrong, Special Assistant Attorney General, 122 East Broadway Avenue, Bismarck, North Dakota 58502, on behalf of Public Service Commission Advocacy Staff.

John B. Coffman, John B. Coffman, LLC, 871 Tuxedo Blvd., St. Louis, MO 63119- 2044, appearing on behalf of Intervenor AARP.

Julie A. Clark, Clark Energy Law, 3440 Youngfield St., Suite 276, Wheat Ridge, CO 80033, appearing on behalf of Intervenor Walmart Inc.

Stephen A. Campbell, Clark Hill, 500 Woodward Avenue, Suite 3500, Detroit, MI 48226, appearing on behalf of Intervenor Marathon Petroleum Company LP.

John M. Schuh, General Counsel, Public Service Commission, State Capitol, 600 E. Boulevard Avenue, Bismarck, North Dakota 58505, appearing on behalf of the Public Service Commission Advisory Staff.

Hope L. Hogan, Administrative Law Judge, Office of Administrative Hearings, 2911 North 14th Street, Suite 303, Bismarck, North Dakota 58503 as Procedural Hearing Officer.

Preliminary Statement

On May 16, 2022, Montana-Dakota Utilities Co. (Montana-Dakota) filed with the Commission an increase in rates for electric service. Montana-Dakota's proposed rates would result in an increase in its annual North Dakota electric service

revenue of $25,365,558 or 12.3 percent.

Montana-Dakota concurrently submitted an Application and Notice for an interim increase in electric rates in the annual amount of $11,422,625 to be effective July 16, 2022.

On June 8, 2022, the Commission suspended Montana-Dakota's general rate increase application by motion.

On June 30, 2022, Montana-Dakota submitted a revised interim increase in electric rates in the annual amount of $10,922,625.

On July 14, 2022, the Commission issued an Order approving an interim rate increase of $10,922,625 to become effective for service rendered on or after July 15, 2022.

Petitions to intervene were filed by Walmart, Marathon, and AARP. On September 26, 2022, the Administrative Law Judge granted the petitions to intervene.

On December 14, 2022, the Commission issued a Notice of Public Hearing, scheduling the formal hearing to start on May 1, 2023. The notice identified the issues to be considered at the hearing are:

1. What is the value of MDU's property, used and useful, for the service and convenience of the public in North Dakota?

2. What is MDU's rate of return on its property, used and useful, for the service and convenience of the public in North Dakota?

3. What is a just and reasonable rate of return on MDU's property, used and useful, for the service and convenience of the public in North Dakota?

4. What rates and charges are necessary to provide a just and reasonable rate of return on MDU's property, used and useful, for the service and convenience of the public in North Dakota?

5. Are MDU's rate schedules designed in such a manner that they result in a basis of charge to its customers that is just and reasonable without discrimination?

On February 8, 2023, the Commission issued a Notice of Public Input Sessions, scheduling public input sessions for April 5, 2023.

On April 5, 2023, two public input sessions were held as scheduled in the Commission Hearing Room in the State Capitol.

On April 26, 2023, Montana-Dakota, Advocacy Staff, AARP, Walmart, and Marathon filed a Settlement Agreement that would resolve all the issues in this proceeding. A copy of the Settlement Agreement is attached as Exhibit No. 1.

On May 2, 2023, the formal hearing was held as scheduled in the Commission Hearing Room, State Capitol, 600 E. Boulevard Avenue, 12th Floor, Bismarck, North Dakota 58505.

Having allowed all interested persons an opportunity to be heard, and having heard, reviewed, and considered all testimony and evidence presented, the Commission makes its:

Findings of Fact

1. Montana-Dakota is a Delaware corporation, duly authorized to provide electric service to retail customers in North Dakota.

2. The Settlement Agreement provides a net increase in Montana-Dakota's electric rates for retail customers in North Dakota to yield an annual revenue increase of $15,275,796 effective upon a final order in this proceeding. This represents an overall increase in rates of 7.4%. The change between the Company's request and the amount agreed to in the Settlement Agreement is attributable to the following adjustments:

Original Filing	**$25.366M**
ROE – Reduction from 10.5% to 9.75%	(3.083)
Incentive Compensation – 50% Reduction	(1.844)
Depreciation	(4.606)
Software	(0.166)
Advertising	(0.056)
Industry Dues	(0.125)
Insurance	(0.020)
Outage Management System Payroll	(0.150)
Personal Use of Company Vehicles	(0.040)
Total Adjustments	($10.090)
Settlement Revenue Requirement	**$15.276M**
Settlement Rate Base	$617.9M

3. The Settlement Agreement results in an annual revenue increase that is approximately 40% less than the requested revenue increase.

4. The Settlement Agreement provides a return on equity of 9.75 percent

effective upon a final order in this proceeding resulting in an overall rate of return of 7.132 percent based on the following capital structure:

	Ratio	Cost	Required Return
Long-Term Debt	44.587%	4.503%	2.008%
Short-Term Debt	4.603%	3.684%	0.170%
Common Equity	50.810%	9.750%	4.954%
Total	100.000%		7.132%

5. The Settlement Agreement provides an earnings-sharing provision, whereby any of the Company's earnings above 10.0 percent will be shared with 70 percent refunded to customers and Montana-Dakota retaining 30 percent. The earnings-sharing will be based on MDU's annual report and earnings shall include any margin the Commission allows MDU to retain as a result of the Applied Blockchain Electric Service Agreement (ESA) (Case No. PU-22-371) or any future ESA/Rate 45 customer.

6. The Settlement Agreement provides the following allocation of revenues resulting in an increase by rate class as described below:

Rate Class	Overall Increase
Residential Service	9.5%
Small General Service	9.7%
General Service	5.5%
Municipal Lighting	7.3%
Municipal Pumping	8.6%
Outdoor Lighting Service	2.5%
Total North Dakota Electric	7.4%

Residential customers will receive an annual revenue increase of $7,901,896. The average monthly increase will be $8.27 for a Montana-Dakota residential customer.

7. The average monthly interim increase was $5.09 for a Montana-Dakota residential customer and was effective July 15, 2022. The final average monthly increase is $3.18 more, or $8.27 in total, for a Montana-Dakota residential customer using 800 kWh effective July 1, 2023.

8. The Settlement Agreement provides that a portion of the revenue increases for the Residential Class be collected through the fixed basic service charge, which amounts to $0.501 per day or $15.24 per month under Montana-Dakota's Residential Rate 10.

9. The base interim rates are approximately $24,336 more on an annual basis than the rates provided by the Settlement Agreement. This is a de minimis and impractical amount to refund back to ratepayers, so no refund or refund plan is necessary.

10. The Settlement Agreement provides that within nine months of the Commission approving the settlement agreement in this case, Montana-Dakota will file with the Commission an application regarding its fuel and purchased power cost rider that provides an alternative allocation option to the various classes using the E8760 allocation method.

From the foregoing Findings of Fact, the Commission makes the following:

Conclusions of Law

1. The Commission has jurisdiction in these proceedings.

2. The rates proposed by the Settlement Agreement are necessary to provide a just and reasonable rate of return on Montana-Dakota's property, used and useful, for the service and convenience of the public in North Dakota.

3. The rates proposed by the Settlement Agreement are designed in such a manner that they result in a basis of charge to customers that are just and reasonable without discrimination.

From the foregoing Findings of Fact and Conclusions of Law, the Commission makes the following:

Order

The Commission Orders:

1. The Settlement Agreement attached to this Order, is adopted and approved in its entirety and made part of this order.

2. Montana-Dakota shall file, for Commission approval, compliance rate schedules consistent with this Order within thirty (30) days of this Order.

3. Montana-Dakota shall file with the annual report the achieved return on equity for the

prior year and to the extent the return on equity exceeds 10%, a refund plan, including the amount and timing of the refund back to ratepayers.

PUBLIC SERVICE COMMISSION

Sheri Haugen-Hoffart
Sheri Haugen-Hoffart
Commissioner

Randy Christmann
Randy Christmann
Chair

Julie Fedorchak
Julie Fedorchak
Commissioner

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

In the Matter of MONTANA-DAKOTA UTILITIES CO. 2022 Application for Increase in Electric Rates	)))	Case No. PU-22-194 OAH File No. 20220225

SETTLEMENT AGREEMENT

This Settlement Agreement is entered into by and between Montana-Dakota Utilities Co. ("Montana-Dakota" or "Company"), the Advocacy Staff of the North Dakota Public Service Commission ("Advocacy Staff"), and Intervenors AARP, Walmart Inc. ("Walmart"), and Marathon Petroleum Company LP ("Marathon"), collectively the "Settling Parties". The Settling Parties agree this Settlement Agreement, if approved by the Public Service Commission ("Commission"), would resolve all outstanding expense, revenue, rate base, return, and rate design issues in this case between the Settling Parties in a manner consistent with the public interest and will result in just and reasonable rates for the Company's electric service in North Dakota.

PROCEDURAL HISTORY

1. On May 16, 2022, Montana-Dakota filed with the Commission an increase in rates for electric service. Montana-Dakota's proposed rates would result in an increase in its annual North Dakota electric service revenue of $25,365,558 or 12.3 percent.

2. Montana-Dakota concurrently submitted an Application and Notice for an interim increase in electric rates in the annual amount of $11,422,625 to be effective July 16, 2022.

3. The Commission suspended Montana-Dakota's general rate increase application by motion on June 8, 2022.

4. On June 30, 2022, Montana-Dakota submitted a revised interim increase in electric rates in the annual amount of $10,922,625.

5. A Petition to Intervene was filed by AARP on June 30, 2022. On September 26, 2022, the Administrative Law Judge granted the petition to intervene of AARP.

6. A Petition to Intervene was filed by Walmart on July 5, 2022. On September 26, 2022, the Administrative Law Judge granted the petition to intervene of Walmart.

7. On July 14, 2022, the Commission issued an Order approving an interim rate increase of $10,922,625 to become effective for service rendered on or after July 15, 2022.

8. A Petition to Intervene was filed by Marathon on August 8, 2022. On September 26, 2022, the Administrative Law Judge granted the petition to intervene of Marathon.

9. On December 14, 2022, the Commission issued a Notice of Public Hearing, scheduling the formal hearing for May 1, 2023. The issues to be considered at the hearing are:

> 1. What is the value of MDU's property, used and useful, for the service and convenience of the public in North Dakota?
>
> 2. What is MDU's rate of return on its property, used and useful, for the service and convenience of the public in North Dakota?
>
> 3. What is a just and reasonable rate of return on MDU's property, used and useful, for the service and convenience of the public in North Dakota?
>
> 4. What rates and charges are necessary to provide a just and reasonable rate of return on MDU's property, used and useful, for the service and convenience of the public in North Dakota?
>
> 5. Are MDU's rate schedules designed in such a manner that they result in a basis of charge to its customers that is just and reasonable without discrimination?

10. On February 8, 2023, the Commission issued a Notice of Public Input Sessions, scheduling public input sessions for April 5, 2023.

11. On April 5, 2023, two public input sessions were held as scheduled in the Commission Hearing Room in the State Capitol.

12. Settlement discussions were held between the Settling Parties pursuant to the Commission's Settlement Guidelines dated January 4, 1995. As a result of the settlement discussions, the Settling Parties reached this Settlement Agreement.

13. The Settlement Agreement is supported by the administrative record. Accordingly, the Settling Parties jointly recommend the Commission issue an Order approving this Settlement Agreement in its entirety, without conditions or modifications.

TERMS OF SETTLEMENT AGREEMENT

1. Overall Revenue Increase. The Parties agree to, and recommend the Commission approve, a net increase in Montana-Dakota's electric rates for retail customers in North Dakota to yield an annual revenue increase of $15,275,796 effective upon a final order in this proceeding. This represents an overall increase in rates of 7.4%.

The change between the Company's request and the amount agreed to herein is attributable to the following adjustments:

Original Filing (in 000s)	**$25,366**
ROE - Reduce from 10.5% to 9.75%	(3,083)
Incentive Compensation – 50%	(1,844)
Depreciation (See Exhibit A)	(4,606)
Software	(166)
Advertising	(56)
Industry Dues	(125)
Insurance	(20)
Outage Management System Payroll	(150)
Personal Use of Company Vehicles	(40)
Total adjustments	($10,090)
Settlement Revenue Requirement	**$15,276**
Settlement Rate Base	$617.9 M

2. Return on Equity. The Settling Parties agree to, and recommend the Commission approve, a return on equity of 9.75 percent effective upon a final order in this proceeding resulting in an overall rate of return of 7.132 percent based on the following capital structure:

	Ratio	Cost	Required Return
Long-Term Debt	44.587%	4.503%	2.008%
Short-Term Debt	4.603%	3.684%	0.170%
Common Equity	50.810%	9.750%	4.954%
Total	100.000%		7.132%

The Settling Parties agree to an earnings-sharing provision, whereby any of the Company's earnings above 10.0 percent will be shared with 70 percent refunded to customers and Montana-Dakota retaining 30 percent. The earnings-sharing will be based on MDU's annual report and earnings shall include any margin the Commission allows MDU to retain as a result of the Applied Blockchain Electric Service Agreement (ESA) (Case No. PU-22-371) or any future ESA/Rate 45 customer.

3. Revenue Allocation. The Settling Parties agree to the following allocation of revenues resulting in an increase by rate class as described below:

Rate Class	Overall Increase
Residential Service	9.5%
Small General Service	9.7%
General Service	5.5%
Municipal Lighting	7.3%
Municipal Pumping	8.6%
Outdoor Lighting Service	2.5%
Total North Dakota Electric	7.4%

Residential customers will receive an annual revenue increase of $7,901,896. The average monthly increase will be $8.27 for a Montana-Dakota residential customer. The allocation of revenue specified above is presented in more detail, along with the resulting rates, in Exhibit B of this Settlement Agreement.

4. Residential Basic Service Charge. The Settling Parties agree to, and recommend the Commission approve, that a portion of the revenue increases for the Residential Class be collected through the fixed basic service charge, which amounts to $0.501 per day or $15.24 per month under Montana-Dakota's Residential Rate 60.

5. Energy Allocation Amongst Classes. Within nine months of the Commission approving the settlement agreement in this case, Montana-Dakota will file with the Commission an application regarding its fuel and purchased power cost rider that provides an alternative allocation option of allocating these costs to the various classes using the E8760 allocation method.

OTHER TERMS AND CONDITIONS

A. Basis of Settlement. It is agreed this Settlement Agreement is a negotiated settlement agreement subject to approval by the Commission. This Settlement Agreement does not establish any principle or precedent, nor adopt or recommend any specific type or amount of expense or rate base for this or any future proceeding, nor any principle or precedent regarding rate design methodology.

B. Effect of the Settlement Negotiations. It is understood and agreed that all offers of settlement and discussions related to this Agreement are privileged and may not be used in any manner in connection with proceedings in this case or otherwise, except as provided by law. In the event the Commission does not approve this Settlement Agreement, it shall not constitute part of the record in this proceeding and no part thereof may be used by any party for any purpose in this case or otherwise.

C. Applicability and Scope. This Settlement Agreement shall be binding on the Settling Parties, and their successors, assigns, agents, and representatives. Consistent with the Commission's settlement guidelines, this Settlement Agreement does not set policy or overturn precedent. This Settlement Agreement shall not in any respect constitute an agreement, admission or determination by any of the Settling Parties as to the merits of any specific allegation or contention made by the Settling Parties in this proceeding.

D. Effective Date. This Settlement Agreement shall be effective on the date of the Commission Order approving the Settlement Agreement. The Settling Parties waive the time limit provided in N.D.C.C. § 49-05-06(1), and specifically agree the period of suspension of rates may extend more than six months beyond the time when they would otherwise go into effect.

E. Modification. If the Commission's Order modifies or conditions approval of this Settlement Agreement, it shall be deemed terminated if any Settling Party files a letter with the Commission within three (3) business days of notice of such Order stating that a condition or modification to the Settlement Agreement is unacceptable to such party.

CONCLUSION

The Settling Parties agree the terms of this Settlement Agreement are a result of negotiations between the Settling Parties and are in the public interest. For these reasons, the Settling Parties urge the Commission to approve the Settlement Agreement.

Dated this 25th day of April, 2023.

MONTANA-DAKOTA UTILITIES CO.

By: Garret Senger

Its: Garret Senger
Executive Vice President - Regulatory Affairs, Customer Service & Administration

Dated this 26th day of April, 2023.

NORTH DAKOTA PUBLIC SERVICE ADVOCACY STAFF

By: Michael O. Ness
Its: Counsel

Dated this 25th day of April, 2023.

AARP

By: John B Coffman
Its: Attorney for AARP

Dated this 25th day of April, 2023.

WALMART INC.

By: Julie A. Clark
Its: Counsel

Dated this 26 day of April, 2023.

MARATHON PETROLEUM COMPANY LP
By: MPC Investment LLC, its general partner

By: rdhessling@marathonpetroleum.com rdhessling@marathonpetroleum.com (Apr 26, 2023 10:51 EDT)
Its: SVP, GFVC

MP JLH SS

Approved as to form.

MONTANA-DAKOTA UTILITIES CO.
DEPRECIATION RATES
ELECTRIC UTILITY - NORTH DAKOTA

Acct. No.	Account	Proposed Depreciation Rate	Settlement Deprecation Rate	Rate Change
	Steam Production Plant			
	Heskett Station			
311	Structures & Improvements	0.64%	0.64%	
312	Boiler Plant Equipment	0.92%	0.92%	
314	Turbogenerator Units	0.16%	0.16%	
315	Accessory Equipment	0.00%	0.00%	
316	Miscellaneous Equipment	2.73%	2.73%	
	Lewis & Clark Station			
311	Structures & Improvements	1.42%	1.42%	
312	Boiler Plant Equipment	1.41%	1.41%	
314	Turbogenerator Units	1.39%	1.39%	
315	Accessory Equipment	0.00%	0.00%	
	Coyote			
311	Structures & Improvements	1.30%	1.30%	
312	Boiler Plant Equipment	1.79%	1.79%	
314	Turbogenerator Units	2.53%	2.53%	
315	Accessory Equipment	1.43%	1.43%	
316	Miscellaneous Equipment	3.84%	3.84%	
	Big Stone			
311	Structures & Improvements	3.02%	3.02%	
312	Boiler Plant Equipment	3.55%	3.55%	
314	Turbogenerator Units	1.55%	1.55%	
315	Accessory Equipment	2.82%	2.82%	
316	Miscellaneous Equipment	2.77%	2.77%	
	Other Production Plant			
	Glendive Turbine Unit 1			
341	Structures & Improvements	2.67%	2.67%	
342	Fuel Holders, Producers & Acces.	2.02%	2.02%	
344	Generators	0.27%	0.27%	
345	Accessory Equipment	7.24%	7.24%	
346	Miscellaneous Equipment	2.79%	2.79%	
	Glendive Turbine Unit 2			
344	Generators	2.75%	2.75%	