BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION FOR: (1) REVISION OF ITS RETAIL RATES UNDER ADVICE NOTICE NO. 312; (2) AUTHORITY TO ABANDON THE PLANT X UNIT 1, PLANT X UNIT 2, AND CUNNINGHAM UNIT 1 GENERATING STATIONS AND AMEND THE ABANDONMENT DATE OF THE TOLK GENERATING STATION; AND (3) OTHER ASSOCIATED RELIEF,	)	**CASE NO. 22-00286-UT**
SOUTHWESTERN PUBLIC SERVICE COMPANY,	)	
APPLICANT.	)	

DIRECT TESTIMONY

of

DYLAN W. D'ASCENDIS, CRRA, CVA

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
AGA	American Gas Association
AGIF	American Gas Index Fund
ARCH	Autoregressive conditional heteroscedasticity
Beta	Beta coefficient
Bloomberg	Bloomberg Professional Services
Blue Chip	Blue Chip Financial Forecasts
Bluefield	*Bluefield Water Works and Improvement Co. v. Public Service Comm'n of West Virginia*, 262 U.S. 679 (1923)
CAPM	Capital Asset Pricing Model
Commission	New Mexico Public Regulation Commission
Court	Supreme Court of New Mexico
CPI	Consumer Price Index
CRRA Guide	The Cost of Capital – A Practitioner's Guide
DCF	Discounted Cash Flow
DPS	Dividends per share
ECAPM	Empirical Capital Asset Pricing Model
EPS	Earnings Per Share
Fama & French	Eugene F. Fama and Kenneth R. French's *The Capital Asset Pricing Model: Theory and Evidence* Journal of Economic Perspectives, Vol. 18, No. 3, Summer 2004
Fed	Federal Reserve
FERC	Federal Energy Regulatory Commission
FOMC	Federal Open Markets Committee

Acronym/Defined Term	**Meaning**
GARCH	Generalized autoregressive conditional heteroscedasticity
Hope	*Federal Power Comm'n v. Hope Natural Gas Co*., 320 U.S. 591 (1944)
Kroll	Kroll's Cost of Capital Navigator: U.S. Cost of Capital Module
Moody's	Moody's Investors Service
Morin	Roger A. Morin's Modern Regulatory Finance, Public Utilities Reports, Inc., 2021
NACVA	National Association of Certified Valuation Analysts
Non-Price Regulated Proxy Group	A proxy group of publicly traded, domestic, non-price regulated competitive firms comparable in total risk to the Utility Proxy Group
NM DCF	Commission-specific form of the Constant Growth DCF Model
OLS	Ordinary Least Squares
PRPM	Predictive Risk Premium Model
ROE	Return on common equity
RPM	Risk Premium Model
RRA	Regulatory Research Associates
S&P	Standard and Poor's
SBBI	Stocks, Bonds, Bills, and Inflation
SBBI – 2022	Stocks, Bonds, Bills, and Inflation 2022 Yearbook published by Kroll
SML	Security Market Line
SPS or the Company	Southwestern Public Service Company, a New Mexico corporation
SURFA	Society of Utility and Regulatory Financial Analysts

Acronym/Defined Term	**Meaning**
Utility Proxy Group	Proxy group of publicly traded electric utility companies comparable in risk to SPS
Value Line	Value Line Investment Survey
XEL	Stock symbol for Xcel Energy Inc.
Xcel Energy or the Parent	Xcel Energy Inc.
Zacks	Zacks Investment Research

LIST OF SCHEDULES IN ATTACHMENT_(DWD-1)

Case No. 22-00286-UT
Direct Testimony
of
Dylan W. D'Ascendis

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name, affiliation, and business address.

A. My name is Dylan W. D'Ascendis. I am employed by ScottMadden, Inc. as a Partner. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, New Jersey 08054.

Q. On whose behalf are you submitting this testimony?

A. I am submitting this direct testimony before the New Mexico Public Regulation Commission ("Commission") on behalf of Southwestern Public Service Company ("SPS" or the "Company"), a New Mexico corporation and wholly-owned electric utility subsidiary of Xcel Energy Inc. ("Xcel Energy" or the "Parent").

Q. Please summarize your professional experience and educational background.

A. I have offered expert testimony on behalf of investor-owned utilities in 35 state regulatory commissions in the United States, the Federal Energy Regulatory Commission ("FERC"), the Alberta Utility Commission, one American Arbitration Association panel, and the Superior Court of Rhode Island on issues including, but not limited to, common equity cost rate, rate of return, valuation, capital structure, class cost of service, and rate design.

Case No. 22-00286-UT
Direct Testimony
of
Dylan W. D'Ascendis

On behalf of the American Gas Association ("AGA"), I calculate the AGA Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured on a monthly basis. The AGA Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the AGA.

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA"). In 2011, I was awarded the professional designation "Certified Rate of Return Analyst" by SURFA, which is based on education, experience, and the successful completion of a comprehensive written examination.

I am also a member of the National Association of Certified Valuation Analysts ("NACVA") and was awarded the professional designation "Certified Valuation Analyst" by the NACVA in 2015.

I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I have also received a Master of Business Administration with high honors and concentrations in Finance and International Business from Rutgers University.

The details of my educational background and expert witness appearances are included in Appendix A.

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to present evidence on behalf of the Company and recommend the appropriate return on common equity ("ROE") to be used in setting rates in this proceeding. My testimony first provides a summary of financial theory and regulatory principles pertinent to the development of the recommended cost of capital. I then present evidence and analysis on: (1) the reasonableness of the Company's requested capital structure, and (2) the appropriate ROE on its New Mexico jurisdictional rate base.

Q. Have you prepared schedules in support of your recommendation?

A. Yes. I have prepared Attachment__(DWD-1), which contains Schedules 1 through 12, and were prepared by me or under my direction.

II. SUMMARY

Q. Please summarize your recommended ROE.

A. My recommended ROE of 10.75% is summarized on page 1 of Attachment___(DWD-1), Schedule 1. In determining my recommendation, I assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical, risk to the Company. Using companies of relatively comparable risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] decisions, which I discuss further in Section IV, below. A proxy group is likely to differ in risk to any single company; consequently, there should be an evaluation of relative risk between the Company and the proxy group to determine if it is appropriate to adjust the proxy group's indicated rate of return to reflect the Company's rate of return.

My recommendation results from applying and considering several cost of common equity models, specifically the Constant Growth form of the Discounted Cash Flow ("DCF") model, the Risk Premium Model ("RPM"), and the Capital Asset Pricing Model ("CAPM"), to the market data of the Utility Proxy Group

[1] *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*").

[2] *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1922) ("*Bluefield*").

whose selection criteria will be discussed below. In addition, I applied these same models to a Non-Price Regulated Proxy Group, which is similar in total risk to the Utility Proxy Group. The results derived from these analyses are as follows:

Table 1: Summary of Common Equity Cost Rates[3]

Discounted Cash Flow Model	9.20%[4]
Risk Premium Model	11.72%
Capital Asset Pricing Model	11.81%
Market Models Applied to Comparable Risk, Non-Price Regulated Companies	12.74%
Indicated Range of Common Equity Cost Rates Before Adjustments for Company-Specific Risk	10.35% - 11.35%
Size Risk Adjustment	0.15%
Credit Risk Adjustment	0.00%
Flotation Costs	0.08%
Indicated Range of Common Equity Cost Rates after Adjustment	10.58% - 11.58%
Recommended Cost of Common Equity	10.75%

[3] *See,* Section VII for a detailed discussion regarding the application of my cost of common equity models.

[4] Represents the Commission's preferred DCF approach as will be discussed below. My traditional Constant Growth DCF indicated cost of common equity result is 8.73%. The average of these two DCF approaches is 8.96%.

The indicated range of common equity cost rates applicable to the Utility Proxy Group is between 10.35% and 11.35% before any Company-specific adjustments.[5] I then adjusted the indicated common equity cost rate upward by 0.15% to reflect the Company's smaller relative size, as compared to the Utility Proxy Group.[6] The credit risk adjustment for SPS is zero. Lastly, I adjusted the indicated common equity cost rate upward by 0.08% to reflect flotation costs. These adjustments resulted in a Company-specific indicated range of common equity cost rates between 10.58% and 11.58%. Given the Utility Proxy Group and Company-specific ranges of common equity cost rates, my recommended ROE for the Company is 10.75%.

Q. Please summarize the Company's proposed capital structure.

A. The Company is proposing a capital structure that includes a 54.70% common equity ratio. That common equity ratio is consistent with the Company's historical equity ratios, the equity ratios maintained by the Utility Proxy Group and their operating subsidiary companies.

[5] The indicated range is equal to 50 basis points above and below the midpoint of my four model results.

[6] *See,* Section IX for a detailed discussion of my cost of common equity adjustments.

Q. How is the remainder of your direct testimony organized?

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

- Section III – Provides an overview of the current capital market environment;
- Section IV – Provides a summary of financial theory and regulatory principles pertinent to the development of the cost of common equity;
- Section V – Explains my selection of the Utility Proxy Group used to develop my cost of common equity analytical results;
- Section VI – Explains the reasonableness of the proposed capital structure;
- Section VII – Describes the analyses on which my cost of common equity recommendation is based;
- Section VIII – Summarizes my common equity cost rate before adjustments to reflect Company-specific factors;
- Section IX – Explains my adjustments to my common equity cost rate to reflect Company-specific factors; and
- Section X – Presents my conclusions.

III. CAPITAL MARKET OBSERVATIONS

Q. Do economic conditions influence the required cost of capital and required return on common equity?

A. Yes. The models used to estimate the cost of equity are meant to reflect, and therefore are influenced by, current and expected capital market conditions. Therefore, it is important to assess the reasonableness of any financial model's results in the context of observable market data.

Q. Does your recommended ROE consider the current capital market environment?

A. Yes, it does. From an analytical perspective, it is important that the inputs and assumptions used to arrive at an ROE recommendation, including assessments of capital market conditions, are consistent with the recommendation itself. Although all analyses require an element of judgment, the application of that judgment must be made in the context of the quantitative and qualitative information available to the analyst and the capital market environment in which the analyses were undertaken.

Q. Please summarize the current capital market environment.

A. The economy is currently in an inflationary environment, as evidenced by increased levels of the Consumer Price Index ("CPI") as compared to the Federal Reserve's ("Fed") traditional inflation target of 2.00%. Inflation can be characterized as an imbalance of supply and demand in the economy, specifically, when demand is in excess of supply. When demand is in excess of supply, the cost of goods and services increases.

Part of the Fed's Congressional mandate is to mitigate inflation and they have two main tools to achieve their mandate: (1) raising the Fed Funds Rate;[7] or (2) decreasing the size of their balance sheet. In Fed Chairman Jerome H. Powell's Press Conference on May 4, 2022, he indicated that the Fed has the resolve to use both tools to restore price stability on behalf of American families and businesses.[8]

Overall, the current market environment can be summarized as one with increasing inflation, and expectations that the Fed will implement both of its tools in an attempt to limit inflation.

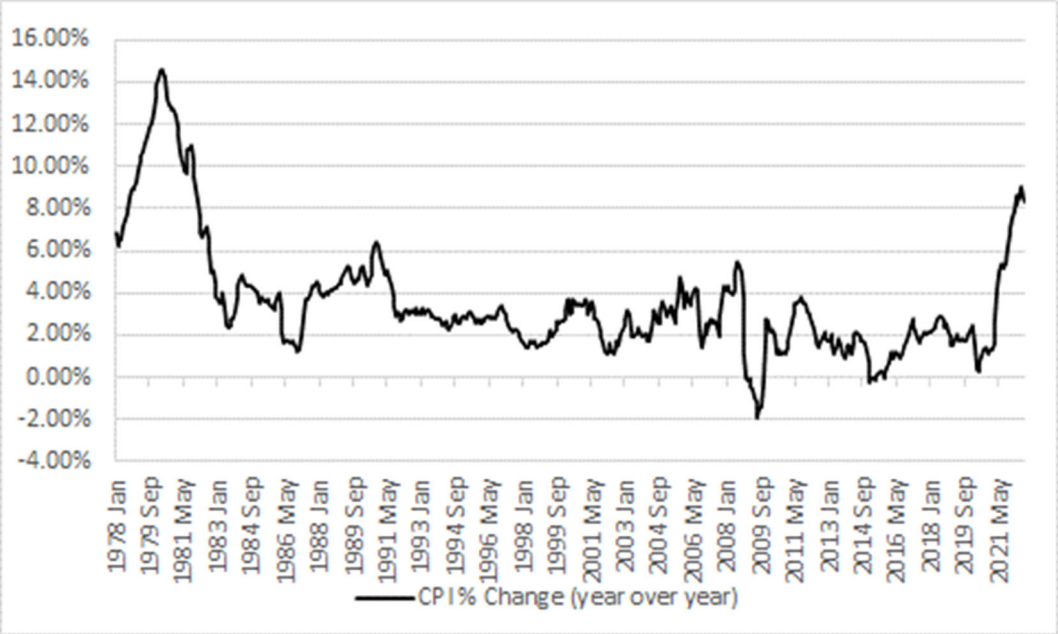
[7] The Fed Funds Rate is the rate in which the Fed suggests commercial banks borrow and lend their excess reserves to each other overnight.

[8] Transcript of Chair Powell's Press Conference, May 4, 2022.

Q. Has CPI risen recently?

A. Yes, it has. As shown on Chart 1, CPI has increased exponentially since the beginning of the pandemic, and more recently has experienced year-over-year increases not seen since the early 1980s.

Chart 1: Consumer Price Index Change, 1978-Current[9]



[9] Source: Bureau of Labor Statistics, Series Title: All items in U.S. city average, all urban consumers, seasonally adjusted, Series ID: CUSR0000SA0 (https://data.bls.gov/timeseries/CUSR0000SA0?output_view=pct_1mth).

Given the rise in CPI as shown in Chart 1, even if inflation were to moderate to a degree, it would still remain significantly elevated compared to the last several years and the Fed's inflation target of 2.00%.

Q. Is inflation expected to be elevated from historical levels moving forward?

A. Yes, it is. The 10- and 30-year breakeven inflation rates[10] have steadily increased since August 27, 2020, when Mr. Powell released a statement noting that the Federal Open Market Committee ("FOMC") will adopt an approach towards inflation that, "could be viewed as a flexible form of average inflation targeting," meaning that following periods in which inflation has run below 2.00%, "appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time."[11] More recently, Mr. Powell has noted that, "the risk is rising that an extended period of high inflation could push longer-term expectations uncomfortably higher, which underscores the need for the Committee to move expeditiously as I have described."[12]

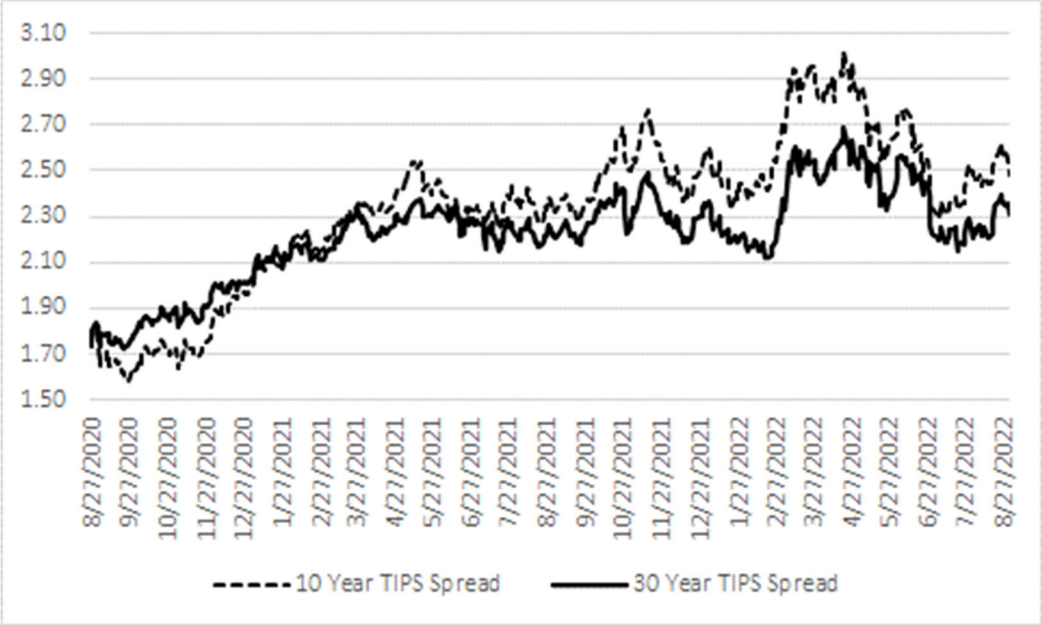
[10] The breakeven inflation rate is the market's determination of the level of inflation during the period it measures. For example, the 10-year breakeven inflation rate is the market's expectation of inflation over the next ten years.

[11] New Economic Challenges and the Fed's Monetary Policy Review, Remarks by Jerome H. Powell, Chair Board of Governors of the Federal Reserve System, August 27, 2020.

[12] Restoring Price Stability, Chair Pro Tempore Jerome H. Powell, At "Policy Options for Sustainable and Inclusive Growth" 38th Annual Economic Policy Conference National Association for Business Economics, Washington, D.C., March 21, 2022.

In response to market conditions and Fed action, the breakeven inflation rate, represented as the 10-year and 30-year Treasury Inflation-Protected Securities spreads, has increased from 1.73% and 1.76% on August 27, 2020, respectively, to 2.48% and 2.31% respectively, as of August 31, 2022. Further, as shown in Chart 2 below, breakeven inflation has trended upward at a relatively consistent pace since the Fed's policy change.

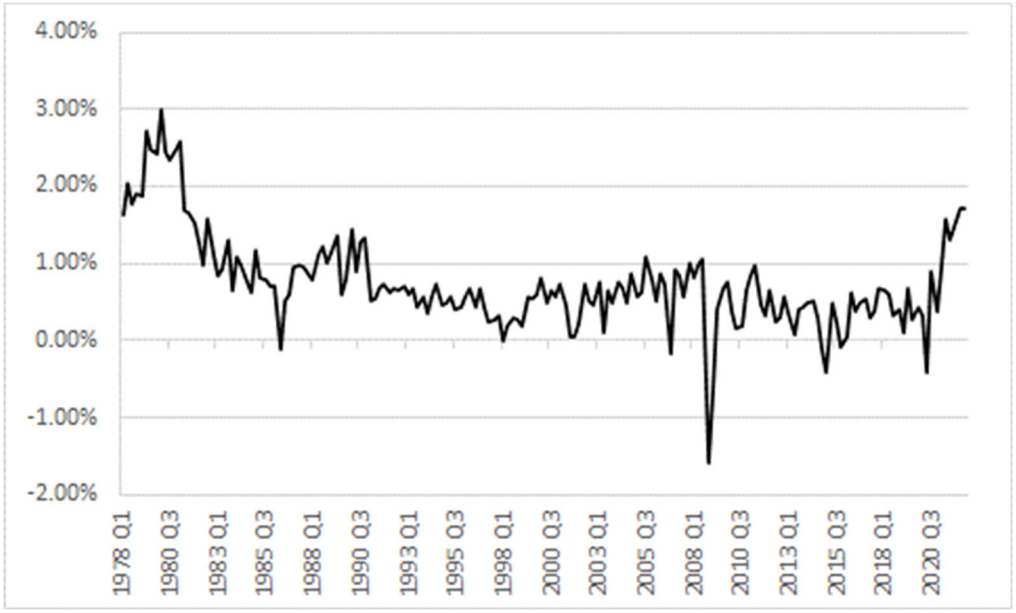
Chart 2: Breakeven Inflation Since August 27, 2020[13]



[13] Source: Federal Reserve (https://www.federalreserve.gov/datadownload/); downloaded on July 21, 2022.

Further, looking to other measures of inflation such as the Personal Consumption Expenditures Index, both with and without food and energy costs, recent quarterly increases are the highest they have been since the 1980s.

Chart 3: Personal Consumption Expenditures Index Change, 1978-Current[14]



Q. Has Mr. Powell made additional comments concerning inflation?

A. Yes, he has. In his speech at the 38th Annual Economic Policy Conference before the National Association for Business Economics, Mr. Powell stated:

[14] Bureau of Economic Analysis. Table 2.3.4. Price Indexes for Personal Consumption Expenditures by Major Type of Product (https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey)

At the Federal Reserve, our monetary policy is guided by the dual mandate to promote maximum employment and stable prices. From that standpoint, the current picture is plain to see: The labor market is very strong, and inflation is much too high. My colleagues and I are acutely aware that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials like food, housing, and transportation. There is an obvious need to move expeditiously to return the stance of monetary policy to a more neutral level, and then to move to more restrictive levels if that is what is required to restore price stability. We are committed to restoring price stability while preserving a strong labor market.

At our meeting that concluded last week, we took several steps in pursuit of these goals: We raised our policy interest rate for the first time since the start of the pandemic and said that we anticipate that ongoing rate increases will be appropriate to reach our objectives. We also said that we expect to begin reducing the size of our balance sheet at a coming meeting. In my press conference, I noted that action could come as soon as our next meeting in May, though that is not a decision that we have made. These actions, along with the adjustments we have made since last fall, represent a substantial firming in the stance of policy with the intention of restoring price stability. In my comments today, I will first discuss the economic conditions that warrant these actions and then address the path ahead for monetary policy.

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The rise in inflation has been much greater and more persistent than forecasters generally expected. For example, at the time of our June 2021 meeting, every Federal Open Market Committee (FOMC) participant and all but one of 35 submissions in the Survey of Professional Forecasters predicted that 2021 inflation would be below 4 percent. Inflation came in at 5.5 percent.[2][Footnote Omitted]

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> The ultimate responsibility for price stability rests with the Federal Reserve. Price stability is essential if we are going to have another sustained period of strong labor market conditions. I believe that the policy approach that I have laid out is well suited to achieving this outcome. We will take the necessary steps to ensure a return to price stability. In particular, if we conclude that it is appropriate to move more aggressively by raising the federal funds rate by more than 25 basis points at a meeting or meetings, we will do so. And if we determine that we need to tighten beyond common measures of neutral and into a more restrictive stance, we will do that as well.[15]

In Mr. Powell's press conference after the FOMC's May 4, 2022 meeting, where they raised the Fed Funds Rate to 0.75% – 1.00% from 0.25% – 0.50%,[16] he echoed much of his statement as cited above, but increased his expectations of larger than normal Fed Funds Rate increases and detailed a plan to shrink their balance sheet:

> Assuming that economic and financial conditions evolve in line with expectations, there is a broad sense on the Committee that additional 50 basis point increases should be on the table at the next couple of meetings.

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[15] Restoring Price Stability, Chair Pro Tempore Jerome H. Powell, At "Policy Options for Sustainable and Inclusive Growth" 38th Annual Economic Policy Conference National Association for Business Economics, Washington, D.C., March 21, 2022.

[16] The 50-basis-point increase in the Fed Funds Rate on May 4, 2022, is the largest increase in the Fed Funds Rate since 2000.

> With regard to our balance sheet, we also issued our specific plans for reducing our securities holdings. Consistent with the principles we issued in January, we intend to significantly reduce the size of our balance sheet over time in a predictable manner by allowing the principal payments from our securities holdings to roll off the balance sheet, up to monthly cap amounts.[17]

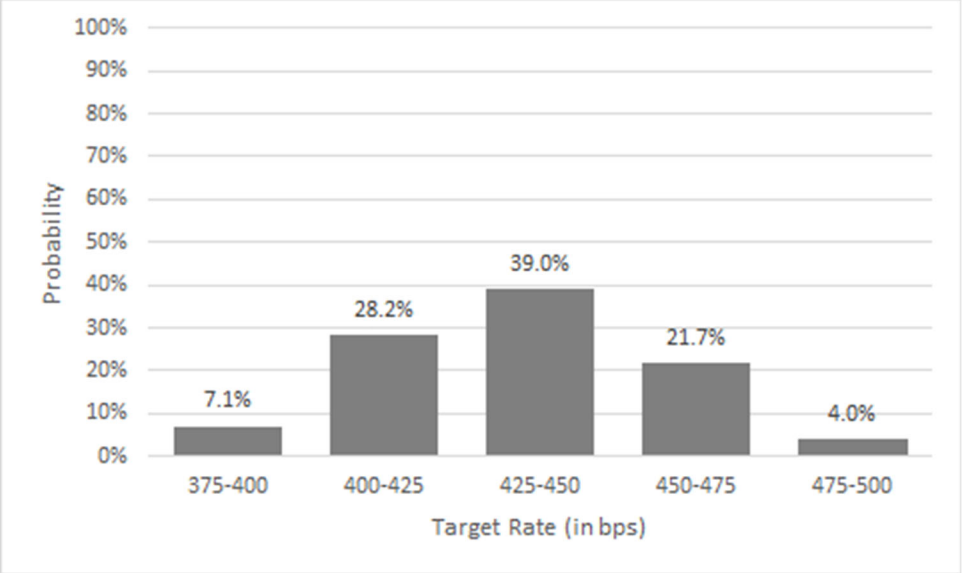
As can be gleaned by Mr. Powell's statements, he expects inflation to continue well into next year and that the Fed will continue to use the tools at their disposal to support the economy and the labor market, including accelerating the pace of rate increases of the Fed Funds Rate and the roll off of assets from its balance sheet.

Q. Is the market currently pricing in expectations of significant future Fed Funds Rate increases in line with Mr. Powell's statements?

A. Yes. The CME FedWatch Tool, as presented in Chart 4 below, indicates that a majority of investors are pricing in at least a Fed Funds Rate of 3.50% by the Fed's February 1, 2023 meeting, as compared to the current level of the Fed Funds Rate of between 2.25% and 2.50%.

[17] Transcript of Chair Powell's Press Conference, May 4, 2022.

Chart 4: CME FedWatch Tool – February 1, 2023 FOMC Meeting[18]



Q. Please summarize your observations of the current market environment.

A. In response to the current inflationary environment, the Fed recently raised the Fed Funds Rate and anticipates additional increases over the next year in addition to rolling off of assets from their balance sheet. Investors have already priced in these actions and prospective actions into market prices.

[18] Source: https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html, accessed September 14, 2022.

Regardless of current and future actions of the Fed, however, they have acknowledged that inflation is higher than its target average level of 2.00% and will continue to run higher than that target well into 2022 and possibly beyond.

Increasing inflation drives all costs higher (*e.g.,* prices for materials, labor, capital). This is an economic reality that affects companies across the board, and SPS is not immune to such increases. As a result, higher inflation may increase risk, and the investor-required return for utility investors.

IV. GENERAL PRINCIPLES AND REGULATORY GUIDELINES

Q. What principles have you considered in arriving at your recommendations?

A. In unregulated industries, marketplace competition is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public, while providing safe and reliable service at all times, requires a level of earnings sufficient to maintain the integrity of presently invested capital. Sufficient earnings also permit the attraction of needed new capital at a reasonable cost, for which the utility must compete with other firms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* cases.

The U.S. Supreme Court affirmed the fair rate of return standards in *Hope*, when it stated:

> The rate-making process under the Act, *i.e.,* the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests. Thus we stated in the Natural Gas Pipeline Co. case that 'regulation does not insure that the business shall produce net revenues.' 315 U.S. at page 590, 62 S.Ct. at page 745. But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include

> service on the debt and dividends on the stock. Cf. Chicago & Grand Trunk R. Co. v. Wellman, 143 U.S. 339, 345, 346 12 S.Ct. 400,402. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[19]

In summary, the U.S. Supreme Court has found a return that is adequate to attract capital at reasonable terms enables the utility to provide service while maintaining its financial integrity. As discussed above, and in keeping with established regulatory standards, that return should be commensurate with the returns expected elsewhere for investments of equivalent risk. The Commission's decision in this proceeding, therefore, should provide the Company with the opportunity to earn a return that is: (1) adequate to attract capital at reasonable cost and terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks.

Lastly, the required return for a regulated public utility is established on a stand-alone basis, i.e., for the utility operating company at issue in a rate case. Parent entities, like other investors, have capital constraints and must look at the attractiveness of the expected risk-adjusted return of each investment alternative in

[19] *Hope*, 320 U.S. 591 (1944), at 603.

their capital budgeting process. That is, utility holding companies that own many utility operating companies have choices as to where they will invest their capital within the holding company family. Therefore, the opportunity cost concept applies regardless of the source of the funding, public funding or corporate funding.

When funding is provided by a parent entity, the return still must be sufficient to provide an incentive to allocate equity capital to the subsidiary or business unit rather than other internal or external investment opportunities. That is, the regulated subsidiary must compete for capital with all the parent company's affiliates, and with other, similarly situated companies. In that regard, investors value corporate entities on a sum-of-the-parts basis and expect each division within the parent company to provide an appropriate risk-adjusted return.

It therefore is important that the authorized ROE reflects the risks and prospects of the utility's operations and supports the utility's financial integrity from a stand-alone perspective as measured by their combined business and financial risks. Consequently, the ROE authorized in this proceeding should be sufficient to support the operations (i.e., business risk) and financing (i.e., financial risk) of the Company's New Mexico utility operations on a stand-alone basis.

Q. Within that broad framework, how is the cost of capital estimated in regulatory proceedings?

A. Regulated utilities primarily use common stock and long-term debt to finance their permanent property, plant, and equipment (i.e., rate base). The fair rate of return for a regulated utility is based on its weighted average cost of capital, in which, as noted earlier, the costs of the individual sources of capital are weighted by their respective book values.

The cost of capital is the return investors require to make an investment in a firm. Investors will provide funds to a firm only if the return that they *expect* is equal to, or greater than, the return that they *require* to accept the risk of providing funds to the firm.

The cost of capital (that is, the combination of the costs of debt and equity) is based on the economic principle of "opportunity costs." Investing in any asset (whether debt or equity securities) represents a forgone opportunity to invest in alternative assets. For any investment to be sensible, its expected return must be at least equal to the return expected on alternative, comparable risk investment opportunities. Because investments with like risks should offer similar returns, the

opportunity cost of an investment should equal the return available on an investment of comparable risk.

Whereas the cost of debt is contractually defined and can be directly observed as the interest rate or yield on debt securities, the cost of common equity must be estimated based on market data and various financial models. Because the cost of common equity is premised on opportunity costs, the models used to determine it are typically applied to a group of "comparable" or "proxy" companies.

In the end, the estimated cost of capital should reflect the return that investors require in light of the subject company's business and financial risks, and the returns available on comparable investments.

Q. Is the authorized return set in regulatory proceedings guaranteed?

A. No, it is not. Consistent with the *Hope* and *Bluefield* standards, the rate-setting process should provide the utility a reasonable opportunity to recover its return of, and return on, its prudently incurred investments, but it does not guarantee that return. While a utility may have control over some factors that affect the ability to earn its authorized return (e.g., management performance, operating and maintenance expenses, etc.), there are several factors beyond a utility's control that

affect its ability to earn its authorized return. Those may include factors such as weather, the economy, and the prevalence and magnitude of regulatory lag.

A. Business Risk

Q. Please define business risk and explain why it is important for determining a fair rate of return.

A. The investor-required ROE reflects investors' assessment of the total investment risk of the subject firm. Total investment risk is often discussed in the context of business and financial risk.

Business risk reflects the uncertainty associated with owning a company's common stock without the company's use of debt and/or preferred stock financing. One way of considering the distinction between business and financial risk is to view the former as the uncertainty of the expected earned ROE, assuming the firm is financed with no debt.

Examples of business risks faced generally by utilities include, but are not limited to, the regulatory environment, mandatory environmental compliance requirements, customer mix and concentration of customers, service territory economic growth, market demand, risks and uncertainties of supply, operations, capital intensity, size, the degree of operating leverage, emerging technologies

including distributed energy resources, the vagaries of weather, and the like, all of which have a direct bearing on earnings.

Although analysts, including rating agencies, may categorize business risks individually, as a practical matter, such risks are interrelated and not wholly distinct from one another. When determining an appropriate ROE, the relevant issue is where investors see the subject company in relation to other similarly situated utility companies (i.e., the Utility Proxy Group). To the extent investors view a company as being exposed to higher risk, the required return will increase, and vice versa.

For regulated utilities, business risks are both long-term and near-term in nature. Whereas near-term business risks are reflected in year-to-year variability in earnings and cash flow brought about by economic or regulatory factors, long-term business risks reflect the prospect of an impaired ability of investors to obtain both a fair rate of return on, and return of, their capital. Moreover, because utilities accept the obligation to provide safe, adequate and reliable service at all times (in exchange for a reasonable opportunity to earn a fair return on their investment), they generally do not have the option to delay, defer, or reject capital investments. Because those investments are capital-intensive, utilities generally do not have the

option to avoid raising external funds. The obligation to serve and the corresponding need to access capital is even more acute during periods of capital market distress.

Because utilities invest in long-lived assets, long-term business risks are of paramount concern to equity investors. That is, the risk of not recovering the return on their investment extends far into the future. The timing and nature of events that may lead to losses, however, also are uncertain and, consequently, those risks and their implications for the required ROE tend to be difficult to quantify. Regulatory commissions (like investors who commit their capital) must review a variety of quantitative and qualitative data and apply their reasoned judgment to determine how long-term risks weigh in their assessment of the market-required ROE.

Q. Does SPS have unique business risks relative to the proxy group?

A. Yes. SPS's degree of customer concentration, which is highly skewed towards commercial and industrial customers, poses an incremental element of business risk because those customer classes generally are the least stable sources of throughput, exposing the Company to increased earnings and cash flow volatility relative to the proxy group.

Approximately 80.00% of SPS's 2021 retail electric sales (MWh), and 67.00% of its retail electric revenues, were derived from commercial and industrial customers,[20] including a large portion from oil and gas companies. Further, approximately 29.00% of SPS's total electric sales and 31.50% of its total electric revenues are attributable to sales for resale in the wholesale electric market.[21] SPS's retail sales volume to commercial and industrial customers as a percentage of total volume (80.00%) is the highest of the proxy companies. In fact, SPS's degree of customer concentration is approximately 19.00% higher than the proxy group average (61.00%).

B. Financial Risk

Q. Please define financial risk and explain why it is important in determining a fair rate of return.

A. Financial risk is the additional risk created by the introduction of debt and preferred stock into the capital structure. The higher the proportion of debt and preferred stock in the capital structure, the higher the financial risk to common equity owners (i.e., failure to receive dividends due to default or other covenants). Consequently,

[20] Source: S&P Global Market Intelligence.

[21] Source: S&P Global Market Intelligence.

as the degree of financial leverage increases, the risk of financial distress (i.e., financial risk) also increases. In essence, even if two firms face the same business risks, a company with meaningfully higher levels of debt in its capital structure is likely to have a higher cost of both debt and equity. Therefore, consistent with the basic financial principle of risk and return, common equity investors require higher returns as compensation for bearing higher financial risk.

Q. Can bond and credit ratings be a proxy for a firm's combined business and financial risks to equity owners (i.e., investment risk)?

A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of, similar combined business and financial risks (i.e., total risk) faced by bond investors.[22] Although specific business or financial risks may differ between companies, the same bond/credit rating indicates that the combined risks are roughly similar from a debtholder perspective. The caveat is that these debtholder risk measures do not translate directly to risks for common equity.

[22] Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, e.g., within the A category, an S&P rating can be an A+, A, or A-. Similarly, risk distinction for Moody's ratings are distinguished by numerical rating gradations, e.g., within the A category, a Moody's rating can be A1, A2 and A3.

V. SPS AND THE UTILITY PROXY GROUP

Q. Why is it necessary to develop a proxy group when estimating the ROE for the Company?

A. Because the Company is not publicly traded and does not have publicly traded equity securities, it is necessary to develop groups of publicly traded, comparable companies to serve as "proxies" for the Company. In addition to the analytical necessity of doing so, the use of proxy companies is consistent with the *Hope* and *Bluefield* comparable risk standards, as discussed above. I have selected two proxy groups that, in my view, are fundamentally risk-comparable to the Company: a Utility Proxy Group and a Non-Price Regulated Proxy Group, which is comparable in total risk to the Utility Proxy Group.[23]

Even when proxy groups are carefully selected, it is common for analytical results to vary from company to company. Despite the care taken to ensure comparability, because no two companies are identical, market expectations regarding future risks and prospects will vary within the proxy group. It therefore is common for analytical results to reflect a seemingly wide range, even for a group

[23] The development of the Non-Price Regulated Proxy Group is explained in more detail in Section VII.

of similarly situated companies. At issue is how to estimate the ROE from within that range. That determination will be best informed by employing a variety of sound analyses that necessarily must consider the sort of quantitative and qualitative information discussed throughout my direct testimony. Additionally, a relative risk analysis between the Company and the Utility Proxy Group must be made to determine whether or not explicit Company-specific adjustments need to be made to the Utility Proxy Group's indicated results.

My analyses are based on the Utility Proxy Group, which is comprised of U.S. electric utilities. As discussed earlier, utilities must compete for capital with other companies with commensurate risk (including non-utilities) and, to do so, must be provided the opportunity to earn a fair and reasonable return. Consequently, it is appropriate to consider the Utility Proxy Group's market data in determining the Company's ROE.

Q. Please summarize the Company's operations.

A. SPS is a vertically integrated electric utility that provides electric generation, transmission, and distribution service to approximately 400,000 retail electric customers in Texas and New Mexico.[24] The Company has long-term issuer ratings

[24] *See,* Xcel Energy Inc., SEC Form 10-K at 9 (Dec. 31, 2021).

of Baa2 from Moody's Investor Services ("Moody's") and A- from Standard & Poor's ("S&P").[25] The Company is not publicly-traded as it is an operating subsidiary of Xcel Energy. Xcel Energy is publicly-traded under ticker symbol "XEL".

Page 1 of Attachment__(DWD-1), Schedule 2 contains comparative capitalization and financial statistics for the Company for the years 2017 to 2021.[26] During the five-year period ending 2021, the historically achieved average earnings rate on book common equity for the Company averaged 9.09%. The average common equity ratio based on total permanent capital (excluding short-term debt) was 54.05%, and the average dividend payout ratio was 94.00%.

Total debt to earnings before interest, taxes, depreciation, and amortization for the years 2017 to 2021 ranges between 3.80 times and 4.59 times, with an average of 4.23 times. Funds from operations to total debt range from 10.38% to 25.33%, with an average of 16.55%.

[25] Source: S&P Global Market Intelligence.

[26] Source: SPS FERC Form 1. Reflects entire operations of the Company.

Q. Please explain how you chose the companies in the Utility Proxy Group.

A. Because the cost of common equity is a comparative exercise, my objective in developing a proxy group was to select companies that are comparable to the Company. Because the Company is a 100% rate-regulated vertically integrated electric utility, I applied the following criteria to select my Utility Proxy Group:

(i) They were included in the Eastern, Central, or Western Electric Utility Group of *Value Line Investment Survey* (Standard Edition)("*Value Line*");

(ii) They have 70% or greater of fiscal year 2021 total operating income derived from, and 70% or greater of fiscal year 2021 total assets attributable to, regulated electric operations;

(iii) They are vertically integrated (i.e., utilities that own and operate regulated generation, transmission, and distribution assets);

(iv) At the time of preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (i.e., one publicly traded utility merging with or acquiring another) or any other major development;

(v) They have not cut or omitted their common dividends during the five years ended 2021 or through the time of preparation of this testimony;

(vi) They have *Value Line* and Bloomberg Professional Services ("Bloomberg") adjusted Beta coefficients ("beta");

(vii) They have positive *Value Line* five-year dividends per share ("DPS") growth rate projections; and

(viii) They have *Value Line*, Zacks Investment Research ("Zacks"), Bloomberg, or Yahoo! Finance consensus five-year earnings per share ("EPS") growth rate projections.

The following 12 companies met these criteria:

Table 2: Utility Proxy Group Companies

Company Name	Ticker Symbol
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power, Inc.	AEP
Duke Energy Corporation	DUK
Edison International	EIX
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Portland General Electric Co.	POR
Xcel Energy, Inc.	XEL

Q. Please summarize the Utility Proxy Group's historical capitalization and financial statistics.

A. Page 2 of Attachment__(DWD-1), Schedule 2 contains comparative capitalization and financial statistics for the Utility Proxy Group for the years 2017 to 2021.

During the five-year period ending 2021, the historically achieved average earnings rate on book common equity for the Utility Proxy Group averaged 9.11%. The average common equity ratio based on total permanent capital (excluding short-term debt) was 45.70%, and the average dividend payout ratio was 71.89%.

Total debt to earnings before interest, taxes, depreciation, and amortization for the years 2017 to 2021 ranges between 4.16 times and 6.17 times, with an average of 5.10 times. Funds from operations to total debt range from 9.99% to 18.71%, with an average of 14.34%. Given those capitalization and financial statistics, I conclude the Utility Proxy Group is generally comparable to the Company.

VI. CAPITAL STRUCTURE

Q. What is SPS's requested capital structure?

A. As testified to by SPS witness Patricia L. Martin, the Company's requested Future Test Year capital structure consists of 45.30% long-term debt and 54.70% common equity, which is consistent with SPS's currently approved capital structure. The requested capital structure is also similar to the Base Period capital structure, which consists of 45.18% long-term debt and 54.82% common equity.

Q. Does SPS have a separate capital structure that is recognized by investors?

A. Yes. SPS is a separate corporate entity that has its own capital structure and issues its own debt. SPS's actual capital structure is reflected in registrations of its debt with the Securities Exchange Commission.

Q. What are the typical sources of capital commonly considered in establishing a utility's capital structure?

A. Common equity and long-term debt are commonly considered in establishing a utility's capital structure because they are the typical sources of capital financing a utility's rate base.

Q. Please explain.

A. Long-lived assets are typically financed with long-lived securities, so that the overall term structure of the utility's long-term liabilities (both debt and equity) closely match the life of the assets being financed. As stated by Brigham and Houston:

> In practice, firms don't finance each specific asset with a type of capital that has a maturity equal to the asset's life. However, academic studies do show that most firms tend to finance short-term assets from short-term sources and long-term assets from long-term sources.[27]

Whereas short-term debt has a maturity of one year or less, long-term debt may have maturities of 30 years or longer. Although there are practical financing constraints, such as the need to "stagger" long-term debt maturities, the general objective is to extend the average life of long-term debt. Still, long-term debt has a finite life, which is likely to be less than the life of the assets included in rate base. Common equity, on the other hand, is outstanding into perpetuity. Thus, common equity more accurately matches the life of the going concern of the utility, which is also assumed to operate in perpetuity. Consequently, it is both typical and

[27] Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, Concise 4th Ed., Thomson South-Western, 2004, at 574.

important for utilities to have significant proportions of common equity in their capital structures.

Q. Why is it important that the Company's recommended capital structure, consisting of 45.30% long-term debt and 54.70% common equity, be authorized in this proceeding?

A. As a preliminary matter, the Company's recommended capital structure is comparable to its historical capital structure, and is within a reasonable range from the perspective of the Utility Proxy Group companies.[28] The use of an operating subsidiary's capital structure is consistent with the FERC precedent, under which they use the applicant's capital structure, where possible.[29] In particular, the FERC will use the utility operating company's capital structure if it meets three criteria: (1) it issues its own debt without guarantees; (2) it has its own bond rating; and (3) it has a capital structure within the range of capital structures approved by the commission.[30] The Company meets all of these criteria.

[28] *See* Attachment__(DWD-1), Schedule 2.

[29] *See, Transcontinental Gas Pipe Line Corp,* 80 FERC ¶ 61,157, 61,657 (1997) ("Opinion No. 414").

[30] 148 FERC ¶ 61,049 Docket No. EL14-12-000, at 190.

In order to provide safe, reliable, and affordable service to its customers, SPS must meet the needs and serve the interests of its various stakeholders, including customers, shareholders, and bondholders. The interests of these stakeholder groups are aligned with maintaining a healthy balance sheet, strong credit ratings, and a supportive regulatory environment, so that the Company has access to capital on reasonable terms in order to make necessary investments.

Safe and reliable service cannot be maintained at a reasonable cost if utilities do not have the financial flexibility and strength to access competitive financing markets on reasonable terms. As Ms. Martin explains, an appropriate capital structure is important not only to ensure long-term financial integrity, it also is critical to enabling access to capital during constrained markets, or when near-term liquidity is needed to fund extraordinary requirements. In that important respect, the capital structure, and the financial strength it engenders, must support both normal circumstances and periods of market uncertainty. The authorization of a capital structure that understates the Company's actual common equity will weaken the financial condition of its operations and adversely impact the Company's ability to address expenses and investments, to the detriment of customers and shareholders. Safe and reliable service for customers cannot be

sustained over the long term if the interests of shareholders and bondholders are minimized such that the public interest is not optimized.

Consequently, SPS's recommended capital structure should be used to set rates in this proceeding.

Q. How does SPS's recommended common equity ratio of 54.70% compare with the common equity ratios maintained by the Utility Proxy Group?

A. The Company's requested ratemaking common equity ratio of 54.70% is reasonable and consistent with the range of common equity ratios maintained by the Utility Proxy Group. As shown on pages 3 and 4 of Attachment__(DWD-1), Schedule 2, common equity ratios of the Utility Proxy Group companies range from 30.78% to 57.15% for fiscal year 2021.

I also considered *Value Line* projected capital structures for the utilities for 2025-2027. That analysis shows a range of projected common equity ratios between 33.50% and 51.00%.[31]

In addition to comparing the Company's actual common equity ratio with common equity ratios currently and expected to be maintained by the Utility Proxy Group, I also compared the Company's actual common equity ratio with the equity

[31] *See*, pages 3 through 14 of Attachment__(DWD-1), Schedule 3.

ratios maintained by the operating subsidiaries of the Utility Proxy Group companies. As shown on page 5 of Attachment__(DWD-1), Schedule 2, common equity ratios of the operating utility subsidiaries of the Utility Proxy Group range from 40.96% to 58.26% for fiscal year 2021.

Q. What factors should typically be considered when determining whether to use an actual or expected, or hypothetical capital structure for ratemaking purposes?

A. The factors typically considered relative to the use of a regulated subsidiary's actual or expected capital structure, or a hypothetical capital structure, are provided by David C. Parcell in The Cost of Capital – A Practitioner's Guide ("CRRA Guide") prepared for SURFA and provided as the study guide to candidates for SURFA's Certified Rate of Return Certification Examination. The CRRA Guide notes that there are circumstances where a hypothetical capital structure is used in favor of an actual or expected capital structure. They are:

(i) The utility's capital structure is deemed to be substantially different from the typical or "proper" capital structure; or

(ii) The utility's capital structure is funded as part of a diversified organization whose overall capital structure reflects its diversified nature rather than its utility operations only.[32]

Phillips echoes the CRRA Guide when he states:

> Debt ratios began to rise in the late 1960s and early 1970s, and the financial condition of the public utility sector began to deteriorate. It became the common practice to use actual or expected capitalizations; actual where a historic test year is used, expected when a projected or future test year is used.[83] (footnote omitted)
>
> The objective, in short, shifted from minimization of the short-term cost of capital to protection of a utility's ability "to raise capital at all times." This objective requires that a public utility make every effort to keep indebtedness at a prudent and conservative level."[84] (footnote omitted)
>
> *A hypothetical capital structure is used only where a utility's actual capitalization is clearly out of line with those of other utilities in its industry or where a utility is diversified.*[85] (footnote omitted) (italics added)[33]

[32] David C. Parcell, The Cost of Capital – A Practitioner's Guide, Prepared for the Society of Utility and Regulatory Financial Analysts, 2010 Edition, at 47.

[33] Charles F. Phillips, Jr., The Regulation of Public Utilities – Theory and Practice, 1993, Public Utility Reports, Inc., Arlington, VA, at 391.

Q. Is SPS's recommended equity ratio of 54.70% appropriate for ratemaking purposes?

A. Yes, it is. The Company's recommended equity ratio of 54.70% is appropriate for ratemaking purposes in the current proceeding because it issues its own debt without guarantees, it has its own credit rating, and its capital structure is within the range of the common equity ratios currently maintained and expected to be maintained, by the Utility Proxy Group and their operating subsidiaries.

VII. COMMON EQUITY COST RATE MODELS

Q. Is it important that cost of common equity models be market-based?

A. Yes. As discussed previously, regulated public utilities, like the Company, must compete for equity in capital markets along with all other companies with commensurate risk, including non-utilities. The cost of common equity is thus determined based on equity market expectations for the returns of those companies. If an individual investor is choosing to invest their capital among companies with comparable risk, they will choose the company providing a higher return over a company providing a lower return.

Q. Are the cost of common equity models you use market-based models?

A. Yes. The DCF model is market-based in that market prices are used in developing the dividend yield component of the model. The RPM and CAPM are also market-based in that the bond/issuer ratings and expected bond yields/risk-free rate used in the application of the RPM and CAPM reflect the market's assessment of bond/credit risk. In addition, the use of beta to determine the equity risk premium also reflects the market's assessment of market/systematic risk, as betas are derived from regression analyses of market prices. Moreover, market prices are used in the development of the monthly returns and equity risk premiums used in the Predictive Risk Premium Model ("PRPM"). Selection criteria for the Non-Price Regulated

Proxy Group are based on regression analyses of market prices and reflect the market's assessment of total risk.

Q. What analytical approaches did you use to determine the Company's ROE?

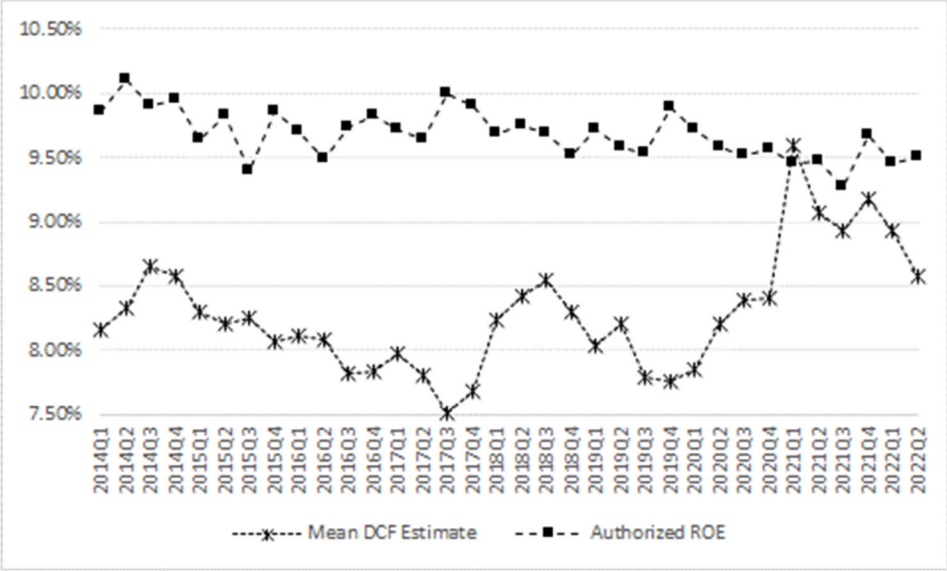
A. As discussed earlier, I have relied on the DCF model, the RPM, and the CAPM, which I applied to the Utility Proxy Group described above. I also applied these same models to a Non-Price Regulated Proxy Group described later in this section.

I rely on these models because reasonable investors use a variety of tools and do not rely exclusively on a single source of information or single model. Moreover, the models on which I rely focus on different aspects of return requirements, and provide different insights to investors' views of risk and return. The DCF model, for example, estimates the investor-required return assuming a constant expected dividend yield and growth rate in perpetuity, while Risk Premium-based methods (i.e., the RPM and CAPM approaches), provide the ability to reflect investors' views of risk, future market returns, and the relationship between interest rates and the cost of common equity. Just as the use of market data for the Utility Proxy Group adds the reliability necessary to inform expert judgment in arriving at a recommended common equity cost rate, the use of multiple generally accepted common equity cost rate models also adds reliability and accuracy when arriving at a recommended common equity cost rate.

Q. Has the Constant Growth DCF model recently produced estimates consistent with authorized returns?

A. Since 2014, except for one quarter, the Constant Growth DCF model has produced results (i.e., mean results) below authorized returns (*see* Chart 5, below). That data suggests state regulatory commissions have not necessarily relied exclusively on the DCF model, and that other methods should be given meaningful weight in determining the ROE.

Chart 5: Mean DCF Results vs. Authorized ROE Over Time[34]



[34] DCF results based on quarterly average stock prices, Earnings Per Share growth rates from Value Line, Zacks, First Call, and Bloomberg. Authorized ROEs are quarterly averages for vertically integrated electric utilities. Source: S&P Global Market Intelligence. Please note that 2017 Q3 and 2016 Q2 included only one ROE decision.

Q. Has New Mexico noted the importance of reviewing multiple methods in prior utility proceedings?

A. Yes. Although I am not an attorney, I understand that in prior cases, the Supreme Court of New Mexico (the "Court") found that the Commission is not bound to a single method. As the Court noted in *Hobbs Gas*:

> Neither New Mexico case law nor the Public Utility Act imposes any one particular method of valuation upon the Commission in ascertaining the rate base of a utility. *Mountain States Tel. v. New Mexico State Corp.*, 90 N.M. 325, 563 P.2d 588 (1977). Nor does the spirit of the statute tie the Commission down to the consideration of a single factor in establishing rates.[35]

Citing to its decision in *Mountain States Telephone*, the Court further noted that:

> The Commission was not bound to the use of any single formula or combination of formulae in determining rates. The rate-making function involves the making of pragmatic adjustments. It is the result reached, not the method employed, which is controlling. (Citations omitted.)[36]

In *PNM Gas Services*, the Court likewise found that because of the complexity and number of variables at issue in rate proceedings, the Commission

[35] *Hobbs Gas Co. v. New Mexico Public Service Commission, 94 N.M. 731* (1980), at 4.

[36] *Id.*

is not bound to a single formula. Again, the Court found that "…the rate-making function involves the making of pragmatic adjustments" and that in the end, "[i]t is the result reached, not the method employed, which is controlling."[37]

Lastly, I understand that in *Zia Natural Gas*, the Court again cited back to *Mountain States Telephone*, noting the importance of the "immediate economic situation":

> [t]his Court can see no reason why it should adopt as the law of this state any single formula which has been evolved out of this history of litigation.... [T]he regulatory authorities seek a formula which will adjust rates to the *immediate economic situation*" (emphasis added).[38]

My plain reading of those decisions suggests that although the Commission historically has put emphasis on the Constant Growth DCF approach, it is not bound to do so. Equally important, the Court found that the immediate economic situation may call for "pragmatic adjustments" to the method used to establish the ROE, and that it is the reasonableness of the ROE itself, rather than the methodology used in its determination, that controls.

[37] *In re Petition of PNM Gas Services, 129 N.M. 1* (2000), at 11.

[38] *In re Zia Natural Gas Co., 128 N.M. 728* (2000), at 8.

Q. Would sole reliance on the DCF model likely produce a reasonable ROE for SPS in this case?

A. No. As the New Mexico Supreme Court has consistently recognized, it is the current economic situation, not adherence to a single formula, that is likely to produce a reasonable return. As discussed above, a reasonable ROE is one that is commensurate with the returns expected elsewhere for investments of equivalent risk. As Chart 5 above demonstrates, average authorized returns (which may themselves be below the required return for a particular utility) have consistently been higher than the return produced under a standalone DCF approach. The DCF model's consistent failure to produce returns commensurate with the returns generally established for electric utilities demonstrates that it should not be relied on to the exclusion of other approaches, but instead that a combination of the DCF model with tested, market-based models should be used.

A. The Discounted Cash Flow Model

Q. Please describe the DCF model generally.

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return

rate, which is derived from the cash flows received from dividends and market price appreciation. Mathematically, the expected dividend yield on market price plus a growth rate equals the capitalization rate; i.e., the total common equity return rate expected by investors, as shown in Equation [1] below:

$$K_e = (D_0 (1+g))/P + g$$

where:

K_e = the required Return on Common Equity;

D_0 = the annualized Dividend Per Share;

P = the current stock price; and

g = the growth rate.

Q. Which version of the DCF model did you use?

A. I used the single-stage Constant Growth DCF model.

Q. Please describe the dividend yield you used in applying the Constant Growth DCF model.

A. The unadjusted dividend yields are based on the proxy companies' dividends as of August 31, 2022, divided by the average closing market price for the 60 trading days ended August 31, 2022.[39]

[39] *See,* Column 1, page 1 of Attachment___(DWD-1), Schedule 3.

Q. Please explain your adjustment to the dividend yield.

A. Because dividends are paid periodically (e.g. quarterly), as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the Gordon Periodic, version of the DCF model.

DCF theory calls for using the full growth rate, or D_1, in calculating the model's dividend yield component. Since the companies in the Utility Proxy Group increase their quarterly dividends at various times during the year, a conservative assumption is to reflect one-half the annual dividend growth rate rather than the full growth rate in the dividend yield component, or $D_{1/2}$. Because the dividend should be representative of the next 12-month period, this adjustment is a conservative approach that does not overstate the dividend yield. Therefore, the actual average dividend yields in Column 1, page 1 of Attachment___(DWD-1), Schedule 3 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 5.

Q. Please explain the basis for the growth rates you apply in your Constant Growth DCF model.

A. Investors with more limited resources than institutional investors are likely to rely on widely available financial information services such as *Value Line*, Zacks, and

Yahoo! Finance. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as companies' abilities to effectively manage the effects of changing laws and regulations, and ever-changing economic and market conditions. For these reasons, I used analysts' five-year forecasts of EPS growth in my DCF analysis.

Over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant influence on market prices than dividend expectations. Thus, using projected earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF.

Q. Please summarize the Constant Growth DCF model results.

A. As shown on page 1 of Attachment___(DWD-1), Schedule 3, the application of the Constant Growth DCF model to the Utility Proxy Group results in a wide range of indicated ROEs from 6.03% to 9.65%. The mean of those results is 8.56%, the median result is 8.90%, and the average of the two is 8.73%. In arriving at a conclusion of the indicated common equity cost rate for the Utility Proxy Group implied by the Constant Growth DCF model, I relied on an average of the mean and the median results (i.e., 8.73%) of the DCF. By doing so, I have considered

the DCF results for each company without giving undue weight to outliers on either the high or the low side.

Q. Did you consider any other Constant Growth DCF model results?

A. Yes, I did. I recognize that in prior orders, including SPS's most recent fully-litigated order in Case No. 17-00255-UT,[40] the Commission has relied exclusively on a specific form of the Constant Growth DCF approach ("NM DCF"). Specifically, that form has recently included a 30-day stock price averaging period and a full dividend yield growth rate adjustment, and determined the ROE at the midpoint of the proxy group mean and mean high DCF results. Consistent with the Commission's prior precedent, I have included a NM DCF analysis incorporating the Commission's preferred inputs, as shown on page 2 of Attachment___(DWD-1), Schedule 3.

Q. Please explain how you determined the mean high DCF results for the Utility Proxy Group.

A. For each proxy company, I calculated the high DCF result by applying the highest of the four growth rates to the expected dividend yield. The mean high DCF result

[40] The Commission issued its Final Order on September 5, 2018, and a *New Final Order on Partial Mandate from the New Mexico Supreme Court* on March 6, 2019.

for the Utility Proxy Group is the average of the individual company indicated DCF result.

Q. Please summarize the results of the NM DCF.

A. As shown on page 2 of Attachment___(DWD-1), Schedule 3, for the Utility Proxy Group, the application of the Commission's DCF model to the Utility Proxy Group resulted in indicated ROEs from 6.81% to 11.08%. The average of the mean and median results of applying the Commission's DCF model is 8.71%, the average of the mean and median high result is 9.68%. The average of the two is 9.20%.

B. The Risk Premium Model

Q. Please describe the theoretical basis of the RPM.

A. The RPM is based on the fundamental financial principle of risk and return; namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are behind debt holders in any claim on a company's assets and earnings. As a result, investors require higher returns from common stocks than from bonds to compensate them for bearing the additional risk.

While it is possible to directly observe bond returns and yields, investors' required common equity returns cannot be directly determined or observed. According to RPM theory, one can estimate a common equity risk premium over

bonds (either historically or prospectively), and use that premium to derive a cost rate of common equity. The cost of common equity equals the expected cost rate for long-term debt capital, plus a risk premium over that cost rate, to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings upon liquidation.

Q. Please explain how you derived your indicated cost of common equity based on the RPM.

A. To derive my indicated cost of common equity under the RPM, I used two risk premium methods. The first method was the PRPM and the second method was a risk premium model using a total market approach. The PRPM estimates the risk-return relationship directly, while the total market approach indirectly derives a risk premium by using known metrics as a proxy for risk.

i) Predictive Risk Premium Model

Q. Please explain the PRPM.

A. The PRPM, published in the *Journal of Regulatory Economics,*[41] was developed from the work of Robert F. Engle, who shared the Nobel Prize in Economics in

[41] Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. *A New Approach for Estimating the Equity Risk Premium for Public Utilities*, The Journal of Regulatory Economics (December 2011), 40:261-278.

2003 "for methods of analyzing economic time series with time-varying volatility" or ARCH.[42] Engle found that volatility changes over time and is related from one period to the next, especially in financial markets. Engle discovered that volatility of prices and returns clusters over time and is therefore highly predictable and can be used to predict future levels of risk and risk premiums. That is, historical volatility can be used to predict future volatility, which then can be translated to a predicted equity risk premium.

A generalized form of the ARCH methodology ("GARCH") has been well tested by academia since Engle's, *et al*. research was originally published in 1982, 40 years ago. The PRPM is in the public domain, having been published six times in academically peer-reviewed journals: Journal of Economics and Business (June 2011 and April 2015),[43] The Journal of Regulatory Economics (December 2011),[44]

[42] Autoregressive conditional heteroscedasticity; *See also,* www.nobelprize.org.

[43] *See,* Eugene A. Pilotte, and Richard A. Michelfelder, *Treasury Bond Risk and Return, the Implications for the Hedging of Consumption and Lessons for Asset Pricing*, Journal of Economics and Business, June 2011, 582-604. *See also,* Richard A. Michelfelder, *Empirical Analysis of the Generalized Consumption Asset Pricing Model: Estimating the Cost of Capital*, Journal of Economics and Business, April 2015, 37-50.

[44] *See,* Pauline M. Ahern, Frank J. Hanley, and Richard A. Michelfelder, *New Approach to Estimating the Equity Risk Premium for Public Utilities*, The Journal of Regulatory Economics, December 2011, at 40:261-278.

The Electricity Journal (May 2013 and March 2020),[45] and Energy Policy (April 2019).[46] Notably, none of these articles have been rebutted in the academic literature.

The PRPM is also cited in the following textbooks on cost of capital by authors unaffiliated with the authors of the academic articles cited above:

- Shannon Pratt and Roger Grabowski, Cost of Capital: Applications and Examples, (Fifth Edition), Wiley & Sons, 2015;
- Shannon Pratt and Roger Grabowski, The Lawyer's Guide to Cost of Capital: Understanding Risk and Return for Valuing Businesses and Other Investments, ABA Publishing, 2015; and
- Roger A. Morin, Modern Regulatory Finance, PUR Books, 2021.

Q. How does the PRPM estimate the investor-required return?

A. The PRPM estimates the risk-return relationship directly, as the predicted equity risk premium is generated by predicting volatility or risk. I use the well-established GARCH methodology (noted above) to estimate the PRPM model using a standard

[45] *See,* Richard A. Michelfelder, Pauline M. Ahern, Dylan W. D'Ascendis, and Frank J. Hanley, *Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity,* The Electricity Journal, April 2013, at 84-89; *see also,* Richard A. Michelfelder, Pauline M. Ahern, and Dylan W. D'Ascendis, *Decoupling, Risk Impacts and the Cost of Capital*, The Electricity Journal, January 2020.

[46] *See,* Richard A. Michelfelder, Pauline M. Ahern, and Dylan W. D'Ascendis, *Decoupling Impact and Public Utility Conservation Investment*, Energy Policy, April 2019, 311-319.

commercial and relatively inexpensive statistical package, Eviews,©[47] to develop a means by which to estimate a predicted equity risk premium which, when added to a relevant bond yield, results in an indicated cost of common equity. The PRPM is not based on an estimate of investor behavior, but rather on an evaluation of the results of that behavior (i.e., the variance of historical equity risk premiums).

The inputs to the model are the historical returns on the common shares of each Utility Proxy Group company minus the historical monthly yield on long-term U.S. Treasury securities through August 2022. Using the GARCH methodology, I calculated each Utility Proxy Group company's projected equity risk premium using Eviews© statistical software.

When the GARCH model is applied to the historical return data, it produces a predicted GARCH variance series[48] and a GARCH coefficient.[49] Multiplying the predicted monthly variance by the GARCH coefficient and then annualizing it[50]

[47] In addition to Eviews,® the GARCH methodology can be applied and the PRPM derived using other standard statistical software packages such as SAS, RATS, S-Plus and JMulti, which are not cost-prohibitive.

[48] Illustrated on Columns 1 and 2, page 2 of Attachment___(DWD-1), Schedule 4.

[49] Illustrated on Column 4, page 2 of Attachment___(DWD-1), Schedule 4.

[50] Annualized Return = (1 + Monthly Return) ^12 - 1

produces the predicted annual equity risk premium. I then added the forecasted 30-year U.S. Treasury bond yield of 3.56%[51] to each company's PRPM-derived equity risk premium to arrive at an indicated cost of common equity. The 30-year U.S. Treasury bond yield is a consensus forecast derived from *Blue Chip.*[52] The mean PRPM indicated common equity cost rate for the Utility Proxy Group is 12.11%, the median is 12.12%, and the average of the two is 12.12%. Consistent with my reliance on the average of the median and mean results of the DCF models, I relied on the average of the mean and median results of the Utility Proxy Group PRPM to calculate a cost of common equity rate of 12.12%.

Q. Please describe your selection of a risk-free rate of return.

A. As shown in Attachment___(DWD-1), Schedules 4 and 5, the risk-free rate adopted for application of the RPM and CAPM is 3.56%. This risk-free rate is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the fourth calendar quarter of 2023, and long-term projections for the years 2024 to 2028 and 2029 to 2033.

[51] *See,* Column 6, page 2 of Attachment___(DWD-1), Schedule 4.

[52] *Blue Chip Financial Forecasts ("Blue Chip")*, June 1, 2022, at 2, and September 1, 2022, at 14.

Q. Why do you use the projected 30-year Treasury yield in your analyses?

A. The yield on long-term U.S. Treasury bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on Moody's A2-rated public utility bonds; the long-term investment horizon inherent in utilities' common stocks; and the long-term life of the jurisdictional rate base to which the allowed fair rate of return (i.e., cost of capital) will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Fed monetary policy.

More specifically, the term of the risk-free rate used for cost of capital purposes should match the life (or duration) of the underlying investment (i.e., perpetuity). As noted by Morningstar:

> The traditional thinking regarding the time horizon of the chosen Treasury security is that it should match the time horizon of whatever is being valued. When valuing a business that is being treated as a going concern, the appropriate Treasury yield should be that of a long-term Treasury bond. Note that the horizon is a function of the investment, not the investor. If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years.[53]

[53] Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook, at 44.

Morin also confirms this when he states:

> [b]ecause common stock is a long-term investment and because the cash flows to investors in the form of dividends last indefinitely, the yield on very long-term government bonds, namely, the yield on 30-year Treasury bonds, is the best measure of the risk-free rate for use in the CAPM (footnote omitted)… The expected common stock return is based on long-term cash flows, regardless of an individual's holding time period.[54]

Pratt and Grabowski recommend a similar approach to selecting the risk-free rate: "[i]n theory, when determining the risk-free rate and the matching ERP you should be matching the risk-free security and the ERP with the period in which the investment cash flows are expected."[55]

As a practical matter, equity securities represent a perpetual claim on cash flows; 30-year Treasury bonds are the longest-maturity securities available to approximate that perpetual claim. The average life of SPS's utility plant is approximately 24 years based on the composite depreciation rate of the components of its utility plant.[56] Thus, the use of a 30-year Treasury bond yield is an appropriate risk-free rate as it reflects the life of the assets it finances.

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[54] Roger A. Morin, Modern Regulatory Finance, Public Utilities Reports, Inc., 2021, at 169. ("Morin")

[55] Shannon Pratt and Roger Grabowski, Cost of Capital: Applications and Examples, 3rd Ed. (Hoboken, NJ: John Wiley & Sons, Inc., 2008), at 92. "ERP" is the Equity Risk Premium.

[56] Average depreciation 4.19%. 1 / 4.19% = 23.87 years.

ii) Total Market Approach Risk Premium Model

Q. Please explain the total market approach RPM.

A. The total market approach RPM adds a prospective public utility bond yield to an average of: (1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, (2) an equity risk premium based on the S&P Utilities Index, and (3) an equity risk premium based on authorized ROEs for electric utilities.

Q. Please explain how you determined the expected bond yield applicable to the Utility Proxy Group.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including the common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. Because I am unaware of any publication that provides forecasted public utility bond yields, I relied on a consensus forecast of about 50 economists of the expected yield on Aaa-rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter of 2023, and *Blue Chip's* long-term projections for 2024 to 2028, and 2029 to 2033.

As shown on line 1, page 3 of Attachment___(DWD-1), Schedule 4, the average expected yield on Moody's Aaa-rated corporate bonds is 4.76%.

Because that 4.76% estimate represents a corporate bond yield and not a utility-specific bond yield, I adjusted the expected Aaa-rated corporate bond yield to an equivalent A2-rated public utility bond yield. That resulted in an upward adjustment of 0.68%, which represents a recent spread between Aaa-rated corporate bonds and A2-rated public utility bonds.[57] Adding that recent 0.68% spread to the expected Aaa-rated corporate bond yield of 4.76% results in an expected A2-rated public utility bond yield of 5.44%.

I then reviewed the average credit rating for the Utility Proxy Group from Moody's to determine if an adjustment to the estimated A2-rated public utility bond was necessary. Since the Utility Proxy Group's average Moody's long-term issuer rating is Baa1, another adjustment to the expected A2-rated public utility bond is needed to reflect the difference in bond ratings. An upward adjustment of 0.23%, which represents two-thirds of a recent spread between A2-rated and Baa2-rated public utility bond yields, is necessary to make the A2 prospective bond yield

[57] As shown on line 2 and explained in note 2, page 3 of Attachment___(DWD-1), Schedule 4.

applicable to a Baa1-rated public utility bond.[58] Adding the 0.23% to the 5.44% prospective A2-rated public utility bond yield results in a 5.67% expected bond yield applicable to the Utility Proxy Group.

Table 3: Summary of the Calculation of the Utility Proxy Group Projected Bond Yield[59]

Prospective Yield on Moody's Aaa-Rated Corporate Bonds (*Blue Chip)*	4.76%
Adjustment to Reflect Yield Spread Between Moody's Aaa-Rated Corporate Bonds and Moody's A2-Rated Utility Bonds	0.68%
Adjustment to Reflect the Utility Proxy Group's Average Moody's Bond Rating of Baa1	0.23%
Prospective Bond Yield Applicable to the Utility Proxy Group	5.67%

To develop the total market approach RPM estimate of the appropriate ROE, this prospective bond yield is then added to the average of the three different equity risk premiums, which I now discuss, in turn.

[58] As shown on line 4 and explained in note 3, page 3 of Attachment___(DWD-1), Schedule 4. Moody's does not provide public utility bond yields for Baa1-rated bonds. As such, it was necessary to estimate the difference between A2-rated and Baa1-rated public utility bonds. Because there are three steps between Baa2 and A2 (Baa2 to Baa1, Baa1 to A3, and A3 to A2) I assumed an adjustment of two-thirds of the difference between the A2-rated and Baa2-rated public utility bond yield was appropriate.

[59] As shown on page 3 of Attachment___(DWD-1), Schedule 4.

a. Beta-Derived Equity Risk Premium

Q. Please explain how the beta-derived equity risk premium is determined.

A. The components of the beta-derived risk premium model are: (1) an expected market equity risk premium over corporate bonds, and (2) beta. The derivation of the beta-derived equity risk premium that I applied to the Utility Proxy Group is shown on lines 1 through 9, page 8 of Attachment___(DWD-1), Schedule 4. The total beta-derived equity risk premium I applied is based on an average of three historical market data-based equity risk premiums, two *Value Line*-based equity risk premiums and a Bloomberg-based equity risk premium. Each of these is described below.

Q. How did you derive a market equity risk premium based on long-term historical data?

A. To derive an historical market equity risk premium, I used the most recent holding period returns for the large company common stocks from the Stocks, Bonds, Bills, and Inflation ("SBBI") Yearbook 2022 ("SBBI - 2022")[60] less the average historical yield on Moody's Aaa/Aa2-rated corporate bonds for the period 1928 to 2021.

[60] *See,* SBBI-2022 Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2021.

Using holding period returns over a very long time is appropriate because it is consistent with the long-term investment horizon presumed by investing in a going concern, i.e., a company expected to operate in perpetuity.

SBBI's long-term arithmetic mean monthly total return rate on large company common stocks was 12.11% and the long-term arithmetic mean monthly yield on Moody's Aaa/Aa2-rated corporate bonds was 5.98%.[61] As shown on line 1, page 8 of Attachment___(DWD-1), Schedule 4, subtracting the mean monthly bond yield from the total return on large company stocks results in a long-term historical equity risk premium of 6.13%.

I used the arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa-rated corporate bonds, because they are appropriate for the purpose of estimating the cost of capital as noted in SBBI - 2022.[62] Using the arithmetic mean return rates and yields is appropriate because historical total returns and equity risk premiums provide insight into the variance and standard deviation of returns needed by investors in estimating future risk when making a current investment. If investors relied on the

[61] As explained in note 1, page 9 of Attachment___(DWD-1), Schedule 4.

[62] *See,* SBBI - 2022, at 201.

geometric mean of historical equity risk premiums, they would have no insight into the potential variance of future returns, because the geometric mean relates to the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, which is critical to risk analysis.

Q. Please explain the derivation of the regression-based market equity risk premium.

A. To derive the regression-based market equity risk premium of 7.63% shown on line 2, page 8 of Attachment___(DWD-1), Schedule 4, I used the same monthly annualized total returns on large company common stocks relative to the monthly annualized yields on Moody's Aaa/Aa2-rated corporate bonds as mentioned above. I modeled the relationship between interest rates and the market equity risk premium using the observed monthly market equity risk premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa2-rated corporate bonds as the independent variable. I then used a linear Ordinary Least Squares ("OLS") regression, in which the market equity risk premium is expressed as a function of the Moody's Aaa/Aa2-rated corporate bonds yield:

$$RP = \alpha + \beta\ (R_{Aaa/Aa})$$

Q. Please explain the derivation of the PRPM equity risk premium.

A. I used the same PRPM approach described above for the PRPM equity risk premium. The inputs to the model are the historical monthly returns on large company common stocks minus the monthly yields on Moody's Aaa/Aa2-rated corporate bonds during the period from January 1928 through August 2022.[63] Using the previously discussed generalized form of ARCH, known as GARCH, the projected equity risk premium is determined using Eviews© statistical software. The resulting PRPM predicted a market equity risk premium of 10.35%.[64]

Q. Please explain the derivation of a projected equity risk premium based on *Value Line* data for your RPM analysis.

A. As noted above, because both ratemaking and the cost of capital are prospective, a prospective market equity risk premium is needed. The derivation of the forecasted or prospective market equity risk premium can be found in note 4, page 9 of Attachment___(DWD-1), Schedule 4. Consistent with my calculation of the dividend yield component in my DCF analysis, this prospective market equity risk

[63] Data from January 1928 to December 2021 is from SBBI - 2022. Data from January 2022 to August 2022 is from Bloomberg.

[64] Shown on line 3, page 8 of Attachment___(DWD-1), Schedule 4.

premium is derived from an average of the three- to five-year median market price appreciation potential by *Value Line* for the 13 weeks ended August 31, 2022, plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line* (Standard Edition).[65]

The average median expected price appreciation is 68%, which translates to a 13.85% annual appreciation, and, when added to the average of *Value Line's* median expected dividend yields of 2.15%, equates to a forecasted annual total return rate on the market of 16.00%. The forecasted Moody's Aaa-rated corporate bond yield of 4.76% is deducted from the total market return of 16.00%, resulting in an equity risk premium of 11.24%, as shown on line 4, page 8 of Attachment___(DWD-1), Schedule 4.

Q. Please explain the derivation of an equity risk premium based on the S&P 500 companies.

A. Using data from *Value Line*, I calculated an expected total return on the S&P 500 companies using expected dividend yields and long-term growth estimates as a

[65] As explained in detail in note 1, page 2 of Attachment___(DWD-1), Schedule 4.

proxy for capital appreciation. The expected total return for the S&P 500 is 16.59%. Subtracting the prospective yield on Moody's Aaa-rated corporate bonds of 4.76% results in an 11.83% projected equity risk premium.

Q. Please explain the derivation of an equity risk premium based on Bloomberg data.

A. Using data from Bloomberg, I calculated an expected total return on the S&P 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 12.62%. Subtracting the prospective yield on Moody's Aaa-rated corporate bonds of 4.76% results in a 7.86% projected equity risk premium.

Q. What is your conclusion of a beta-derived equity risk premium for use in your RPM analysis?

A. I gave equal weight to all six equity risk premiums based on each source – historical, *Value Line*, and Bloomberg – in arriving at a 9.17% equity risk premium.

Table 4: Summary of the Calculation of the Equity Risk Premium Using Total Market Returns[66]

Historical Spread Between Total Returns of Large Stocks and Aaa and Aa2-Rated Corporate Bond Yields (1928 – 2021)	6.13%
Regression Analysis on Historical Data	7.63%
PRPM Analysis on Historical Data	10.35%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected Aaa Corporate Bond Yields	11.24%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected Aaa Corporate Bond Yields	11.83%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected Aaa Corporate Bond Yields	7.86%
Average	9.17%

After calculating the average market equity risk premium of 9.17%, I adjusted it by beta to account for the risk of the Utility Proxy Group. As discussed below, beta is a meaningful measure of prospective relative risk to the market as a whole, and is a logical way to allocate a company's, or proxy group's, share of the market's total equity risk premium relative to corporate bond yields. As shown on

[66] As shown on page 8 of Attachment___(DWD-1), Schedule 4.

page 1 of Attachment___(DWD-1), Schedule 5, the average of the mean and median beta for the Utility Proxy Group is 0.76. Multiplying the 0.76 average beta by the market equity risk premium of 9.17% results in a beta-adjusted equity risk premium for the Utility Proxy Group of 6.97%.

b. S&P Utility Index-Derived Equity Risk Premium

Q. How did you derive the equity risk premium based on the S&P Utility Index and Moody's A2-rated public utility bonds?

A. I estimated three equity risk premiums based on S&P Utility Index holding period returns, and two equity risk premiums based on the expected returns of the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P Utility Index holding period returns, I derived a long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.74% and monthly Moody's A2-rated public utility bond yields of 6.46% from 1928 to 2021 to arrive at an equity risk premium of 4.28%.[67] I then used the same historical data to derive an equity risk premium of 5.16% based on a regression of

[67] As shown on line 1, page 12 of Attachment___(DWD-1), Schedule 4.

the monthly equity risk premiums. The final S&P Utility Index holding period equity risk premium involved applying the PRPM using the historical monthly equity risk premiums from January 1928 to August 2022 to arrive at a PRPM-derived equity risk premium of 5.55% for the S&P Utility Index.

I then derived expected total returns on the S&P Utilities Index of 9.07% and 11.59% using data from *Value Line* and Bloomberg, respectively, and subtracted the prospective Moody's A2-rated public utility bond yield of 5.44%[68], which resulted in equity risk premiums of 3.64% and 6.15%, respectively. As with the market equity risk premiums, I averaged each risk premium based on each source (i.e., historical, *Value Line*, and Bloomberg) to arrive at my utility-specific equity risk premium of 4.96%.

[68] Derived on line 3, page 3 of Attachment___(DWD-1), Schedule 4.

Table 5: Summary of the Calculation of the Equity Risk Premium Using S&P Utility Index Holding Returns[69]

Historical Spread Between Total Returns of the S&P Utilities Index and A2-Rated Utility Bond Yields (1928 – 2021)	4.28%
Regression Analysis on Historical Data	5.16%
PRPM Analysis on Historical Data	5.55%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P Utilities Index less Projected A2 Utility Bond Yields	3.64%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P Utilities Index less Projected A2 Utility Bond Yields	6.15%
Average	4.96%

c. Authorized Return-Derived Equity Risk Premium

Q. How did you derive an equity risk premium of 5.00% based on authorized ROEs for electric utilities?

A. The equity risk premium of 5.00% shown on line 3, page 7 of Attachment___(DWD-1), Schedule 4 is the result of a regression analysis based on regulatory awarded ROEs related to the yields on Moody's A2-rated public utility bonds. That analysis is shown on page 13 of Attachment___(DWD-1), Schedule 4.

[69] As shown on page 12 of Attachment___(DWD-1), Schedule 4.

Page 13 of Attachment___(DWD-1), Schedule 4 contains the graphical results of a regression analysis of 1,193 rate cases for electric utilities which were fully litigated during the period from January 1, 1980 through August 31, 2022. It shows the implicit equity risk premium relative to the yields on A2-rated public utility bonds immediately prior to the issuance of each regulatory decision. That is, the analysis considers the relationship between authorized returns and prevailing public utility bond yields at the time of the decision.

It is readily discernible that there is an inverse relationship between the yield on A2-rated public utility bonds and equity risk premiums. In other words, as interest rates decline, the equity risk premium rises and vice versa, a result consistent with financial literature on the subject.[70] I used the regression results to estimate the equity risk premium applicable to the projected yield on Moody's A2-rated public utility bonds. Given the expected A2-rated utility bond yield of 5.44%, it can be calculated that the indicated equity risk premium applicable to that

[70] *See*, *e.g.*, Robert S. Harris and Felicia C. Marston, *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, Journal of Applied Finance, Vol. 11, No. 1, 2001, at 11-12; Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, Financial Management, Spring 1985, at 33-45.

bond yield is 5.00%, which is shown on page 13 of Attachment___(DWD-1), Schedule 4.

Q. What is your conclusion of an equity risk premium for use in your total market approach RPM analysis?

A. The equity risk premium I applied to the Utility Proxy Group is 5.64%, which is the average of the beta-adjusted equity risk premium for the Utility Proxy Group, the S&P Utilities Index, and the authorized return utility equity risk premiums of 6.97%, 4.96%, and 5.00%, respectively.[71]

Q. What is the indicated RPM common equity cost rate based on the total market approach?

A. As shown on line 7, page 3 of Attachment___(DWD-1), Schedule 4, and shown on Table 6, below, I calculated a common equity cost rate of 11.31% for the Utility Proxy Group based on the total market approach RPM.

[71] As shown on page 7 of Attachment___(DWD-1), Schedule 4.

Table 6: Summary of the Total Market Return Risk Premium Model[72]

Prospective Moody's A2-Rated Utility Bond Applicable to the Utility Proxy Group	5.44%
Prospective Equity Risk Premium	5.64%
Indicated Cost of Common Equity	11.31%

Q. What are the results of your application of the PRPM and the total market approach RPM?

A. As shown on page 1 of Attachment___(DWD-1), Schedule 4, the indicated RPM-derived common equity cost rate is 11.72%, which gives equal weight to the PRPM (12.12%) and the adjusted-market approach results (11.31%).

C. The Capital Asset Pricing Model

Q. Please explain the theoretical basis of the CAPM.

A. CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by beta (β). A beta that is less than 1.0 indicates lower variability than the market as a whole, while a beta that is greater than 1.0 indicates greater variability than the market.

[72] As shown on page 3 of Attachment___(DWD-1), Schedule 4.

The CAPM assumes that all non-market or unsystematic risk can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors only require compensation for systematic risk, which is the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by beta. The traditional CAPM model is expressed as:

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

Where:
R_s = Return rate on the common stock;
R_f = Risk-free rate of return;
R_m = Return rate on the market as a whole; and
β = Adjusted beta (volatility of the security relative to the market as a whole).

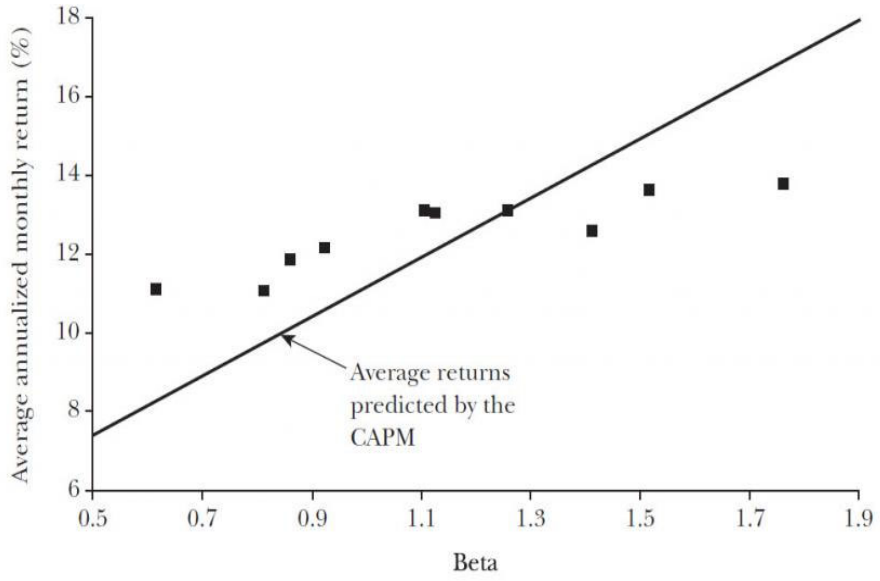
Numerous tests of the traditional CAPM have measured the extent to which security returns and beta are related as predicted by the CAPM, confirming its validity. The empirical CAPM ("ECAPM") reflects the reality that while the results of these tests support the notion that the beta is related to security returns, the

empirical Security Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicted SML.[73]

In their work on the CAPM, Fama and French clearly state regarding Figure 2, below, that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low."[74]

Figure 2 http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430

Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003



[73] Morin, at 205-209.

[74] Eugene F. Fama and Kenneth R. French, *The Capital Asset Pricing Model: Theory and Evidence*, Journal of Economic Perspectives, Vol. 18, No. 3, Summer 2004, at 33 ("Fama & French").

In addition, Morin observes that while the results of these tests support the notion that beta is related to security returns, the empirical SML described by the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

> With few exceptions, the empirical studies agree that … low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.[75]

* * *

> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:
>
> $$K = R_F + x (R_M - R_F) + (1-x) \beta(R_M - R_F)$$
>
> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship [is] Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:
>
> $$K = R_F + 0.25(R_M - R_F) + 0.75 \beta(R_M - R_F)$$[76]

Fama and French provide similar support for the ECAPM when they state:

> The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too 'flat.'… The regressions consistently find that

[75] Morin, at 207.

[76] Morin, at 221.

> the intercept is greater than the average risk-free rate… and the coefficient on beta is less than the average excess market return… This is true in the early tests… as well as in more recent cross-section regressions tests, like Fama and French (1992).[77]

Finally, Fama and French further note:

> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Linter CAPM predicts. The returns on low beta portfolios are too high, and the returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return as 11.1 percent. The predicted return on the portfolio with the t beta is 16.8 percent per year; the actual is 13.7 percent.[78]

Clearly, the justification from Morin, Fama, and French, along with their reviews of other academic research on the CAPM, validate the use of the ECAPM. In view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the Utility Proxy Group and averaged the results.

Q. What betas did you use in your CAPM analysis?

A. For the beta in my CAPM analysis, I considered two sources: *Value Line* and Bloomberg. While both of those services adjust their calculated (or "raw") beta to

[77] Fama & French, at 32.

[78] Fama & French, at 33.

reflect the tendency of beta to regress to the market mean of 1.00, *Value Line* calculates betas over a five-year period, while Bloomberg calculates them over a two-year period.

Q. Please describe your selection of a risk-free rate of return.

A. As discussed previously, the risk-free rate adopted for both applications of the CAPM is 3.56%. This risk-free rate is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the fourth calendar quarter of 2023, and long-term projections for the years 2024 to 2028 and 2029 to 2033.

Q. Please explain the estimation of the expected risk premium for the market used in your CAPM analyses.

A. The basis of the market risk premium is explained in detail in note 1 on page 2 of Attachment___(DWD-1), Schedule 5. As discussed above, the market risk premium is derived from an average of three historical data-based market risk premiums, two *Value Line* data-based market risk premiums, and one Bloomberg data-based market risk premium.

The long-term income return on U.S. Government securities of 5.02% was deducted from the SBBI - 2022 monthly historical total market return of 12.37%,

which results in an historical market equity risk premium of 7.35%.[79] I applied a linear OLS regression to the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government securities from SBBI - 2022. That regression analysis yielded a market equity risk premium of 9.09%. The PRPM market equity risk premium is 11.58%, and is derived using the PRPM relative to the yields on long-term U.S. Treasury securities from January 1926 through August 2022.

The *Value Line*-derived forecasted total market equity risk premium is derived by deducting the forecasted risk-free rate of 3.56%, discussed above, from the *Value Line* projected total annual market return of 16.00%, resulting in a forecasted total market equity risk premium of 12.44%. The S&P 500 projected market equity risk premium using *Value Line* data is derived by subtracting the projected risk-free rate of 3.56% from the projected total return of the S&P 500 of 16.59%. The resulting market equity risk premium is 13.03%.

The S&P 500 projected market equity risk premium using Bloomberg data is derived by subtracting the projected risk-free rate of 3.56% from the projected total return of the S&P 500 of 12.62%. The resulting market equity risk premium

[79] SBBI - 2022, at Appendix A-1 (1) through A-1 (3) and Appendix A-7 (19) through A-7 (21).

is 9.06%. These six measures, when averaged, result in an average total market equity risk premium of 10.42%.

Table 7: Summary of the Calculation of the Market Risk Premium for Use in the CAPM[80]

Historical Spread Between Total Returns of Large Stocks and Long-Term Government Bond Yields (1926 – 2021)	7.35%
Regression Analysis on Historical Data	9.09%
PRPM Analysis on Historical Data	11.58%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected 30-Year Treasury Bond Yields	12.44%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected 30-Year Treasury Bond Yields	13.03%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected 30-Year Treasury Bond Yields	9.06%
Average	10.42%

Q. What are the results of your application of the traditional and Empirical CAPM to the Utility Proxy Group?

A. As shown on page 1 of Attachment___(DWD-1), Schedule 5, the mean result of my CAPM/ECAPM analyses is 11.92%, the median is 11.70%, and the average of

[80] As shown on page 2 of Attachment___(DWD-1), Schedule 5.

the two is 11.81%. Consistent with my reliance on the average of mean and median DCF results discussed above, the indicated common equity cost rate using the CAPM/ECAPM is 11.81%.

D. Common Equity Cost Rates for a Proxy Group of Domestic, Non-Price Regulated Companies Based on the DCF, RPM, and CAPM

Q. Why do you also consider a proxy group of domestic, non-price regulated companies?

A. Although I am not an attorney, my interpretation of the *Hope* and *Bluefield* cases is that they did not specify that comparable risk companies had to be utilities. Since the purpose of rate regulation is to be a substitute for marketplace competition, non-price regulated firms operating in the competitive marketplace make an excellent proxy if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of such domestic, non-price regulated competitive firms theoretically and empirically results in a proxy group which is comparable in total risk to the Utility Proxy Group, since all of these companies compete for capital in the exact same markets.

Q. How did you select non-price regulated companies that are comparable in total risk to the Utility Proxy Group?

A. In order to select a proxy group of domestic, non-price regulated companies similar in total risk to the Utility Proxy Group, I relied on the beta and related statistics derived from *Value Line* regression analyses of weekly market prices over the most recent 260 weeks (i.e., five years). These selection criteria resulted in a proxy group of 38 domestic, non-price regulated firms comparable in total risk to the Utility Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable company-specific risks. The criteria used in selecting the domestic, non-price regulated firms was:

(i) They must be covered by *Value Line* (Standard Edition);

(ii) They must be domestic, non-price regulated companies, i.e., not utilities;

(iii) Their unadjusted betas must lie within plus or minus two standard deviations of the average unadjusted betas of the Utility Proxy Group; and

(iv) The residual standard errors of the *Value Line* regressions which gave rise to the unadjusted beta must lie within plus or minus two standard deviations of the average residual standard error of the Utility Proxy Group.

As discussed above, betas measure market, or systematic, risk, which is not diversifiable. The residual standard errors of the regressions measure each firm's company-specific, diversifiable risk. Companies that have similar betas and similar residual standard errors resulting from the same regression analyses have similar total investment risk.

Q. Have you prepared a schedule which shows the data from which you selected the 38 domestic, non-price regulated companies that are comparable in total risk to the Utility Proxy Group?

A. Yes, the basis of my selection and both proxy groups' regression statistics are shown in Attachment___(DWD-1), Schedule 6.

Q. Is the use of unadjusted betas and standard errors of the regression supported by academic and financial literature?

A. Yes, it is. Business and financial risks may vary between companies and proxy groups, but if the collective average betas and standard errors of the regression of the group are similar, then the total, or aggregate, non-diversifiable market risks and diversifiable risks are similar, as noted in "Comparable Earnings: New Life for an Old Precept" provided in Attachment___(DWD-1), Schedule 7.[81] Thus,

[81] Frank J. Hanley, Pauline M. Ahern, *Comparable Earnings: New Life for an Old Precept*, Financial Quarterly Review, Summer 1994.

because the non-price regulated companies are selected based on analyses of market data, they are comparable in total risk (even though individual risks may vary) to the Utility Proxy Group. This is demonstrated clearly on page 273 of Jack C. Francis' Investments: Analysis and Management (page 3 of Attachment___(DWD-1), Schedule 8), which shows that total risk can be "partitioned into its systematic and unsystematic components." Essentially, companies that have similar betas and standard errors of regression have similar total investment risk.

Q. Have you prepared an additional analysis to determine whether your Utility Proxy Group and Non-Price Regulated Proxy Group are of comparable risk?

A. Yes, I have. I compared the average and median *Value Line* Safety Ranking[82] for the Utility Proxy Group and Non-Price Regulated Proxy Group, as shown on Table 8, below:

[82] *Value Line* also ranks stocks for Safety by analyzing the total risk of a stock compared to the approximately 1,700 stocks in the *Value Line* universe. Each of the stocks tracked in the *Value Line Investment Survey* is ranked in relationship to each other, from 1 (the highest rank) to 5 (the lowest rank). Safety is a quality rank, not a performance rank, and stocks ranked 1 and 2 are most suitable for conservative investors; those ranked 4 and 5 will be more volatile. Volatility means prices can move dramatically and often unpredictably, either down or up. The major influences on a stock's Safety rank are the company's financial strength, as measured by balance sheet and financial ratios, and the stability of its price over the past five years.

Table 8: Comparison of Safety Rankings of Mr. D'Ascendis' Utility Proxy Group and Non-Price Regulated Proxy Group

Group	Average Safety Ranking	Median Safety Ranking
Utility Proxy Group	1.75	2.00
Non-Price Regulated Proxy Group	1.63	1.50

As noted above, the Safety Rankings of the Utility Proxy Group and the Non-Price Regulated Proxy Group are comparable, indicating comparable total risk. This, in addition to all of the above, should lead the Commission to consider the results of my Non-Price Regulated Proxy Group in its determination of SPS's ROE in this proceeding.

Q. Did you calculate common equity cost rates using the DCF model, RPM, and CAPM for the Non-Price Regulated Proxy Group?

A. Yes. Because the DCF model, RPM, and CAPM have been applied in an identical manner as described above, I will not repeat the details of the rationale and application of each model. One exception is in the application of the RPM, where I did not use public utility-specific equity risk premiums, nor did I apply the PRPM to the individual non-price regulated companies.

Page 2 and 3 of Attachment___(DWD-1), Schedule 9 applies the Constant Growth and NM DCF models to the Non-Price Regulated Proxy Group. As shown, the indicated common equity cost rates are 11.78% and 12.72% respectively.

Pages 4 through 6 of Attachment___(DWD-1), Schedule 9 contain the data and calculations that support the 13.47% RPM common equity cost rate. As shown on line 1, page 3 of Attachment___(DWD-1), Schedule 9, the consensus prospective yield on Moody's Baa2-rated corporate bonds for the six quarters ending in the fourth quarter of 2023, and for the years 2024 to 2028 and 2029 to 2033, is 5.84%.[83] Since the Non-Price Regulated Proxy Group has an average Moody's long-term issuer rating of Baa1, a downward adjustment of 0.26% to the projected Baa2-rated corporate bond yield is necessary to reflect the difference in ratings which results in a projected Baa1-rated corporate bond yield of 5.58%.

When the beta-adjusted risk premium of 7.89%[84] relative to the Non-Price Regulated Proxy Group is added to the prospective Baa1-rated corporate bond yield of 5.58%, the indicated RPM common equity cost rate is 13.47%.

[83] *Blue Chip*, June 1, 2022, at page 2, and September 1, 2022, at 14.

[84] Derived on page 5 of Attachment___(DWD-1), Schedule 7.

Page 7 of Attachment___(DWD-1), Schedule 9 contains the inputs and calculations that support my indicated CAPM/ECAPM common equity cost rate of 12.68%.

Q. How is the cost rate of common equity based on the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group?

A. As shown on page 1 of Attachment___(DWD-1), Schedule 9, the results of the common equity models applied to the Non-Price Regulated Proxy Group – which is comparable in total risk to the Utility Proxy Group – are as follows: 12.25% (DCF), 13.47% (RPM), and 12.68% (CAPM). The average of the mean and median of these models is 12.74%, which I used as the indicated common equity cost rates for the Non-Price Regulated Proxy Group.

VIII. CONCLUSION OF COMMON EQUITY COST ANALYTICAL RESULTS BEFORE ADJUSTMENTS

Q. Based on your analyses, what is the indicated common equity cost rate before adjustments?

A. By applying multiple cost of common equity models to the Utility Proxy Group and the Non-Price Regulated Proxy Group, the indicated range of common equity cost rates attributable to the Utility Proxy Group before any relative risk adjustments is between 10.35% and 11.35%. I used multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate, because each of these models is theoretically sound and available to investors, and because no single model is so inherently precise that it can be relied on to the exclusion of other theoretically sound models. Using multiple models adds reliability to the estimated common equity cost rate, with the prudence of using multiple cost of common equity models supported in both the financial literature and regulatory precedent.

Based on these common equity cost results, I conclude that a range of common equity cost rates between 10.35% and 11.35% is reasonable and appropriate before any adjustments for relative risk differences between the Company and the Utility Proxy Group are made. To determine my recommended

range, I calculated the midpoint of the highest and lowest analytical results (10.85%) and added and subtracted 50 basis points, resulting in a range of 10.35% to 11.35% I have chosen this indicated range of common equity cost rates applicable to the Utility Proxy Group as a conservative estimate of the required ROE.

IX. ADJUSTMENTS TO THE COMMON EQUITY COST RATE

A. Size Adjustment

Q. Does the Company's smaller size relative to the Utility Proxy Group companies increase its business risk?

A. Yes. As a preliminary matter, because I have developed my cost of common equity recommendation for the Company's New Mexico operations based on market data applied to the Utility Proxy Group of risk-comparable companies, in order to assess the Company's risk associated with its relative small size of its New Mexico operations, it is necessary to compare the Company's New Mexico-jurisdictional size relative to the Utility Proxy Group. The Company's smaller size relative to the Utility Proxy Group companies indicates greater relative business risk for the Company because, all else being equal, size has a material bearing on risk.

Size affects business risk because smaller companies generally are less able to cope with significant events that affect sales, revenues and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a small company than on a bigger company with a larger, more diverse, customer base.

This is true for utilities, as well as for non-regulated companies. As discussed above, SPS's customer concentration is significantly higher than the members of the Utility Proxy Group.

As further evidence that smaller firms are riskier, investors generally demand greater returns from smaller firms to compensate for less marketability and liquidity of their securities. Kroll's Cost of Capital Navigator: U.S. Cost of Capital Module ("Kroll") discusses the nature of the small-size phenomenon, providing an indication of the magnitude of the size premium based on several measures of size. In discussing "Size as a Predictor of Equity Returns," Kroll states:

> The size effect is based on the empirical observation that companies of smaller size are associated with greater risk and, therefore, have greater cost of capital [sic]. The "size" of a company is one of the most important risk elements to consider when developing cost of equity capital estimates for use in valuing a business simply because size has been shown to be a *predictor* of equity returns. In other words, there is a significant (negative) relationship between size and historical equity returns - as size *decreases*, returns tend to *increase*, and vice versa. (footnote omitted) (emphasis in original)[85]

[85] Kroll, Cost of Capital Navigator: U.S. Cost of Capital Module, Size as a Predictor of Equity Returns, at 1.

Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence," Fama and French note size is indeed a risk factor which must be reflected when estimating the cost of common equity. On page 14, they note:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariances) in returns not captured in the market return and are priced separately from market betas.[86]

Based on this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect size has on the cost of common equity.

Also, it is a basic financial principle that the use of funds invested, and not the source of funds, is what gives rise to the risk of any investment.[87] Eugene Brigham, a well-known authority, states:

> A number of researchers have observed that portfolios of small-firms (sic) have earned consistently higher average returns than those of large-firm stocks; this is called the "small-firm effect." On the surface, it would seem to be advantageous to the small firms to provide average returns in a stock market that are higher than those of larger firms. In reality, it is bad news for the small

[86] Fama & French, at 25-43.

[87] Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance (McGraw-Hill Book Company, 1996), at 204-205, 229.

> firm; **what the small-firm effect means is that the capital market demands higher returns on stocks of small firms than on otherwise similar stocks of the large firms**. (emphasis added)[88]

Consistent with the financial principle of risk and return discussed above, increased relative risk due to small size must be considered in the allowed rate of ROE. Therefore, the Commission's authorization of a cost rate of common equity in this proceeding must appropriately reflect the unique risks of the Company, including its small relative size to the Utility Proxy Group, which is justified and supported above by evidence in the financial literature.

Q. Earlier you explained that credit ratings can act as a proxy for a firm's combined business and financial risks to equity owners. Do rating agencies account for company size in their bond ratings?

A. No. Neither S&P nor Moody's have minimum company size requirements for any given rating level. This means, all else equal, a relative size analysis must be conducted for equity investments in companies with similar bond ratings.

[88] Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989), at 623.

Q. Is there a way to quantify a relative risk adjustment due to the Company's small size when compared to the Utility Proxy Group?

A. Yes. The Company has greater relative risk than the average utility in the Utility Proxy Group because of its smaller size, as measured by an estimated market capitalization of common equity for the Company's New Mexico operations.

Table 9: Size as Measured by Market Capitalization for SPS's Electric Operations and the Utility Proxy Group

	Market Capitalization* ($ Millions)	Times Greater than the Company
SPS NM Jurisdictional	$2,232.04	
Utility Proxy Group	$24,871.95	11.0x
*From page 1 of Attachment___(DWD-1), Schedule 10.		

The Company's estimated market capitalization for its New Mexico operations was $2.23 billion as of August 31, 2022, compared with the market capitalization of the average company in the Utility Proxy Group of $24.87 billion as of August 31, 2022. The average company in the Utility Proxy Group has a market capitalization 11.0 times the size of the Company's estimated New Mexico-based market capitalization.

As a result, it is necessary to upwardly adjust the indicated range of common equity cost rates attributable to the Utility Proxy Group to reflect the Company's greater risk due to its smaller relative size. The determination is based on the size premiums for portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ listed companies ranked by deciles for the 1926 to 2021 period.[89] The average size premium for the Utility Proxy Group with a market capitalization of $24.87 billion falls in the 2nd decile, while the Company's estimated market capitalization of $2.26 billion places it in the 6th decile. The size premium spread between the 2nd decile and the 6th decile is 0.75%.[90] Even though a 0.75% upward size adjustment is indicated, I applied a size premium of 0.15% to the Company's indicated common equity cost rate in order to be conservative.

Q. Since the Company is part of a larger company, why is the size of Xcel Energy not more appropriate to use when determining the size adjustment?

A. The return derived in this proceeding will not apply to Xcel Energy's operations as a whole, but only to the Company's New Mexico operations. Xcel Energy is the sum of its constituent parts, including those constituent parts' ROEs. Potential

[89] Source: Kroll, Cost of Capital Navigator.

[90] Source: Kroll, Cost of Capital Navigator. *See also*, Attachment___(DWD-1), Schedule 10.

investors in Xcel Energy are aware that it is a combination of operations in each state, and that each state's operations experience the operating risks specific to their jurisdiction. The market's expectation of Xcel Energy's return is commensurate with the realities of the Company's composite operations in each of the states in which it operates.

B. Credit Risk Adjustment

Q. Please discuss your proposed credit risk adjustment.

A. SPS's long-term issuer ratings are Baa2 and A-[91] from Moody's and S&P, respectively. The average long-term issuer ratings from Moody's and S&P for the Utility Proxy Group are Baa1 and BBB+, respectively. SPS's long-term issuer rating from Moody's is one step below the Utility Proxy Group average, implying a higher level of risk, while its S&P long-term issuer credit rating is one step above the Utility Proxy Group average, implying a lower level of risk. Given that, I have not applied a credit risk adjustment to my recommended ROE. That is, because the relative risk implied by SPS's credit ratings are offsetting, the credit risk adjustment is zero.

[91] Ms. Martin notes SPS's Stand Alone Credit Profile rating from S&P is A-.

C. Regulatory Risk

Q. Is the regulatory environment in which a utility operates an important consideration in determining an appropriate ROE?

A. The regulatory environment is one of the most important issues considered by both debt and equity investors in assessing the risks and prospects of utility companies. Moody's finds the regulatory environment to be so important that 50.00% of the factors that weigh in the Company's ratings determination are determined by the nature of regulation, and noted:

> For 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. The regulatory environment is comprised of two rating factors - the Regulatory Framework and its corollary factor, the Ability to Recover Costs and Earn Returns. Broadly 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. The Ability to Recover Costs and Earn Returns relates more directly to the actual decisions, including their timeliness and the rate-setting outcomes.[92]

Similarly, S&P has noted:

[92] Moody's Investor Service, Rating Methodology, Regulated Electric and Gas Utilities, June 23, 2017.

> The assessment of regulatory risk is perhaps the most important factor in Standard & Poor's Ratings Services' analysis of a U.S. regulated, investor-owned utility's business risk. Each of the other four factors we examine--markets, operations, competitiveness, and management--can affect the quality of the regulation a utility experiences, but we believe the fundamental regulatory environment in the jurisdictions in which a utility operates often influences credit quality the most.[93]

Q. Are you aware of services that rate regulatory environments?

A. Yes, I am. Regulatory Research Associates ("RRA") provides an assessment of the degree to which regulatory jurisdictions are or are not constructive. As RRA explains, less constructive environments are associated with higher levels of risk:

> RRA maintains three principal rating categories, Above Average, Average, and Below Average, with Above Average indicating a relatively more constructive, lower-risk regulatory environment from an investor viewpoint, and Below Average indicating a less constructive, higher-risk regulatory climate. Within the three principal rating categories, the numbers 1, 2, and 3 indicate relative position. The designation 1 indicates a stronger or more constructive rating from an investor viewpoint; 2, a mid-range rating; and, 3, a less constructive rating within each higher-level category. Hence, if you were to assign numeric values to each of the nine resulting categories, with a "1" being the most constructive from an investor viewpoint, then Above Average/1 would be a "1" and Below Average/3 would be a "9".[94]

[93] Standard & Poor's, Utilities: Assessing U.S. Utility Regulatory Environments, November 15, 2011.

[94] Source of Information: Regulatory Research Associates.

Q. Has RRA commented specifically on the regulatory environment in New Mexico?

A. Yes, they have. RRA states:

> RRA views the New Mexico regulatory environment as restrictive from an investor perspective. Recent Public Regulation Commission, or PRC, equity return authorizations, when specified, have approximated or have been below prevailing industry averages at the time established. However, the state's utilities have typically failed to earn their authorized returns. Rate cases generally take more than a year to conclude, and while state law has permitted the use of fully forecasted test years in base rate proceedings the last decade, the practice of using future test years in such cases remains a protracted and contested issue. A number of recent PRC rate decisions have also been challenged through an appeal process that, in some cases, has taken two or more years to conclude. New Mexico utilities have fuel, purchase power and gas commodity clauses in place, but the PRC has yet to adopt a revenue decoupling mechanism for any utility. Newly enacted legislation mandates a 100% renewable portfolio standard by 2045 for the state and allows the utilities to seek commission approval to securitize costs associated with the early retirement/abandonment of coal-fired generation assets. RRA continues to accord the state a Below Average/2 rating.[95]

[95] Source of Information: Regulatory Research Associates.

Q. Did you conduct an analysis to compare SPS's regulatory risk to the Utility Proxy Group?

A. Yes, I did. I examined the RRA Ranking of each regulatory jurisdiction the Utility Proxy companies operate in and calculated an average RRA Regulatory ranking for each Utility Proxy company.

Q. What did that analysis reveal?

A. As shown on page 1 of Attachment__(DWD-1), Schedule 11, the RRA regulatory ranking study showed that the average regulatory risk ranking of the Utility Proxy Group was Average/2 compared to New Mexico's ranking of Below Average/2, which is the second lowest rating of RRA's rating scale. This shows that SPS is riskier than the Utility Proxy Group based on regulatory risk factors. Given the restrictive nature of SPS's regulatory environment, as demonstrated in the comparison of the Utility Proxy Group's average RRA regulatory ranking to that of the Company, SPS's increased relative risk should be considered when determining the ROE for the Company in this proceeding.

Q. Did you conduct any other analyses to compare SPS's regulatory risk to the utility proxy group?

A. Yes, I did. S&P ranks jurisdictions in North America based on the level of credit supportiveness. I performed the same analysis as discussed above based on S&P's rankings.

Q. What did that analysis reveal?

A. As shown on page 2 of Attachment__(DWD-1), Schedule 11, S&P ranks New Mexico as Credit Supportive, the least credit supportive jurisdiction in North America, whereas the average proxy group rating is Very Credit Supportive.[96]

D. Flotation Costs

Q. What are flotation costs?

A. Flotation costs are those costs associated with the sale of new issuances of common stock. They include market pressure and the mandatory unavoidable costs of issuance (e.g., underwriting fees and out-of-pocket costs for printing, legal, registration, etc.). For every dollar raised through debt or equity offerings, the Company receives less than one full dollar in financing.

[96] S&P Global Ratings, *Views On North American Utility Regulatory Jurisdictions May Foreshadow Future Credit Trends – November 2021*, November 4, 2021. S&P's ranks jurisdictions as: Credit Supportive (adequate), More Credit Supportive (strong/adequate), Very Credit Supportive (strong/adequate), Highly Credit Supportive (strong/adequate), and Most Credit Supportive (strong).

Q. Do the common equity cost rate models you have used already reflect investors' anticipation of flotation costs?

A. No. All of these models assume no transaction costs. The literature is quite clear that these costs are not reflected in the market prices paid for common stocks. For example, Brigham and Daves confirm this and provide the methodology utilized to calculate the flotation adjustment.[97] In addition, as noted above, Morin confirms the need for such an adjustment even when no new equity issuance is imminent.[98] Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

Q. How did you calculate the flotation cost allowance?

A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs in accordance with the method cited in literature by Brigham and Daves, as well as by Morin. The flotation cost adjustment recognizes the actual costs of issuing equity that were incurred by Xcel Energy. Based on the issuance costs shown on page 1 of Attachment___(DWD-1), Schedule 12, an

[97] Eugene F. Brigham and Phillip R. Daves, Intermediate Financial Management, 9th Edition, Thomson/Southwestern, at 342.

[98] Morin, at 337-339.

adjustment of 0.08% is required to reflect the flotation costs applicable to the Utility Proxy Group.

Q. What is the indicated cost of common equity after your Company-specific adjustments?

A. Applying the 0.15% size adjustment and the 0.08% flotation cost adjustment to the indicated range of common equity cost rates between 10.35% and 11.35% results in a Company-specific range of common equity rates between 10.58% and 11.58%. In consideration of both of these indicated ranges, I recommend an ROE of 10.75% for SPS in this proceeding.

X. CONCLUSION

Q. What is your recommended ROE for the Company?

A. Given the discussion above and the results from the analyses, I recommend that an ROE of 10.75% is appropriate for the Company at this time.

Q. In your opinion, is your proposed ROE of 10.75% fair and reasonable to SPS and its customers?

A. Yes, it is.

Q. In your opinion, is SPS's proposed capital structure fair and reasonable?

A. Yes, it is.

Q. Does this conclude your direct testimony?

A. Yes, it does.

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF SOUTHWESTERN PUBLIC SERVICE COMPANY'S APPLICATION FOR: (1) REVISION OF ITS RETAIL RATES UNDER ADVICE NOTICE NO. 312; (2) AUTHORITY TO ABANDON THE PLANT X UNIT 1, PLANT X UNIT 2, AND CUNNINGHAM UNIT 1 GENERATING STATIONS AND AMEND THE ABANDONMENT DATE OF THE TOLK GENERATING STATION; AND (3) OTHER ASSOCIATED RELIEF,	)	**CASE NO. 22-00286-UT**
SOUTHWESTERN PUBLIC SERVICE COMPANY,	)	
APPLICANT.	)	

VERIFICATION

On this day, 18 November 2022, I, Dylan W. D'Ascendis, swear and affirm under penalty of perjury under the law of the State of New Mexico, that my testimony contained in Direct Testimony of Dylan W. D'Ascendis is true and correct.

/s/ Dylan W. D'Ascendis
DYLAN W. D'ASCENDIS

Southwestern Public Service Company
Table of Contents
For Attachment__(DWD-1)
Accompanying the Direct Testimony
of Dylan W. D'Ascendis, CRRA, CVA

Southwestern Public Service Company
Brief Summary of Common Equity Cost Rate

Line No.	Principal Methods	Proxy Group of Twelve Electric Companies
1.	Discounted Cash Flow Model (DCF) (1)	9.20%
2.	Risk Premium Model (RPM) (2)	11.72%
3.	Capital Asset Pricing Model (CAPM) (3)	11.81%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	12.74%
5.	Indicated Range of Common Equity Cost Rates	10.35% - 11.35%
6.	Size Risk Adjustment (5)	0.15%
7.	Credit Risk Adjustment	0.00%
8.	Flotation Costs (6)	0.08%
9.	Indicated Range of Common Equity Cost Rates after Adjustment	10.58% - 11.58%
10.	Recommended Common Equity Cost Rate	10.75%

Notes:
(1) From page 1 of Schedule 3.
(2) From page 1 of Schedule 4.
(3) From page 1 of Schedule 5.
(4) From page 1 of Schedule 9.
(5) Adjustment to reflect the Company's greater business risk due to its smaller size realtive to the Utility Proxy Group as detailed in Mr. D'Ascendis' direct testimony.
(6) From Schedule 12

Southwestern Public Service Company
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2017 - 2021, Inclusive

	2021	2020	2019	2018	2017	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$ 6,643.049	$ 6,087.901	$ 5,327.381	$ 4,683.085	$ 3,978.618	
SHORT-TERM DEBT	228.000	250.000	-	42.000	-	
TOTAL-CAPITAL EMPLOYED	$ 6,871.049	$ 6,337.901	$ 5,327.381	$ 4,725.085	$ 3,978.618	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	3.87 %	4.06 %	4.26 %	4.03 %	4.70 %	
CAPITAL STRUCTURE RATIOS						5 YEAR
BASED ON TOTAL PERMANENT CAPITAL:						AVERAGE
LONG-TERM DEBT	45.77 %	45.83 %	45.86 %	45.83 %	46.45 %	45.95 %
PREFERRED STOCK	-	-	-	-	-	-
COMMON EQUITY	54.23	54.17	54.14	54.17	53.55	54.05
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	47.57 %	47.97 %	45.86 %	46.32 %	46.45 %	46.83 %
PREFERRED STOCK	-	-	-	-	-	-
COMMON EQUITY	52.43	52.03	54.14	53.68	53.55	53.17
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
DIVIDEND PAYOUT RATIO	98.83 %	108.63 %	126.89 %	69.93 %	65.73 %	94.00 %
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	9.22 %	9.54 %	9.71 %	9.14 %	7.84 %	9.09 %
TOTAL DEBT / EBITDA (3)	4.59 x	4.54 x	4.03 x	4.17 x	3.80 x	4.23 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	10.38 %	11.37 %	17.33 %	18.34 %	25.33 %	16.55 %
TOTAL DEBT / TOTAL CAPITAL	47.57 %	47.97 %	45.86 %	46.32 %	46.45 %	46.83 %

Notes:
(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual
(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt
(3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).
(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less

Source of Information: FERC Form 1

Proxy Group of Twelve Electric Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2017 - 2021, Inclusive

	2021	2020	2019	2018	2017	5 YEAR AVERAGE
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$30,429.903	$28,100.404	$26,095.559	$23,847.066	$21,741.830	
SHORT-TERM DEBT	$1,098.698	$958.399	$904.611	$930.178	$846.230	
TOTAL CAPITAL EMPLOYED	$31,528.601	$29,058.803	$27,000.170	$24,777.244	$22,588.060	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	3.73 %	4.17 %	4.38 %	4.54 %	4.51 %	
PREFERRED STOCK	4.45	5.67	5.24	5.38	4.67	
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	55.91 %	54.76 %	52.90 %	51.91 %	51.58 %	53.41 %
PREFERRED STOCK	0.64	0.84	0.98	0.98	1.03	0.89
COMMON EQUITY	43.45	44.40	46.12	47.11	47.39	45.70
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	57.17 %	55.94 %	54.00 %	53.22 %	53.33 %	54.73 %
PREFERRED STOCK	0.61	0.80	0.96	0.94	0.96	0.86
COMMON EQUITY	42.22	43.27	45.04	45.84	45.71	44.41
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	5.63 %	3.87 %	5.10 %	4.76 %	4.79 %	4.83 %
MARKET / AVERAGE BOOK RATIO	185.37	188.37	199.19	194.71	204.89	194.50
DIVIDEND YIELD	3.60	3.50	3.24	3.57	3.32	3.45
DIVIDEND PAYOUT RATIO	67.60	86.21	63.01	66.28	76.34	71.89
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	10.30 %	7.50 %	10.07 %	8.62 %	9.06 %	9.11 %
TOTAL DEBT / EBITDA (3)	5.22 x	6.17 x	4.61 x	5.35 x	4.16 x	5.10 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	9.99 %	11.89 %	13.23 %	18.71 %	17.89 %	14.34 %
TOTAL DEBT / TOTAL CAPITAL	57.17 %	55.94 %	54.00 %	53.22 %	53.33 %	54.73 %

Notes:
(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.
(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.
(3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).
(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: Company Annual Forms 10-K

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Twelve Electric Companies
2017 - 2021, Inclusive

	2021	2020	2019	2018	2017	5 YEAR AVERAGE
Alliant Energy Corporation						
Long-Term Debt	55.16 %	53.51 %	53.39 %	53.49 %	52.62 %	53.63 %
Preferred Stock	-	1.58	1.72	1.94	2.16	1.48
Common Equity	44.84	44.91	44.89	44.57	45.22	44.89
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Ameren Corporation						
Long-Term Debt	57.07 %	54.97 %	53.29 %	52.05 %	51.52 %	53.78 %
Preferred Stock	0.56	0.71	0.81	0.88	0.92	0.78
Common Equity	42.37	44.32	45.90	47.07	47.56	45.44
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
American Electric Power Company, Inc.						
Long-Term Debt	59.86 %	60.19 %	57.30 %	55.06 %	53.62 %	57.21 %
Preferred Stock	-	-	-	-	-	-
Common Equity	40.14	39.81	42.70	44.94	46.38	42.79
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Duke Energy Corporation						
Long-Term Debt	56.43 %	55.52 %	55.39 %	55.45 %	55.61 %	53.85 %
Preferred Stock	1.73	1.82	1.87	-	-	-
Common Equity	41.84	42.66	42.74	44.55	44.39	46.15
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Edison International						
Long-Term Debt	61.49 %	56.44 %	54.21 %	53.76 %	46.65 %	54.51 %
Preferred Stock	4.63	5.19	6.48	8.02	8.44	6.55
Common Equity	33.88	38.37	39.31	38.22	44.91	38.94
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Entergy Corporation						
Long-Term Debt	68.46 %	66.67 %	63.04 %	64.08 %	64.80 %	65.41 %
Preferred Stock	0.76	0.76	0.90	0.87	0.85	0.83
Common Equity	30.78	32.57	36.06	35.05	34.35	33.76
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Evergy, Inc.						
Long-Term Debt	51.17 %	52.48 %	51.77 %	42.70 %	49.60 %	49.54 %
Preferred Stock	-	-	-	-	-	-
Common Equity	48.83	47.52	48.23	57.30	50.40	50.46
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
IDACORP, Inc.						
Long-Term Debt	42.85 %	43.86 %	42.70 %	43.63 %	43.68 %	43.34 %
Preferred Stock	-	-	-	-	-	0.00
Common Equity	57.15	56.14	57.30	56.37	56.32	56.66
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Twelve Electric Companies
2017 - 2021, Inclusive

	2021	2020	2019	2018	2017	5 YEAR AVERAGE
NorthWestern Corporation						
Long-Term Debt	52.09 %	52.72 %	52.27 %	51.98 %	50.26 %	51.86 %
Preferred Stock	-	-	-	-	-	-
Common Equity	47.91	47.28	47.73	48.02	49.74	48.14
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
OGE Energy Corporation						
Long-Term Debt	52.57 %	49.04 %	43.56 %	44.00 %	43.78 %	46.59 %
Preferred Stock	-	-	-	-	-	-
Common Equity	47.43	50.96	56.44	56.00	56.22	53.41
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Portland General Electric Company						
Long-Term Debt	54.82 %	53.83 %	50.06 %	49.72 %	50.10 %	51.71 %
Preferred Stock	-	-	-	-	-	-
Common Equity	45.18	46.17	49.94	50.28	49.90	48.29
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Xcel Energy Inc.						
Long-Term Debt	58.91 %	57.93 %	57.77 %	57.01 %	56.66 %	57.66 %
Preferred Stock	-	-	-	-	-	-
Common Equity	41.09	42.07	42.23	42.99	43.34	42.34
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Twelve Electric Companies						
Long-Term Debt	55.91 %	54.76 %	52.90 %	51.91 %	51.58 %	53.26 %
Preferred Stock	0.64	0.84	0.98	0.98	1.03	0.80
Common Equity	43.45	44.40	46.12	47.11	47.39	45.94
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Source of Information
Annual Forms 10-K

Southwestern Public Service Company
Operating Subsidiary Company Capital Structures of the
Proxy Group of Twelve Electric Companies

Company Name	Parent Company Ticker	2021 Common Equity	2021 Preferred Equity	2021 Long-Term Debt	2021 Total Capital
Interstate Power and Light Company	LNT	50.85%	0.00%	49.15%	100.00%
Wisconsin Power and Light Company	LNT	53.75%	0.00%	46.25%	100.00%
Ameren Illinois Company	AEE	55.73%	0.49%	43.78%	100.00%
Union Electric Company	AEE	51.68%	0.71%	47.61%	100.00%
AEP Texas Inc.	AEP	40.96%	0.00%	59.04%	100.00%
Appalachian Power Company	AEP	48.48%	0.00%	51.52%	100.00%
Indiana Michigan Power Company	AEP	46.57%	0.00%	53.43%	100.00%
Kentucky Power Company	AEP	44.22%	0.00%	55.78%	100.00%
Kingsport Power Company	AEP	NA	NA	NA	NA
Ohio Power Company	AEP	48.95%	0.00%	51.05%	100.00%
Public Service Company of Oklahoma	AEP	54.50%	0.00%	45.50%	100.00%
Southwestern Electric Power Company	AEP	48.13%	0.00%	51.87%	100.00%
Wheeling Power Company	AEP	NA	NA	NA	NA
Duke Energy Carolinas, LLC	DUK	51.68%	0.00%	48.32%	100.00%
Duke Energy Florida, LLC	DUK	48.57%	0.00%	51.43%	100.00%
Duke Energy Indiana, LLC	DUK	53.76%	0.00%	46.24%	100.00%
Duke Energy Kentucky, Inc.	DUK	NA	NA	NA	NA
Duke Energy Ohio, Inc.	DUK	58.26%	0.00%	41.74%	100.00%
Duke Energy Progress, LLC	DUK	49.82%	0.00%	50.18%	100.00%
Southern California Edison Company	EIX	42.65%	4.64%	52.71%	100.00%
Entergy Arkansas, LLC	ETR	47.23%	0.00%	52.77%	100.00%
Entergy Louisiana, LLC	ETR	42.99%	0.00%	57.01%	100.00%
Entergy Mississippi, LLC	ETR	45.77%	0.00%	54.23%	100.00%
Entergy New Orleans, LLC	ETR	44.76%	0.00%	55.24%	100.00%
Entergy Texas, Inc.	ETR	50.53%	0.80%	48.67%	100.00%
Evergy Kansas Central, Inc.	EVRG	53.60%	0.00%	46.40%	100.00%
Evergy Kansas South, Inc.	EVRG	NA	NA	NA	NA
Evergy Metro, Inc.	EVRG	50.81%	0.00%	49.19%	100.00%
Evergy Missouri West, Inc.	EVRG	NA	NA	NA	NA
Westar Energy (KPL)	EVRG	NA	NA	NA	NA
NSTAR Electric Company	ES	55.25%	0.48%	44.28%	100.00%
Public Service Company of New Hampshire	ES	48.95%	0.00%	51.05%	100.00%
The Connecticut Light and Power Company	ES	55.02%	1.21%	43.77%	100.00%
Idaho Power Company	IDA	55.19%	0.00%	44.81%	100.00%
NorthWestern Corporation	NWE	47.93%	0.00%	52.07%	100.00%
Oklahoma Gas and Electric Company	OGE	53.53%	0.00%	46.47%	100.00%
Portland General Electric Company	POR	45.18%	0.00%	54.82%	100.00%
Alabama Power Company	SO	51.79%	1.41%	46.80%	100.00%
Georgia Power Company	SO	55.81%	0.00%	44.19%	100.00%
Mississippi Power Company	SO	55.57%	0.00%	44.43%	100.00%
Northern States Power Company	XEL	52.88%	0.00%	47.12%	100.00%
Northern States Power Company	XEL	52.78%	0.00%	47.22%	100.00%
Public Service Company of Colorado	XEL	56.63%	0.00%	43.37%	100.00%
Southwestern Public Service Company	XEL	54.46%	0.00%	45.54%	100.00%
	Minimum	40.96%	0.00%	41.74%	100.00%
	Maximum	58.26%	4.64%	59.04%	100.00%

Source: S&P Global Market Intelligence

Southwestern Public Service Company
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the
Proxy Group of Twelve Electric Companies

Proxy Group of Twelve Electric Companies	[1] Average Dividend Yield (1)	[2] Value Line Projected Five Year Growth in EPS (2)	[3] Zack's Five Year Projected Growth Rate in EPS	[4] Yahoo! Finance Projected Five Year Growth in EPS	[5] Average Projected Five Year Growth in EPS (3)	[6] Adjusted Dividend Yield (4)	[7] Indicated Common Equity Cost Rate (5)
Alliant Energy Corporation	2.87 %	6.00 %	6.20 %	5.40 %	5.87 %	2.95 %	8.82 %
Ameren Corporation	2.61	6.50	7.20	6.46	6.72	2.70	9.42
American Electric Power Company, Inc.	3.20	6.50	6.20	6.35	6.35	3.30	9.65
Duke Energy Corporation	3.74	5.00	6.10	5.58	5.56	3.84	9.40
Edison International	4.28	NMF	3.00	5.00	4.00	4.37	8.37
Entergy Corporation	3.55	4.00	6.70	6.04	5.58	3.65	9.23
Evergy, Inc.	3.44	7.50	5.10	3.71	5.44	3.53	8.97
IDACORP, Inc.	2.79	4.00	2.80	2.80	3.20	2.83	6.03
NorthWestern Corporation	4.47	3.00	2.30	4.50	3.27	4.54	7.81
OGE Energy Corporation	4.15	6.50	3.50	1.90	3.97	4.23	8.20
Portland General Electric Company	3.58	4.50	3.70	3.23	3.81	3.65	7.46
Xcel Energy Inc.	2.72	6.00	6.40	7.04	6.48	2.81	9.29
						Average	8.56 %
						Median	8.90 %
						Average of Mean and Median	8.73 %

NA= Not Available
NMF= Not Meaningful Figure

Notes:

(1) Indicated dividend at 08/31/2022 divided by the average closing price of the last 60 trading days ending 08/31/2022 for each company.
(2) From pages 3 through 14 of this Schedule.
(3) Average of columns 2 through 4 excluding negative growth rates.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Alliant Energy Corporation, 2.87% x (1+(1/2 x 5.87%)) = 2.95%.
(5) Column 5 + column 6.

Source of Information:

Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2022
www.yahoo.com Downloaded on 08/31/2022

Southwestern Public Service Company
Indicated Common Equity Cost Rate Using the NMPRC's Discounted Cash Flow Model for the
Proxy Group of Twelve Electric Companies

Proxy Group of Twelve Electric Companies	[1] Average Dividend Yield (1)	[2] Value Line Projected Five Year Growth in EPS (2)	[3] Zack's Five Year Projected Growth Rate in EPS	[4] Yahoo! Finance Projected Five Year Growth in EPS	[5] Average Projected Five Year Growth in EPS (3)	[6] Adjusted Dividend Yield (4)	[7] Mean Common Equity Cost Rate (5)	[8] High Common Equity Cost Rate (6)
Alliant Energy Corporation	2.78 %	6.00 %	6.20 %	5.40 %	5.87 %	2.94 %	8.81 %	9.15 %
Ameren Corporation	2.53	6.50	7.20	6.46	6.72	2.70	9.42	9.91
American Electric Power Company	3.10	6.50	6.20	6.35	6.35	3.30	9.65	9.80
Duke Energy Corporation	3.67	5.00	6.10	5.58	5.56	3.87	9.43	9.99
Edison International	4.11	NMF	3.00	5.00	4.00	4.27	8.27	9.32
Entergy Corporation	3.45	4.00	6.70	6.04	5.58	3.64	9.22	10.38
Evergy, Inc.	3.33	7.50	5.10	3.71	5.44	3.51	8.95	11.08
IDACORP, Inc.	2.70	4.00	2.80	2.80	3.20	2.79	5.99	6.81
NorthWestern Corporation	4.57	3.00	2.30	4.50	3.27	4.72	7.99	9.28
OGE Energy Corporation	4.00	6.50	3.50	1.90	3.97	4.16	8.13	10.76
Portland General Electric Company	3.43	4.50	3.70	3.23	3.81	3.56	7.37	8.08
Xcel Energy Inc.	2.63	6.00	6.40	7.04	6.48	2.80	9.28	9.86
						Average	8.54 %	9.53 %
						Median	8.88 %	9.83 %
						Average of Mean and Median	8.71 %	9.68 %
						Indicated DCF Result	9.20%	

NA= Not Available
NMF= Not Meaningful Figure

Notes:

(1) Indicated dividend at 8/31/2022 divided by the average closing price of the last 30 trading days ending 8/31/2022 for each company.
(2) From pages 3 through 14 of this Schedule.
(3) Average of columns 2 through 4 excluding negative growth rates.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Alliant Energy Corporation, 2.87% x (1+(1/2 x 5.87%)) = 3.04%.
(5) Column 5 + column 6.
(6) [1]*(1+(MAX([2],[3],[4])/100)+(MAX([2],[3],[4]))

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2022
www.yahoo.com Downloaded on 08/31/2022

AMEREN NYSE-AEE

RECENT PRICE **96.55** | P/E RATIO **23.5** (Trailing: 24.8 Median: 19.0) | RELATIVE P/E RATIO **1.41** | DIV'D YLD **2.5%** | **VALUE LINE**

TIMELINESS 4 Raised 4/22/22
SAFETY 1 Raised 9/10/21
TECHNICAL 2 Lowered 6/3/22
BETA .80 (1.00 = Market)

18-Month Target Price Range

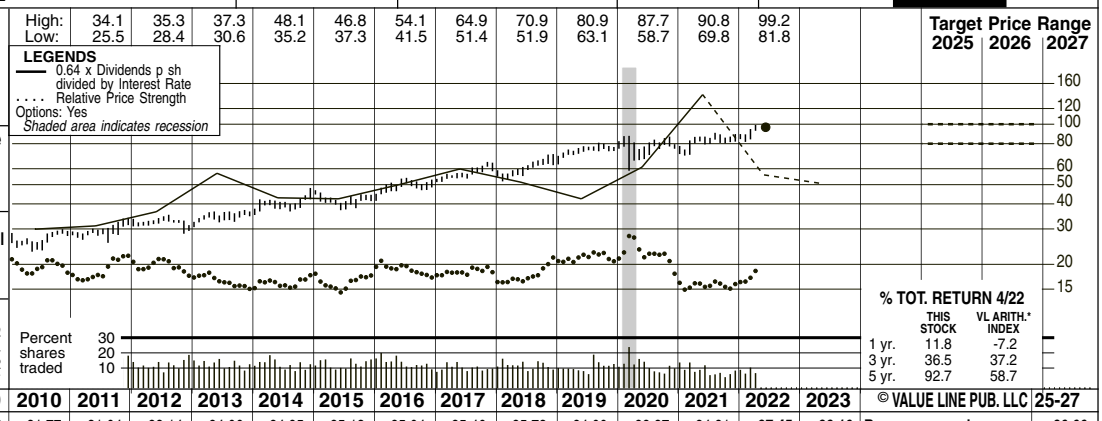
Low-High	Midpoint (% to Mid)
$86-$124	$105 (10%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+5%)	*4%*
Low	80	(-15%)	*-1%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	248	308	294
to Sell	246	227	262
Hld's(000)	199566	198495	200507



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
33.30	36.23	36.92	29.87	31.77	31.04	28.14	24.06	24.95	25.13	25.04	25.46	25.73	24.00	22.87	24.81	***27.45***	***28.10***	Revenues per sh	***30.00***
6.02	6.76	6.44	6.06	6.33	5.87	5.87	5.25	5.77	6.08	6.59	6.80	7.64	7.83	8.08	8.89	***9.50***	***10.05***	"Cash Flow" per sh	***11.75***
2.66	2.98	2.88	2.78	2.77	2.47	2.41	2.10	2.40	2.38	2.68	2.77	3.32	3.35	3.50	3.84	***4.10***	***4.35***	Earnings per sh [A]	***5.25***
2.54	2.54	2.54	1.54	1.54	1.56	1.60	1.60	1.61	1.66	1.72	1.78	1.85	1.92	2.00	2.20	***2.36***	***2.52***	Div'd Decl'd per sh [B] ■	***3.10***
4.99	6.96	9.75	7.51	4.66	4.50	5.49	5.87	7.66	8.12	8.78	9.05	9.56	9.92	13.02	13.67	***12.90***	***12.55***	Cap'l Spending per sh	***13.00***
31.86	32.41	32.80	33.08	32.15	32.64	27.27	26.97	27.67	28.63	29.27	29.61	31.21	32.73	35.29	37.64	***40.20***	***42.90***	Book Value per sh [C]	***51.25***
206.60	208.30	212.30	237.40	240.40	242.60	242.63	242.63	242.63	242.63	242.63	242.63	244.50	246.20	253.30	257.70	***262.50***	***267.00***	Common Shs Outst'g [D]	***280.00***
19.4	17.4	14.2	9.3	9.7	11.9	13.4	16.5	16.7	17.5	18.3	20.6	18.3	22.1	22.2	21.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***17.5***
1.05	.92	.85	.62	.62	.75	.85	.93	.88	.88	.96	1.04	.99	1.18	1.14	1.14			Relative P/E Ratio	***.95***
4.9%	4.9%	6.2%	6.0%	5.8%	5.3%	5.0%	4.6%	4.0%	4.0%	3.5%	3.1%	3.0%	2.6%	2.6%	2.7%			Avg Ann'l Div'd Yield	***3.4%***
6828.0	5838.0	6053.0	6098.0	6076.0	6177.0	6291.0	5910.0	5794.0	6394.0	***7200***	***7500***	Revenues ($mill)	***8400***
589.0	518.0	593.0	585.0	659.0	683.0	821.0	834.0	877.0	995.0	***1075***	***1165***	Net Profit ($mill)	***1455***
36.9%	37.5%	38.9%	38.3%	36.7%	38.2%	22.4%	17.9%	15.0%	13.6%	***12.0%***	***12.0%***	Income Tax Rate	***12.0%***
6.1%	7.1%	5.7%	5.1%	4.1%	5.6%	6.9%	5.8%	5.5%	6.0%	***6.0%***	***5.0%***	AFUDC % to Net Profit	***4.0%***
49.5%	45.2%	47.2%	49.3%	47.7%	49.2%	50.3%	52.1%	55.0%	56.1%	***55.5%***	***53.5%***	Long-Term Debt Ratio	***51.0%***
49.4%	53.7%	51.7%	49.7%	51.3%	49.8%	48.8%	47.1%	44.3%	43.3%	***44.0%***	***46.0%***	Common Equity Ratio	***48.5%***
13384	12190	12975	13968	13840	14420	15632	17116	20158	22391	***23900***	***24950***	Total Capital ($mill)	***29500***
16096	16205	17424	18799	20113	21466	22810	24376	26807	29261	***31225***	***33050***	Net Plant ($mill)	***38400***
6.0%	5.6%	5.8%	5.3%	6.0%	6.0%	6.4%	6.0%	5.3%	5.3%	***5.5%***	***5.5%***	Return on Total Cap'l	***6.0%***
8.7%	7.7%	8.7%	8.3%	9.1%	9.3%	10.6%	10.2%	9.7%	10.1%	***10.0%***	***10.0%***	Return on Shr. Equity	***10.0%***
8.8%	7.8%	8.7%	8.3%	9.2%	9.4%	10.7%	10.3%	9.7%	10.2%	***10.0%***	***10.0%***	Return on Com Equity [E]	***10.0%***
3.0%	1.9%	2.9%	2.5%	3.3%	3.4%	4.8%	4.4%	4.2%	4.4%	***4.5%***	***4.5%***	Retained to Com Eq	***4.0%***
66%	76%	67%	70%	64%	64%	56%	57%	57%	57%	***58%***	***58%***	All Div'ds to Net Prof	***60%***

CAPITAL STRUCTURE as of 3/31/22
Total Debt $14169 mill. **Due in 5 Yrs** $3446 mill.
LT Debt $12563 mill. **LT Interest** $436 mill.
(LT interest earned: 3.8x)
Pension Assets-12/21 $5745 mill.
Oblig $5457 mill.
Pfd Stock $129 mill. **Pfd Div'd** $5 mill.
807,595 sh. $3.50 to $5.50 cum. (no par), $100 stated val., redeem. $102.176-$110/sh.; 487,508 sh. 4.00% to 5.16%, $100 par, redeem. $100-$104.30/sh.
Common Stock 258,226,506 shs.
as of 4/29/22
MARKET CAP: $25 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-3.5	-5.6	+2.1
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	307	291	325

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	-2.5%	-1.0%	*4.0%*
"Cash Flow"	3.0%	6.0%	*6.0%*
Earnings	3.0%	7.5%	*6.5%*
Dividends	3.0%	4.0%	*7.0%*
Book Value	1.0%	4.5%	*6.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	1556	1379	1659	1316	5910
2020	1440	1398	1628	1328	5794
2021	1566	1472	1811	1545	6394
2022	1879	***1621***	***2000***	***1700***	***7200***
2023	***1900***	***1700***	***2100***	***1800***	***7500***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.78	.72	1.47	.38	3.35
2020	.59	.98	1.47	.46	3.50
2021	.91	.80	1.65	.48	3.84
2022	.97	***.85***	***1.78***	***.50***	***4.10***
2023	***.95***	***.90***	***1.95***	***.55***	***4.35***

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.4575	.4575	.4575	.475	1.85
2019	.475	.475	.475	.495	1.92
2020	.495	.495	.495	.515	2.00
2021	.55	.55	.55	.55	2.20
2022	.59	.59			

BUSINESS: Ameren Corporation is a holding company formed through the merger of Union Electric and CIPSCO. Has 1.2 million electric and 127,000 gas customers in Missouri; 1.2 million electric and 813,000 gas customers in Illinois. Discontinued nonregulated power-generation operation in '13. Electric revenue breakdown: residential, 49%; commercial, 34%; industrial, 8%; other, 9%. Generating sources: coal, 73%; nuclear, 11%; hydro & other, 9%; purchased, 7%. Fuel costs: 25% of revenues. '21 reported deprec. rates: 3%-4%. Has 9,100 employees. Chairman: Warner L. Baxter. President & CEO: Martin J. Lyons, Jr. Inc.: Missouri. Address: One Ameren Plaza, 1901 Chouteau Ave., P.O. Box 66149, St. Louis, MO 63166-6149. Tel.: 314-621-3222. Internet: www.ameren.com.

Ameren's earnings will probably rise solidly in 2022. A key factor will be electric and gas rate increases ($220 million and $5 million, respectively) that took effect in Missouri on February 28th. The company will pick up a few cents a share from a full year's effect of a gas tariff hike in Illinois last year. Ameren also benefits annually from growth in its rate base for electric transmission (federally regulated) and for electricity in Illinois through formula rate plans. Our share-earnings estimate remains at $4.10, which is within the company's targeted range of $3.95-$4.15.

We expect further profit growth in 2023. Income will include a full year's effect of the Missouri rate hikes. Ameren will obtain additional rate relief from its transmission and Illinois electric operations. Management's goal for annual earnings growth is 6%-8%, and our estimate of $4.35 a share would produce an increase of 6% from our estimated 2022 tally.

Our estimates are based on Ameren maintaining its allowed return on equity for transmission. The Federal Energy Regulatory Commission (FERC) is thinking of eliminating a half percentage point incentive "adder" that makes its allowed ROE 10.52%. This would reduce annual profits by a nickel a share. The timing of FERC's decision is unknown.

Financing needs are significant. Ameren plans to issue about $300 million of common equity annually through 2026, over and above the equity issued via its dividend-reinvestment and other stock plans (roughly $100 million a year). The company is issuing debt, as well.

Ameren plans to close a coal-fired plant. The facility is 45 years old, so adding court-ordered (and costly) pollution-control equipment wouldn't be prudent. The Midcontinent Independent System Operator is studying how the plant's retirement will affect reliability in the region. The utility intends to recover its investment in the plant by issuing securitized bonds. This will require the approval of the regulatory commission in Missouri.

The dividend yield of this untimely but high-quality stock is below the utility mean. The recent quotation is well within our 2025-2027 Target Price Range. Accordingly, total return potential is low.

Paul E. Debbas, CFA *June 10, 2022*

(A) Diluted EPS. Excl. nonrec. gain (losses): '10, ($2.19); '11, (32¢); '12, ($6.42); '17, (63¢); gain (loss) from discontinued ops.: '13, (92¢); '15, 21¢. Next earnings report due early Aug.

(B) Div'ds paid late Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. intang. In '21: $6.60/sh. **(D)** In mill. **(E)** Rate base: Orig. cost depr. Rate allowed on com. eq. in MO in '22: elec. & gas, none specified; in IL: electric, varies; in '21: gas, 9.67%; earned on avg. com. eq., '21: 10.6%. Regulatory Climate: MO, Average; IL, Below Average.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	75
Earnings Predictability	95

AMERICAN ELEC. PWR. NDQ-AEP

RECENT PRICE **103.57** | P/E RATIO **19.9** (Trailing: 19.8 Median: 17.0) | RELATIVE P/E RATIO **1.19** | DIV'D YLD **3.2%** | **VALUE LINE**

TIMELINESS 3 Raised 4/1/22
SAFETY 1 Raised 3/17/17
TECHNICAL 3 Lowered 6/10/22
BETA .75 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$83-$115	$99 (-5%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(+15%)	*7%*
Low	100	(-5%)	*3%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	561	636	673
to Sell	433	473	475
Hld's(000)	373255	373909	382433

	2025	2026	2027
Target Price Range			

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
High:	41.7	45.4	51.6	63.2	65.4	71.3	78.1	81.1	96.2	105.0	91.5	104.8								
Low:	33.1	37.0	41.8	45.8	52.3	56.8	61.8	62.7	72.3	65.1	74.8	84.2								
	31.82	33.41	35.56	28.22	30.01	31.27	30.77	31.48	34.78	33.51	33.31	31.35	32.84	31.49	30.04	33.30	*35.20*	*35.95*	Revenues per sh	*38.50*
	6.67	6.80	6.84	6.32	6.29	6.83	6.92	7.02	7.57	7.98	8.47	7.95	8.77	9.35	10.28	10.98	*11.50*	*11.95*	"Cash Flow" per sh	*14.00*
	2.86	2.86	2.99	2.97	2.60	3.13	2.98	3.18	3.34	3.59	4.23	3.62	3.90	4.08	4.42	4.96	*5.20*	*5.35*	Earnings per sh A	*6.50*
	1.50	1.58	1.64	1.64	1.71	1.85	1.88	1.95	2.03	2.15	2.27	2.39	2.53	2.71	2.84	3.00	*3.17*	*3.35*	Div'd Decl'd per sh B ■ †	*4.00*
	8.89	8.88	9.83	6.19	5.07	5.74	6.45	7.75	8.68	9.37	9.98	11.79	12.89	12.43	12.72	11.43	*15.35*	*14.15*	Cap'l Spending per sh	*14.00*
	23.73	25.17	26.33	27.49	28.33	30.33	31.37	32.98	34.37	36.44	35.38	37.17	38.58	39.73	41.38	44.49	*47.30*	*50.30*	Book Value per sh C	*59.00*
	396.67	400.43	406.07	478.05	480.81	483.42	485.67	487.78	489.40	491.05	491.71	492.01	493.25	494.17	496.60	504.21	*514.00*	*523.00*	Common Shs Outst'g D	*545.00*
	12.9	16.3	13.1	10.0	13.4	11.9	13.8	14.5	15.9	15.8	15.2	19.3	18.0	21.4	19.6	17.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.0*
	.70	.87	.79	.67	.85	.75	.88	.81	.84	.80	.80	.97	.97	1.14	1.01	.93			Relative P/E Ratio	*.95*
	4.1%	3.4%	4.2%	5.5%	4.9%	5.0%	4.6%	4.2%	3.8%	3.8%	3.5%	3.4%	3.6%	3.1%	3.3%	3.5%			Avg Ann'l Div'd Yield	*3.6%*
							14945	15357	17020	16453	16380	15425	16196	15561	14919	16792	*18100*	*18800*	Revenues ($mill)	*21000*
							1443.0	1549.0	1634.0	1763.4	2073.6	1783.2	1923.8	2019.0	2200.1	2488.1	*2670*	*2790*	Net Profit ($mill)	*3565*
							33.9%	36.2%	37.8%	35.1%	26.8%	33.7%	5.8%	.7%	1.9%	4.6%	*7.0%*	*7.0%*	Income Tax Rate	*7.0%*
							11.2%	7.3%	9.0%	11.0%	8.0%	8.0%	10.7%	12.7%	9.7%	7.8%	*7.0%*	*7.0%*	AFUDC % to Net Profit	*5.0%*
							50.6%	51.1%	49.0%	49.8%	50.0%	51.5%	53.2%	56.1%	58.5%	58.3%	*58.0%*	*58.0%*	Long-Term Debt Ratio	*57.5%*
							49.4%	48.9%	51.0%	50.2%	50.0%	48.5%	46.8%	43.9%	41.5%	41.7%	*42.0%*	*42.0%*	Common Equity Ratio	*42.5%*
							30823	32913	33001	35633	34775	37707	40677	44759	49537	53734	*57775*	*62950*	Total Capital ($mill)	*75900*
							38763	40997	44117	46133	45639	50262	55099	60138	63902	66001	*70650*	*74600*	Net Plant ($mill)	*87300*
							6.1%	6.0%	6.3%	6.1%	7.2%	5.9%	5.9%	5.6%	5.6%	5.6%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
							9.5%	9.6%	9.7%	9.9%	11.9%	9.8%	10.1%	10.3%	10.7%	11.1%	*11.0%*	*10.5%*	Return on Shr. Equity	*11.0%*
							9.5%	9.6%	9.7%	9.9%	11.9%	9.8%	10.1%	10.3%	10.7%	11.1%	*11.0%*	*10.5%*	Return on Com Equity E	*11.0%*
							3.5%	3.7%	3.8%	3.9%	5.5%	3.2%	3.5%	3.4%	3.8%	4.3%	*4.5%*	*4.0%*	Retained to Com Eq	*4.5%*
							63%	62%	61%	60%	54%	67%	65%	67%	65%	61%	*63%*	*64%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $37244 mill. **Due in 5 Yrs** $12886 mill.
LT Debt $30856 mill. **LT Interest** $1067 mill.
Incl. $603.5 mill. securitized bonds. Incl. $500.7 mill. finance leases.
(LT interest earned: 3.2x)
Leases, Uncapitalized Annual rentals $119.6 mill.
Pension Assets-12/21 $5352.9 mill.
Oblig $5187.0 mill.
Pfd Stock None

Common Stock 513,544,176 shs.
as of 4/28/22
MARKET CAP: $53 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-2.2	- -	+3.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.3	+1.0	NA
Fixed Charge Cov. (%)	234	243	272

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	.5%	-1.5%	*3.5%*
"Cash Flow"	4.5%	5.0%	*5.5%*
Earnings	4.5%	4.0%	*6.5%*
Dividends	5.0%	6.0%	*6.0%*
Book Value	4.0%	3.5%	*6.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	4056	3573	4315	3616	15561
2020	3747	3494	4066	3610	14918
2021	4281	3826	4623	4061	16792
2022	4593	*4107*	*4950*	*4450*	*18100*
2023	*4800*	*4300*	*5150*	*4550*	*18800*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	1.16	.93	1.48	.51	4.08
2020	1.00	1.05	1.50	.87	4.42
2021	1.15	1.15	1.59	1.07	4.96
2022	1.41	*1.15*	*1.64*	*1.00*	*5.20*
2023	*1.30*	*1.25*	*1.75*	*1.05*	*5.35*

QUARTERLY DIVIDENDS PAID B ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.62	.62	.62	.67	2.53
2019	.67	.67	.67	.70	2.71
2020	.70	.70	.70	.74	2.84
2021	.74	.74	.74	.78	3.00
2022	.78	.78			

BUSINESS: American Electric Power Company Inc. (AEP), through 10 operating utilities, serves 5.5 million customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Has a transmission subsidiary. Electric revenue breakdown: residential, 43%; commercial, 23%; industrial, 18%; wholesale, 10%; other, 6%. Sold commercial barge operation in '15. Generating sources not available. Fuel costs: 33% of revenues. '21 reported depreciation rates (utility): 2.6%-12.5%. Has 16,700 employees. Chairman, President & CEO: Nicholas K. Akins. COO: Lisa Barton. Incorporated: New York. Address: 1 Riverside Plaza, Columbus, Ohio 43215-2373. Telephone: 614-716-1000. Internet: www.aep.com.

American Electric Power should soon complete an asset sale, and the company is interested in divesting other assets. AEP expects to raise $1.45 billion from the sale of its Kentucky Power subsidiary, which has not been earning an adequate return on equity. This is expected to be completed by the end of this month. The company also wants to sell its 1,600-megawatt portfolio of nonregulated renewable-energy projects, either piecemeal or as a whole. We will *include* any gains on these sales in our earnings presentation. AEP plans to expand its investments in regulated renewable-energy projects, which have less risk than nonutility assets, and electric transmission.

We expect respectable earnings growth in 2022 and 2023. We raised our estimate for this year by $0.20 a share, to $5.20, thanks to a $0.20 mark-to-market credit that AEP booked in the first quarter. Our revised estimate is within management's guidance (on a GAAP basis) of $5.06-$5.26 a share. Otherwise, the company should continue to benefit from rate relief, increased investment in its transmission business, and volume growth. Some industrial customers in its service area have expansions that are expected to come on later this year, despite the state of the national economy.

Some regulatory matters are pending or were concluded. The SWEPCO subsidiary was granted $28 million in Arkansas, based on a 9.5% return on equity and a 45% common-equity ratio. New tariffs will take effect on July 1st. In Louisiana, the utility requested $73 million, based on a 10.35% ROE and a 50.8% common-equity ratio. (This is net of increases in depreciation and amortization.) In Virginia, Appalachian Power is appealing an unfavorable rate order to the state Supreme Court. A decision is expected later in 2022. Note that the company has already received rate increases in Texas and Indiana this year.

The dividend yield of this top-quality stock is at the utility average. Total return potential is unspectacular for the next 18 months and the 3- to 5-year period. The recent quotation is within our 2025-2027 Target Price Range. The stock price has risen 16% year to date.

Paul E. Debbas, CFA *June 10, 2022*

(A) Diluted EPS. Excl. nonrec. gains (losses): '06, (20¢); '07, (20¢); '08, 40¢; '10, (7¢); '11, 89¢; '12, (38¢); '13, (14¢); '16, ($2.99); '17, 26¢; '19, (20¢); gains (loss) from disc. ops.: '06, 2¢; '08, 3¢; '15, 58¢; '16, (1¢). Next earnings report due late July. **(B)** Div'ds paid early Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. † Shareholder invest. plan avail. **(C)** Incl. intang. In '21: $17.04/sh. **(D)** In mill. **(E)** Rate base: various. Rates allowed on com. eq.: 9.3%-10.9%; earned on avg. com. eq., '21: 11.6%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	95

DUKE ENERGY NYSE-DUK

RECENT PRICE 109.85 | P/E RATIO 20.2 (Trailing: 20.8 Median: 18.0) | RELATIVE P/E RATIO 1.25 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 3 Raised 5/20/22
SAFETY 2 New 6/1/07
TECHNICAL 2 Raised 7/29/22
BETA .85 (1.00 = Market)

18-Month Target Price Range

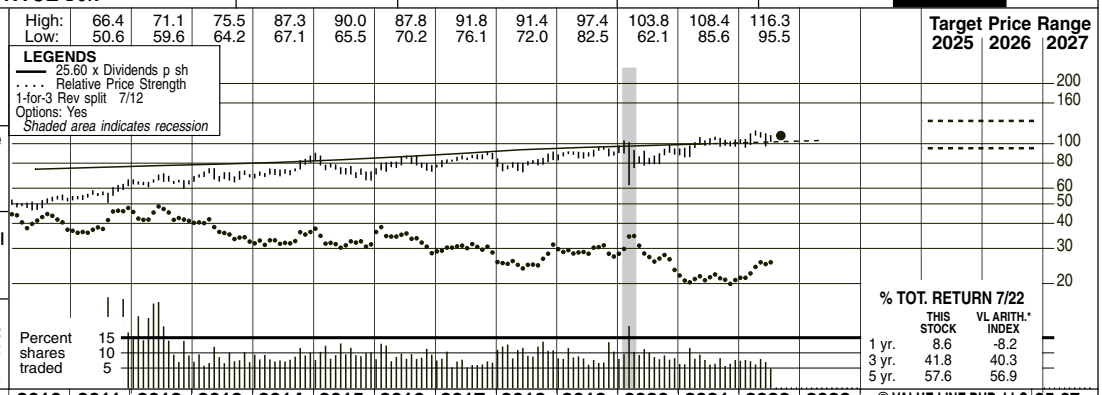
Low-High	Midpoint (% to Mid)
$92-$137	$115 (5%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	130	(+20%)	*8%*
Low	95	(-15%)	*1%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	803	934	942
to Sell	615	627	651
Hld's(000)	481215	484677	487269



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
25.32	30.24	31.15	29.18	32.22	32.63	27.88	34.84	33.84	34.10	32.49	33.66	33.73	34.21	31.04	32.64	*34.70*	*35.05*	Revenues per sh	*37.90*
7.86	8.11	7.34	7.58	8.49	8.68	6.80	8.56	9.11	9.40	9.20	10.01	11.05	12.12	12.04	12.60	*13.25*	*14.00*	"Cash Flow" per sh	*16.00*
2.76	3.60	3.03	3.39	4.02	4.14	3.71	3.98	4.13	4.10	3.71	4.22	4.72	5.06	5.12	5.24	*5.45*	*5.75*	Earnings per sh A	*6.50*
- -	2.58	2.70	2.82	2.91	2.97	3.03	3.09	3.15	3.24	3.36	3.49	3.64	3.75	3.82	3.90	*3.98*	*4.06*	Div'd Decl'd per sh B ■	*4.30*
8.07	7.43	10.35	9.85	10.84	9.80	7.81	7.83	7.62	9.83	11.29	11.50	12.91	15.17	12.88	12.63	*16.00*	*16.75*	Cap'l Spending per sh	*16.75*
62.30	50.40	49.51	49.85	50.84	51.14	58.04	58.54	57.81	57.74	58.62	59.63	60.27	61.20	59.82	61.55	*62.75*	*64.50*	Book Value per sh C	*70.00*
418.96	420.62	423.96	436.29	442.96	445.29	704.00	706.00	707.00	688.00	700.00	700.00	727.00	733.00	769.00	769.00	*770.00*	*770.00*	Common Shs Outst'g D	*770.00*
- -	16.1	17.3	13.3	12.7	13.8	17.5	17.4	17.9	18.2	21.3	19.9	17.0	17.7	17.1	18.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.0*
- -	.85	1.04	.89	.81	.87	1.11	.98	.94	.92	1.12	1.00	.92	.94	.88	1.02			Relative P/E Ratio	*.95*
- -	4.4%	5.2%	6.2%	5.7%	5.2%	4.7%	4.4%	4.3%	4.3%	4.3%	4.2%	4.5%	4.2%	4.4%	3.9%			Avg Ann'l Div'd Yield	*3.9%*
						19624	24598	23925	23459	22743	23565	24521	25079	23868	25097	*26700*	*27000*	Revenues ($mill)	*29200*
						2136.0	2813.0	2934.0	2854.0	2560.0	2963.0	3339.0	3747.0	3878.0	4133.0	*4300*	*4525*	Net Profit ($mill)	*5040*
						30.2%	32.6%	30.6%	32.2%	31.0%	30.4%	14.1%	12.7%	.3%	5.1%	*10.0%*	*9.0%*	Income Tax Rate	*9.0%*
						22.3%	8.8%	7.2%	9.2%	11.7%	12.3%	11.4%	8.0%	6.9%	5.9%	*8.0%*	*7.0%*	AFUDC % to Net Profit	*7.0%*
						47.0%	48.0%	47.7%	48.6%	52.6%	54.0%	53.8%	54.0%	53.7%	55.1%	*56.5%*	*58.5%*	Long-Term Debt Ratio	*61.0%*
						52.9%	52.0%	52.3%	51.4%	47.4%	46.0%	46.2%	44.1%	44.4%	43.1%	*42.0%*	*40.0%*	Common Equity Ratio	*37.5%*
						77307	79482	78088	77222	86609	90774	94940	101807	103589	109744	*115150*	*124525*	Total Capital ($mill)	*144100*
						68558	69490	70046	75709	82520	86391	91694	102127	106782	111408	*117725*	*124375*	Net Plant ($mill)	*141100*
						3.6%	4.6%	4.8%	4.8%	4.0%	4.3%	4.6%	4.7%	4.8%	4.8%	*4.5%*	*4.5%*	Return on Total Cap'l	*4.5%*
						5.2%	6.8%	7.2%	7.2%	6.2%	7.1%	7.6%	8.0%	8.1%	8.4%	*8.5%*	*9.0%*	Return on Shr. Equity	*9.0%*
						5.2%	6.8%	7.2%	7.2%	6.2%	7.1%	7.6%	8.3%	8.2%	8.5%	*8.5%*	*9.0%*	Return on Com Equity E	*9.0%*
						.9%	1.5%	1.7%	1.5%	.6%	1.2%	2.0%	2.4%	2.3%	1.9%	*2.5%*	*2.5%*	Retained to Com Eq	*3.0%*
						82%	78%	76%	79%	91%	83%	74%	71%	73%	78%	*76%*	*73%*	All Div'ds to Net Prof	*68%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $69342 mill. **Due in 5 Yrs** $19536 mill.
LT Debt $62196 mill. **LT Interest** $2206 mill.
Incl. $915 mill. finance leases.
(LT interest earned: 2.7x)
Leases, Uncapitalized Annual rentals $225 mill.
Pension Assets-12/21 $9235 mill.
Oblig $8207 mill.
Pfd Stock $1962 mill. **Pfd Div'd** $107 mill.
40 mill. shs. 5.75%, cum., $25 liq. value, redeemable at $25.50 prior to 6/15/24; 1 mill. shs. 4.875%, cum., $1000 liq. value.
Common Stock 769,900,482 shs. **as of 4/30/22**
MARKET CAP: $84.6 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-.9	-2.3	+2.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	NA	NA	NA
Fixed Charge Cov. (%)	233	183	209

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	.5%	-.5%	*2.5%*
"Cash Flow"	4.0%	5.0%	*5.0%*
Earnings	3.0%	4.5%	*5.0%*
Dividends	3.0%	3.5%	*2.0%*
Book Value	2.0%	1.0%	*2.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	6163	5873	6940	6103	25079
2020	5949	5421	6721	5777	23868
2021	6150	5758	6951	6238	25097
2022	7132	*5958*	*7255*	*6355*	*26700*
2023	*6825*	*6125*	*7475*	*6575*	*27000*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	1.24	1.12	1.79	.91	5.06
2020	1.14	1.08	1.87	1.03	5.12
2021	1.26	1.15	1.88	.94	5.24
2022	1.30	*1.10*	*1.90*	*1.15*	*5.45*
2023	*1.30*	*1.20*	*2.00*	*1.10*	*5.75*

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.89	.89	.9275	.9275	3.64
2019	.9275	.9275	.945	.945	3.75
2020	.945	.945	.965	.965	3.82
2021	.965	.965	.985	.985	3.90
2022	.985	.985	1.005		

BUSINESS: Duke Energy Corporation is a holding company for utilities with 7.6 mill. elec. customers in NC, FL, IN, SC, OH, & KY, and 1.6 mill. gas customers in OH, KY, NC, SC, and TN. Owns independent power plants & has 25% stake in National Methanol in Saudi Arabia. Acq'd Progress Energy 7/12; Piedmont Natural Gas 10/16; discontinued most int'l ops. in '16. Elec. rev. breakdown: residential, 45%; commercial, 28%; industrial, 13%; other, 14%. Generating sources: gas, 32%; nuclear, 30%; coal, 18%; other, 1%; purchased, 19%. Fuel costs: 28% of revs. '21 reported deprec. rate: 2.9%. Has 27,600 employees. Chairman, President & CEO: Lynn J. Good. Inc.: DE. Address: 550 South Tryon St., Charlotte, NC 28202-1803. Tel.: 704-382-3853. Internet: www.duke-energy.com.

Duke Energy's bottom line will benefit from rate relief this year. In North Carolina, Piedmont gas received a $67 million increase, effective November 1st. While in Florida, a base-rate hike of $67 million took effect January 1st, as the first phase of multiyear rate relief. Duke also received a small rate increase in Kentucky, effective January 1st. In Ohio, a rate case is still pending with an order expected soon for an autumn increase. The utility is seeking an increase of $55 million (+3%), based on a 10.3% return on equity. In addition to these rate cases, the company also receives formula-based rate adjustments, tied to certain types of capital investments. Lastly, Duke is also getting a lift from higher volumes in its territories, from a rise in the number of customers as well as increased industrial usage. Our 2022 EPS estimate is at the midpoint of management's guidance of $5.30-$5.60.

More of the same is on tap for 2023. Again, rate relief and volume growth are the main factors. In Florida, a $49 million hike takes effect January 1st as part of the second phase of a multiyear rate-base increase. It should also have a full year of whatever the rate case decision in Ohio delivers. Our estimate is within the company's targeted guidance of 5%-7% long-term share-earnings gains.

An activist investor divested its stake. That distraction is over, as it moved on to greener pastures.

An asset sale is in the offing. This is the second phase of a two-part sale announced last year. In total, Duke will have sold a 19.9% minority interest in its Indiana utility for $2.05 billion. Proceeds will be used to deleverage.

And the board raised the dividend, effective with the September payment. The hike to the annualized disbursement was $0.08, or 2%, in line with our expectations. The payout ratio we show at the bottom of the array includes both the common and preferred dividends. At the 5% earnings growth rate that we're projecting, it's going to take about five years for the payout ratio to decline enough to allow for more meaningful growth.

Even so, the forward yield is only slightly above the peer average, and 3- to 5-year total returns are lean.

Anthony J. Glennon *August 12, 2022*

(A) Dil. EPS. Excl. net nonrec. losses: '12, 64¢; '13, 22¢; '14, 59¢; '15, 5¢; '16, 60¢; '18, 96; '20, $3.40; '21, 30¢; 1Q22, 22¢; net nonrec gain: '17, 14¢. 2021 EPS don't sum to annual due to rounding. Next egs. due early Nov. **(B)** Div'ds paid mid-Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. **(C)** Incl. intang. In '21: $41.34/sh. **(D)** In mill., adj. for rev. split. **(E)** Rate base: Net orig. cost. Rate all'd on com. eq. in '21 in NC: 9.6%; in '19 in SC: 9.5%; in '20 in FL: 9.5%-11.5%; in '20 in IN: 9.7%. Reg. Clim.: NC, SC Avg.; OH, IN Above Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	45
Earnings Predictability	100

EDISON INTERNAT'L NYSE-EIX

RECENT PRICE 62.50 | P/E RATIO 13.9 (Trailing: 40.6 / Median: 17.0) | RELATIVE P/E RATIO 0.90 | DIV'D YLD 4.5% | VALUE LINE

TIMELINESS 3 Raised 9/17/21
SAFETY 3 Lowered 11/23/18
TECHNICAL 2 Raised 6/24/22
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$58-$91	$75 (20%)

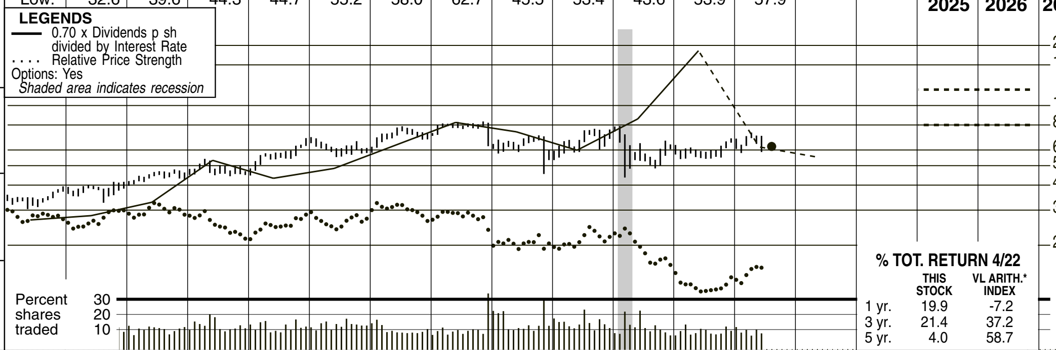
2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(+90%)	*20%*
Low	80	(+30%)	*10%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	298	356	323
to Sell	263	252	291
Hld's(000)	332161	335565	332086

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	41.6	48.0	54.2	68.7	69.6	78.7	83.4	71.0	76.4	78.9	68.6	73.3	
Low:	32.6	39.6	44.3	44.7	55.2	58.0	62.7	45.5	53.4	43.6	53.9	57.9	



% TOT. RETURN 4/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	19.9	-7.2
3 yr.	21.4	37.2
5 yr.	4.0	58.7

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
38.74	40.25	43.31	37.98	38.09	39.16	36.41	38.61	41.17	35.37	36.43	37.81	38.85	34.11	35.83	39.18	*42.15*	*42.80*	Revenues per sh	*47.55*
7.25	7.60	8.08	7.96	8.41	9.03	9.63	8.80	9.95	10.35	10.43	11.03	4.69	9.15	7.94	8.58	*11.05*	*11.50*	"Cash Flow" per sh	*13.30*
3.28	3.32	3.68	3.24	3.35	3.23	4.55	3.78	4.33	4.15	3.94	4.51	d1.26	3.98	1.72	2.00	*4.50*	*4.85*	Earnings per sh A	*6.15*
1.10	1.18	1.23	1.25	1.27	1.29	1.31	1.37	1.48	1.73	1.98	2.23	2.43	2.48	2.58	2.69	*2.84*	*3.00*	Div'd Decl'd per sh B ■	*3.55*
7.78	8.67	8.67	10.07	13.94	14.76	12.73	11.05	11.99	12.97	11.46	11.75	13.84	13.47	14.47	14.47	*13.25*	*14.50*	Cap'l Spending per sh	*16.50*
23.66	25.92	29.21	30.20	32.44	30.86	28.95	30.50	33.64	34.89	36.82	35.82	32.10	36.75	37.08	36.57	*38.60*	*40.30*	Book Value per sh C	*48.25*
325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	361.99	378.91	380.38	*382.00*	*382.00*	Common Shs Outst'g D	*385.00*
13.0	16.0	12.4	9.7	10.3	11.8	9.7	12.7	13.0	14.8	17.9	17.2	- -	16.7	34.9	29.7	*Bold figures are*		Avg Ann'l P/E Ratio	*16.0*
.70	.85	.75	.65	.66	.74	.62	.71	.68	.75	.94	.87	- -	.89	1.79	1.63	*Value Line*		Relative P/E Ratio	*.90*
2.6%	2.2%	2.7%	4.0%	3.7%	3.4%	3.0%	2.8%	2.6%	2.8%	2.8%	2.9%	3.8%	3.7%	4.3%	4.5%	*estimates*		Avg Ann'l Div'd Yield	*3.6%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $27016 mill. **Due in 5 Yrs** $9500 mill.
LT Debt $24967 mill. **LT Interest** $975 mill.
(LT interest earned: 2.9x)
Leases, Uncapitalized Annual rentals $623 mill.
Pension Assets-12/21 $4296 mill. **Oblig** $4171 mill.
Pfd Stock $3878 mill. **Pfd Div'd** $211 mill.
350,000 sh. 6.25%, $1000 liq. value; 638,020 sh. 5.0%-5.75%, $2500 liq. value; 1,250,000 sh. 5.375%, 750,000 sh. 5%, $1000 liq. value, all cum.
Common Stock 381,200,287 shs.
as of 4/26/22
MARKET CAP: $23.8 billion (Large Cap)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		25-27
11862	12581	13413	11524	11869	12320	12657	12347	13578	14905	*16100*	*16350*	Revenues ($mill)	*18300*
1594.0	1344.0	1539.0	1480.0	1422.0	1603.0	d290.0	1477.0	775.0	925.0	*1720*	*1855*	Net Profit ($mill)	*2370*
14.3%	25.2%	22.4%	6.6%	11.1%	5.0%	- -	- -	- -	- -	*5.0%*	*5.0%*	Income Tax Rate	*5.0%*
8.5%	7.8%	5.8%	8.0%	6.8%	7.2%	- -	11.1%	22.5%	18.5%	*10.0%*	*9.0%*	AFUDC % to Net Profit	*7.0%*
45.2%	45.7%	44.1%	45.0%	41.8%	45.6%	53.6%	53.5%	55.2%	57.6%	*58.0%*	*58.5%*	Long-Term Debt Ratio	*60.5%*
46.2%	46.2%	47.2%	46.7%	49.2%	45.8%	38.3%	39.9%	39.5%	33.2%	*32.0%*	*31.5%*	Common Equity Ratio	*34.5%*
20422	21516	23216	24352	24362	25506	27284	33360	35581	41959	*45000*	*48000*	Total Capital ($mill)	*55000*
30273	30455	32981	35085	37000	39050	41348	44285	47839	50700	*53000*	*56500*	Net Plant ($mill)	*63750*
8.9%	7.3%	7.7%	7.1%	6.9%	7.3%	.1%	5.6%	3.4%	3.3%	*5.5%*	*5.0%*	Return on Total Cap'l	*5.5%*
14.2%	11.5%	11.9%	11.1%	10.0%	11.6%	NMF	9.5%	4.9%	5.2%	*10.5%*	*10.0%*	Return on Shr. Equity	*11.0%*
15.9%	12.5%	13.0%	12.0%	10.8%	12.7%	NMF	10.2%	4.6%	5.5%	*12.5%*	*11.5%*	Return on Com Equity E	*13.0%*
11.4%	8.1%	8.8%	7.2%	5.6%	6.6%	NMF	4.1%	NMF	NMF	*5.0%*	*4.0%*	Retained to Com Eq	*5.5%*
32%	40%	37%	44%	53%	52%	NMF	63%	NMF	125%	*63%*	*62%*	All Div'ds to Net Prof	*58%*

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-2.7	+.7	-3.9
Avg. Indust. Use (MWH)	657	589	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	22009	23133	21190
Annual Load Factor (%)	49.6	46.7	52.7
% Change Customers (yr-end)	+.5	+.6	+.3
Fixed Charge Cov. (%)	172	NMF	113

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	-.5%	-.5%	*4.5%*
"Cash Flow"	- -	-3.5%	*7.5%*
Earnings	-2.5%	-9.0%	*16.0%*
Dividends	7.5%	8.5%	*5.5%*
Book Value	1.5%	1.0%	*4.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	2824	2812	3741	2970	12347
2020	2790	2987	4644	3157	13578
2021	2960	3315	5299	3331	14905
2022	3968	*3530*	*5180*	*3422*	*16100*
2023	*3375*	*3675*	*5625*	*3675*	*16350*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.64	1.57	1.35	.45	3.98
2020	.50	.85	d.76	1.13	1.72
2021	.68	.84	d.90	1.38	2.00
2022	.22	*.90*	*1.75*	*1.63*	*4.50*
2023	*.90*	*1.00*	*1.80*	*1.15*	*4.85*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.605	.605	.605	.605	2.42
2019	.6125	.6125	.6125	.6125	2.45
2020	.6375	.6375	.6375	.6375	2.55
2021	.6625	.6625	.6625	.6625	2.65
2022	.70	.70	.70		

BUSINESS: Edison International (formerly SCECorp) is a holding company for Southern California Edison Company (SCE), which supplies electricity to 5.2 mill. customers in a 50,000-sq.-mi. area in central, coastal, & southern CA (excl. Los Angeles & San Diego). Edison Energy is an energy svcs. co. Disc. Edison Mission Energy (independent power producer) in '12. Elec. rev. breakdown: residential, 43%; commercial, 45%; industrial, 3%; other, 9%. Generating sources: nuclear, 8%; gas, 3%; hydro, 3%; purch., 86%. Power costs: 37% of revs. '21 reported depr. rate: 3.7%. Has 13,000 empls. Chairman: William P. Sullivan. Pres. & CEO: Pedro J. Pizzaro. Inc.: CA. Address: 2244 Walnut Grove Ave., P.O. Box 976, Rosemead, CA 91770. Tel.: 626-302-2222. Web: www.edison.com.

Edison International is poised for a bounce back year in 2022. The California-based utility was ravaged by wildfires and mudslides in 2017-2018, and the claims related to these disasters hit the company's books in 2020-2021. This year, however, we are not anticipating any fresh claims, and are looking for earnings of $4.50 a share, which excludes roughly $0.40 of amortization expense for Edison's contributions to the wildfire insurance fund. For next year, we think Southern California Edison's rate base will be on the rise. In turn, the profits of the parent company will be propped up as well. Our $4.85 call falls in line with management's goal of 5% to 7% earnings growth per annum.

When all is said and done, Edison International's true earnings results in the coming years are in the hands of the California Public Utilities Commission (CPUC). A mechanism in the cost-of-capital scheme could potentially retroactively trim Edison's ROE for this year from 10.3% to 9.72%. We think the 10.3% figure will be maintained, but that is only one proceeding, a separate regulatory meeting will then take place for an ROE decision on 2023 through 2025.

Much of the news surrounding this company goes back to the wildfires. Another review by management was conducted in the first quarter of this year, which included large damage claims by a small number of plaintiffs. In turn, the in-house estimate for losses was ratcheted up by more than $400 million, to a figure now exceeding $5 billion. Multiple future applications for rate recovery from CPUC are in the cards, with the first filing targeted for late 2023. In the meantime, the overall capital budget should be higher, padded by long-term debt additions, as battery storage operations and the hardening of the grid post-wildfires continue in earnest.

Edison's above-average dividend yield, even for the utility arena, is the draw here. Subscribers should note that this percentage payout is propped up on the uncertainties surrounding the aforementioned wildfires. Looking further out, the total return potential for the coming 18 months is subpar, and EIX also does not distinguish itself for the stretch to 2025-2027.

Erik M. Manning *July 22, 2022*

(A) Dil. EPS. Excl. nonrec. gains (losses): '09, (64¢); '10, 54¢; '11, ($3.33); '13, ($1.12); '15, ($1.18); '17, ($1.37); '18, (15¢); '19, (21¢); '20, 25¢; gains (loss) from disc. ops.: '12, ($5.11); '13, 11¢; '14, 57¢; '15, 11¢; '18, 10¢. '19 EPS don't sum due to change in shs. Next earnings report due July 28th. **(B)** Div'ds paid late Jan., Apr., July, & Oct. ■ Div'd reinv. plan avail. **(C)** Incl. def'd chgs. In '21: $20.14/sh. **(D)** In mill. **(E)** Rate base: net orig. cost. Rate all'd on com. eq. in '20: 10.3%; earned on avg. com. eq., '21: 5.4%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	75
Price Growth Persistence	35
Earnings Predictability	10

ENTERGY CORP. NYSE-ETR

RECENT PRICE 121.08 | P/E RATIO 18.9 (Trailing: 18.4 Median: 14.0) | RELATIVE P/E RATIO 1.13 | DIV'D YLD 3.5% | VALUE LINE

TIMELINESS 4 Lowered 12/10/21
SAFETY 2 Raised 12/13/19
TECHNICAL 3 Lowered 6/10/22
BETA .90 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$103-$155	$129 (5%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	160	(+30%)	*10%*
Low	115	(-5%)	*3%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	264	352	327
to Sell	275	244	281
Hld's(000)	183072	182168	179128

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
High:	74.5	74.5	72.6	92.0	90.3	82.1	87.9	90.8	122.1	135.5	115.0	126.8								
Low:	57.6	61.6	60.2	60.4	61.3	65.4	69.6	71.9	83.2	75.2	85.8	100.2								
	53.94	59.47	69.15	56.82	64.27	63.67	57.94	63.86	69.71	64.54	60.55	61.35	58.23	54.63	50.51	57.95	*56.30*	*56.45*	Revenues per sh	*61.50*
	10.69	11.73	12.89	13.29	16.54	17.53	15.98	16.25	17.68	17.71	18.72	16.70	16.50	17.19	18.21	17.90	*17.55*	*17.95*	"Cash Flow" per sh	*20.50*
	5.36	5.60	6.20	6.30	6.66	7.55	6.02	4.96	5.77	5.81	6.88	5.19	5.88	6.30	6.90	6.87	*6.40*	*6.70*	Earnings per sh [A]	*8.50*
	2.16	2.58	3.00	3.00	3.24	3.32	3.32	3.32	3.32	3.34	3.42	3.50	3.58	3.66	3.74	3.86	*4.09*	*4.30*	Div'd Decl'd per sh [B] ■ †	*5.10*
	9.44	10.29	13.92	12.99	13.33	15.21	18.18	15.73	14.82	16.79	17.28	22.07	22.45	21.72	24.52	30.86	*18.15*	*19.00*	Cap'l Spending per sh	*19.75*
	40.45	40.71	42.07	45.54	47.53	50.81	51.73	54.00	55.83	51.89	45.12	44.28	46.78	51.34	54.56	57.42	*60.30*	*63.55*	Book Value per sh [C]	*74.00*
	202.67	193.12	189.36	189.12	178.75	176.36	177.81	178.37	179.24	178.39	179.13	180.52	189.06	199.15	200.24	202.65	*206.00*	*209.00*	Common Shs Outst'g [D]	*214.00*
	14.3	19.3	16.6	12.0	11.6	9.1	11.2	13.2	12.9	12.5	10.9	15.0	13.8	16.5	15.3	15.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*16.0*
	.77	1.02	1.00	.80	.74	.57	.71	.74	.68	.63	.57	.75	.75	.88	.79	.80			Relative P/E Ratio	*.90*
	2.8%	2.4%	2.9%	4.0%	4.2%	4.9%	4.9%	5.1%	4.5%	4.6%	4.6%	4.5%	4.4%	3.5%	3.6%	3.7%			Avg Ann'l Div'd Yield	*3.7%*
							10302	11391	12495	11513	10846	11074	11009	10879	10114	11743	*11600*	*11800*	Revenues ($mill)	*13150*
							1091.9	904.5	1060.0	1061.2	1249.8	950.7	1092.1	1258.2	1406.7	1402.8	*1340*	*1420*	Net Profit ($mill)	*1845*
							13.0%	26.7%	37.8%	2.2%	11.3%	1.8%	NMF	NMF	NMF	16.1%	*23.0%*	*23.0%*	Income Tax Rate	*23.0%*
							11.9%	10.1%	9.3%	7.4%	8.1%	14.7%	17.5%	16.7%	12.2%	7.1%	*8.0%*	*8.0%*	AFUDC % to Net Profit	*7.0%*
							55.8%	55.1%	54.9%	57.8%	63.6%	63.6%	63.2%	62.0%	65.5%	67.6%	*66.5%*	*66.5%*	Long-Term Debt Ratio	*66.0%*
							42.9%	43.6%	43.8%	40.8%	35.5%	35.5%	35.9%	37.1%	33.7%	31.7%	*32.5%*	*33.0%*	Common Equity Ratio	*33.5%*
							21432	22109	22842	22714	22777	22528	24602	27557	32386	36733	*38050*	*40200*	Total Capital ($mill)	*47300*
							27299	27882	28723	27824	27921	29664	31974	35183	38853	42244	*43750*	*45425*	Net Plant ($mill)	*50800*
							6.4%	5.4%	6.0%	6.0%	6.9%	5.7%	5.8%	5.9%	5.6%	4.8%	*4.5%*	*4.5%*	Return on Total Cap'l	*5.0%*
							11.5%	9.1%	10.3%	11.1%	15.1%	11.6%	12.0%	12.0%	12.6%	11.6%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.5%*
							11.6%	9.2%	10.4%	11.2%	15.2%	11.7%	12.2%	12.1%	12.7%	11.9%	*10.5%*	*10.5%*	Return on Com Equity [E]	*11.5%*
							5.2%	3.0%	4.4%	4.8%	7.7%	3.9%	4.9%	5.2%	5.9%	5.2%	*4.0%*	*4.0%*	Retained to Com Eq	*4.5%*
							56%	68%	58%	58%	50%	68%	61%	58%	55%	57%	*64%*	*64%*	All Div'ds to Net Prof	*60%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $28559 mill. **Due in 5 Yrs** $11117 mill.
LT Debt $26176 mill. **LT Interest** $824.0 mill.
Incl. $54.7 mill. of securitization bonds.
(LT interest earned: 2.8x)
Leases, Uncapitalized Annual rentals $65.3 mill.
Pension Assets-12/21 $6993.1 mill.
Oblig $8409.6 mill.
Pfd Stock $254.4 mill. **Pfd Div'd** $18.3 mill.
200,000 shs. 6.25%-7.5%, $100 par; 250,000 shs. 8.75%, 1.4 mill. shs. 5.375%; all cum., without sinking fund.
Common Stock 203,374,308 shs. **as of 4/29/22**
MARKET CAP: $25 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-1.4	-4.1	+3.2
Avg. Indust. Use (MWH)	1070	1017	1015
Avg. Indust. Revs. per KWH(¢)	5.24	4.95	5.91
Capacity at Peak (Mw)	23887	25665	NA
Peak Load, Summer (Mw)	21598	21340	NA
Annual Load Factor (%)	64	62	NA
% Change Customers (yr-end)	+.8	+1.0	+1.0
Fixed Charge Cov. (%)	165	202	243

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	-1.0%	-3.5%	*2.0%*
"Cash Flow"	1.0%	-.5%	*2.5%*
Earnings	- -	1.5%	*4.0%*
Dividends	1.5%	2.0%	*5.0%*
Book Value	1.5%	1.5%	*5.0%*

QUARTERLY REVENUES ($ mill.)

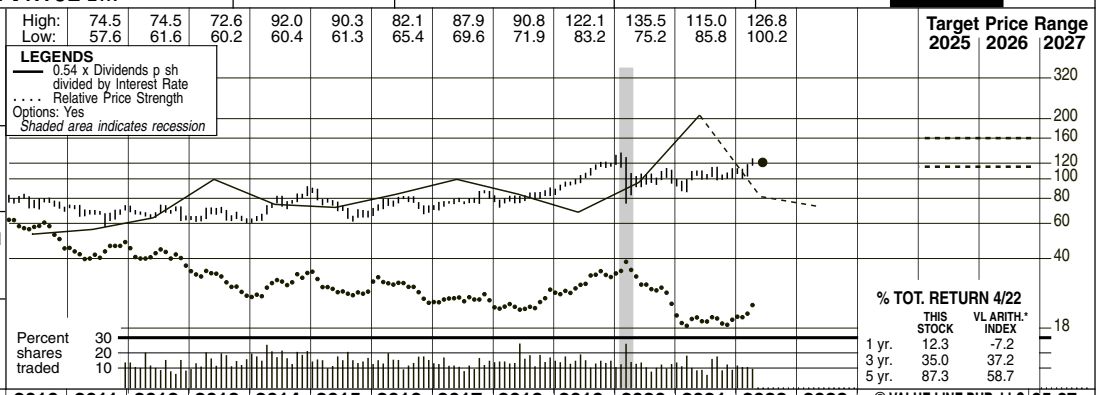
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	2610	2666	3141	2462	10879
2020	2427	2413	2904	2370	10114
2021	2845	2822	3353	2723	11743
2022	2878	*2822*	*3200*	*2700*	*11600*
2023	*2950*	*2850*	*3250*	*2750*	*11800*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	1.32	1.22	1.82	1.94	6.30
2020	.59	1.79	2.59	1.93	6.90
2021	1.66	1.30	2.63	1.28	6.87
2022	1.36	*1.59*	*2.70*	*.75*	*6.40*
2023	*1.35*	*1.70*	*2.85*	*.80*	*6.70*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.89	.89	.89	.91	3.58
2019	.91	.91	.91	.93	3.66
2020	.93	.93	.93	.95	3.74
2021	.95	.95	.95	1.01	3.86
2022	1.01	1.01			



BUSINESS: Entergy Corporation supplies electricity to 3 million customers through subsidiaries in Arkansas, Louisiana, Mississippi, Texas, and New Orleans (regulated separately from Louisiana). Distributes gas to 206,000 customers in Louisiana. Is selling its last nonutility nuclear unit (shut down 5/22). Electric revenue breakdown: residential, 37%; commercial, 24%; industrial, 27%; other, 12%. Generating sources: gas, 46%; nuclear, 30%; coal, 6%; purchased, 18%. Fuel costs: 32% of revenues. '21 reported depreciation rate: 2.7%. Has 12,400 employees. Chairman & CEO: Leo P. Denault. Incorporated: Delaware. Address: 639 Loyola Avenue, P.O. Box 61000, New Orleans, Louisiana 70161. Telephone: 504-576-4000. Internet: www.entergy.com.

Entergy is making progress in recovering the costs of severe storms in its service area in 2020 and 2021. The company is recovering these capital and operating expenses through the issuance of securitized bonds. Entergy Texas issued $291 million in April, and Entergy Louisiana has received $3.2 billion. Entergy Louisiana expects to get an additional $1.7 billion by yearend, pending approval by the state commission.

The company's last nonutility nuclear plant ceased operations in May. The sale of the unit will likely be completed soon. (The buyer is getting the nuclear decommissioning trust at a significant discount.) Now that Entergy is almost entirely a regulated utility, its business risk is lower. However . . .

Earnings will probably decline this year. The nonutility operations that Entergy is exiting provided $0.61 a share of income in 2021 and $0.04 a share in the first quarter of 2022 (versus $0.19 in the same period a year earlier). Also, average shares outstanding will rise. Entergy's financing plans call for the issuance of $1 billion of common equity from 2022 through 2024. Our 2022 share-earnings estimate of $6.40 is near the upper end of management's targeted range of $6.15-$6.45.

Rate requests under formula rate plans are pending in Mississippi and New Orleans. Entergy Mississippi requested $48.6 million (the utility has a deficiency of $69 million, but the increase is subject to a cap of 4% of retail revenues), and Entergy New Orleans requested $40.2 million. Revenues obtained under formula rate plans are a source of the company's annual earnings growth.

We look for higher profits in 2023. Revenues from formula rate plans are one factor. Also, the service area's economy is showing no signs of slowing, in contrast to the GDP decline in the first quarter. Industrial kilowatt-hour sales advanced 6.5% in the March period. Our earnings estimate remains at the midpoint of Entergy's guidance of $6.55-$6.85 a share.

The dividend of this untimely stock is slightly above average for a utility. The equity lacks appeal for the next 18 months or the 3- to 5-year period.

Paul E. Debbas, CFA *June 10, 2022*

(A) Diluted EPS. Excl. nonrec. losses: '12, $1.26; '13, $1.14; '14, 56¢; '15, $6.99; '16, $10.14; '17, $2.91; '18, $1.25; '21, $1.33. Next earnings report due early Aug. **(B)** Div'ds historically paid in early Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. deferred charges. In '21: $35.95/sh. **(D)** In mill. **(E)** Rate base: Net original cost. Allowed ROE (blended): 9.95%; earned on avg. com. eq., '21: 12.1%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	35
Earnings Predictability	70

EVERGY, INC. NYSE-EVRG

RECENT PRICE 70.57 | P/E RATIO 20.2 (Trailing: 20.0 Median: NMF) | RELATIVE P/E RATIO 1.21 | DIV'D YLD 3.4% | VALUE LINE

TIMELINESS 5 Lowered 4/29/22
SAFETY 2 New 9/14/18
TECHNICAL 3 Lowered 6/10/22
BETA .90 (1.00 = Market)

18-Month Target Price Range

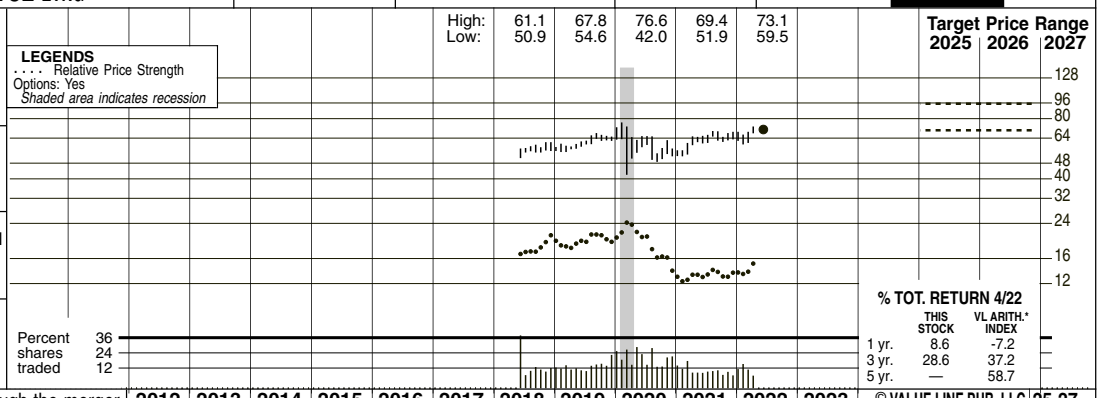
Low-High	Midpoint (% to Mid)
$60-$87	$74 (5%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(+35%)	*11%*
Low	70	(Nil)	*4%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	262	308	284
to Sell	240	237	270
Hld's(000)	204443	206094	196288



Evergy, Inc. was formed through the merger of Great Plains Energy and Westar Energy in June of 2018. Great Plains Energy holders received .5981 of a share of Evergy for each of their shares, and Westar Energy holders received one share of Evergy for each of their shares. The merger was completed on June 4, 2018. Shares of Evergy began trading on the New York Stock Exchange one day later.

CAPITAL STRUCTURE as of 3/31/22
Total Debt $11565 mill. **Due in 5 Yrs** $4388.2 mill.
LT Debt $9247.1 mill. **LT Interest** $330.2 mill.
Incl. $40.9 mill. finance leases.
(LT interest earned: 3.8x)

Leases, Uncapitalized Annual rentals $18.8 mill.

Pension Assets-12/21 $1714.7 mill. **Oblig** $2561.7 mill.

Pfd Stock None

Common Stock 229,478,276 shs.
as of 4/29/22
MARKET CAP: $16 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	NA	-3.9	+3.1
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	7.25	7.14	6.94
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	305	286	350

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	--	--	*2.5%*
"Cash Flow"	--	--	*5.0%*
Earnings	--	--	*7.5%*
Dividends	--	--	*7.0%*
Book Value	--	--	*3.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	1217	1222	1578	1131	5148
2020	1117	1185	1517	1094	4913
2021	1612	1236	1617	1122	5587
2022	1224	*1276*	*1650*	*1150*	*5300*
2023	*1250*	*1300*	*1700*	*1200*	*5450*

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.39	.57	1.56	.28	2.79
2020	.31	.59	1.60	.22	2.72
2021	.84	.81	1.95	.23	3.83
2022	.53	*.72*	*1.95*	*.30*	*3.50*
2023	*.60*	*.80*	*2.05*	*.30*	*3.75*

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.40	.40	.46	.475	1.74
2019	.475	.475	.475	.505	1.93
2020	.505	.505	.505	.535	2.05
2021	.535	.535	.535	.5725	2.18
2022	.5725				

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
	--	--	--	--	--	--	16.75	22.71	21.66	24.36	*23.05*	*23.70*	Revenues per sh	*26.50*
	--	--	--	--	--	--	4.89	7.18	7.06	8.18	*7.95*	*8.40*	"Cash Flow" per sh	*10.00*
	--	--	--	--	--	--	2.50	2.79	2.72	3.83	*3.50*	*3.75*	Earnings per sh A	*4.75*
	--	--	--	--	--	--	1.74	1.93	2.05	2.18	*2.33*	*2.48*	Div'd Decl'd per sh B ■	*3.05*
	--	--	--	--	--	--	4.19	5.34	6.88	8.60	*8.60*	*9.20*	Cap'l Spending per sh	*9.50*
	--	--	--	--	--	--	39.28	37.82	38.50	40.32	*41.35*	*42.65*	Book Value per sh C	*47.25*
	--	--	--	--	--	--	255.33	226.64	226.84	229.30	*230.00*	*230.00*	Common Shs Outst'g D	*230.00*
	--	--	--	--	--	--	22.7	21.8	21.7	16.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.5*
	--	--	--	--	--	--	1.23	1.16	1.11	.87			Relative P/E Ratio	*.95*
	--	--	--	--	--	--	3.1%	3.2%	3.5%	3.5%			Avg Ann'l Div'd Yield	*3.7%*
	--	--	--	--	--	--	4275.9	5147.8	4913.4	5586.7	*5300*	*5450*	Revenues ($mill)	*6100*
	--	--	--	--	--	--	535.8	669.9	618.3	879.7	*820*	*880*	Net Profit ($mill)	*1115*
	--	--	--	--	--	--	9.8%	12.6%	14.1%	11.7%	*9.0%*	*9.0%*	Income Tax Rate	*9.0%*
	--	--	--	--	--	--	2.5%	2.5%	5.5%	5.0%	*5.0%*	*6.0%*	AFUDC % to Net Profit	*5.0%*
	--	--	--	--	--	--	40.0%	50.6%	51.3%	50.1%	*51.5%*	*51.5%*	Long-Term Debt Ratio	*53.5%*
	--	--	--	--	--	--	60.0%	49.4%	48.7%	49.9%	*48.5%*	*48.5%*	Common Equity Ratio	*46.5%*
	--	--	--	--	--	--	16716	17337	17924	18542	*19675*	*20175*	Total Capital ($mill)	*23400*
	--	--	--	--	--	--	18952	19346	20106	21150	*22100*	*23150*	Net Plant ($mill)	*26300*
	--	--	--	--	--	--	4.0%	4.8%	4.5%	5.7%	*5.0%*	*5.5%*	Return on Total Cap'l	*6.0%*
	--	--	--	--	--	--	5.3%	7.8%	7.1%	9.5%	*8.5%*	*9.0%*	Return on Shr. Equity	*10.0%*
	--	--	--	--	--	--	5.3%	7.8%	7.1%	9.5%	*8.5%*	*9.0%*	Return on Com Equity E	*10.0%*
	--	--	--	--	--	--	.6%	2.4%	1.8%	4.1%	*3.0%*	*3.0%*	Retained to Com Eq	*3.5%*
	--	--	--	--	--	--	89%	69%	75%	57%	*65%*	*65%*	All Div'ds to Net Prof	*63%*

BUSINESS: Evergy, Inc. was formed through the merger of Great Plains Energy and Westar Energy in June of 2018. Through its subsidiaries (now doing business under the Evergy name), provides electric service to 1.6 million customers in Kansas and Missouri, including the greater Kansas City area. Electric revenue breakdown: residential, 34%; commercial, 30%; industrial, 11%; wholesale, 13%; other, 12%. Generating sources: coal, 54%; nuclear, 17%; purchased, 29%. Fuel costs: 28% of revenues. '21 reported deprec. rate: 3%. Has 4,900 employees. Chairman: Mark A. Ruelle. President & CEO: David A. Campbell. COO: Kevin E. Bryant. Inc.: Missouri. Address: 1200 Main Street, Kansas City, Missouri 64105. Tel.: 816-556-2200. Internet: www.evergy.com.

Evergy's utilities in Missouri have rate cases pending. Missouri Metro filed for an increase of $43.9 million (5.2%) and Missouri West requested a hike of $27.7 million (3.8%). Each utility is seeking a 10% allowed return on equity, based on common-equity ratios of 51.2% and 51.8% for Missouri Metro and Missouri West, respectively. The utilities are seeking to place capital spending in the rate base and recover higher property taxes. These are Evergy's first general rate cases since the company was formed four years ago. The company will try to reach settlement on the applications. New tariffs are expected to take effect on December 6th, so this will have little effect on earnings this year.

Another regulatory matter is pending in Missouri, and others are upcoming in Kansas. Missouri West is seeking approval to issue securitized bonds to recover about $300 million of extraordinary gas and power costs that resulted from a cold spell in February of 2021. An order is expected by October. Evergy's utilities in Kansas plan to file rate cases in 2023.

Earnings will probably decline in 2022, due partly to a tough March-quarter comparison. Last year, the aforementioned cold spell benefited Evergy's energy-marketing subsidiary. This raised pretax profits by $86.6 million in the first period of 2021. Our estimate of $3.50 a share is within management's targeted range (on a GAAP basis) of $3.38-$3.58. So far, the service area's economy still appears to be healthy. The company is benefiting from investment in its transmission system, too.

We estimate a solid earnings increase in 2023. Rate relief in Missouri should be the key factor. Our estimate of $3.75 a share would provide 7% growth over the estimated 2022 tally. Evergy's goal for annual profit growth is 6%-8%.

The dividend yield of this untimely stock is about equal to the utility average. Total return potential is subpar for the next 18 months and for the 3- to 5-year period. Note that a standstill agreement with two investors has expired now that Evergy has held its annual meeting. This adds some speculative interest to this stock. However, we advise against buying the equity solely in the hope of a deal.

Paul E. Debbas, CFA *June 10, 2022*

(A) Diluted earnings. '19 EPS don't sum to full-year total due to rounding. Next earnings report due early August. **(B)** Dividends paid in mid-March, June, September, and December. ■ Dividend reinvestment plan available. **(C)** Incl. intangibles. In '21: $4,327.7 mill., $18.87/sh. **(D)** In millions. **(E)** Rate base: Original cost depreciated. Rate allowed on common equity in Missouri in '18: none specified; in Kansas in '18: 9.3%; earned on average common equity, '21: 9.8%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	NMF
Earnings Predictability	NMF

IDACORP, INC. NYSE-IDA

RECENT PRICE **105.60** | P/E RATIO **21.1** (Trailing: 21.7 Median: 19.0) | RELATIVE P/E RATIO **1.37** | DIV'D YLD **2.8%** | **VALUE LINE**

TIMELINESS 3 Raised 5/20/22
SAFETY 1 Raised 1/22/21
TECHNICAL 3 Lowered 7/15/22
BETA .80 (1.00 = Market)

18-Month Target Price Range

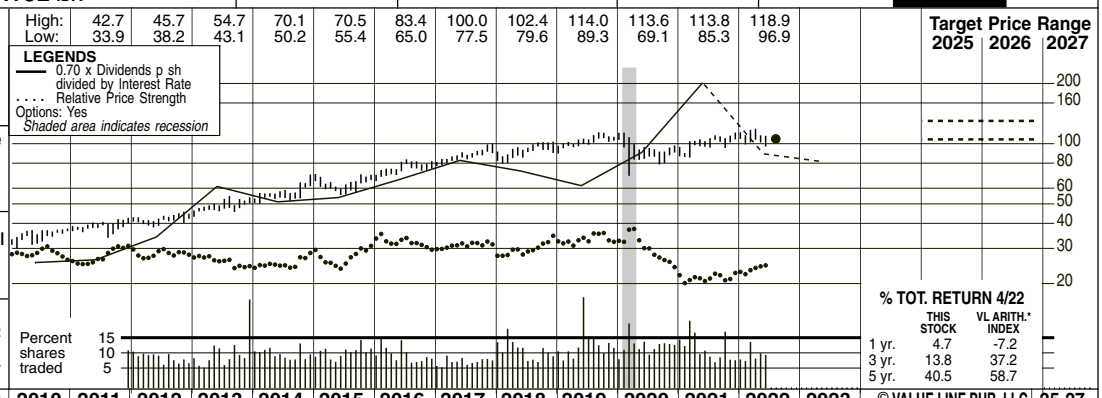
Low-High	Midpoint (% to Mid)
$94-$145	$120 (15%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	130	(+25%)	*8%*
Low	105	(Nil)	*3%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	163	208	181
to Sell	145	137	164
Hld's(000)	39867	39410	39894



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
21.23	19.51	20.47	21.92	20.97	20.55	21.55	24.81	25.51	25.23	25.04	26.76	27.19	26.70	26.77	28.86	***29.20***	***29.60***	Revenues per sh	***34.60***
4.58	4.11	4.27	5.07	5.35	5.84	5.93	6.29	6.58	6.70	6.86	7.50	7.85	8.07	8.19	8.41	***8.70***	***9.00***	"Cash Flow" per sh	***10.30***
2.35	1.86	2.18	2.64	2.95	3.36	3.37	3.64	3.85	3.87	3.94	4.21	4.49	4.61	4.69	4.85	***5.00***	***5.20***	Earnings per sh [A]	***6.00***
1.20	1.20	1.20	1.20	1.20	1.20	1.37	1.57	1.76	1.92	2.08	2.24	2.40	2.56	2.72	2.88	***3.05***	***3.25***	Div'd Decl'd per sh [B] ■ †	***4.00***
5.16	6.39	5.19	5.26	6.85	6.76	4.78	4.68	5.45	5.84	5.89	5.66	5.51	5.53	6.16	5.94	***9.50***	***13.25***	Cap'l Spending per sh	***10.00***
25.77	26.79	27.76	29.17	31.01	33.19	35.07	36.84	38.85	40.88	42.74	44.65	47.01	48.88	50.73	52.82	***54.55***	***56.00***	Book Value per sh [C]	***63.45***
43.63	45.06	46.92	47.90	49.41	49.95	50.16	50.23	50.27	50.34	50.40	50.42	50.42	50.42	50.46	50.52	***50.70***	***51.00***	Common Shs Outst'g [D]	***52.00***
15.1	18.2	13.9	10.2	11.8	11.5	12.4	13.4	14.7	16.2	19.1	20.6	20.5	22.3	19.9	20.8	***Bold figures are Value Line estimates***		Avg Ann'l P/E Ratio	***19.5***
.82	.97	.84	.68	.75	.72	.79	.75	.77	.82	1.00	1.04	1.11	1.19	1.02	1.14			Relative P/E Ratio	***1.10***
3.4%	3.5%	4.0%	4.5%	3.4%	3.1%	3.3%	3.2%	3.1%	3.1%	2.8%	2.6%	2.6%	2.5%	2.9%	2.9%			Avg Ann'l Div'd Yield	***3.4%***
1080.7	1246.2	1282.5	1270.3	1262.0	1349.5	1370.8	1346.4	1350.7	1458.1	***1480***	***1510***	Revenues ($mill)	***1800***
168.9	182.4	193.5	194.7	198.3	212.4	226.8	232.9	237.4	245.6	***255***	***265***	Net Profit ($mill)	***310***
13.4%	28.3%	8.0%	19.0%	15.5%	18.6%	7.1%	9.5%	10.8%	13.1%	***13.0%***	***13.0%***	Income Tax Rate	***13.0%***
20.3%	12.3%	13.6%	16.3%	16.3%	13.9%	15.2%	16.2%	17.3%	17.7%	***20.0%***	***21.0%***	AFUDC % to Net Profit	***16.0%***
45.5%	46.6%	45.3%	45.6%	44.8%	43.7%	43.6%	41.3%	43.9%	42.8%	***44.5%***	***48.5%***	Long-Term Debt Ratio	***50.5%***
54.5%	53.4%	54.7%	54.4%	55.2%	56.3%	56.4%	58.7%	56.1%	57.2%	***55.5%***	***51.5%***	Common Equity Ratio	***49.5%***
3225.4	3465.9	3567.6	3783.3	3898.5	3997.5	4205.1	4201.3	4560.4	4669.1	***4975***	***5530***	Total Capital ($mill)	***6700***
3536.0	3665.0	3833.5	3992.4	4172.0	4283.9	4395.7	4531.5	4709.5	4901.8	***5300***	***5800***	Net Plant ($mill)	***6700***
6.5%	6.4%	6.6%	6.2%	6.1%	6.3%	6.4%	6.5%	6.1%	6.2%	***6.0%***	***5.5%***	Return on Total Cap'l	***6.0%***
9.6%	9.9%	9.9%	9.5%	9.2%	9.4%	9.6%	9.4%	9.3%	9.2%	***9.0%***	***9.0%***	Return on Shr. Equity	***9.5%***
9.6%	9.9%	9.9%	9.5%	9.2%	9.4%	9.6%	9.4%	9.3%	9.2%	***9.0%***	***9.0%***	Return on Com Equity [E]	***9.5%***
5.7%	5.6%	5.4%	4.8%	4.3%	4.4%	4.4%	4.2%	3.9%	3.7%	***3.5%***	***3.0%***	Retained to Com Eq	***3.0%***
41%	43%	46%	50%	53%	53%	54%	56%	58%	60%	***61%***	***63%***	All Div'ds to Net Prof	***67%***

CAPITAL STRUCTURE as of 3/31/22
Total Debt $2050.6 mill. **Due in 5 Yrs** $270.0 mill.
LT Debt $2050.6 mill. **LT Interest** $90.0 mill.
(LT interest earned: 4.0x)

Pension Assets-12/21 $984.5 mill.
Oblig $1346.5 mill.

Pfd Stock None

Common Stock 50,559,164 shs.
as of 4/29/22

MARKET CAP: $5.3 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-.3	+2.0	+3.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.32	5.38	5.62
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	3242	3392	3751
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+2.5	+2.7	+2.8
Fixed Charge Cov. (%)	307	313	334

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.5%	1.5%	*4.0%*
"Cash Flow"	4.5%	4.0%	*4.0%*
Earnings	4.5%	4.0%	*4.0%*
Dividends	8.5%	7.0%	*6.5%*
Book Value	5.0%	4.5%	*4.0%*

QUARTERLY REVENUES($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	350.3	316.9	386.3	292.9	1346.4
2020	291.0	318.8	425.3	315.6	1350.7
2021	316.1	360.1	446.9	335.0	1458.1
2022	344.3	***365***	***450***	***320.7***	***1480***
2023	***345***	***370***	***460***	***335***	***1510***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.84	1.05	1.78	.93	4.61
2020	.74	1.19	2.02	.74	4.69
2021	.89	1.38	1.93	.65	4.85
2022	.91	***1.35***	***2.00***	***.74***	***5.00***
2023	***.95***	***1.40***	***2.05***	***.80***	***5.20***

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.59	.59	.59	.63	2.40
2019	.63	.63	.63	.67	2.56
2020	.67	.67	.67	.71	2.72
2021	.71	.71	.71	.75	2.88
2022	.75	.75			

BUSINESS: IDACORP, Inc. is a holding company for Idaho Power Company, a regulated electric utility that serves 604,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon (population: 1.3 million). Most of the company's revenues are derived from the Idaho portion of its service area. Revenue breakdown: residential, 45%; commercial, 24%; industrial, 15%; irrigation, 13%; other, 3%. Generating sources: hydro, 30%; coal, 17%; gas, 15%; purchased, 38%. Fuel costs: 36% of revenues. '21 reported depreciation rate: 2.9%. Has 2,000 employees. Chairman: Richard J. Dahl. President & CEO: Lisa Grow. Incorporated: Idaho. Address: 1221 W. Idaho St., Boise, Idaho 83702. Telephone: 208-388-2200. Internet: www.idacorpinc.com.

IDACORP appears poised to have another good year in 2022. Earnings growth from this utility is on a good annual run, powered by population growth and healthy economies in its service areas. Weather-related usage is rising, as is transmission wheeling revenues. The company has maintained its 2022 earnings guidance range of $4.85-$5.05 a share, and our $5.00 target is near the spread's apex. This bracket assumes two things, normal weather conditions and Idaho Power not utilizing additional tax credits available under its regulatory mechanism this year. Our 2023 EPS target of $5.20 implies a 4% gain, given the same positives listed.

Rate cases may be on the table for 2023. It has been a decade since Idaho Power filed a rate application. Over that span, customer growth was plentiful and operations were supported. Presently, the capital budget is on the rise, as an ownership position in a transmission line is increasing and battery storage financing demands are rising (more details below). IDACORP's debt burden should move higher in tandem, with the probability of an issuance of equity growing for 2024.

The company is making moves to avoid a possible power capacity deficit. IDA has partnered with Powin, a Portland-area battery energy storage system company on two contracts totaling 120 megawatts of generating capacity. The summer is a concern, as air conditioning and irrigation are prime drivers of usage. The plan is to charge the batteries early in the day, then discharge them in the evening when solar power goes away and wind power is minimal. IDACORP is seeking approval from the Idaho Public Utilities Commission to acquire the battery systems, and it also must get clearance in Oregon because its service territory expands into the east of that state.

IDACORP's high-quality stock is not all that appealing at this juncture. For starters, the dividend yield is below the utility average. Add to this, the quotation is hovering around the bottom rung of our 3- to 5-year Target Price Range, which has rendered long-term total return potential subpar. That metric also gives us a below-average reading for the coming 18-month period for this neutrally ranked selection.

Erik M. Manning *July 22, 2022*

(A) Diluted EPS. Excl. nonrecurring gain: '06, 17¢. '19 earnings don't sum due to rounding. Next earnings report due last week of July. **(B)** Dividends historically paid in late Feb., May, Aug., and Nov. ■ Dividend reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '21: $1,462.4 mill., $28.95/sh. **(D)** In millions. **(E)** Rate base: Net original cost. Rate allowed on common equity in '12: 10% (imputed); earned on avg. com. eq., '21: 9.4%. Regulatory Climate: Above Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	100

ALLIANT ENERGY NDQ-LNT

RECENT PRICE **63.78** | P/E RATIO **22.8** (Trailing: 23.5 Median: 20.0) | RELATIVE P/E RATIO **1.37** | DIV'D YLD **2.8%** | **VALUE LINE**

TIMELINESS 3 Raised 10/29/21
SAFETY 2 Raised 9/28/07
TECHNICAL 3 Lowered 6/10/22
BETA .80 (1.00 = Market)

18-Month Target Price Range

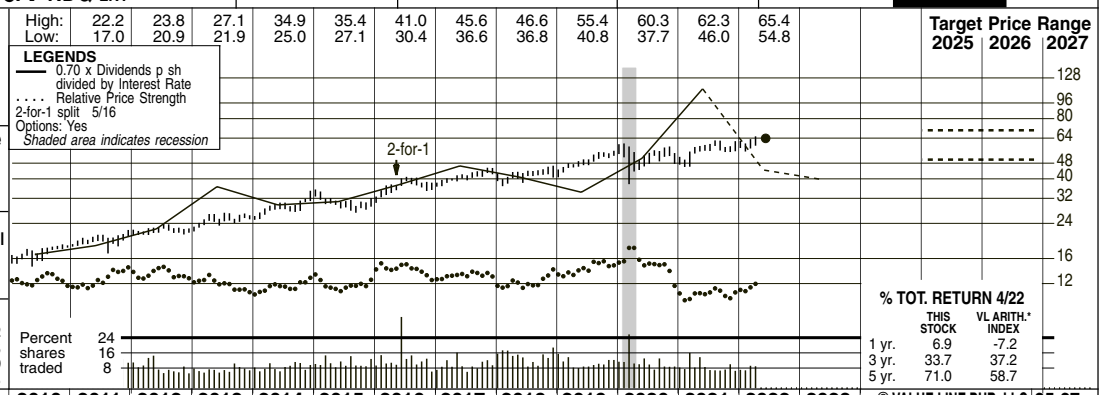
Low-High	Midpoint (% to Mid)
$55-$84	$70 (10%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+10%)	*5%*
Low	50	(-20%)	*-2%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	237	290	265
to Sell	232	244	259
Hld's(000)	194869	195770	195423



% TOT. RETURN 4/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	6.9	-7.2
3 yr.	33.7	37.2
5 yr.	71.0	58.7

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
14.46	15.57	16.67	15.51	15.40	16.51	13.94	14.77	15.10	14.34	14.58	14.62	14.97	14.89	13.67	14.65	*16.35*	*16.90*	Revenues per sh	*18.50*
2.16	2.56	2.28	2.10	2.60	2.75	2.95	3.34	3.49	3.45	3.43	3.97	4.32	4.59	4.92	5.25	*5.50*	*5.75*	"Cash Flow" per sh	*6.75*
1.03	1.35	1.27	.95	1.38	1.38	1.53	1.65	1.74	1.69	1.65	1.99	2.19	2.33	2.47	2.63	*2.80*	*2.95*	Earnings per sh [A]	*3.50*
.58	.64	.70	.75	.79	.85	.90	.94	1.02	1.10	1.18	1.26	1.34	1.42	1.52	1.61	*1.71*	*1.81*	Div'd Decl'd per sh [B] ■ †	*2.15*
1.71	2.46	3.98	5.43	3.91	3.03	5.22	3.32	3.78	4.25	5.26	6.34	6.92	6.69	5.47	4.67	*5.90*	*5.90*	Cap'l Spending per sh	*6.25*
11.42	12.15	12.78	12.54	13.05	13.57	14.12	14.79	15.54	16.41	16.96	18.08	19.43	21.24	22.76	23.91	*25.05*	*26.25*	Book Value per sh [C]	*30.25*
232.25	220.72	220.90	221.31	221.79	222.04	221.97	221.89	221.87	226.92	227.67	231.35	236.06	245.02	249.87	250.47	*251.00*	*251.50*	Common Shs Outst'g [D]	*253.00*
16.8	15.1	13.4	13.9	12.5	14.5	14.5	15.3	16.6	18.1	22.3	20.6	19.1	21.2	21.2	21.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
.91	.80	.81	.93	.80	.91	.92	.86	.87	.91	1.17	1.04	1.03	1.13	1.09	1.13			Relative P/E Ratio	*1.00*
3.3%	3.1%	4.1%	5.7%	4.6%	4.3%	4.1%	3.7%	3.5%	3.6%	3.2%	3.1%	3.2%	2.9%	2.9%	2.9%			Avg Ann'l Div'd Yield	*3.7%*
3094.5	3276.8	3350.3	3253.6	3320.0	3382.2	3534.5	3647.7	3416.0	3669.0	*4100*	*4250*	Revenues ($mill)	*4700*
337.8	382.1	395.7	390.9	384.0	466.1	522.3	567.4	624.0	674.0	*700*	*745*	Net Profit ($mill)	*885*
21.5%	12.4%	10.1%	15.3%	13.4%	12.5%	8.4%	10.8%	10.8%	NMF	*4.0%*	*4.0%*	Income Tax Rate	*4.0%*
6.5%	8.1%	8.8%	9.4%	16.3%	10.7%	14.5%	16.3%	8.8%	3.7%	*4.0%*	*5.0%*	AFUDC % to Net Profit	*6.0%*
48.4%	46.1%	49.7%	47.3%	51.5%	47.8%	52.3%	50.6%	53.5%	52.9%	*54.5%*	*54.0%*	Long-Term Debt Ratio	*55.0%*
48.4%	50.8%	47.5%	50.0%	46.1%	49.8%	45.7%	47.6%	44.9%	47.1%	*45.5%*	*46.0%*	Common Equity Ratio	*45.0%*
6476.6	6461.0	7257.2	7446.3	8377.6	8392.8	10032	10938	12657	12725	*13875*	*14425*	Total Capital ($mill)	*17100*
7838.0	7147.3	6442.0	8970.2	9809.9	10798	12462	13527	14336	14987	*16025*	*17075*	Net Plant ($mill)	*20300*
6.3%	7.0%	6.5%	6.3%	5.6%	6.7%	6.3%	6.3%	5.9%	6.3%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
10.1%	11.0%	10.8%	10.0%	9.5%	10.6%	10.9%	10.5%	10.6%	11.3%	*11.0%*	*11.5%*	Return on Shr. Equity	*11.5%*
10.3%	11.3%	11.2%	10.2%	9.7%	10.9%	11.2%	10.7%	10.8%	11.0%	*11.0%*	*11.5%*	Return on Com Equity [E]	*11.5%*
3.9%	4.9%	4.6%	3.6%	2.8%	4.0%	4.4%	4.2%	4.2%	4.3%	*4.5%*	*4.5%*	Retained to Com Eq	*4.5%*
64%	57%	60%	66%	72%	64%	62%	61%	62%	62%	*61%*	*61%*	All Div'ds to Net Prof	*61%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $7992 mill. **Due in 5 Yrs** $2126 mill.
LT Debt $7383 mill. **LT Interest** $272 mill.
(LT interest earned: 3.3x)

Leases, Uncapitalized Annual rentals $2 mill.

Pension Assets-12/21 $1011 mill.
Oblig $1251 mill.

Pfd Stock None

Common Stock 250,813,728 shs.

MARKET CAP: $16 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-2.2	-2.3	+3.7
Avg. Indust. Use (MWH)	11448	11134	NA
Avg. Indust. Revs. per KWH (¢)	6.98	7.55	7.64
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	5626	5496	5486
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.6	+.6	+.8
Fixed Charge Cov. (%)	265	251	259

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	-1.0%	-.5%	*4.5%*
"Cash Flow"	7.0%	7.5%	*5.5%*
Earnings	7.0%	8.0%	*6.0%*
Dividends	6.5%	6.5%	*6.0%*
Book Value	5.5%	7.0%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	987.2	790.2	990.2	880.1	3647.7
2020	915.7	763.1	920.0	817.2	3416.0
2021	901	817	1024	927	3669.0
2022	1068	*900*	*1132*	*1000*	*4100*
2023	*1100*	*925*	*1175*	*1050*	*4250*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.53	.40	.94	.46	2.33
2020	.72	.54	.94	.26	2.47
2021	.68	.57	1.02	.35	2.63
2022	.77	*.60*	*1.05*	*.38*	*2.80*
2023	*.80*	*.65*	*1.10*	*.40*	*2.95*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.335	.335	.335	.335	1.34
2019	.355	.355	.355	.355	1.42
2020	.38	.38	.38	.38	1.52
2021	.4025	.4025	.4025	.4025	1.61
2022	.4275	.4275			

BUSINESS: Alliant Energy Corporation (formerly Interstate Energy) is a holding company formed through the merger of WPL Holdings, IES Industries, and Interstate Power. Supplies electricity to 985,000 customers and gas to 425,000 customers in Wisconsin, Iowa, and Minnesota. Electric revenue by state: WI, 43%; IA, 56%. MN, 1%. Electric revenue: residential, 36%; commercial, 25%; industrial, 29%; wholesale, 8%; other, 2%. Generating sources: coal, 32%; gas, 32%; wind, 16%; other, 1%; purchased, 19%. Fuel costs: 25% of revs. '21 reported deprec. rates: 2.9%-6.1%. Has 3,300 employees. Chairman, President & CEO: John O. Larsen. Inc.: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, Wisconsin 53718-2148. Tel.: 608-458-3311. Internet: www.alliantenergy.com.

We have raised our 2022 earnings estimate for Alliant Energy by $0.05 a share, to $2.80. First-quarter earnings topped our $0.70-a-share estimate. The company benefited from favorable weather patterns and stronger-than-expected volume growth (aside from the weather effects) in the period. In addition, Alliant Energy's Wisconsin Power and Light subsidiary was granted rate relief at the start of the year. The utility received rate hikes of $114 million for electricity and $15 million for gas. Other positive factors are the addition of renewable-energy projects (see below), and effective control of operating and maintenance expenses, despite the inflationary environment. Our revised estimate is near the upper end of management's targeted range of $2.67-$2.81 a share.

We expect further profit growth in 2023. The company should benefit from rising volume growth (as long as the economy holds up) and income from additional renewable-energy projects. We think our previous estimate of $2.90 a share was too conservative, so we boosted it by a nickel. Alliant Energy's goal for annual earnings growth is 5%-7%.

The company is expanding its portfolio of renewable-energy projects. WPL is adding 325 megawatts of solar capacity this year, and has received approval for an additional 764 mw of solar capacity in 2023. However, the utility has not yet identified the sourcing for 500 mw in the second half of 2023. Given the supply-chain problems for solar panels, this is a source of uncertainty. Nevertheless, WPL plans to ask the regulators for permission to add up to 300 mw of additional solar capacity. Separately, the company is asking the Iowa commission for permission to add 400 mw of solar capacity along with 75 mw of battery storage. A decision is anticipated in the second half of 2022. These projects are expected to come on line in 2023 and 2024.

This equity has a high valuation. The dividend yield is below the utility average. Its prospects over the next 18 months and the 3- to 5-year period are subpar. Like many electric utility issues, the recent quotation is well within our 2025-2027 Target Price Range.

Paul E. Debbas, CFA *June 10, 2022*

(A) Diluted EPS. Excl. nonrecurring losses: '11, 1¢; '12, 8¢. '20 & '21 EPS don't sum due to rounding. Next earnings report due late July. **(B)** Dividends historically paid in mid-Feb., May, Aug., and Nov. ■ Dividend reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. deferred charges. In '21: $1,980 mill., $7.91/sh. **(D)** In millions, adj. for split. **(E)** Rate base: Orig. cost. Rates all'd on com. eq. in IA in '20: various; in WI in '22: 10%; earned on avg. com. eq., '21: 11.3%. Regulatory Climate: Wisconsin, Above Average; Iowa, Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	65
Earnings Predictability	95

NORTHWESTERN NDQ-NWE

RECENT PRICE **57.62** | P/E RATIO **17.5** (Trailing: 16.8 Median: 17.0) | RELATIVE P/E RATIO **1.14** | DIV'D YLD **4.4%** | **VALUE LINE**

TIMELINESS 4 Raised 6/17/22
SAFETY 2 Raised 7/27/18
TECHNICAL 4 Lowered 7/22/22
BETA .95 (1.00 = Market)

18-Month Target Price Range

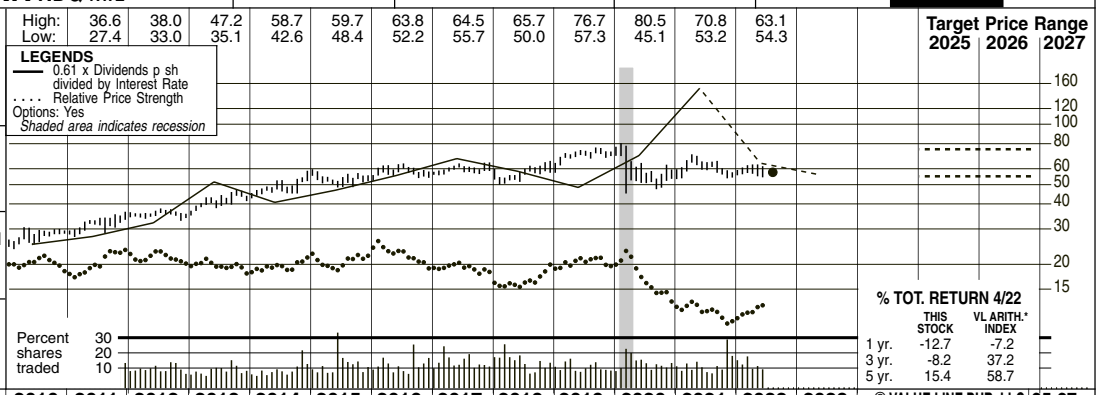
Low-High	Midpoint (% to Mid)
$48-$72	$60 (5%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+30%)	*10%*
Low	55	(-5%)	*3%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	121	170	154
to Sell	112	105	111
Hld's(000)	49375	56973	57800



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
31.49	30.79	35.09	31.72	30.66	30.80	28.76	29.80	25.68	25.21	26.01	26.45	23.81	24.93	23.70	25.38	*24.15*	*23.40*	Revenues per sh	*25.75*
3.62	3.70	4.40	4.62	4.76	5.42	5.18	5.45	5.39	5.92	6.74	6.76	6.96	7.07	6.72	7.02	*6.65*	*6.70*	"Cash Flow" per sh	*8.00*
1.31	1.44	1.77	2.02	2.14	2.53	2.26	2.46	2.99	2.90	3.39	3.34	3.40	3.53	3.06	3.60	*3.30*	*3.40*	Earnings per sh [A]	*4.00*
1.24	1.28	1.32	1.34	1.36	1.44	1.48	1.52	1.60	1.92	2.00	2.10	2.20	2.30	2.40	2.48	*2.52*	*2.56*	Div'd Decl'd per sh [B] ■ †	*2.68*
2.81	3.00	3.47	5.26	6.30	5.20	5.89	5.95	5.76	5.89	5.96	5.60	5.64	6.26	8.02	8.03	*10.05*	*9.10*	Cap'l Spending per sh	*6.50*
20.65	21.12	21.25	21.86	22.64	23.68	25.09	26.60	31.50	33.22	34.68	36.44	38.60	40.42	41.10	43.28	*44.55*	*46.15*	Book Value per sh [C]	*49.50*
35.97	38.97	35.93	36.00	36.23	36.28	37.22	38.75	46.91	48.17	48.33	49.37	50.32	50.45	50.59	54.06	*58.00*	*62.00*	Common Shs Outst'g [D]	*62.00*
26.0	21.7	13.9	11.5	12.9	12.6	15.7	16.9	16.2	18.4	17.2	17.8	16.8	19.9	19.5	16.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*16.5*
1.40	1.15	.84	.77	.82	.79	1.00	.95	.85	.93	.90	.90	.91	1.06	1.00	.93			Relative P/E Ratio	*.90*
3.6%	4.1%	5.4%	5.7%	4.9%	4.5%	4.2%	3.7%	3.3%	3.6%	3.4%	3.5%	3.9%	3.3%	4.0%	4.1%			Avg Ann'l Div'd Yield	*4.1%*
1070.3	1154.5	1204.9	1214.3	1257.2	1305.7	1198.1	1257.9	1198.7	1372.3	*1400*	*1450*	Revenues ($mill)	*1600*
83.7	94.0	120.7	138.4	164.2	162.7	171.1	179.3	155.2	186.8	*185*	*205*	Net Profit ($mill)	*250*
9.6%	13.2%	- -	13.7%	- -	7.6%	- -	1.6%	1.6%	1.8%	*1.5%*	*3.0%*	Income Tax Rate	*12.0%*
9.4%	8.7%	8.9%	9.8%	4.3%	5.2%	3.4%	4.6%	6.3%	14.4%	*16.0%*	*14.0%*	AFUDC % to Net Profit	*10.0%*
53.8%	53.5%	53.4%	53.1%	52.0%	50.2%	52.2%	52.5%	52.8%	52.2%	*50.0%*	*49.5%*	Long-Term Debt Ratio	*49.0%*
46.2%	46.5%	46.6%	46.9%	48.0%	49.8%	47.8%	47.5%	47.2%	47.8%	*50.0%*	*50.5%*	Common Equity Ratio	*51.0%*
2020.7	2215.7	3168.0	3408.6	3493.9	3614.5	4064.6	4289.8	4409.1	4893.1	*5190*	*5660*	Total Capital ($mill)	*6025*
2435.6	2690.1	3758.0	4059.5	4214.9	4358.3	4521.3	4700.9	4952.9	5247.2	*5630*	*5980*	Net Plant ($mill)	*6550*
5.5%	5.5%	4.8%	5.2%	5.9%	5.6%	5.2%	5.2%	4.5%	4.7%	*4.5%*	*4.5%*	Return on Total Cap'l	*5.0%*
9.0%	9.1%	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.5%	8.0%	*7.0%*	*7.0%*	Return on Shr. Equity	*8.0%*
9.0%	9.1%	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.5%	8.0%	*7.0%*	*7.0%*	Return on Com Equity [E]	*8.0%*
3.2%	3.5%	3.8%	3.0%	4.1%	3.4%	3.2%	3.1%	1.7%	2.5%	*1.5%*	*2.0%*	Retained to Com Eq	*2.5%*
65%	61%	54%	65%	58%	62%	64%	64%	78%	69%	*76%*	*75%*	All Div'ds to Net Prof	*67%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $2556.2 mill. **Due in 5 Yrs** $1037.4 mill.
LT Debt $2520.0 mill. **LT Interest** $87.8 mill.
Incl. $11.9 mill. finance leases.
(LT interest earned: 2.8x)

Pension Assets-12/21 $605.5 mill.
Oblig $696.8 mill.

Pfd Stock None

Common Stock 54,138,852 shs.
as of 4/22/22

MARKET CAP: $3.1 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	+4.6	-4.4	+.7
Avg. Indust. Use (MWH)	37808	33526	31792
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	2237	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.2	+1.2	+1.6
Fixed Charge Cov. (%)	284	237	252

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	-2.5%	-1.0%	*.5%*
"Cash Flow"	3.5%	3.0%	*2.5%*
Earnings	4.5%	2.0%	*3.0%*
Dividends	5.5%	5.5%	*2.0%*
Book Value	6.0%	4.5%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	384.2	270.7	274.8	328.2	1257.9
2020	335.3	269.4	280.6	313.4	1198.7
2021	400.8	298.2	326.0	347.3	1372.3
2022	394.5	*310*	*335*	*360.5*	*1400*
2023	*410*	*320*	*345*	*375*	*1450*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	1.44	.49	.42	1.18	3.53
2020	1.00	.43	.58	1.06	3.06
2021	1.24	.72	.68	.96	3.60
2022	1.08	*.55*	*.60*	*1.07*	*3.30*
2023	*1.12*	*.57*	*.62*	*1.09*	*3.40*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.55	.55	.55	.55	2.20
2019	.575	.575	.575	.575	2.30
2020	.60	.60	.60	.60	2.40
2021	.62	.62	.62	.62	2.48
2022	.63	.63			

BUSINESS: NorthWestern Corporation (doing business as NorthWestern Energy) supplies electricity & gas in the Upper Midwest and Northwest, serving 456,000 electric customers in Montana and South Dakota and 298,000 gas customers in Montana (85% of gross margin), South Dakota (14%), and Nebraska (1%). Electric revenue breakdown: residential, 43%; commercial, 49%; industrial, 4%; other, 4%. Generating sources: coal, 28%; hydro, 27%; wind, 6%; other, 4%; purchased, 35%. Fuel costs: 31% of revenues. '21 reported deprec. rate: 2.8%. Has 1,500 employees. Chairman: Dana J. Dykhouse. CEO: Robert C. Rowe. President & COO: Brian B. Bird. Inc.: DE. Address: 3010 West 69th Street, Sioux Falls, SD 57108. Tel.: 605-978-2900. Internet: www.northwesternenergy.com.

NorthWestern's share earnings have flatlined for years, as has the stock. The issue has consolidated around the $60 price level going all the way back to 2016. That was the last year to see a sizable gain in EPS from operations. While net profits have grown gradually over the past five years (the average rate was 2.5%-3%), shares outstanding have also risen, diluting per-share gains. The main constraint, besides dilution, has been years of underearning the utility's allowable return on equity (ROE). (See "Return of Common Equity" in the financial projections array and footnote E.) This is due to the relative constraints of the rate-relief mechanisms available in the company's regulatory territories. We expect flat share earnings to persist through 2023.

Leadership has an ambitious plan in place it believes will help reignite the company's bottom-line growth. In an effort to become less reliant on purchased power, while modernizing and shoring up reliability, the company is looking to add significant gas-fired capacity in both South Dakota and Montana. An $80 million, 58-megawatt plant in South Dakota was nearing completion in the second quarter with another 35-mw operation slated by early 2024. NWE also plans to build a $275 million, 175-mw facility in Montana, but litigation has been filed challenging the air-quality permit. Financing is via a $200 million equity offering ($53.50 a share) done in fourth quarter 2021, with $300 million more expected to take place by early 2023 through a forward sale.

The desired results will depend on favorable rate cases, difficult to come by in a tough regulatory territory. NWE plans to file a rate case in Montana this summer, and is looking to obtain some rate relief next year. If the expansions are allowed to proceed, this should lift the rate base and enable the company to narrow the gap between its earned and allowable ROE. Yet, it's not a given NWE will get all project costs included in its rate base.

We wouldn't sacrifice growth for untimely NWE's high dividend yield. While it is 90 basis points above the utility average, dividend growth is constrained by the high payout ratio. And equity sales should cap near-term appreciation.

Anthony J. Glennon *July 22, 2022*

(A) Diluted EPS. Excl. nonrec. gains: '12, 39¢; '15, 27¢; '18, 52¢; '19, 45¢. '20 EPS don't sum due to rounding. Next earnings report due late August. **(B)** Div'ds historically paid in late Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. **(C)** Incl. def'd charges. In '21: $19.39/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in MT in '19 (elec.): 9.65%; in '17 (gas): 9.55%; in SD in '15: none specified; in NE in '07: 10.4%; earned on avg. com. eq., '21: 8.5%. Regulatory Climate: Below Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	45
Earnings Predictability	90

OGE ENERGY CORP. NYSE-OGE

RECENT PRICE 41.48 | P/E RATIO 16.3 (Trailing: 17.1 Median: 17.0) | RELATIVE P/E RATIO 0.98 | DIV'D YLD 4.1% | VALUE LINE

TIMELINESS 3 Raised 5/20/22
SAFETY 2 Lowered 12/18/15
TECHNICAL 2 Lowered 6/3/22
BETA 1.00 (1.00 = Market)

18-Month Target Price Range

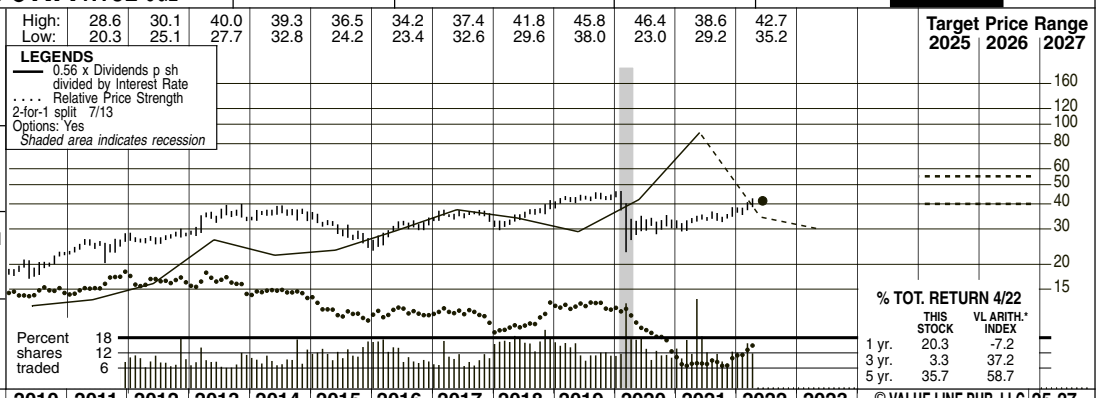
Low-High	Midpoint (% to Mid)
$34-$50	$42 (0%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+35%)	*11%*
Low	40	(-5%)	*4%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	188	230	228
to Sell	157	150	170
Hld's(000)	126167	128749	129869



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
21.96	20.68	21.77	14.79	19.04	19.96	18.58	14.45	12.30	11.00	11.31	11.32	11.37	11.15	10.61	18.26	*14.00*	*15.00*	Revenues per sh	*18.25*
2.23	2.39	2.40	2.69	3.01	3.31	3.69	3.46	3.40	3.23	3.31	3.34	3.74	4.02	4.03	4.44	*4.75*	*5.05*	"Cash Flow" per sh	*6.25*
1.23	1.32	1.25	1.33	1.50	1.73	1.79	1.94	1.98	1.69	1.69	1.92	2.12	2.24	2.08	2.36	*2.55*	*2.70*	Earnings per sh [A]	*3.25*
.67	.68	.70	.71	.73	.76	.80	.85	.95	1.05	1.16	1.27	1.40	1.51	1.58	1.63	*1.66*	*1.70*	Div'd Decl'd per sh [B] ■	*1.85*
2.67	3.04	4.01	4.37	4.36	6.48	5.85	4.99	2.86	2.74	3.31	4.13	2.87	3.18	3.25	3.89	*4.75*	*4.75*	Cap'l Spending per sh	*4.75*
8.79	9.16	10.14	10.52	11.73	13.06	14.00	15.30	16.27	16.66	17.24	19.28	20.06	20.69	18.15	20.27	*22.20*	*23.25*	Book Value per sh [C]	*27.00*
182.40	183.60	187.00	194.00	195.20	196.20	197.60	198.50	199.40	199.70	199.70	199.70	199.70	200.10	200.10	200.10	*200.10*	*200.10*	Common Shs Outst'g [D]	*200.10*
13.7	13.8	12.4	10.8	13.3	14.4	15.2	17.7	18.3	17.7	17.7	18.3	16.5	19.0	16.2	14.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*14.0*
.74	.73	.75	.72	.85	.90	.97	.99	.96	.89	.93	.92	.89	1.01	.83	.76			Relative P/E Ratio	*.80*
4.0%	3.8%	4.5%	5.0%	3.7%	3.1%	2.9%	2.5%	2.6%	3.5%	3.9%	3.6%	4.0%	3.5%	4.7%	4.8%			Avg Ann'l Div'd Yield	*4.0%*
3671.2	2867.7	2453.1	2196.9	2259.2	2261.1	2270.3	2231.6	2122.3	3653.7	*2800*	*3000*	Revenues ($mill)	*3650*
355.0	387.6	395.8	337.6	338.2	384.3	425.5	449.6	415.9	472.5	*510*	*545*	Net Profit ($mill)	*675*
26.0%	24.9%	30.4%	29.2%	30.5%	32.5%	14.5%	7.4%	13.2%	11.5%	*12.0%*	*12.0%*	Income Tax Rate	*12.0%*
2.7%	2.6%	1.7%	3.7%	6.4%	15.0%	8.3%	1.6%	1.6%	2.2%	*2.0%*	*2.0%*	AFUDC % to Net Profit	*2.0%*
50.7%	43.1%	45.9%	44.3%	41.1%	41.7%	42.0%	43.6%	49.0%	52.6%	*46.0%*	*51.5%*	Long-Term Debt Ratio	*49.0%*
49.3%	56.9%	54.1%	55.7%	58.9%	58.3%	58.0%	56.4%	51.0%	47.4%	*54.0%*	*48.5%*	Common Equity Ratio	*51.0%*
5615.8	5337.2	5999.7	5971.6	5849.6	6600.7	6902.0	7334.7	7126.2	8552.7	*8240*	*9595*	Total Capital ($mill)	*10650*
8344.8	6672.8	6979.9	7322.4	7696.2	8339.9	8643.8	9044.6	9374.6	9832.9	*10345*	*10830*	Net Plant ($mill)	*12075*
7.7%	8.6%	7.8%	6.9%	7.0%	7.0%	7.3%	7.1%	6.9%	6.4%	*7.0%*	*6.5%*	Return on Total Cap'l	*7.5%*
12.8%	12.8%	12.2%	10.2%	9.8%	10.0%	10.6%	10.9%	11.5%	11.6%	*11.5%*	*11.5%*	Return on Shr. Equity	*12.5%*
12.8%	12.8%	12.2%	10.2%	9.8%	10.0%	10.6%	10.9%	11.5%	11.6%	*11.5%*	*11.5%*	Return on Com Equity [E]	*12.5%*
7.2%	7.3%	6.5%	4.0%	3.3%	3.5%	3.8%	3.6%	2.8%	3.6%	*4.0%*	*4.5%*	Retained to Com Eq	*5.5%*
44%	43%	47%	61%	67%	64%	64%	67%	76%	69%	*65%*	*62%*	All Div'ds to Net Prof	*55%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $5228.5 mill. **Due in 5 Yrs** $1731.5 mill.
LT Debt $4497.0 mill. **LT Interest** $158.7 mill.
(LT interest earned: 4.3x)

Leases, Uncapitalized Annual rentals $5.7 mill.

Pension Assets-12/21 $486.0 mill.
Oblig $502.9 mill.

Pfd Stock None

Common Stock 200,202,672 shs.

MARKET CAP: $8.3 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	+1.1	-4.9	+2.6
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	4.69	4.40	7.68
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	6817	6437	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	+1.1	+1.4
Fixed Charge Cov. (%)	335	326	336

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	-3.0%	3.0%	*5.5%*
"Cash Flow"	3.5%	4.5%	*7.0%*
Earnings	4.0%	4.5%	*6.5%*
Dividends	8.0%	8.5%	*3.0%*
Book Value	5.5%	3.5%	*5.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	490.0	513.7	755.4	472.5	2231.6
2020	431.3	503.5	702.1	485.4	2122.3
2021	1630.6	577.4	864.4	581.3	3653.7
2022	589.3	*650*	*910.7*	*650*	*2800*
2023	*650*	*700*	*950*	*700*	*3000*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.24	.50	1.25	.26	2.24
2020	.23	.51	1.04	.30	2.08
2021	.26	.56	1.26	.27	2.36
2022	.33	*.60*	*1.32*	*.30*	*2.55*
2023	*.32*	*.65*	*1.40*	*.33*	*2.70*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.3325	.3325	.3325	.365	1.36
2019	.365	.365	.365	.388	1.48
2020	.3875	.3875	.3875	.4025	1.57
2021	.4025	.4025	.4025	.41	1.62
2022	.41	.41			

BUSINESS: OGE Energy Corp. is a holding company for Oklahoma Gas and Electric Company (OG&E), which supplies electricity to 879,000 customers in Oklahoma (84% of electric revenues) and western Arkansas (8%); wholesale is (8%). Owns 3% of Energy Transfer's limited partnership units. Electric revenue breakdown: residential, 44%; commercial, 25%; industrial, 11%; oilfield, 10%; other, 10%. Generating sources: gas, 25%; coal, 21%; wind, 6%; purchased, 48%. Fuel costs: 58% of revenues. '21 reported depreciation rate (utility): 2.6%. Has 2,200 employees. Chairman, President and Chief Executive Officer: Sean Trauschke. Incorporated: Oklahoma. Address: 321 North Harvey, P.O. Box 321, Oklahoma City, OK 73101-0321. Tel.: 405-553-3000. Internet: www.oge.com.

OGE Energy's utility subsidiary is awaiting a rate order in Oklahoma. Oklahoma Gas and Electric is seeking an increase of $164 million, based on a 10.2% return on equity and a 53.4% common-equity ratio. The utility needs to recover capital investment made since its last rate case, three years ago. OG&E also requested a performance-based ratemaking mechanism. The staff of the Oklahoma Corporation Commission recommended an increase of $83 million, based on an 8.75% ROE, and the attorney general proposed a slight decrease, based on a 9.5% ROE. OG&E will try to settle the case, and may implement interim rates if an order has not been received by July 1st.

The utility received rate relief in Arkansas. A $4.2 million increase under the state's formula rate plan took effect on April 1st. The formula rate plan has been extended for five years.

We look for steady earnings growth in 2022 and 2023. Rate relief in Oklahoma and Arkansas should be the key factor. The service area's economy is healthy.

OGE Energy is exiting its midstream gas investment. As of March 31st, its interest in Energy Transfer was on the books for more than $1 billion, following an unrealized gain that boosted earnings by $1.06 a share in the first quarter. We *excluded* this from our earnings presentation as a nonrecurring item. Through the end of April, the company had sold 21.75 million units for $246 million (pretax), and expects to sell most of its units by yearend. OGE Energy plans to use the sale proceeds to reduce short-term debt and fund its capital budget. If the units retain their value through the duration of the sale process, this will provide cash of more than $600 million after taxes.

OG&E plans to issue securitized bonds to recover the surge in gas and power costs that occurred in February of 2021. The sharp rise in fuel costs explains why revenues were unusually high in the first quarter last year. This will amount to as much as $760 million.

This stock has an attractive dividend yield. The yield is well above the utility average. The drawback is the subpar dividend growth potential, as a result of the high payout ratio.

Paul E. Debbas, CFA *June 10, 2022*

(A) Diluted EPS. Excl. nonrecurring gains (losses): '15, (33¢); '17, $1.18; '19, (8¢); '20, ($2.95); '21, $1.32; '22, $1.06; gain on discont. ops.: '06, 20¢. '19 & '21 EPS don't sum due to rounding. Next earnings report due early Aug. **(B)** Div'ds historically paid in late Jan., Apr., July, & Oct. ■ Div'd reinvestment plan avail. **(C)** Incl. deferred charges. In '21: $6.15/sh. **(D)** In mill., adj. for split. **(E)** Rate base: Net original cost. Rate allowed on com. eq. in OK in '19: 9.5%; in AR in '18: 9.5%; earned on avg. com. eq., '21: 12.7%. Regulatory Climate: Average.

Company's Financial Strength	A
Stock's Price Stability	85
Price Growth Persistence	25
Earnings Predictability	95

PORTLAND GENERAL NYSE-POR

RECENT PRICE **48.98** | P/E RATIO **18.8** (Trailing: 21.1 Median: 18.0) | RELATIVE P/E RATIO **1.22** | DIV'D YLD **3.8%** | **VALUE LINE**

TIMELINESS 5 Lowered 6/10/22
SAFETY 2 Raised 10/22/21
TECHNICAL 3 Lowered 6/17/22
BETA .85 (1.00 = Market)

18-Month Target Price Range

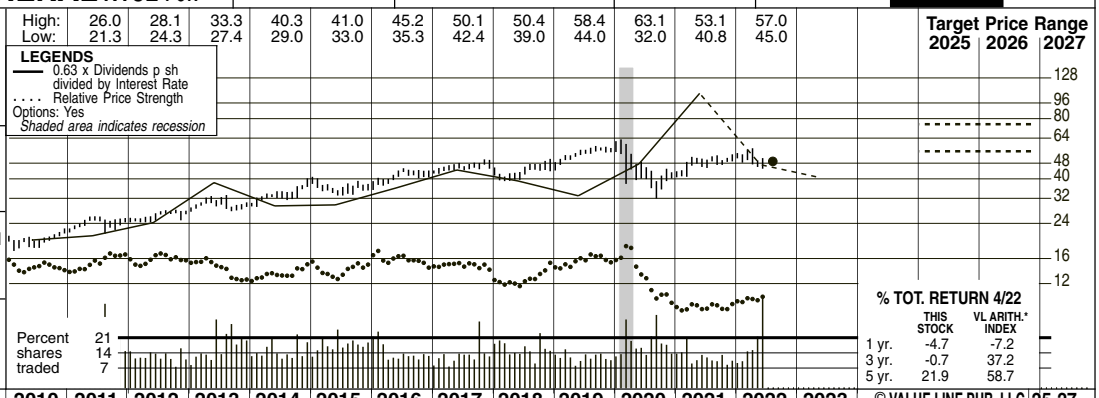
Low-High	Midpoint (% to Mid)
$42-$67	$55 (10%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+55%)	*14%*
Low	55	(+10%)	*7%*

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	142	149	178
to Sell	145	141	142
Hld's(000)	82480	81443	82974



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
24.32	27.87	27.89	23.99	23.67	24.06	23.89	23.18	24.29	21.38	21.62	22.54	22.30	23.75	23.96	26.80	*27.35*	*28.20*	Revenues per sh	*30.75*
4.64	5.21	4.71	4.07	4.82	4.96	5.15	4.93	6.08	5.37	5.78	6.16	6.65	6.97	7.83	7.25	*7.40*	*8.00*	"Cash Flow" per sh	*9.25*
1.14	2.33	1.39	1.31	1.66	1.95	1.87	1.77	2.18	2.04	2.16	2.29	2.37	2.39	2.75	2.72	*2.60*	*2.90*	Earnings per sh [A]	*3.40*
.68	.93	.97	1.01	1.04	1.06	1.08	1.10	1.12	1.18	1.26	1.34	1.43	1.52	1.59	1.70	*1.79*	*1.89*	Div'd Decl'd per sh [B] ■ †	*2.25*
5.94	7.28	6.12	9.25	5.97	3.98	4.01	8.40	12.87	6.73	6.57	5.77	6.67	6.78	8.76	7.11	*7.65*	*7.55*	Cap'l Spending per sh	*7.60*
19.58	21.05	21.64	20.50	21.14	22.07	22.87	23.30	24.43	25.43	26.35	27.11	28.07	28.99	29.18	30.28	*31.05*	*32.10*	Book Value per sh [C]	*35.50*
62.50	62.53	62.58	75.21	75.32	75.36	75.56	78.09	78.23	88.79	88.95	89.11	89.27	89.39	89.54	89.41	*89.50*	*89.50*	Common Shs Outst'g [D]	*89.50*
23.4	11.9	16.3	14.4	12.0	12.4	14.0	16.9	15.3	17.7	19.1	20.0	18.4	22.3	16.6	17.7	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*19.0*
1.26	.63	.98	.96	.76	.78	.89	.95	.81	.89	1.00	1.01	.99	1.19	.85	.95			Relative P/E Ratio	*1.05*
2.5%	3.3%	4.3%	5.4%	5.2%	4.4%	4.1%	3.7%	3.3%	3.3%	3.1%	2.9%	3.3%	2.8%	3.5%	3.5%			Avg Ann'l Div'd Yield	*3.5%*
1805.0	1810.0	1900.0	1898.0	1923.0	2009.0	1991.0	2123.0	2145.0	2396.0	*2450*	*2525*	Revenues ($mill)	*2750*
141.0	137.0	175.0	172.0	193.0	204.0	212.0	214.0	247.0	244.0	*235*	*260*	Net Profit ($mill)	*305*
31.4%	23.2%	26.0%	20.7%	20.6%	25.3%	7.4%	11.2%	12.4%	8.6%	*17.5%*	*17.5%*	Income Tax Rate	*17.5%*
7.1%	14.6%	33.7%	19.8%	16.6%	8.8%	8.0%	7.0%	9.7%	10.2%	*11.0%*	*10.0%*	AFUDC % to Net Profit	*8.0%*
47.1%	51.3%	52.7%	47.8%	48.4%	50.1%	46.5%	51.3%	53.6%	56.8%	*56.0%*	*56.0%*	Long-Term Debt Ratio	*58.0%*
52.9%	48.7%	47.3%	52.2%	51.6%	49.9%	53.5%	48.7%	46.4%	43.2%	*44.0%*	*44.0%*	Common Equity Ratio	*42.0%*
3264.0	3735.0	4037.0	4329.0	4544.0	4842.0	4684.0	5323.0	5628.0	6265.0	*6295*	*6540*	Total Capital ($mill)	*7550*
4392.0	4880.0	5679.0	6012.0	6434.0	6741.0	6887.0	7161.0	7539.0	8005.0	*8260*	*8480*	Net Plant ($mill)	*9000*
5.9%	5.1%	5.8%	5.4%	5.6%	5.5%	5.8%	5.1%	5.6%	4.9%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.0%*
8.2%	7.5%	9.2%	7.6%	8.2%	8.4%	8.5%	8.3%	9.5%	9.0%	*8.5%*	*9.0%*	Return on Shr. Equity	*9.5%*
8.2%	7.5%	9.2%	7.6%	8.2%	8.4%	8.5%	8.3%	9.5%	9.0%	*8.5%*	*9.0%*	Return on Com Equity [E]	*9.5%*
3.5%	2.9%	4.6%	3.3%	3.5%	3.6%	3.5%	3.1%	4.1%	3.5%	*2.5%*	*3.0%*	Retained to Com Eq	*3.5%*
57%	61%	50%	56%	57%	58%	59%	63%	57%	61%	*69%*	*65%*	All Div'ds to Net Prof	*66%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $3607 mill. **Due in 5 Yrs** $186 mill.
LT Debt $3585 mill. **LT Interest** $128 mill.
Incl. $273 mill. finance leases.
(LT interest earned: 2.7x)
Leases, Uncapitalized Annual rentals $4 mill.
Pension Assets-12/21 $800 mill.
Oblig $972 mill.
Pfd Stock None

Common Stock 89,224,488 shs.
as of 4/21/22

MARKET CAP: $4.4 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	+1.2	+.4	+5.1
Avg. Indust. Use (MWH)	17827	18472	20002
Avg. Indust. Revs. per KWH (¢)	4.75	4.99	5.22
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	3765	3771	4447
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.1	+1.5	+.6
Fixed Charge Cov. (%)	265	187	261

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	0.5%	2.0%	*3.5%*
"Cash Flow"	5.0%	5.0%	*4.0%*
Earnings	5.0%	4.5%	*4.5%*
Dividends	4.5%	6.0%	*6.0%*
Book Value	3.5%	3.0%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	573.0	460.0	542.0	548.0	2123.0
2020	573.0	469.0	547.0	556.0	2145.0
2021	609.0	537.0	642.0	608.0	2396.0
2022	626.0	*544*	*655*	*625*	*2450*
2023	*645*	*560*	*675*	*645*	*2525*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.82	.28	.61	.68	2.39
2020	.91	.43	.84	.57	2.75
2021	1.07	.36	.56	.73	2.72
2022	.67	*.45*	*.66*	*.82*	*2.60*
2023	*.91*	*.47*	*.68*	*.84*	*2.90*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.34	.34	.3625	.3625	1.41
2019	.3625	.3625	.385	.385	1.50
2020	.385	.385	.385	.4075	1.56
2021	.4075	.4075	.43	.43	1.68
2022	.43	.43	.4525		

BUSINESS: Portland General Electric Company (PGE) provides electricity to 917,000 customers in 51 cities in a 4,000-square-mile area of Oregon, including Portland and Salem (population: 1.9 million). The company is in the process of decommissioning the Trojan nuclear plant, which it closed in 1993. Electric revenue breakdown: residential, 47%; commercial, 29%; industrial, 11%; other, 13%. Generating sources: gas, 37%; wind, 9%; coal, 8%; hydro, 4%; purchased, 42%. Fuel costs: 34% of revenues. '21 reported depreciation rate: 3.4%. Has 2,800 full-time employees. Chairman: Jack E. Davis. President and Chief Executive Officer: Maria M. Pope. Incorporated: Oregon. Address: 121 S.W. Salmon Street, Portland, OR 97204. Tel.: 503-464-8000. Internet: www.portlandgeneral.com.

Portland General Electric (PGE) received the order on its general rate case, and it was as expected on the main issues up for review. The allowed return on equity remains unchanged at 9.5%. The decoupling mechanism was eliminated and a major storm balancing account established. The Faraday repowering project, still under construction, was not included in this case, and will have to be covered separately. Overall, the order authorized an average price increase of about 3.2% from May 9th.

However, management is reducing this year's earnings guidance mainly due to a minor regulatory stipulation. PGE recorded a reduction to wildfire restoration deferalls in the first quarter. Higher maintenance costs are also to blame. We cut our 2022 and 2023 EPS estimates by $0.30 and $0.15, respectively.

Longer Term, PGE leadership's bottom-line growth target of 4%-6% still seems feasible. Next year will benefit from a full year of rate relief against an easy comparison. From 2023 out to mid-decade we're projecting a 5.5% growth rate in earnings. Accelerating load growth, thanks to the healthy economy of the utility's service territory, where there is a vibrant tech sector, is the main factor.

The utility is awaiting decisions on its RFP (request for proposals). PGE wants to add renewables and "nonemitting" capacity. The short list should be known by the end of this month and the goal is for contracts to be executed with the winning bidders by yearend. If PGE winds up building some of this capacity itself, it will likely have to fund some of the construction with issued equity.

In keeping with its targeted dividend growth objectives, the board of directors raised the payout 5.2%. PGE targets a long-term growth rate of 5%-7% and a payout ratio of 60%-70%. Our projections assume a 6% CAGR to mid-decade.

Untimely PGE has a dividend yield 30 basis points above its industry average. And EPS and dividend growth rates are at least 70 basis points above the averages. Reduced guidance and market weakness have the stock down 12% since our April report. Utility investors may want to consider it for a long-term holding.

Anthony J. Glennon *July 22, 2022*

(A) Diluted earnings. Excl. nonrecurring gains (losses): '13, (42¢); '17, (19¢); '20, ($1.03). Next earnings report due July 28. **(B)** Dividends paid mid-Jan., Apr., July, and Oct. ■ Dividend reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. deferred charges. In '21: $533 mill., $5.96/sh. **(D)** In mill. **(E)** Rate base: Net original cost. Rate allowed on common equity in '22: 9.5%; earned on avg. com. eq., '21: 9.2%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	55
Earnings Predictability	75

XCEL ENERGY NDQ-XEL

RECENT PRICE 69.89 | P/E RATIO 22.2 (Trailing: 23.4 Median: 19.0) | RELATIVE P/E RATIO 1.44 | DIV'D YLD 2.9% | VALUE LINE

TIMELINESS 3 Raised 12/31/21
SAFETY 1 Raised 5/1/15
TECHNICAL 2 Lowered 7/15/22
BETA .80 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$67-$95	$81 (15%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+30%)	9%
Low	75	(+5%)	5%

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	355	449	458
to Sell	343	338	340
Hld's(000)	411220	413762	418018

	27.8	29.9	31.8	37.6	38.3	45.4	52.2	54.1	66.1	76.4	72.9	76.6
High:	21.2	25.8	26.8	27.3	31.8	35.2	40.0	41.5	47.7	46.6	57.2	63.6

LEGENDS
0.68 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2025 2026 2027

% TOT. RETURN 4/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	6.3	-7.2
3 yr.	41.5	37.2
5 yr.	88.9	58.7

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
24.16	23.40	24.69	21.08	21.38	21.90	20.76	21.92	23.11	21.72	21.90	22.46	22.44	21.98	21.45	24.69	*26.50*	*27.25*	Revenues per sh	*29.50*
3.61	3.45	3.50	3.48	3.51	3.79	4.00	4.10	4.28	4.56	5.04	5.47	5.92	6.25	6.61	7.08	*7.75*	*8.30*	"Cash Flow" per sh	*10.00*
1.35	1.35	1.46	1.49	1.56	1.72	1.85	1.91	2.03	2.10	2.21	2.30	2.47	2.64	2.79	2.96	*3.15*	*3.35*	Earnings per sh A	*4.00*
.88	.91	.94	.97	1.00	1.03	1.07	1.11	1.20	1.28	1.36	1.44	1.52	1.62	1.72	1.83	*1.95*	*2.08*	Div'd Decl'd per sh B ■ †	*2.50*
4.00	4.89	4.66	3.91	4.60	4.53	5.27	6.82	6.33	7.26	6.42	6.54	7.70	8.05	9.99	7.80	*9.65*	*9.00*	Cap'l Spending per sh	*9.00*
14.28	14.70	15.35	15.92	16.76	17.44	18.19	19.21	20.20	20.89	21.73	22.56	23.78	25.24	27.12	28.70	*30.15*	*31.65*	Book Value per sh C	*37.00*
407.30	428.78	453.79	457.51	482.33	486.49	487.96	497.97	505.73	507.54	507.22	507.76	514.04	524.54	537.44	544.03	*547.00*	*550.00*	Common Shs Outst'g D	*561.00*
14.8	16.7	13.7	12.7	14.1	14.2	14.8	15.0	15.4	16.5	18.5	20.2	18.9	22.3	23.9	22.5	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*20.0*
.80	.89	.82	.85	.90	.89	.94	.84	.81	.83	.97	1.02	1.02	1.19	1.23	1.23			Relative P/E Ratio	*1.10*
4.4%	4.0%	4.7%	5.1%	4.5%	4.2%	3.9%	3.9%	3.8%	3.7%	3.3%	3.1%	3.3%	2.7%	2.6%	2.8%			Avg Ann'l Div'd Yield	*3.1%*
10128	10915	11686	11024	11107	11404	11537	11529	11526	13431	*14500*	*15000*	Revenues ($mill)	*16500*
905.2	948.2	1021.3	1063.6	1123.4	1171.0	1261.0	1372.0	1473.0	1597.0	*1720*	*1855*	Net Profit ($mill)	*2260*
33.2%	33.8%	33.9%	35.8%	34.1%	30.7%	12.6%	8.5%	8.5%	--	*NMF*	*NMF*	Income Tax Rate	*NMF*
10.8%	13.4%	12.5%	7.7%	7.8%	9.4%	12.4%	8.3%	10.7%	6.2%	*7.0%*	*6.0%*	AFUDC % to Net Profit	*5.0%*
53.3%	53.3%	53.0%	54.1%	56.3%	55.9%	56.4%	56.8%	57.4%	58.2%	*58.0%*	*58.0%*	Long-Term Debt Ratio	*58.0%*
46.7%	46.7%	47.0%	45.9%	43.7%	44.1%	43.6%	43.2%	42.6%	41.8%	*42.0%*	*42.0%*	Common Equity Ratio	*42.0%*
19018	20477	21714	23092	25216	25975	28025	30646	34220	37391	*39150*	*41600*	Total Capital ($mill)	*49200*
23809	26122	28757	31206	32842	34329	36944	39483	42950	45457	*48225*	*50475*	Net Plant ($mill)	*57000*
6.1%	6.0%	6.0%	5.8%	5.7%	5.8%	5.7%	5.6%	5.4%	5.3%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
10.2%	9.9%	10.0%	10.0%	10.2%	10.2%	10.3%	10.4%	10.1%	10.2%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.0%*
10.2%	9.9%	10.0%	10.0%	10.2%	10.2%	10.3%	10.4%	10.1%	10.2%	*10.5%*	*10.5%*	Return on Com Equity E	*11.0%*
4.7%	4.5%	4.5%	4.3%	4.0%	3.9%	4.3%	4.4%	4.2%	4.2%	*4.0%*	*4.0%*	Retained to Com Eq	*4.0%*
54%	54%	55%	57%	61%	62%	58%	58%	58%	59%	*62%*	*62%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $23381 mill. **Due in 5 Yrs** $4911 mill.
LT Debt $21534 mill. **LT Interest** $809 mill.
Incl. $73 mill. finance leases.
(LT interest earned: 2.9x)

Leases, Uncapitalized Annual rentals $69 mill.
Pension Assets-12/21 $3670 mill.
Oblig $3718 mill.
Pfd Stock None

Common Stock 544,653,284 shs.
as of 4/21/22
MARKET CAP: $38.1 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2019	2020	2021
% Change Retail Sales (KWH)	-1.2	-2.3	+1.4
Large C & I Use (MWH)	NA	NA	NA
Large C & I Revs. per KWH (¢)	5.96	5.78	6.60
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	20146	19665	19849
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	NA	NA
Fixed Charge Cov. (%)	272	252	262

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	.5%	.5%	*4.5%*
"Cash Flow"	6.5%	7.5%	*7.0%*
Earnings	6.0%	6.0%	*6.0%*
Dividends	5.5%	6.0%	*6.5%*
Book Value	5.0%	5.0%	*5.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	3141	2577	3013	2798	11529
2020	2811	2586	3182	2947	11526
2021	3541	3068	3467	3355	13431
2022	3751	*3270*	*3835*	*3644*	*14500*
2023	*3950*	*3400*	*3950*	*3700*	*15000*

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.61	.46	1.01	.56	2.64
2020	.56	.54	1.14	.54	2.79
2021	.67	.58	1.13	.58	2.96
2022	.70	*.62*	*1.20*	*.63*	*3.15*
2023	*.75*	*.65*	*1.30*	*.65*	*3.35*

QUARTERLY DIVIDENDS PAID B ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.36	.38	.38	.38	1.50
2019	.38	.405	.405	.405	1.60
2020	.405	.43	.43	.43	1.70
2021	.43	.4575	.4575	.4575	1.80
2022	.4575	.4875	.4875		

BUSINESS: Xcel Energy Inc. is the parent of Northern States Power Company (NSP), which supplies electricity to MN, WI, ND, SD & MI & gas to MN, WI, ND & MI; Public Service Company of Colorado (PSCo), which supplies electricity & gas to CO; & Southwestern Public Service Company (SPS), which supplies electricity to TX and NM. Customers: 3.7 mill. electric, 2.1 mill. gas. Electric revenue breakdown: residential, 31%; small comm'l & ind'l, 36%; large comm'l & ind'l, 18%; other, 15%. Generating sources not available. Fuel costs: 43% of revenues. '21 reported deprec. rate: 3.5%. Has 11,300 employees. Chrmn: Ben Fowke. Pres. & CEO: Bob Frenzel. Inc.: MN. Address: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Internet: www.xcelenergy.com.

At Xcel Energy, rate relief is spurring steady earnings gains. Numerous increases are as a result of placing renewable-energy projects in the rate base, for which regulated utilities are allowed to earn a state-specified return on equity (ROE). Management is also effectively controlling costs despite inflation. Our 2022 earnings estimate remains at the midpoint of Xcel's guidance of $3.10-$3.20 a share, given first-quarter results were in line with our forecast. (We assume no disallowance of the extraordinary gas costs that NSP incurred last year; the Minnesota commission is considering whether there was any imprudence.) Meanwhile, our projections for solid profit gains in 2023 and beyond are based on the same factors (see below). Company leadership has a stated earnings growth objective of 5%-7% and a solid track record that underscores its goal (see Annual Rates box).

In that vein, Xcel has numerous pending rate cases. In Minnesota, NSP filed for electric rate hikes of $396 million in 2022, $150 million in 2023, and $131 million in 2024, based on a ROE of 10.2% and a common-equity ratio of 52.5%. NSP also filed for a gas increase of $36 million, based on a 10.5% ROE and the same equity ratio. Interim hikes of $247 million (electric) and $25 million (gas) took effect at the start of 2022. In Colorado, PSCo filed for a gas increase of $107 million (excluding revenues now being recovered through surcharges), followed by $40 million in 2023 and $41 million in 2024, based on a ROE of 10.25% and a common-equity ratio of 55.7%. New tariffs are expected to take effect in November. In Texas, SPS is awaiting a ruling on a settlement that would raise rates by $89 million, retroactive to mid-March of 2021.

The company continues to deliver shareholder value. A solid and consistent ROE has been achieved over the course of both good and difficult economic times. In April, the annualized dividend was raised from $1.83 to $1.95, in line with our 6.5% projected growth rate. The shares look fully valued with a dividend yield 60 basis points below the utility average. Yet, the growth rate is 210 basis points above it. We like XEL's valuation when it has a forward yield above 3.1%.

Anthony J. Glennon *July 22, 2022*

(A) Diluted EPS. Excl. nonrecurring gain (losses): '10, 5¢; '15, (16¢); '17, (5¢); gains (loss) on discontinued ops.: '06, 1¢; '09, (1¢); '10, 1¢. '20 EPS don't sum due to rounding. Next earnings report due July 28. **(B)** Div'ds historically paid mid-Jan., Apr., July, and Oct. ■ Div'd reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '21: $2738 mill., $4.42/sh. **(D)** In mill. **(E)** Rate base: Varies. Rate allowed on com. eq. (blended): 9.6%; earned on avg. com. eq., '21: 10.6%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	65
Earnings Predictability	100

Southwestern Public Service Company
Summary of Risk Premium Models for the
Proxy Group of Twelve Electric Companies

	Proxy Group of Twelve Electric Companies	
Predictive Risk Premium Model (PRPM) (1)	12.12	%
Risk Premium Using an Adjusted Total Market Approach (2)	11.31	
Average	11.72	%

Notes:
(1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.

Southwestern Public Service Company
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

Proxy Group of Twelve Electric Companies	[1] LT Average Predicted Variance	[2] Spot Predicted Variance	[3] Recommended Variance (2)	[4] GARCH Coefficient	[5] Predicted Risk Premium (3)	[6] Risk-Free Rate (4)	[7] Indicated ROE (5)
Alliant Energy Corporation	0.27%	0.36%	0.32%	2.67	10.70%	3.56%	14.26%
Ameren Corporation	0.23%	0.24%	0.23%	2.05	5.94%	3.56%	9.50%
American Electric Power Company, Inc.	0.28%	0.27%	0.28%	2.39	8.19%	3.56%	11.75%
Duke Energy Corporation	0.31%	0.26%	0.29%	1.87	6.67%	3.56%	10.23%
Edison International	0.43%	0.50%	0.47%	1.50	8.72%	3.56%	12.28%
Entergy Corporation	0.40%	0.37%	0.39%	2.24	10.93%	3.56%	14.49%
Evergy, Inc.	0.39%	0.40%	0.39%	1.62	7.93%	3.56%	11.49%
IDACORP, Inc.	0.29%	0.33%	0.31%	2.21	8.53%	3.56%	12.09%
NorthWestern Corporation	0.33%	0.37%	0.35%	2.08	9.12%	3.56%	12.68%
OGE Energy Corporation	0.31%	0.35%	0.33%	2.22	9.15%	3.56%	12.71%
Portland General Electric Company	0.29%	0.38%	0.34%	1.94	8.12%	3.56%	11.68%
Xcel Energy Inc.	0.27%	0.21%	0.24%	2.84	8.59%	3.56%	12.15%
						Average	12.11%
						Median	12.12%
						Average of Mean and Median	12.12%

Notes:
(1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Services.
(2) Average of Column [1] and Column [2].
(3) (1+(Column [3] * Column [4])^12) - 1.
(4) From note 2 on page 2 of Schedule 5.
(5) Column [5] + Column [6].

Southwestern Public Service Company
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Twelve Electric Companies	
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	4.76	%
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds	0.68	(2)
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	5.44	%
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	0.23	(3)
5.	Adjusted Prospective Bond Yield	5.67	%
6.	Equity Risk Premium (4)	5.64	
7.	Risk Premium Derived Common Equity Cost Rate	11.31	%

Notes:
(1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 10-11 of this Schedule).
(2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.68% from page 4 of this Schedule.
(3) Adjustment to reflect the Baa1 Moody's LT issuer rating of the Utility Proxy Group as shown on page 5 of this Exhibit. The 0.23% upward adjustment is derived by taking 2/3 of the spread between A2 and Baa2 Public Utility Bonds (2/3 * 0.35% = 0.23%) as derived from page 4 of this Schedule.
(4) From page 7 of this Schedule.

Southwestern Public Service Company
Interest Rates and Bond Spreads for
Moody's Corporate and Public Utility Bonds

Selected Bond Yields

	[1] Aaa Rated Corporate Bond	[2] A2 Rated Public Utility Bond	[3] Baa2 Rated Public Utility Bond
Aug-2022	4.07 %	4.76 %	5.09 %
Jul-2022	4.06	4.78	5.15
Jun-2022	4.24	4.86	5.22
Average	4.12 %	4.80 %	5.15 %

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds: 0.68 % (1)

Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds: 0.35 % (2)

Notes:
(1) Column [2] - Column [1].
(2) Column [3] - Column [2].

Source of Information:
Bloomberg Professional Services

Southwestern Public Service Company
Comparison of Long-Term Issuer Ratings for
Proxy Group of Twelve Electric Companies

	Moody's		Standard & Poor's	
	Long-Term Issuer Rating		Long-Term Issuer Rating	
	August 2022		August 2022	
Proxy Group of Twelve Electric Companies	Long-Term Issuer Rating (1)	Numerical Weighting (2)	Long-Term Issuer Rating (1)	Numerical Weighting (2)
Alliant Energy Corporation	Baa2	7.5	A/A-	6.5
Ameren Corporation	Baa1	8.0	BBB+	8.0
American Electric Power Company, Inc.	Baa2	9.0	A-	7.0
Duke Energy Corporation	Baa2	9.0	BBB+	8.0
Edison International	Baa3	10.0	BBB	9.0
Entergy Corporation	Baa2	9.0	BBB+	8.0
Evergy, Inc.	Baa2	9.0	A-	7.0
IDACORP, Inc.	Baa2	9.0	BBB	9.0
NorthWestern Corporation	A3	7.0	BBB	9.0
OGE Energy Corporation	Baa1	8.0	BBB+	8.0
Portland General Electric Company	A3	7.0	BBB+	8.0
Xcel Energy Inc.	Baa1	8.0	A-	7.0
Average	Baa1	8.4	BBB+	7.9

Notes:

(1) Ratings are that of the average of each company's utility operating subsidiaries.
(2) From page 6 of this Schedule.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Numerical Assignment for Moody's and Standard & Poor's Bond Ratings

Moody's Bond Rating	Numerical Bond Weighting	Standard & Poor's Bond Rating
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-
B1	14	B+
B2	15	B
B3	16	B-

Southwestern Public Service Company
Judgment of Equity Risk Premium for
Proxy Group of Twelve Electric Companies

Line No.		Proxy Group of Twelve Electric Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	6.97 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	4.96
3.	Predicted Equity Risk Premium Based on Regression Analysis of 1,193 Fully-Litigated Electric Utility Rate Cases (3)	5.00
4.	Average equity risk premium	5.64 %

Notes: (1) From page 8 of this Schedule.
(2) From page 12 of this Schedule.
(3) From page 13 of this Schedule.

Southwestern Public Service Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Twelve Electric Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Twelve Electric Companies
	Ibbotson-Based Equity Risk Premiums:	
1.	Ibbotson Equity Risk Premium (1)	6.13 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.63
3.	Ibbotson Equity Risk Premium based on PRPM (3)	10.35
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	11.24
5.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	11.83
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	7.86
7.	Conclusion of Equity Risk Premium	9.17 %
8.	Adjusted Beta (7)	0.76
9.	Forecasted Equity Risk Premium	6.97 %

Notes provided on page 9 of this Schedule.

Southwestern Public Service Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Twelve Electric Companies

Notes:

(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2022 Market Report minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1926-2021.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa rated corporate bond yields from 1928-2021 referenced in Note 1 above.

(3) The Predictive Risk Premium Model (PRPM) is discussed in the accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns and average Aaa and Aa corporate monthly bond yields, from January 1928 through July 2022.

(4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 4.76% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 16.00% (described fully in note 1 on page 2 of Schedule 5).

(5) Using data from Value Line for the S&P 500, an expected total return of 16.59% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.76% results in an expected equity risk premium of 11.83%.

(6) Using data from Bloomberg Professional Services for the S&P 500, an expected total return of 12.62% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.76% results in an expected equity risk premium of 7.86%.

(7) Average of mean and median beta from page 1 of Schedule 5.

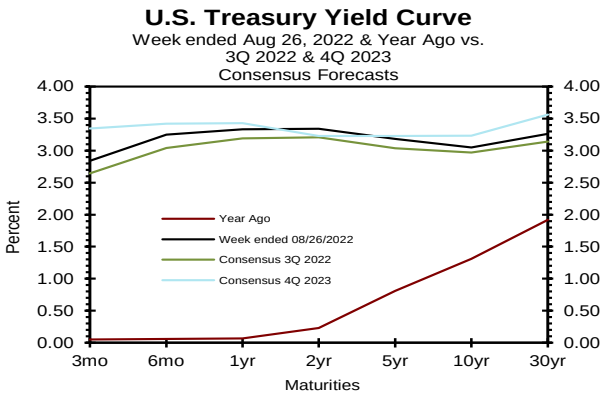
Sources of Information:

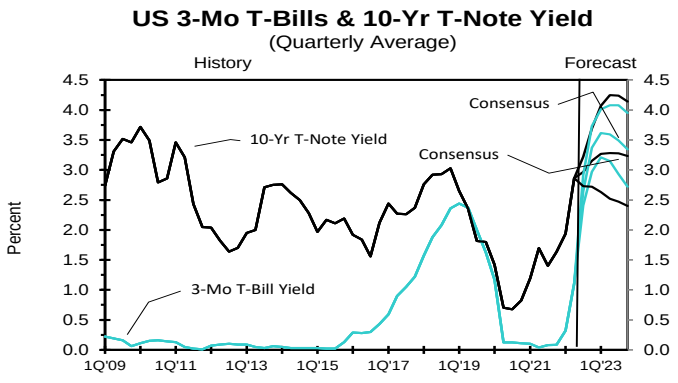
Stocks, Bonds, Bills, and Inflation - 2022 SBBI Yearbook, John Wiley & Sons, Inc.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2022 and June 1, 2022
Bloomberg Professional Services

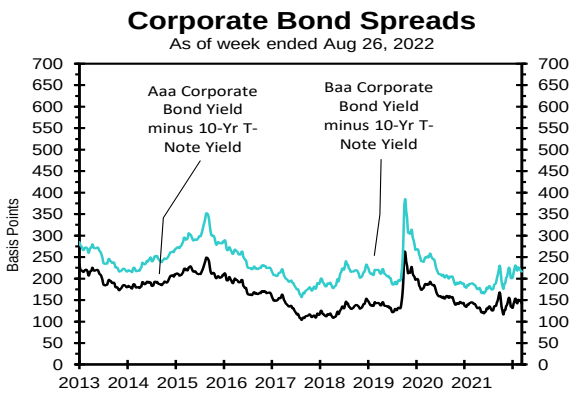
Consensus Forecasts of U.S. Interest Rates and Key Assumptions

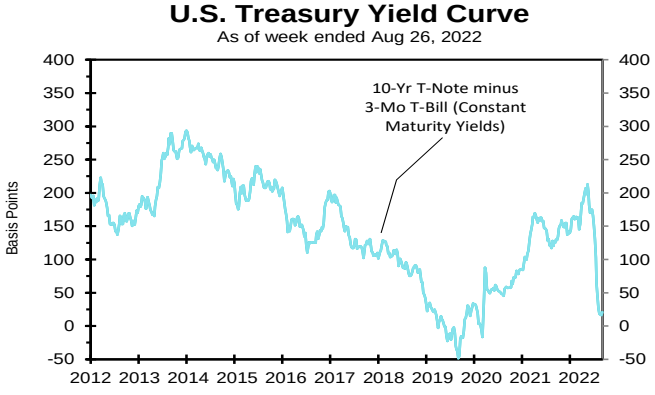
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Qtr*	3Q	4Q	1Q	2Q	3Q	4Q
Interest Rates	Aug 26	Aug 19	Aug 12	Aug 5	Jul	Jun	May	2Q 2022	2022	2022	2023	2023	2023	2023
Federal Funds Rate	2.33	2.33	2.33	2.33	1.68	1.21	0.77	0.77	**2.5**	**3.4**	**3.6**	**3.6**	**3.5**	**3.4**
Prime Rate	5.50	5.50	5.50	5.50	4.85	4.38	3.94	3.94	**5.5**	**6.5**	**6.8**	**6.8**	**6.6**	**6.5**
SOFR	2.28	2.29	2.28	2.29	1.60	1.11	0.72	0.71	**2.3**	**3.3**	**3.6**	**3.6**	**3.5**	**3.3**
Commercial Paper, 1-mo.	2.33	2.31	2.33	2.32	1.90	1.35	0.80	0.86	**2.5**	**3.4**	**3.7**	**3.7**	**3.6**	**3.4**
Treasury bill, 3-mo.	2.84	2.71	2.64	2.54	2.30	1.54	0.99	1.10	**2.6**	**3.4**	**3.6**	**3.6**	**3.5**	**3.3**
Treasury bill, 6-mo.	3.25	3.14	3.13	3.01	2.87	2.17	1.49	1.64	**3.0**	**3.6**	**3.7**	**3.7**	**3.6**	**3.4**
Treasury bill, 1 yr.	3.33	3.25	3.28	3.12	3.02	2.65	2.06	2.20	**3.2**	**3.6**	**3.7**	**3.7**	**3.6**	**3.4**
Treasury note, 2 yr.	3.34	3.24	3.24	3.07	3.04	3.00	2.62	2.72	**3.2**	**3.5**	**3.5**	**3.5**	**3.3**	**3.2**
Treasury note, 5 yr.	3.18	3.01	2.95	2.82	2.96	3.19	2.87	2.95	**3.0**	**3.2**	**3.3**	**3.3**	**3.3**	**3.2**
Treasury note, 10 yr.	3.05	2.87	2.81	2.72	2.90	3.14	2.90	2.93	**3.0**	**3.2**	**3.3**	**3.3**	**3.3**	**3.2**
Treasury note, 30 yr.	3.26	3.14	3.06	2.98	3.10	3.25	3.07	3.04	**3.1**	**3.4**	**3.5**	**3.6**	**3.6**	**3.6**
Corporate Aaa bond	4.47	4.33	4.29	4.22	4.39	4.52	4.37	4.30	**4.2**	**4.7**	**4.8**	**4.9**	**4.8**	**4.8**
Corporate Baa bond	5.21	5.05	5.02	4.95	5.15	5.22	5.05	4.97	**5.3**	**5.7**	**5.9**	**6.0**	**6.0**	**6.0**
State & Local bonds	3.97	3.84	3.75	3.70	3.82	3.94	3.96	3.87	**3.6**	**4.0**	**4.2**	**4.3**	**4.3**	**4.3**
Home mortgage rate	5.55	5.13	5.22	4.99	5.41	5.52	5.23	5.24	**5.4**	**5.6**	**5.7**	**5.7**	**5.6**	**5.5**
	History								Consensus Forecasts-Quarterly					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Key Assumptions	2020	2020	2021	2021	2021	2021	2022	2022	**2022**	**2022**	**2023**	**2023**	**2023**	**2023**
Fed's AFE $ Index	107.2	105.1	103.4	102.9	105.0	107.0	108.4	113.7	**117.4**	**118.2**	**118.2**	**117.3**	**116.5**	**115.9**
Real GDP	33.8	4.5	6.3	6.7	2.3	6.9	-1.6	-0.6	**1.4**	**0.8**	**0.6**	**0.8**	**1.4**	**1.6**
GDP Price Index	3.6	2.2	4.3	6.1	6.0	7.1	8.2	8.9	**4.9**	**4.1**	**3.3**	**2.7**	**2.7**	**2.5**
Consumer Price Index	4.8	2.2	4.1	8.2	6.7	7.9	9.2	10.5	**5.3**	**3.7**	**3.3**	**2.8**	**2.5**	**2.5**
PCE Price Index	3.7	1.5	3.8	6.5	5.3	6.4	7.1	7.1	**4.5**	**3.5**	**3.0**	**2.5**	**2.4**	**2.3**

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).









Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2023 through 2028 and averages for the five-year periods 2024-2028 and 2029-2033. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year						Five-Year Averages	
		2023	2024	2025	2026	2027	2028	2024-2028	2029-2033
1. Federal Funds Rate	**CONSENSUS**	**3.0**	**2.7**	**2.5**	**2.5**	**2.5**	**2.5**	**2.6**	**2.5**
	Top 10 Average	3.5	3.3	3.0	2.8	2.8	2.8	3.0	2.8
	Bottom 10 Average	2.6	2.1	2.0	2.2	2.2	2.2	2.2	2.1
2. Prime Rate	**CONSENSUS**	**6.1**	**5.9**	**5.7**	**5.6**	**5.6**	**5.6**	**5.7**	**5.6**
	Top 10 Average	6.6	6.4	6.1	6.0	6.0	6.0	6.1	5.9
	Bottom 10 Average	5.6	5.3	5.2	5.3	5.3	5.3	5.3	5.2
3. SOFR	**CONSENSUS**	**3.0**	**2.8**	**2.5**	**2.5**	**2.5**	**2.5**	**2.6**	**2.5**
	Top 10 Average	3.4	3.3	3.0	2.9	2.8	2.8	3.0	2.8
	Bottom 10 Average	2.7	2.2	2.0	2.2	2.2	2.2	2.2	2.1
4. Commercial Paper, 1-Mo	**CONSENSUS**	**3.2**	**2.9**	**2.6**	**2.6**	**2.6**	**2.6**	**2.7**	**2.6**
	Top 10 Average	3.5	3.4	3.1	2.9	2.9	2.9	3.0	2.9
	Bottom 10 Average	2.8	2.5	2.3	2.4	2.4	2.3	2.3	2.3
5. Treasury Bill Yield, 3-Mo	**CONSENSUS**	**3.0**	**2.8**	**2.6**	**2.6**	**2.6**	**2.5**	**2.6**	**2.5**
	Top 10 Average	3.6	3.4	3.1	3.1	3.0	2.9	3.1	2.9
	Bottom 10 Average	2.5	2.2	2.0	2.1	2.2	2.2	2.1	2.2
6. Treasury Bill Yield, 6-Mo	**CONSENSUS**	**3.2**	**2.9**	**2.7**	**2.7**	**2.7**	**2.6**	**2.7**	**2.6**
	Top 10 Average	3.8	3.6	3.2	3.2	3.1	3.0	3.2	3.0
	Bottom 10 Average	2.6	2.2	2.1	2.2	2.3	2.3	2.2	2.3
7. Treasury Bill Yield, 1-Yr	**CONSENSUS**	**3.2**	**3.0**	**2.9**	**2.9**	**2.8**	**2.8**	**2.9**	**2.8**
	Top 10 Average	3.9	3.8	3.5	3.4	3.3	3.2	3.4	3.2
	Bottom 10 Average	2.6	2.4	2.2	2.4	2.4	2.4	2.3	2.4
8. Treasury Note Yield, 2-Yr	**CONSENSUS**	**3.4**	**3.2**	**3.1**	**3.1**	**3.0**	**3.0**	**3.1**	**3.0**
	Top 10 Average	4.3	4.1	3.8	3.6	3.5	3.5	3.7	3.5
	Bottom 10 Average	2.7	2.4	2.3	2.5	2.6	2.5	2.4	2.5
9. Treasury Note Yield, 5-Yr	**CONSENSUS**	**3.5**	**3.4**	**3.3**	**3.3**	**3.3**	**3.2**	**3.3**	**3.3**
	Top 10 Average	4.3	4.2	4.1	3.9	3.8	3.8	3.9	3.8
	Bottom 10 Average	2.8	2.6	2.5	2.7	2.7	2.7	2.6	2.8
10. Treasury Note Yield, 10-Yr	**CONSENSUS**	**3.5**	**3.5**	**3.4**	**3.5**	**3.5**	**3.4**	**3.5**	**3.5**
	Top 10 Average	4.4	4.4	4.2	4.2	4.1	4.1	4.2	4.1
	Bottom 10 Average	2.8	2.5	2.6	2.9	2.9	2.8	2.7	2.8
11. Treasury Bond Yield, 30-Yr	**CONSENSUS**	**3.8**	**3.8**	**3.8**	**3.9**	**3.8**	**3.8**	**3.8**	**3.9**
	Top 10 Average	4.6	4.7	4.5	4.5	4.4	4.5	4.5	4.5
	Bottom 10 Average	3.0	2.9	3.0	3.3	3.2	3.2	3.1	3.2
12. Corporate Aaa Bond Yield	**CONSENSUS**	**5.0**	**5.0**	**4.9**	**5.0**	**5.0**	**4.9**	**4.9**	**5.0**
	Top 10 Average	5.7	5.7	5.6	5.5	5.5	5.5	5.5	5.6
	Bottom 10 Average	4.4	4.2	4.3	4.4	4.4	4.4	4.3	4.4
13. Corporate Baa Bond Yield	**CONSENSUS**	**6.0**	**5.9**	**5.8**	**5.9**	**5.9**	**5.9**	**5.9**	**5.9**
	Top 10 Average	6.6	6.6	6.4	6.3	6.3	6.3	6.4	6.4
	Bottom 10 Average	5.4	5.3	5.2	5.4	5.4	5.4	5.3	5.4
14. State & Local Bonds Yield	**CONSENSUS**	**4.3**	**4.3**	**4.2**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**
	Top 10 Average	5.0	5.0	4.8	4.8	4.7	4.7	4.8	4.8
	Bottom 10 Average	3.7	3.7	3.7	3.9	3.9	3.9	3.8	3.9
15. Home Mortgage Rate	**CONSENSUS**	**5.7**	**5.5**	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**	**5.4**
	Top 10 Average	6.4	6.4	6.1	6.0	6.0	6.0	6.1	6.0
	Bottom 10 Average	4.9	4.7	4.6	4.8	4.8	4.8	4.7	4.8
A. Fed's AFE Nominal $ Index	**CONSENSUS**	**113.8**	**112.8**	**111.9**	**111.0**	**110.6**	**110.4**	**111.3**	**109.8**
	Top 10 Average	115.6	114.7	114.0	113.4	113.1	112.8	113.6	112.7
	Bottom 10 Average	112.2	111.0	109.9	108.8	108.2	107.9	109.2	107.4
		Year-Over-Year, % Change						Five-Year Averages	
		2023	2024	2025	2026	2027	2028	2024-2028	2029-2033
B. Real GDP	**CONSENSUS**	**2.0**	**2.0**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.0**
	Top 10 Average	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.3
	Bottom 10 Average	1.5	1.5	1.8	1.8	1.8	1.8	1.7	1.8
C. GDP Chained Price Index	**CONSENSUS**	**3.0**	**2.4**	**2.3**	**2.3**	**2.2**	**2.2**	**2.3**	**2.2**
	Top 10 Average	3.7	2.8	2.7	2.6	2.6	2.6	2.7	2.6
	Bottom 10 Average	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9
D. Consumer Price Index	**CONSENSUS**	**3.2**	**2.4**	**2.4**	**2.4**	**2.3**	**2.3**	**2.4**	**2.3**
	Top 10 Average	4.1	3.0	2.9	2.8	2.7	2.7	2.8	2.7
	Bottom 10 Average	2.3	1.8	2.0	2.0	1.9	1.9	1.9	1.9
E. PCE Price Index	**CONSENSUS**	**3.0**	**2.3**	**2.3**	**2.3**	**2.3**	**2.2**	**2.3**	**2.3**
	Top 10 Average	3.8	2.8	2.8	2.7	2.7	2.6	2.7	2.7
	Bottom 10 Average	2.2	1.8	1.9	1.9	1.9	1.8	1.9	1.9

Southwestern Public Service Company
Derivation of Mean Equity Risk Premium Based Studies
Using Holding Period Returns and
Projected Market Appreciation of the S&P Utility Index

Line No.		Implied Equity Risk Premium
	Equity Risk Premium based on S&P Utility Index Holding Period Returns (1):	
1.	Historical Equity Risk Premium	4.28 %
2.	Regression of Historical Equity Risk Premium (2)	5.16
3.	Forecasted Equity Risk Premium Based on PRPM (3)	5.55
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	3.64
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	6.15
6.	Average Equity Risk Premium (6)	4.96 %

Notes:
(1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2021. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A2 rated public utility bond yields from 1928 - 2021 referenced in note 1 above.

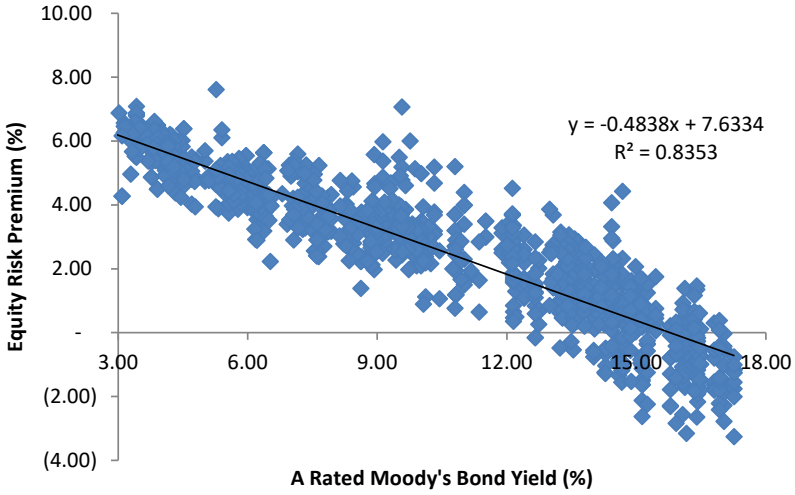
(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A2 rated public utility bonds from January 1928 - August 2022.

(4) Using data from Value Line for the S&P Utilities Index, an expected total return of 9.08% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the expected A2 rated public utility bond yield of 5.44% results in an expected equity risk premium of 3.64%. (9.08% - 5.44 = 3.64%)

(5) Using data from the Bloomberg Professional Services for the S&P Utilities Index, an expected total return of 11.59% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the expected A2 rated public utility bond yield of 5.44% results in an expected equity risk premium of 6.15%. (11.59% - 5.44 = 6.15%)

(6) Average of lines 1 through 5.

Southwestern Public Service Company
Prediction of Equity Risk Premiums Relative to
Moody's A2 Rated Utility Bond Yields



Constant	Slope	Prospective A2 Rated Utility Bond (1)	Prospective Equity Risk Premium
7.6334 %	-0.4838	5.44 %	5.00 %

Notes:
(1) From line 3 of page 3 of this Schedule.

Source of Information: Regulatory Research Associates

Southwestern Public Service Company
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

Proxy Group of Twelve Electric Companies	[1] Value Line Adjusted Beta	[2] Bloomberg Adjusted Beta	[3] Average Beta	[4] Market Risk Premium (1)	[5] Risk-Free Rate (2)	[6] Traditional CAPM Cost Rate	[7] ECAPM Cost Rate	[8] Indicated Common Equity Cost
Alliant Energy Corporation	0.80	0.69	0.75	10.42 %	3.56 %	11.38 %	12.03 %	11.70 %
Ameren Corporation	0.80	0.69	0.74	10.42	3.56	11.27	11.95	11.61
American Electric Power Company, Inc.	0.75	0.64	0.69	10.42	3.56	10.75	11.56	11.16
Duke Energy Corporation	0.85	0.57	0.71	10.42	3.56	10.96	11.72	11.34
Edison International	0.95	0.85	0.90	10.42	3.56	12.94	13.20	13.07
Entergy Corporation	0.90	0.76	0.83	10.42	3.56	12.21	12.66	12.43
Evergy, Inc.	0.90	0.69	0.79	10.42	3.56	11.80	12.34	12.07
IDACORP, Inc.	0.80	0.67	0.73	10.42	3.56	11.17	11.87	11.52
NorthWestern Corporation	0.95	0.62	0.79	10.42	3.56	11.80	12.34	12.07
OGE Energy Corporation	1.00	0.79	0.89	10.42	3.56	12.84	13.12	12.98
Portland General Electric Company	0.85	0.65	0.75	10.42	3.56	11.38	12.03	11.70
Xcel Energy Inc.	0.80	0.65	0.72	10.42	3.56	11.07	11.80	11.43
Mean			0.77			11.63 %	12.22 %	11.92 %
Median			0.75			11.38 %	12.03 %	11.70 %
Average of Mean and Median			0.76			11.51 %	12.13 %	11.81 %

Notes on page 2 of this Schedule.

Southwestern Public Service Company
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

(1) The market risk premium (MRP) is derived by using six different measures from three sources: Ibbotson, Value Line, and Bloomberg as illustrated below:

Historical Data MRP Estimates:

Measure 1: Ibbotson Arithmetic Mean MRP (1926-2021)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2021:	12.37 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.02
MRP based on Ibbotson Historical Data:	7.35 %

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data
(1926-2021) 9.09 %

Measure 3: Application of the PRPM to Ibbotson Historical Data:
(January 1926 - August 2022) 11.58 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending September 02, 2022)

Total projected return on the market 3-5 years hence*:	16.00 %
Projected Risk-Free Rate (see note 2):	3.56
MRP based on Value Line Summary & Index:	12.44 %

*Forecasted 3-5 year capital appreciation plus expected dividend yield

Measure 5: Value Line Projected Return on the Market based on the S&P 500

Total return on the Market based on the S&P 500:	16.59 %
Projected Risk-Free Rate (see note 2):	3.56
MRP based on Value Line data	13.03 %

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	12.62 %
Projected Risk-Free Rate (see note 2):	3.56
MRP based on Bloomberg data	9.06 %

Average of Value Line, Ibbotson, and Bloomberg MRP: 10.42 %

(2) For reasons explained in the direct testimony, the appropriate risk-free rate for cost of capital purposes is the average forecast of 30 year Treasury Bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts. (See pages 10-11 of Schedule 4.) The projection of the risk-free rate is illustrated below:

Third Quarter 2022	3.10 %
Fourth Quarter 2022	3.40
First Quarter 2023	3.50
Second Quarter 2023	3.60
Third Quarter 2023	3.60
Fourth Quarter 2023	3.60
2024-2028	3.80
2029-2033	3.90
	3.56 %

(3) Average of Column 6 and Column 7.

Sources of Information:
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2022 and June 1, 2022
Stocks, Bonds, Bills, and Inflation - 2022 SBBI Yearbook, John Wiley & Sons, Inc.
Bloomberg Professional Servicess

Southwestern Public Service Company
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the proxy group of thirty-seven non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group were then selected based on the unadjusted beta range of 0.61 – 0.89 and residual standard error of the regression range of 2.5707 – 3.0659 of the Utility Proxy Group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the Utility Proxy Group's residual standard error of the regression is 0.1284. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1238 = \frac{2.8183}{\sqrt{518}} = \frac{2.8183}{22.7596}$$

Source of Information: Value Line, Inc., June 2022
Value Line Investment Survey (Standard Edition)

Southwestern Public Service Company
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

Proxy Group of Twelve Electric Companies	[1] Value Line Adjusted Beta	[2] Unadjusted Beta	[3] Residual Standard Error of the Regression	[4] Standard Deviation of Beta
Alliant Energy Corporation	0.80	0.68	2.7436	0.0664
Ameren Corporation	0.80	0.67	2.5697	0.0622
American Electric Power Company, Inc.	0.75	0.55	2.7099	0.0656
Duke Energy Corporation	0.85	0.71	2.7576	0.0668
Edison International	0.95	0.87	3.3714	0.0817
Entergy Corporation	0.90	0.82	2.8320	0.0686
Evergy, Inc.	0.90	0.82	3.0466	0.0756
IDACORP, Inc.	0.80	0.64	2.6541	0.0643
NorthWestern Corporation	0.95	0.85	2.7981	0.0678
OGE Energy Corporation	1.00	0.99	2.7668	0.0670
Portland General Electric Company	0.85	0.74	2.8199	0.0683
Xcel Energy Inc.	0.80	0.62	2.7494	0.0666
Average	0.86	0.75	2.8183	0.0684

Beta Range (+/- 2 std. Devs. of Beta)	0.61	0.89
2 std. Devs. of Beta	0.14	
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.5707	3.0659
Std. dev. of the Res. Std. Err.	0.1238	
2 std. devs. of the Res. Std. Err.	0.2476	

Source of Information: Valueline Proprietary Database, June 2022

Southwestern Public Service Company
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Thirty-Eight Non-Price Regulated Companies

Proxy Group of Thirty-Eight Non-Price Regulated Companies	[1] Value Line Adjusted Beta	[2] Unadjusted Beta	[3] Residual Standard Error of the Regression	[4] Standard Deviation of Beta
Agilent Technologies	0.90	0.80	2.7494	0.0666
Abbott Labs.	0.90	0.82	2.8507	0.0690
Assurant Inc.	0.90	0.82	2.7741	0.0672
Smith (A.O.)	0.85	0.76	2.8973	0.0702
Air Products & Chem.	0.90	0.80	2.7347	0.0662
Brown-Forman 'B'	0.90	0.77	2.7979	0.0678
Bristol-Myers Squibb	0.85	0.73	2.9016	0.0703
Broadridge Fin'l	0.85	0.73	2.8111	0.0681
CACI Int'l	0.90	0.78	3.0598	0.0741
Chemed Corp.	0.80	0.68	2.8073	0.0680
Cisco Systems	0.90	0.83	2.6056	0.0631
CSW Industrials	0.85	0.76	2.9866	0.0723
Danaher Corp.	0.85	0.72	2.5734	0.0623
Franklin Electric	0.90	0.82	2.9924	0.0725
Alphabet Inc.	0.90	0.83	2.6217	0.0635
Ingredion Inc.	0.95	0.85	2.8212	0.0683
J&J Snack Foods	0.90	0.82	3.0428	0.0737
Henry (Jack) & Assoc	0.80	0.68	2.9648	0.0718
Lockheed Martin	0.95	0.88	2.7354	0.0662
McCormick & Co.	0.75	0.61	2.9698	0.0719
Monster Beverage	0.90	0.77	2.9404	0.0712
Merck & Co.	0.75	0.62	2.8459	0.0689
Motorola Solutions	0.90	0.80	2.7008	0.0654
Oracle Corp.	0.80	0.63	2.8826	0.0698
Pfizer, Inc.	0.80	0.65	2.8220	0.0683
Packaging Corp.	0.95	0.87	2.9010	0.0703
RLI Corp.	0.80	0.64	2.8979	0.0702
Service Corp. Int'l	0.95	0.85	2.7839	0.0674
Sherwin-Williams	0.90	0.84	2.6134	0.0633
Selective Ins. Group	0.90	0.79	2.9203	0.0707
Sirius XM Holdings	0.90	0.84	3.0268	0.0733
Sensient Techn.	0.90	0.82	2.7135	0.0657
Thermo Fisher Sci.	0.85	0.72	2.6384	0.0639
Texas Instruments	0.90	0.78	2.7382	0.0663
VeriSign Inc.	0.90	0.80	2.6875	0.0651
Waters Corp.	0.95	0.87	2.8676	0.0694
Watsco, Inc.	0.85	0.72	2.7587	0.0668
Western Union	0.80	0.65	2.9580	0.0716
Average	0.87	0.77	2.8300	0.0700
Proxy Group of Twelve Electric Companies	0.86	0.75	2.8183	0.0684

Source of Information: Valueline Proprietary Database, June 2022

FINANCIAL QUARTERLY
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Comparable Earnings: New Life for an Old Precept

by
Frank J. Hanley
Pauline M. Ahern

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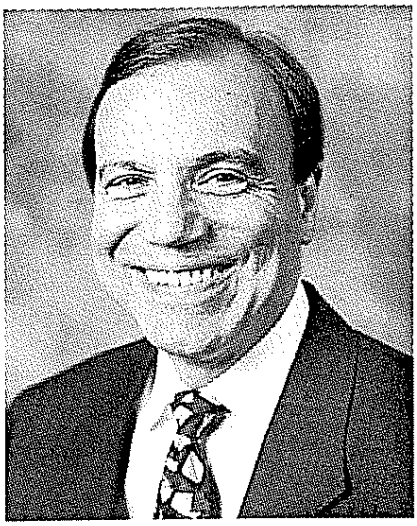
Comparable Earnings: New Life for an Old Precept

Accelerating deregulation has greatly increased the investment risk of natural gas utilities. As a result, the authors believe it more appropriate than ever to employ the comparable earnings model. We believe our application of the model overcomes the greatest traditional objection to it — lack of comparability of the selected non-utility proxy firms. Our illustration focuses on a target gas pipeline company with a beta of 0.96 — almost equal to the market's beta of 1.00.



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Introduction

The comparable earnings model used to determine a common equity cost rate is deeply rooted in the standard of "corresponding risk" enunciated in the landmark *Bluefield* and *Hope* decisions of the U.S. Supreme Court.[1] With such solid grounding in the foundations of rate of return regulation, comparable earnings should be accepted as a principal model, along with the currently popular market-based models, provided that its most common criticism, non-comparability of the proxy companies, is overcome.

Our comparable earnings model overcomes the non-comparability issue of the non-utility firms selected as a proxy for the target utility, in this example, a gas pipeline company. We should note that in the absence of common stock prices for the target utility (as with a wholly-owned subsidiary), it is appropriate to use the average of a proxy group of similar risk gas pipeline companies whose common stocks are actively traded. As we will demonstrate, our selection process results in a group of domestic, non-utility firms that is comparable in total risk, the sum of business and financial risk, which reflects both non-diversifiable systematic, or market, risk as well as diversifiable unsystematic, or firm-specific, risk.

Embedded in the Landmark Decisions

As stated in *Bluefield* in 1922: "A public utility is entitled to such rates as will permit it to earn a return ... on investments in other business undertakings which are attended by corresponding risks and uncertainties ..."

In addition, the court stated in *Hope* in 1944: "By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."

Thus, the "corresponding risk" precept of *Bluefield* and *Hope* predates the use of such market-based cost-of-equity models as the Discounted Cash Flow (DCF) and Capital Asset Pricing (CAPM), which were developed later and are currently popular in rate-base/rate-of-return regulation. Consequently, the comparable earnings model has a longer regulatory and judicial history. However, it has far greater relevance now than ever before in its history because significant deregulation has substantially increased natural gas utilities' investment risk to a level similar to that of non-utility firms. As a result, it is

Comparable Earnings *from page 4*

more important than ever to look to similar-risk non-utility firms for insight into common equity cost rate, especially in view of the deficiencies inherent in the currently popular market-based cost of common equity models, particularly the DCF model.

Despite the fact that the landmark decisions are still regarded as having set the standards for determining a fair rate of return, the comparable earnings model has experienced decreased usage by expert witnesses, as well as less regulatory acceptance over the years. We believe the decline in the popularity of the comparable earnings model, in large measure, is attributable to the difficulty of selecting non-utility proxy firms that regulators will accept as comparable to the target utility. Regulatory acceptance is difficult to gain when the selection process is arbitrary. Our application of the model is objective and consistent with fundamental financial tenets.

Principles of Comparable Earnings

Regulation is a substitute for the competition of the marketplace. Moreover, regulated public utilities compete in the capital markets with all firms, including unregulated non-utilities. The comparable earnings model is based upon the opportunity cost principle; i.e., that the true cost of an investment is the return that could have been earned on the next best available alternative investment of similar risk. Consequently, the comparable earnings model is consistent with regulatory and financial principles, as it is a surrogate for the competition of the marketplace, and investors seek the greatest available rate of return for bearing similar risk.

The selection of comparable firms is the most difficult step in applying the comparable earnings model, as noted by Phillips[2] as well as by Bonbright, Danielsen and Kamerschen.[3] The selection of non-utility proxy firms should result in a sufficiently broad-based group in order to minimize the effect of company-specific aberrations. However, if the selection process is arbitrary, it likely would result in a proxy group that is too broad-based, such as the Standard & Poor's 500 Composite Index or the Value Line Industrial Composite. The use of such groups would require subjective adjustments to the comparable earnings results to reflect risk differences between the group(s) and the target utility, a gas pipeline company in this example.

Authors' Selection Criteria

We base the selection of comparable non-utility firms on market-based, objective, quantitative measures of risk resulting from market prices that subsume investors' assessments of all elements of risk. Thus, our approach is based upon the principle of risk and return; namely, that firms of comparable risk should be expected to earn comparable returns. It is also consistent with the "corresponding risk" standard established in *Bluefield* and *Hope*. We measure total investment risk as the sum of non-diversifiable systematic and diversifiable unsystematic risk. We use the unadjusted beta as a measure of systematic risk and the standard error of the estimate (residual standard error) as a measure of unsystematic risk. Both the unadjusted beta and the residual standard error are derived from a regression of the target utility's security returns relative to the market's returns, which takes the general form:

$$r_{it} = a_i + b_i r_{mt} + e_{it}$$

where:

- r_{it} = tth observation of the ith utility's rate of return
- r_{mt} = tth observation of the market's rate of return
- e_{it} = tth random error term
- a_i = constant least-squares regression coefficient
- b_i = least-squares regression slope coefficient, the unadjusted beta.

As shown by Francis,[4] the total variation or risk of a firm's return, Var (r_i), comes from two sources:

Var (r_i)= total risk of ith asset
= var($a_i + b_i r_m + e$)
substituting ($a_i + b_i r_m + e$) for r_i
= var($b_i r_m$) + var (e) since var(a_i) = 0
= b_i^2 var(r_m) + var (e) since var($b_i r_m$) = b_i^2 var(r_m)
= systematic + unsystematic risk

Francis[5] also notes: "The term $\sigma^2(r_i|r_m)$ is called the *residual variance around the regression line* in statistical terms or *unsystematic risk* in capital market theory language. $\sigma^2 (r_i|r_m)$ = ... = var (e). The residual variance is the squared standard error in regression language, a measure of unsystematic risk." Application of these criteria results in a group of non-utility firms whose average total investment risk is indeed comparable to that of the target gas pipeline.

As a measure of systematic risk, we use the Value Line unadjusted beta. Beta measures the extent to which market-wide or macro-economic events affect a firm's stock price. We use the unadjusted beta of the target utility as a starting point because it results from the regression of the target utility's security returns relative to the market's returns. Thus, the resulting standard deviation of beta relates to the unadjusted beta. We use the standard deviation of the unadjusted beta to determine the range around it as the selection criterion based on systematic risk.

We use the residual standard error of the regression as a measure of unsystematic risk. The residual standard error reflects the extent to which events specific to the firm's operations affect a firm's stock price. Thus, it is a measure of diversifiable, unsystematic, firm-specific risk.

An Illustration of Authors' Approach

Step One: We begin our approach by establishing the selection criteria as a range of both unadjusted beta and residual standard error of the target gas

continued on page 6

Comparable Earnings *from page 5*

pipeline company.

As shown in table 1, our target gas pipeline company has a Value Line unadjusted beta of 0.90, whose standard deviation is 0.1250. The selection criterion range of unadjusted beta is the unadjusted beta plus (+) and minus (-) three of its standard deviations. By using three standard deviations, 99.73 percent of the comparable unadjusted betas is captured.

Three standard deviations of the target utility's unadjusted beta equals 0.38 (0.1250 x 3 = 0.3750, rounded to 0.38). Consequently, the range of unadjusted betas to be used as a selection criteria is 0.52 - 1.28 (0.52 = 0.90 - 0.38) and (1.28 = 0.90 + 0.38).

Likewise, the selection criterion range of residual standard error equals the residual standard error plus (+) and minus (-) three of its standard deviations. The standard deviation of the residual standard error is defined as: $\sigma/\sqrt{2N}$.

As also shown in table 1, the target gas pipeline company has a residual standard error of 3.7867. According to the above formula, the standard deviation of the residual standard error would be 0.1664 (0.1664 = 3.7867/$\sqrt{2(259)}$ = 3.7867/22.7596, where 259 = N, the number of weekly price change observations over a period of five years). Three standard deviations of the target utility's residual standard error would be 0.4992 (0.1664 x 3 = .4992). Consequently, the range of residual standard errors to be used as a selection criterion is 3.2875 - 4.2859 (3.2875 = 3.7867 - 0.4992) and (4.2859 = 3.7867 + 0.4992).

Step Two: The step one criteria are applied to Value Line's data base of nearly 4,000 firms for which Value Line derives unadjusted betas and residual standard errors on a weekly basis. All firms with unadjusted betas and residual standard errors within the criteria ranges are then selected.

Step Three: In the regulatory ratemaking environment, authorized common equity return rates are applied to a book-value rate base. Thus, the earnings rates on book common equity, or net worth, of competitive, non-utility firms are highly relevant provided those firms are indeed comparable in total risk to the target gas pipeline. The use of the return rates of other utilities has no relevance because their allowed, and hence subsequently achieved, earnings rates are dependent upon the regulatory

table 1

Summary of the Comparable Earnings Analysis for the Proxy Group of 248 Non-Utility Companies Comparable in Total Risk to the Target Gas Pipeline Company[1]

	1	2	3	4	5	6	7	8
				rate of return on net worth				
	adj. beta	unadj. beta	residual standard error	3-year average[2]	4-year average[2]	5-year average[2]	5-year projected[3]	
average for the proxy group of 248 non-utility companies comparable in total risk to the target gas pipeline company	0.97	0.92	3.7705					
target gas pipeline company	0.96	0.90[4]	3.7867					
median				11.7%	12.0%	12.6%	15.5%	
average of the median historical returns					12.1%			
conclusion[5]								13.8%

[1]The criteria for selection of the non-utility group was that the non-utility companies be domestic and included in *Value Line Investment Survey*. The non-utility group was selected based on an unadjusted beta range of 0.52 to 1.28 and a residual standard error range of 3.2875 to 4.2859.
[2]Ending 1992.
[3]1996-1998/1997-1999.
[4]The average standard deviation of the target gas pipeline company's unadjusted beta is 0.1250.
[5]Equal weight given to both the average of the 3-, 4- and 5-year historical medians (12.1%) and 5-year projected median rate of return on net worth (15.5%). Thus, 13.8% = (12.1% + 15.5% / 2).
Source: Value Line Inc., March 15, 1994
Value Line Investment Survey

Comparable Earnings *from page 6*

process. Consequently, we believe all utilities must be eliminated to avoid circularity. Moreover, we believe non-domestic firms must be eliminated because their reporting methods differ significantly from U.S. firms.

Step Four: We then eliminated those firms for which Value Line does not publish a "Ratings & Report" in *Value Line Investment Survey* so that the historical and projected returns on net worth[6] are from a consistent source. We use historical returns on net worth for the most recent five years, as well as those projected three to five years into the future. We believe it is logical to evaluate both historical and projected return rates because it is reasonable to assume that investors avail themselves of both when they are available from widely disseminated information services, such as Value Line Inc. The use of Value Line's return rates on net worth understates the common equity return rates for two reasons. First, preferred stock is included in net worth. Second, the net worth return rates are as of the end of each period. Thus, the use of average common equity return rates would yield higher results.

Step Five: Median returns based on the historical average three, four and five years ending 1992 and projected 1996-1998 or 1997-1999 rates of return on net worth are then determined as shown in columns 4 through 7 of table 1. The median is used due to the wide variations and skewness in rates of return on net worth for the non-utility firms as evidenced by the frequency distributions of those returns as shown in illustration 1.

However, we show the average unadjusted beta, 0.92, and residual standard error, 3.7705, for the proxy group in columns 2 and 3 of table 1 because their frequency distributions are not significantly skewed, as shown in illustration 2.

Step Six: Our conclusion of a com-

continued on page 8

Illustration 1

Rates of Return on Net Worth for the Proxy Group of 248 Non-Utility Companies[1]

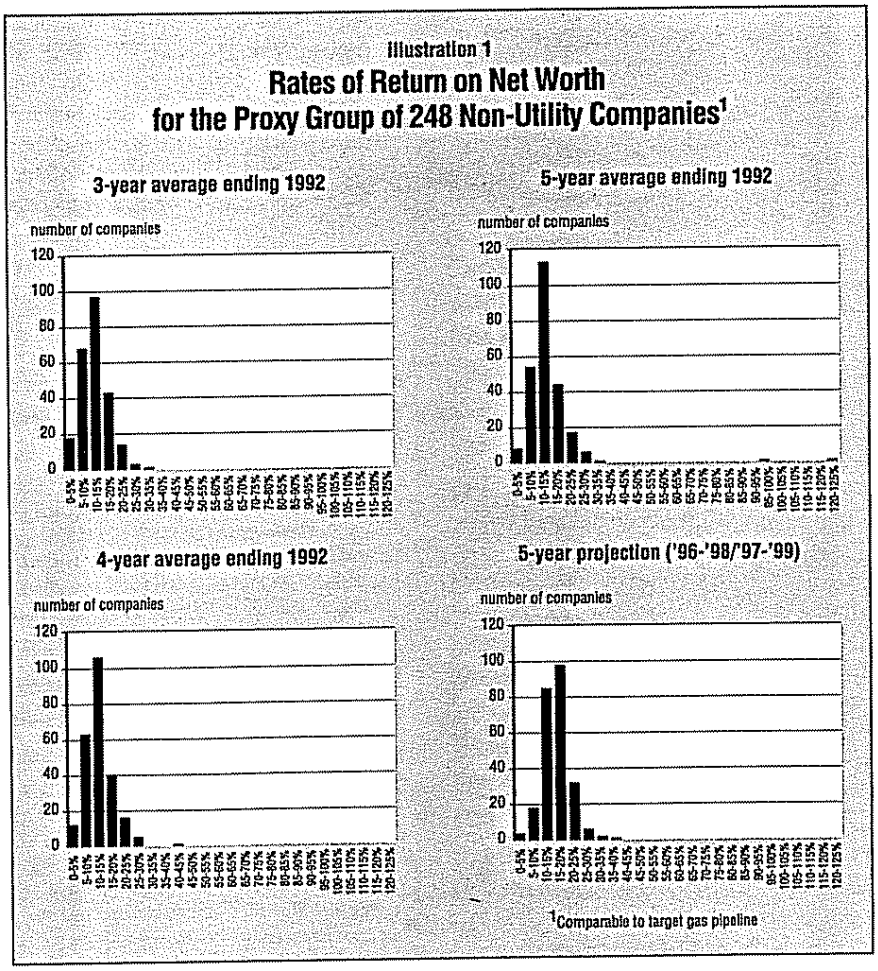
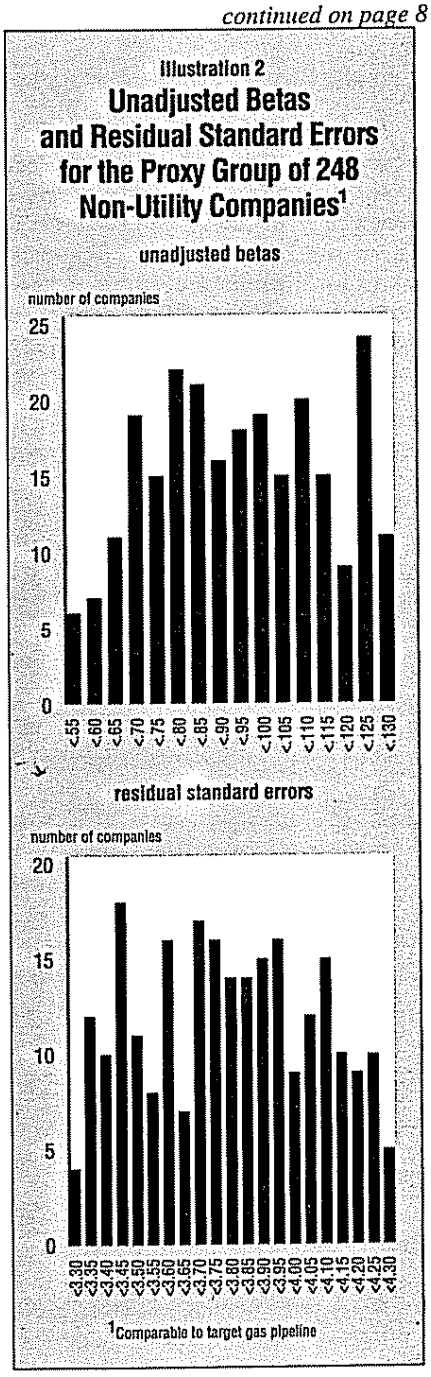


Illustration 2

Unadjusted Betas and Residual Standard Errors for the Proxy Group of 248 Non-Utility Companies[1]



Comparable Earnings *from page 7*

parable earnings cost rate is based upon the mid-point of the average of the median three-, four- and five-year historical rates of return on net worth of 12.1 percent as shown in column 5 and the median projected 1996-1998/1997-1999 rate of return on net worth of 15.5 percent as shown in column 7 of table 1. As shown in column 8, it is 13.8 percent.

Summary

Our comparable earnings approach demonstrates that it is possible to select a proxy group of non-utility firms that is comparable in total risk to a target utility. In our example, the 13.8 percent comparable earnings cost rate is very conservative as it is an expected achieved rate on book common equity (a regulatory allowed rate should be greater) and because it is based on end-of-period net worth. A similar rate on average net worth would be about 20 to 40 basis points higher (i.e., 14.0 to 14.2 percent) and still understate the appropriate regulatory allowed rate of return on book common equity.

Our selection criteria are based upon measures of systematic and unsystematic risk, specifically unadjusted beta and residual standard error. They provide the basis for the objective selection of comparable non-utility firms. Our selection criteria rely on changes in market prices over approximately five years. We compare the aggregate total risk, or the sum of systematic and unsystematic risk, which reflects investors' aggregate assessment of both business and financial risk. Thus, no adjustments are necessary to the proxy group results to compensate for the differences in business risk and financial risk, such as accounting practices and debt/equity ratios. Moreover, it is inappropriate to attempt a comparison of the target utility with any individual firm, or subset of firms, in the proxy group because only the average firm of the group is relevant.

Because the comparable earnings model is firmly anchored in the "corresponding risk" precept established in the landmark court decisions, it is worthy of consideration as a principal model for use in estimating the cost rate of common equity capital of a regulated utility. Our approach to the comparable earnings model produces a proxy group that is indeed comparable in total risk because the selection process is objective and quantitative. It therefore overcomes criticism linked to arbitrary selection processes.

All cost-of-common-equity models, including the DCF and CAPM, are fraught with deficiencies, usually stemming from the many necessary but unrealistic assumptions that underlie them. The effects of the deficiencies of individual models can be mitigated by using more than one model when estimating a utility's common equity cost rate. Therefore, when the non-comparability issue is overcome, the comparable earnings model deserves to receive the same consideration as a primary model, as do the currently popular market-based models. ■

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[1] *Bluefield Water Works Improvement Co. v. Public Service Commission*, 262 U.S. 679 (1922) and *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 519 (1944).

[2] Charles F. Phillips Jr., The Regulation of Public Utilities: Theory and Practice, Public Utilities Reports Inc., 1988, p. 379.

[3] James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utilities Rates, 2nd edition, Public Utilities Reports Inc., 1988, p. 329.

[4] Jack Clark Francis, Investments: Analysis and Management, 3rd edition, McGraw-Hill Book Co., 1980, p. 363.

[5] Id., p. 548.

[6] Returns on net worth must be used when relying on Value Line data because returns on book common equity for non-utility firms are not available from Value Line.

Report Lists Pipeline, Storage Projects

More than $9 billion worth of projects to expand the nation's natural gas pipeline network are in various stages of development, according to an A.G.A. report. These projects involve nearly 8,000 miles of new pipelines and capacity additions to existing lines and represent 15.3 billion cubic feet (Bcf) per day of new pipeline capacity.

During 1993 and early 1994, construction on 3,100 miles of pipeline was completed or under way, at a cost of nearly $4 billion, says A.G.A. These projects are adding 5.4 Bcf in daily delivery capacity nationwide.

Among the projects completed in 1993 were Pacific Gas Transmission Co.'s 805 miles of looping that allows increased deliveries of Canadian gas to the West Coast; Northwest Pipeline Corp.'s addition of 433 million cubic feet of daily capacity for customers in the Pacific Northwest and Rocky Mountain areas; and the 156-mile Empire State Pipeline in New York.

In addition, major construction projects were started on the systems of Texas Eastern Transmission Corp. and Algonquin Gas Transmission Co. — both subsidiaries of Panhandle Eastern Corp. — and along Florida Gas Transmission Co.'s pipeline.

The report goes on to discuss another $5 billion in proposed projects, which, if completed, will add nearly 5,000 miles of pipeline and 9.8 Bcf per day in capacity, much of it serving Florida and West Coast markets.

A.G.A. also identifies 47 storage projects and says that if all of them are built, existing storage capacity will increase by more than 500 Bcf, or 15 percent.

For a copy of *New Pipeline Construction: Status Report 1993-94* (#F00103), call A.G.A. at (703) 841-8490. Price per copy is $6 for employees of member companies and associates and $12 for other customers.

Investments: Analysis and Management

Fifth Edition

Jack Clark Francis

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Investments: Analysis and Management

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Beta Measurements The beta coefficient is an *index of systematic risk.* Beta coefficients may be used for ranking the systematic risk of different assets. If the beta is larger than 1, $b > 1.0$, then the asset is more volatile than the market and is called an **aggressive asset.** If the beta is less than 1, $b < 1.0$, the asset is a **defensive asset;** its price fluctuations are less volatile than the market's. Figure 10-1 illustrates the characteristic lines for three different assets that have low, medium, and high levels of beta (or undiversifiable risk).

Figure 10-2 shows that IBM is a stock with an average amount of systematic risk. IBM's beta of 1.02 indicates that its return tends to increase 2 percent more than the return on the market average when the market is rising. When the market falls, IBM's return tends to fall 2 percent more than the market's. The characteristic line for IBM has an above average correlation coefficient of $\rho = .7495$, indicating that the returns on this security follow its particular characteristic line slightly more closely than those of the average stock.

Partitioning Risk Total risk can be measured by the variance of returns, denoted Var(r). This measure of *total risk is partitioned into its systematic and unsystematic components in Equation (10-8).*[7]

$$\begin{aligned}\text{Var}(r_i) &= \text{total risk of } i\text{th asset} \\ &= \text{Var}(a_i + b_i r_{m,t} + e_{i,t}) \\ &\quad \text{by substituting } (a_i + b_i r_{m,t} + e_{i,t}) \text{ for } r_{i,t} \\ &= 0 + \text{Var}(b_i r_{m,t}) + \text{Var}(e_{i,t}) \\ &\quad \text{since Var}(a_i) = 0 \end{aligned} \tag{10-8}$$

$$\begin{aligned}\text{Var}(r_i) &= b_i^2\,\text{Var}(r_m) + \text{Var}(e) \qquad \text{since Var}(b_i r_m) = b_i^2\,\text{Var}(r_m) \\ &= \text{systematic} + \text{unsystematic risk}\end{aligned} \tag{10-8a}$$

$$.01389 = .00780 + .00609 \qquad \text{for IBM}$$

The unsystematic risk measure Var(e) is called in regression language the *residual variance* or, synonymously, the *standard error squared.*

Undiversifiable Proportion The percentage of total risk that is systematic can be measured by the coefficient of determination ρ^2 (that is, the characteristic line's squared correlation coefficient).

[7]In this context, **partition** is a technical statistical term that means to divide the total variance into *mutually exclusive* and *exhaustive* pieces. This partition is only possible if the returns from the market are statistically independent from the residual error terms that occur simultaneously, $\text{Cov}(r_{m,t}, e_{i,t}) = 0$. The mathematics of regression analysis will orthogonalize the residuals and thus ensure that the needed statistical independence exists.

$$\frac{\text{Systematic risk}}{\text{Total risk}} = \frac{b_i^2 \text{ Var}(r_m)}{\text{Var}(r_m)} = \rho^2 \qquad (10\text{-}9)$$

$$\frac{.007802}{.01389} = \frac{(1.021)^2\ (.00749)}{.00749} = .5617 \times 100 = 56.17\% \qquad \text{for IBM}$$

Diversifiable Proportion The percentage of unsystematic risk equals $(1.0 - \rho^2)$.

$$\frac{\text{Unsystematic risk}}{\text{Total risk}} = \frac{\text{Var}(e)}{\text{Var}(r_i)} = (1.0 - \rho^2)$$

$$\frac{.00609}{.01389} = (1.0 - .5617) = .438 \times 100 \qquad (10\text{-}10)$$

$$= 43.8\% \text{ unsystematic} \qquad \text{for IBM}$$

Studies of the characteristic lines of hundreds of stocks listed on the NYSE indicate that the average correlation coefficient is approximately $\rho = .5$.[8] This means that about $\rho^2 = 25$ percent of the total variability of return in most NYSE securities is explained by movements in the market.

	NYSE average	IBM
Systematic risk: ρ^2	.25	.5617
Unsystematic risk: $(1.0 - \rho^2)$	.75	.4383
Total risk: 100%	1.00	1.0000

As explained above, systematic changes are common to all stocks and are therefore undiversifiable.

A primary use of the characteristic line (or *market model,* or the *single-index model,* as it is also called) is to assess the risk characteristics of one asset.[9] The statistics in Table 10-2, for instance, indicate that IBM's common stock is slightly more risky than the average common stock in terms of total risk and

[8]The average ρ was found to be about .5, as reported in Marshall Blume, "On the Assessment of Risk," *Journal of Finance,* March 1971, p. 4. For similar estimates, see J. C. Francis, "Statistical Analysis of Risk Surrogates for NYSE Stocks," *Journal of Financial and Quantitative Analysis,* Dec. 1979.

[9]Professor Jensen reformulated the characteristic line in a risk-premium form. See M. C. Jensen, "The Performance of Mutual Funds in the Period 1945 through 1964," *Journal of Finance,* May 1968, pp. 389–416. See also M. C. Jensen, "Risk, the Pricing of Capital Assets, and the Evaluation of Investment Portfolios," *Journal of Business,* vol. XLII, 1969. Jensen interprets the alpha intercept term of the characteristic line, as he formulates it, as an investment performance measure. It has been suggested that Jensen's performance measure is biased. See Keith V. Smith and Dennis A. Tito, "Risk-Return Measures of Ex-Post Portfolio Performance," *Journal of Financial and Quantitative Analysis,* Dec. 1969, vol. IV, no. 4, p. 466.

systematic risk.[10] New risk measurements must be made periodically, however, because the risk and return of an asset may change with the passage of time.[11]

10-3 CAPITAL ASSET PRICING MODEL (CAPM)

An old axiom states "there is no such thing as a free lunch." This means that you cannot expect to get something for nothing—a rule that certainly applies to investment returns. Investors who want to earn high average rates of return must take high risks and endure the associated loss of sleep, the possibility of ulcers, and the chance of bankruptcy. The question to which we now turn is: Should investors worry about total risk, undiversifiable risk, diversifiable risk, or all three?

In Chapter 1 it was suggested that *investors should seek investments that have the maximum expected return in their risk class.* Their happiness from investing is presumed to be derived as indicated in the expected utility $E(U)$ function below.

$$E(U) = f[E(r), \sigma]$$

The investment preferences of wealth-seeking risk-averse investors represented by the function above cause them to maximize their expected utility (or, equivalently, happiness) by (1) maximizing their expected return in any given risk class, $\partial E(U)/\partial E(r) > 0$, or, conversely, (2) minimizing their total risk at any given rate of expected return, $\partial E(U)/\partial \sigma < 0$. However, in selecting individual assets, investors will not be particularly concerned with the asset's total risk σ. Figure 9-1 showed that the unsystematic portion of total risk can be easily diversified by holding a portfolio of different securities. But, systematic risk affects all stocks in the market because it is undiversifiable. Portfolio theory therefore suggests that only the undiversifiable (or systematic) risk is worth avoiding.[12]

[10]Statements about the relative degree of total risk are made in the context of a long-run horizon—that is, over at least one *complete business cycle*. Obviously, an accurate short-run forecast which says that some particular company will go bankrupt next quarter makes it more risky than IBM, although IBM may have had more historical variability of return.

[11]Empirical studies documenting the intertemporal instability of betas have been published. Marshall Blume, "Betas and Their Regression Tendencies," *Journal of Finance,* June 1975, pp. 785–795. See also J. C. Francis, "Statistical Analysis of Risk Coefficients for NYSE Stocks," *Journal of Financial and Quantitative Analysis,* Dec. 1979, vol. XIV, no. 5, pp. 981–997. An appendix at the end of this chapter reviews some evidence about shifting betas, standard deviations, and correlations.

[12]Both the systematic and unsystematic portions of total risk must be considered by **undiversified investors.** Entrepreneurs who have their entire net worth invested in one business, for example, can be bankrupted by a piece of bad luck that could be easily averaged away to zero in a diversified portfolio. Poorly diversified investors should not treat diversifiable risk lightly. Only well-diversified investors can afford to ignore diversifiable risk.

Southwestern Public Service Company
Summary of Cost of Equity Models Applied to
Proxy Group of Thirty-Eight Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Twelve Electric Companies

Principal Methods		Proxy Group of Thirty-Eight Non-Price Regulated Companies	
Discounted Cash Flow Model (DCF) (1)		12.25	%
Risk Premium Model (RPM) (2)		13.47	
Capital Asset Pricing Model (CAPM) (3)		12.68	
	Mean	12.80	%
	Median	12.68	%
	Average of Mean and Median	12.74	%

Notes:
(1) From page 3 of this Schedule.
(2) From page 4 of this Schedule.
(3) From page 7 of this Schedule.

Southwestern Public Service Company
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Twelve Electric Companies

	[1]	[2]	[3]	[5]	[6]	[7]	[8]
Proxy Group of Thirty-Eight Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
Agilent Technologies	0.67 %	12.00 %	10.00 %	11.74 %	11.25 %	0.71 %	11.96 %
Abbott Labs.	1.74	8.00	5.40	11.00	8.13	1.81	9.94
Assurant Inc.	1.61	15.50	17.50	17.50	16.83	1.75	18.58
Smith (A.O.)	1.91	11.50	9.00	8.00	9.50	2.00	11.50
Air Products & Chem.	2.62	12.00	14.20	11.98	12.73	2.79	15.52
Brown-Forman 'B'	1.04	14.00	NA	9.38	11.69	1.10	12.79
Bristol-Myers Squibb	2.91	NA	6.30	4.90	5.60	2.99	8.59
Broadridge Fin'l	1.86	9.00	NA	11.80	10.40	1.96	12.36
CACI Int'l	-	7.00	6.70	2.40	5.37	-	NA
Chemed Corp.	0.32	7.50	7.80	7.80	7.70	0.33	8.03
Cisco Systems	3.41	8.00	6.50	6.69	7.06	3.53	10.59
CSW Industrials	0.59	11.50	NA	12.00	11.75	0.62	12.37
Danaher Corp.	0.37	17.00	20.00	10.45	15.82	0.40	16.22
Franklin Electric	0.96	12.00	NA	13.40	12.70	1.02	13.72
Alphabet Inc.	-	18.50	11.90	13.65	14.68	-	NA
Ingredion Inc.	2.91	8.00	NA	8.54	8.27	3.03	11.30
J&J Snack Foods	2.00	9.00	NA	NMF	9.00	2.09	11.09
Henry (Jack) & Assoc	1.01	9.00	9.00	14.00	10.67	1.06	11.73
Lockheed Martin	2.66	7.00	5.40	9.60	7.33	2.76	10.09
McCormick & Co.	1.72	5.50	5.30	5.10	5.30	1.77	7.07
Monster Beverage	-	11.50	11.10	14.65	12.42	-	NA
Merck & Co.	3.06	8.00	10.10	11.07	9.72	3.21	12.93
Motorola Solutions	1.39	8.00	9.00	11.42	9.47	1.46	10.93
Oracle Corp.	1.75	9.00	8.00	12.07	9.69	1.83	11.52
Pfizer, Inc.	3.19	6.50	12.50	(1.60)	0.00	3.19	NA
Packaging Corp.	3.54	11.00	5.00	10.14	8.71	3.69	12.40
RLI Corp.	0.92	12.00	NA	9.80	10.90	0.97	11.87
Service Corp. Int'l	1.46	1.00	8.70	12.00	7.23	1.51	8.74
Sherwin-Williams	0.99	11.50	12.00	14.06	12.52	1.05	13.57
Selective Ins. Group	1.38	9.00	5.40	13.40	9.27	1.44	10.71
Sirius XM Holdings	1.39	NMF	9.30	6.29	7.80	1.44	9.24
Sensient Techn.	1.99	2.50	NA	3.80	3.15	2.02	5.17
Thermo Fisher Sci.	0.21	11.00	14.00	8.53	11.18	0.22	11.40
Texas Instruments	2.78	9.00	9.30	10.00	9.43	2.91	12.34
VeriSign Inc.	6.05	11.00	NA	8.00	9.50	6.34	15.84
Waters Corp.	-	6.00	7.70	11.30	8.33	-	NA
Watsco, Inc.	3.34	11.50	NA	15.00	13.25	3.56	16.81
Western Union	5.72	8.00	NA	6.84	7.42	5.93	13.35
						Mean	11.83 %
						Median	11.73 %
						Average of Mean and Median	11.78 %

NA= Not Available
NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the Utility Proxy Group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of August 31, 2022. The dividend yield is then adjusted by 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2022
www.yahoo.com Downloaded on 08/31/2022

Southwestern Public Service Company
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Twelve Electric Companies

	[1]	[2]	[3]	[5]	[6]	[7]	[8]	[9]
Proxy Group of Thirty-Eight Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Mean Common Equity Cost Rate (1)	High Common Equity Cost Rate (1)
Agilent Technologies	0.64 %	12.00 %	10.00 %	11.74 %	11.25 %	0.68 %	11.93 %	12.72 %
Abbott Labs.	1.74	8.00	5.40	11.00	8.13	1.81	9.94	12.93
Assurant Inc.	1.64	15.50	17.50	17.50	16.83	1.78	18.61	19.43
Smith (A.O.)	1.84	11.50	9.00	8.00	9.50	1.93	11.43	13.55
Air Products & Chem.	2.53	12.00	14.20	11.98	12.73	2.69	15.42	17.09
Brown-Forman 'B'	1.00	14.00	NA	9.38	11.69	1.06	12.75	15.14
Bristol-Myers Squibb	2.96	NA	6.30	4.90	5.60	3.04	8.64	9.45
Broadridge Fin'l	1.72	9.00	NA	11.80	10.40	1.81	12.21	13.72
CACI Int'l	-	7.00	6.70	2.40	5.37	-	NA	NA
Chemed Corp.	0.31	7.50	7.80	7.80	7.70	0.32	8.02	8.13
Cisco Systems	3.31	8.00	6.50	6.69	7.06	3.43	10.49	11.57
CSW Industrials	0.53	11.50	NA	12.00	11.75	0.56	12.31	12.59
Danaher Corp.	0.35	17.00	20.00	10.45	15.82	0.38	16.20	20.42
Franklin Electric	0.86	12.00	NA	13.40	12.70	0.91	13.61	14.38
Alphabet Inc.	-	18.50	11.90	13.65	14.68	-	NA	NA
Ingredion Inc.	2.85	8.00	NA	8.54	8.27	2.97	11.24	11.63
J&J Snack Foods	1.92	9.00	NA	NMF	9.00	2.01	11.01	11.09
Henry (Jack) & Assoc	0.96	9.00	9.00	14.00	10.67	1.01	11.68	15.09
Lockheed Martin	2.64	7.00	5.40	9.60	7.33	2.74	10.07	12.49
McCormick & Co.	1.68	5.50	5.30	5.10	5.30	1.72	7.02	7.27
Monster Beverage	-	11.50	11.10	14.65	12.42	-	NA	NA
Merck & Co.	3.08	8.00	10.10	11.07	9.72	3.23	12.95	14.49
Motorola Solutions	1.30	8.00	9.00	11.42	9.47	1.36	10.83	12.87
Oracle Corp.	1.67	9.00	8.00	12.07	9.69	1.75	11.44	13.94
Pfizer, Inc.	3.24	6.50	12.50	(1.60)	9.50	3.39	12.89	16.15
Packaging Corp.	3.56	11.00	5.00	10.14	8.71	3.72	12.43	14.95
RLI Corp.	0.92	12.00	NA	9.80	10.90	0.97	11.87	13.03
Service Corp. Int'l	1.47	1.00	8.70	12.00	7.23	1.52	8.75	13.65
Sherwin-Williams	0.98	11.50	12.00	14.06	12.52	1.04	13.56	15.18
Selective Ins. Group	1.40	9.00	5.40	13.40	9.27	1.46	10.73	14.99
Sirius XM Holdings	1.35	NMF	9.30	6.29	7.80	1.40	9.20	10.78
Sensient Techn.	1.93	2.50	NA	3.80	3.15	1.96	5.11	5.80
Thermo Fisher Sci.	0.21	11.00	14.00	8.53	11.18	0.22	11.40	14.24
Texas Instruments	2.62	9.00	9.30	10.00	9.43	2.74	12.17	12.88
VeriSign Inc.	5.70	11.00	NA	8.00	9.50	5.97	15.47	17.33
Waters Corp.	-	6.00	7.70	11.30	8.33	-	NA	NA
Watsco, Inc.	3.13	11.50	NA	15.00	13.25	3.34	16.59	18.60
Western Union	5.77	8.00	NA	6.84	7.42	5.98	13.40	14.23
						Mean	11.81 %	13.58 %
						Median	11.78 %	13.68 %
					Average of Mean and Median		11.80 %	13.63 %
						Indicated DCF Cost Rate		12.72%

NA= Not Available
NMF= Not Meaningful Figure

(1) The applications of the NM DCF model to the domestic, non-price regulated comparable risk companies is identical to the applications of the NM DCF to the Utility Proxy Group.

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2022
www.yahoo.com Downloaded on 08/31/2022

Southwestern Public Service Company
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Thirty-Eight Non-Price Regulated Companies
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	5.84 %
2.	Adjustment to Reflect Bond rating Difference of Non-Price Regulated Companies (2)	(0.26)
3.	Adjusted Prospective Bond Yield	5.58
4.	Equity Risk Premium (3)	7.89
5.	Risk Premium Derived Common Equity Cost Rate	13.47 %

Notes: (1) Average forecast of Baa corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated September 1, 2022 and June 1, 2022 (see pages 10-11 of Schedule 4). The estimates are detailed below.

Third Quarter 2022	5.30 %
Fourth Quarter 2022	5.70
First Quarter 2023	5.90
Second Quarter 2023	6.00
Third Quarter 2023	6.00
Fourth Quarter 2023	6.00
2024-2028	5.90
2029-2033	5.90
Average	5.84 %

(2) The average yield spread of Baa2 rated corporate bonds over A2 corporate bonds for the three months ending August 2022 . To reflect the Baa1 average rating of the non-utility proxy group, the prosepctive yield on Baa2 corporate bonds must be adjusted by 1/2 of the spread between A2 and Baa2 corporate bond yields as shown below:

	A2 Corp. Bond Yield	Baa2 Corp. Bond Yield	Spread
Aug-22	4.65 %	5.15 %	0.50 %
Jul-22	4.67	5.21	0.54
Jun-22	4.77	5.27	0.50
		Average yield spread	0.51
		1/2 of spread	0.26

(2) From page 6 of this Schedule.

Southwestern Public Service Company
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Thirty-Eight Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Twelve Electric Companies

Proxy Group of Thirty-Eight Non-Price Regulated Companies	Moody's Long-Term Issuer Rating August 2022		Standard & Poor's Long-Term Issuer Rating August 2022	
	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
Agilent Technologies	Baa2	9.0	BBB+	8.0
Abbott Labs.	A1	5.0	AA-	4.0
Assurant Inc.	Baa2	9.0	BBB	9.0
Smith (A.O.)	NA	--	NA	--
Air Products & Chem.	A2	6.0	A	6.0
Brown-Forman 'B'	A1	5.0	A-	7.0
Bristol-Myers Squibb	A2	6.0	A+	5.0
Broadridge Fin'l	Baa1	8.0	BBB+	8.0
CACI Int'l	NA	--	BB+	11.0
Chemed Corp.	WR	--	NR	--
Cisco Systems	A1	5.0	AA-	4.0
CSW Industrials	NA	--	NA	--
Danaher Corp.	Baa1	8.0	A-	7.0
Franklin Electric	NA	--	NA	--
Alphabet Inc.	Aa2	3.0	AA+	2.0
Ingredion Inc.	Baa1	8.0	BBB	9.0
J&J Snack Foods	NA	--	NA	--
Henry (Jack) & Assoc	NA	--	NA	--
Lockheed Martin	A3	7.0	A-	7.0
McCormick & Co.	Baa2	9.0	BBB	9.0
Monster Beverage	NA	--	NA	--
Merck & Co.	A1	5.0	A+	5.0
Motorola Solutions	Baa3	10.0	BBB-	10.0
Oracle Corp.	Baa2 *-	--	BBB *-	--
Pfizer, Inc.	A2	6.0	A+	5.0
Packaging Corp.	Baa2	9.0	BBB	9.0
RLI Corp.	Baa2	9.0	BBB	9.0
Service Corp. Int'l	Ba3	13.0	BB+	11.0
Sherwin-Williams	Baa2	9.0	BBB	9.0
Selective Ins. Group	Baa2	9.0	BBB	9.0
Sirius XM Holdings	NA	--	BB	12.0
Sensient Techn.	WR	--	NR	--
Thermo Fisher Sci.	A3	7.0	A-	7.0
Texas Instruments	Aa3	4.0	A+	5.0
VeriSign Inc.	Baa3	10.0	BBB	9.0
Waters Corp.	NA	--	NA	--
Watsco, Inc.	NA	--	NA	--
Western Union	Baa2	9.0	BBB	9.0
Average	Baa1	7.5	BBB+	7.6

Notes:
(1) From page 6 of Schedule 4.

Source of Information:
Bloomberg Professional Servicess

Southwestern Public Service Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Thirty-Eight Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Twelve Electric Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Thirty-Eight Non-Price Regulated Companies
	Ibbotson-Based Equity Risk Premiums:	
1.	Ibbotson Equity Risk Premium (1)	6.13 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.63
3.	Ibbotson Equity Risk Premium based on PRPM (3)	10.35
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	11.24
5	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	11.83
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	7.86
7.	Conclusion of Equity Risk Premium	9.17 %
8.	Adjusted Beta (7)	0.86
9.	Forecasted Equity Risk Premium	7.89 %

Notes:
(1) From note 1 of page 9 of Schedule 4.
(2) From note 2 of page 9 of Schedule 4.
(3) From note 3 of page 9 of Schedule 4.
(4) From note 4 of page 9 of Schedule 4.
(5) From note 5 of page 9 of Schedule 4.
(6) From note 6 of page 9 of Schedule 4.
(7) Average of mean and median beta from page 7 of this Schedule.

Sources of Information:
Stocks, Bonds, Bills, and Inflation - 2022 SBBI Yearbook, John Wiley & Sons, Inc.
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2022 and June 1, 2022
Bloomberg Professional Servicess

Southwestern Public Service Company
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Twelve Electric Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Thirty-Eight Non-Price Regulated Companies	Value Line Adjusted Beta	Bloomberg Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
Agilent Technologies	0.90	1.03	0.97	10.42 %	3.56 %	13.67 %	13.75 %	13.71 %
Abbott Labs.	0.90	0.78	0.84	10.42	3.56	12.32	12.73	12.52
Assurant Inc.	0.90	0.69	0.79	10.42	3.56	11.80	12.34	12.07
Smith (A.O.)	0.85	1.01	0.93	10.42	3.56	13.25	13.44	13.35
Air Products & Chem.	0.90	0.83	0.87	10.42	3.56	12.63	12.97	12.80
Brown-Forman 'B'	0.90	0.81	0.86	10.42	3.56	12.52	12.89	12.71
Bristol-Myers Squibb	0.85	0.59	0.72	10.42	3.56	11.07	11.80	11.43
Broadridge Fin'l	0.85	0.94	0.89	10.42	3.56	12.84	13.12	12.98
CACI Int'l	0.90	0.74	0.82	10.42	3.56	12.11	12.58	12.34
Chemed Corp.	0.80	0.72	0.76	10.42	3.56	11.48	12.11	11.80
Cisco Systems	0.90	0.91	0.91	10.42	3.56	13.05	13.28	13.16
CSW Industrials	0.85	0.94	0.89	10.42	3.56	12.84	13.12	12.98
Danaher Corp.	0.85	0.93	0.89	10.42	3.56	12.84	13.12	12.98
Franklin Electric	0.90	1.03	0.97	10.42	3.56	13.67	13.75	13.71
Alphabet Inc.	0.90	1.14	1.02	10.42	3.56	14.19	14.14	14.17
Ingredion Inc.	0.95	0.71	0.83	10.42	3.56	12.21	12.66	12.43
J&J Snack Foods	0.90	0.57	0.73	10.42	3.56	11.17	11.87	11.52
Henry (Jack) & Assoc	0.80	0.75	0.78	10.42	3.56	11.69	12.26	11.98
Lockheed Martin	0.95	0.68	0.81	10.42	3.56	12.00	12.50	12.25
McCormick & Co.	0.75	0.73	0.74	10.42	3.56	11.27	11.95	11.61
Monster Beverage	0.90	0.82	0.86	10.42	3.56	12.52	12.89	12.71
Merck & Co.	0.75	0.51	0.63	10.42	3.56	10.13	11.09	10.61
Motorola Solutions	0.90	1.00	0.95	10.42	3.56	13.46	13.59	13.53
Oracle Corp.	0.80	0.89	0.84	10.42	3.56	12.32	12.73	12.52
Pfizer, Inc.	0.80	0.72	0.76	10.42	3.56	11.48	12.11	11.80
Packaging Corp.	0.95	0.76	0.85	10.42	3.56	12.42	12.81	12.62
RLI Corp.	0.80	0.81	0.80	10.42	3.56	11.90	12.42	12.16
Service Corp. Int'l	0.90	0.84	0.87	10.42	3.56	12.63	12.97	12.80
Sherwin-Williams	0.90	0.85	0.87	10.42	3.56	12.63	12.97	12.80
Selective Ins. Group	0.85	0.81	0.83	10.42	3.56	12.21	12.66	12.43
Sirius XM Holdings	0.90	0.76	0.83	10.42	3.56	12.21	12.66	12.43
Sensient Techn.	0.90	1.00	0.95	10.42	3.56	13.46	13.59	13.53
Thermo Fisher Sci.	0.85	0.92	0.89	10.42	3.56	12.84	13.12	12.98
Texas Instruments	0.90	0.97	0.93	10.42	3.56	13.25	13.44	13.35
VeriSign Inc.	0.90	0.97	0.94	10.42	3.56	13.36	13.52	13.44
Waters Corp.	0.90	0.86	0.88	10.42	3.56	12.73	13.05	12.89
Watsco, Inc.	0.85	0.96	0.90	10.42	3.56	12.94	13.20	13.07
Western Union	0.80	0.87	0.84	10.42	3.56	12.32	12.73	12.52
Mean			0.85			12.46 %	12.84 %	12.65 %
Median			0.86			12.52 %	12.89 %	12.71 %
Average of Mean and Median			0.86			12.49 %	12.87 %	12.68 %

Notes:
(1) From note 1 of page 2 of Schedule 5.
(2) From note 2 of page 2 of Schedule 5.
(3) Average of CAPM and ECAPM cost rates.

Southwestern Public Service Company
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.		[1] Market Capitalization on August 31, 2022 (1) (millions)		[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	Southwestern Public Service Company	$ 2,232.037		6	1.18%	
2.	Proxy Group of Twelve Electric Companies	$ 24,871.952	11.1 x	2	0.43%	0.75%
			[A]	[B]	[C]	[D]

	Decile	Market Capitalization of Smallest Company (millions)	Market Capitalization of Largest Company (millions)	Size Premium (Return in Excess of CAPM)*
Largest	1	$ 36,160.584	$ 2,324,390.219	-0.22%
	2	16,759.390	36,099.221	0.43%
	3	8,216.356	16,738.364	0.55%
	4	5,019.883	8,212.638	0.54%
	5	3,281.009	5,003.747	0.89%
	6	2,170.315	3,276.553	1.18%
	7	1,306.402	2,164.524	1.34%
	8	629.118	1,306.038	1.21%
	9	290.002	627.803	2.10%
Smallest	10	10.588	289.007	4.80%

*From 2022 Kroll Cost of Capital Navigator

Notes:

(1) From page 2 of this Schedule.
(2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].
(3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.
(4) Line No. 1 Column [3] – Line No. 2 Column [3]. For example, the 0.75% in Column [4], Line No. 2 is derived as follows 0.75% = 1.18% - 0.43%.

Southwestern Public Service Company
Market Capitalization of Southwestern Public Service Company and the
Proxy Group of Twelve Electric Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2021 (millions)	[2] Book Value per Share at Fiscal Year End 2021 (1)	[3] Total Common Equity at Fiscal Year End 2021 (millions)	[4] Closing Stock Market Price on August 31, 2022	[5] Market-to-Book Ratio on August 31, 2022 (2)	[6] Market Capitalization on August 31, 2022 (3) (millions)
Southwestern Public Service Company		NA	NA	1,105.52 (4)	NA		
Based upon Proxy Group of Twelve Electric Companies						201.9 (5)	$ 2,232.037 (6)
Proxy Group of Twelve Electric Companies							
Alliant Energy Corporation	NASDAQ	250.475	$ 23.915	$ 5,990.000	$ 61.040	255.2 %	$ 15,288.965
Ameren Corporation	NYSE	257.700	37.641	9,700.000	92.620	246.1	23,868.174
American Electric Power Company, Inc.	NASDAQ	504.212	44.492	22,433.200	100.200	225.2	50,522.044
Duke Energy Corporation	NYSE	769.000	61.553	47,334.000	106.910	173.7	82,213.790
Edison International	NYSE	380.378	36.572	13,911.000	67.770	185.3	25,778.227
Entergy Corporation	NYSE	202.653	57.425	11,637.284	115.300	200.8	23,365.912
Evergy, Inc.	NYSE	229.300	40.316	9,244.400	68.530	170.0	15,713.922
IDACORP, Inc.	NYSE	50.516	52.823	2,668.436	109.240	206.8	5,518.420
NorthWestern Corporation	NASDAQ	57.606	40.616	2,339.713	52.980	130.4	3,051.979
OGE Energy Corporation	NYSE	200.500	20.231	4,056.300	40.540	200.4	8,128.270
Portland General Electric Company	NYSE	89.411	30.276	2,707.000	51.670	170.7	4,619.846
Xcel Energy Inc.	NASDAQ	544.025	28.697	15,612.000	74.250	258.7	40,393.876
Average		294.648	$ 39.546	$ 12,302.778	$ 78.421	201.9 %	$ 24,871.952

NA= Not Available

Notes: (1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 1 * Column 4.
(4) Requested rate base multiplied by equity ratio.
(5) The market-to-book ratio of Southwestern Public Service Company on August 31, 2022 is assumed to be equal to the market-to-book ratio of Proxy Group of Twelve Electric Companies on August 31, 2022 as appropriate.
(6) Column [3] multiplied by Column [5].

Source of Information: 2021 Annual Forms 10K
yahoo.finance.com
Bloomberg Professional

Southwestern Public Service Company
RRA Regulatory Rankings for the
Proxy Group of Thirteen Electric Distribution Companies

Operating Company	Parent	State	RRA Regulatory Ranking [1]	RRA Regulatory Ranking [1]
Interstate Power and Light Company	LNT	IA	Above Average / 3	3
Wisconsin Power and Light Company	LNT	WI	Above Average / 2	2
Ameren Illinois Company	AEE	IL	Average / 2	5
Union Electric Company	AEE	MO	Average / 3	6
AEP Texas Central Company	AEP	TX	Average / 3	6
AEP Texas Inc	AEP	TX	Average / 3	6
Appalachian Power Company	AEP	VA	Average / 1	4
Appalachian Power/Wheeling Power	AEP	WV	Below Average / 2	8
Indiana Michigan Power Company	AEP	IN	Average / 1	4
Indiana Michigan Power Company	AEP	MI	Above Average / 3	3
Kentucky Power Company	AEP	KY	Average / 2	5
Kingsport Power Company	AEP	TN	Above Average / 3	3
Ohio Power Company	AEP	OH	Average / 3	6
Public Service Company of Oklahoma	AEP	OK	Average / 2	5
Southwestern Electric Power Company	AEP	AR	Average / 1	4
Southwestern Electric Power Company	AEP	LA	Average / 3	6
Southwestern Electric Power Company	AEP	TX	Average / 3	6
Duke Energy Carolinas, LLC	DUK	NC	Above Average / 3	3
Duke Energy Carolinas, LLC	DUK	SC	Average / 3	6
Duke Energy Florida, LLC	DUK	FL	Above Average / 2	2
Duke Energy Indiana, LLC	DUK	IN	Average / 1	4
Duke Energy Kentucky, Inc.	DUK	KY	Average / 2	5
Duke Energy Ohio, Inc.	DUK	OH	Average / 3	6
Duke Energy Progress, LLC	DUK	NC	Above Average / 3	3
Duke Energy Progress, LLC	DUK	SC	Average / 3	6
Southern California Edison Company	EIX	CA	Average / 2	5
Entergy Arkansas, Inc.	ETR	AR	Average / 1	4
Entergy Gulf States Louisiana, L.L.C.	ETR	LA	Average / 3	6
Entergy Louisiana, LLC	ETR	LA	Average / 3	6
Entergy Mississippi, Inc.	ETR	MS	Above Average / 3	3
Entergy New Orleans, Inc.	ETR	LA	Average / 3	6
Entergy Texas, Inc.	ETR	TX	Average / 3	6
Evergy Metro (formerly KCPL KS)	EVRG	KS	Below Average / 1	7
Evergy Metro (formerly KCPL MO)	EVRG	MO	Average / 3	6
Evergy Missouri West (former KCPL GMO)	EVRG	MO	Average / 3	6
Evergy Kansas Central (formerly Westar KS; includes E	EVRG	KS	Below Average / 1	7
Idaho Power Co.	IDA	ID	Average / 2	5
Idaho Power Co.	IDA	OR	Average / 2	5
NorthWestern Corporation	NWE	MT	Below Average / 1	7
NorthWestern Corporation	NWE	SD	Average / 2	5
Oklahoma Gas and Electric Company	OGE	AR	Average / 1	4
Oklahoma Gas and Electric Company	OGE	OK	Average / 2	5
Portland General Electric Company	POR	OR	Average / 2	5
Alabama Power Company	SO	AL	Above Average / 1	1
Georgia Power Company	SO	GA	Above Average / 2	2
Mississippi Power Company	SO	MS	Above Average / 3	3
Northern States Power Company - MN	XEL	MN	Average / 2	5
Northern States Power Company - MN	XEL	ND	Average / 1	4
Northern States Power Company - MN	XEL	SD	Average / 2	5
Northern States Power Company - WI	XEL	MI	Above Average / 3	3
Northern States Power Company - WI	XEL	WI	Above Average / 2	2
Public Service Company of Colorado	XEL	CO	Average / 1	4
Southwestern Public Service Company	XEL	NM	Below Average / 2	8
Southwestern Public Service Company	XEL	TX	Average / 3	6

Proxy Group Company	Parent	Average Rank	Average Rank
Alliant Energy Corporation	LNT	Above Average / 3	2.50
Ameren Corporation	AEE	Average / 3	5.50
American Electric Power	AEP	Average / 2	5.08
Duke Energy Corporation	DUK	Average / 1	4.38
Edison International	EIX	Average / 2	5.00
Entergy Corporation	ETR	Average / 2	5.17
Evergy Inc.	EVRG	Below Average / 1	6.50
IDACORP Inc.	IDA	Average / 2	5.00
Northwestern Corp	NWE	Average / 3	6.00
OGE Energy Corp	OGE	Average / 2	4.50
Portland General Energy Company	POR	Average / 2	5.00
Southern Company	SO	Above Average / 2	2.00
Xcel Energy Inc.	XEL	Average / 2	4.63
Proxy Group Average		Average / 2	4.71
New Mexico		Below Average / 2	2.00

Sources:
[1] Regulatory Research Associates, as of September 23, 2022

Southwestern Public Service Company
S&P Global Ratings Regulatory Rankings for the
Proxy Group of Thirteen Electric Distribution Companies

Operating Company	Parent	State	S&P Regulatory Ranking [1]	S&P Regulatory Ranking [1]
Interstate Power and Light Company	LNT	IA	Most Credit Supportive	5
Wisconsin Power and Light Company	LNT	WI	Most Credit Supportive	5
Ameren Illinois Company	AEE	IL	Very Credit Supportive	3
Union Electric Company	AEE	MO	Very Credit Supportive	3
AEP Texas Central Company	AEP	TX	Very Credit Supportive	3
AEP Texas Inc	AEP	TX	Very Credit Supportive	3
Appalachian Power Company	AEP	VA	Highly Credit Supportive	4
Appalachian Power/Wheeling Power	AEP	WV	Very Credit Supportive	3
Indiana Michigan Power Company	AEP	IN	Highly Credit Supportive	4
Indiana Michigan Power Company	AEP	MI	Most Credit Supportive	5
Kentucky Power Company	AEP	KY	Most Credit Supportive	5
Kingsport Power Company	AEP	TN	Highly Credit Supportive	4
Ohio Power Company	AEP	OH	Very Credit Supportive	3
Public Service Company of Oklahoma	AEP	OK	More Credit Supportive	2
Southwestern Electric Power Company	AEP	AR	Highly Credit Supportive	4
Southwestern Electric Power Company	AEP	LA	Highly Credit Supportive	4
Southwestern Electric Power Company	AEP	TX	Very Credit Supportive	3
Duke Energy Carolinas, LLC	DUK	NC	Highly Credit Supportive	4
Duke Energy Carolinas, LLC	DUK	SC	More Credit Supportive	2
Duke Energy Florida, LLC	DUK	FL	Most Credit Supportive	5
Duke Energy Indiana, LLC	DUK	IN	Highly Credit Supportive	4
Duke Energy Kentucky, Inc.	DUK	KY	Most Credit Supportive	5
Duke Energy Ohio, Inc.	DUK	OH	Very Credit Supportive	3
Duke Energy Progress, LLC	DUK	NC	Highly Credit Supportive	4
Duke Energy Progress, LLC	DUK	SC	More Credit Supportive	2
Southern California Edison Company	EIX	CA	More Credit Supportive	2
Entergy Arkansas, Inc.	ETR	AR	Highly Credit Supportive	4
Entergy Gulf States Louisiana, L.L.C.	ETR	LA	Highly Credit Supportive	4
Entergy Louisiana, LLC	ETR	LA	Highly Credit Supportive	4
Entergy Mississippi, Inc.	ETR	MS	More Credit Supportive	2
Entergy New Orleans, Inc.	ETR	LA	Highly Credit Supportive	4
Entergy Texas, Inc.	ETR	TX	Very Credit Supportive	3
Evergy Metro (formerly KCPL KS)	EVRG	KS	Highly Credit Supportive	4
Evergy Metro (formerly KCPL MO)	EVRG	MO	Very Credit Supportive	3
Evergy Missouri West (former KCPL GMO)	EVRG	MO	Very Credit Supportive	3
Evergy Kansas Central (formerly Westar KS; includes E	EVRG	KS	Highly Credit Supportive	4
Idaho Power Co.	IDA	ID	Very Credit Supportive	3
Idaho Power Co.	IDA	OR	Highly Credit Supportive	4
NorthWestern Corporation	NWE	MT	More Credit Supportive	2
NorthWestern Corporation	NWE	SD	Very Credit Supportive	3
Oklahoma Gas and Electric Company	OGE	AR	Highly Credit Supportive	4
Oklahoma Gas and Electric Company	OGE	OK	More Credit Supportive	2
Portland General Electric Company	POR	OR	Highly Credit Supportive	4
Alabama Power Company	SO	AL	Most Credit Supportive	5
Georgia Power Company	SO	GA	Highly Credit Supportive	4
Mississippi Power Company	SO	MS	More Credit Supportive	2
Northern States Power Company - MN	XEL	MN	Highly Credit Supportive	4
Northern States Power Company - MN	XEL	ND	Highly Credit Supportive	4
Northern States Power Company - MN	XEL	SD	Very Credit Supportive	3
Northern States Power Company - WI	XEL	MI	Most Credit Supportive	5
Northern States Power Company - WI	XEL	WI	Most Credit Supportive	5
Public Service Company of Colorado	XEL	CO	Very Credit Supportive	3
Southwestern Public Service Company	XEL	NM	Credit Supportive	1
Southwestern Public Service Company	XEL	TX	Very Credit Supportive	3

Proxy Group Company	Parent	Average Rank	Average Rank
Alliant Energy Corporation	LNT	Most Credit Supportive	5.00
Ameren Corporation	AEE	Very Credit Supportive	3.00
American Electric Power	AEP	Highly Credit Supportive	3.62
Duke Energy Corporation	DUK	Highly Credit Supportive	3.63
Edison International	EIX	More Credit Supportive	2.00
Entergy Corporation	ETR	Highly Credit Supportive	3.50
Evergy Inc.	EVRG	Highly Credit Supportive	3.50
IDACORP Inc.	IDA	Highly Credit Supportive	3.50
Northwestern Corp	NWE	Very Credit Supportive	2.50
OGE Energy Corp	OGE	Very Credit Supportive	3.00
Portland General Energy Company	POR	Highly Credit Supportive	4.00
Southern Company	SO	Highly Credit Supportive	3.67
Xcel Energy Inc.	XEL	Highly Credit Supportive	3.50
Proxy Group Average		Very Credit Supportive	3.42
New Mexico		Credit Supportive	1.00

Sources:
[1] S&P Global Ratings, *Views on North American Utility Regulatory Jurisdictions May Foreshadow Future Credit Trends* , November 4, 2021

Northern States Power Company
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

Equity Issuances

Date of Offering	Transaction (1)	[Column 1] Shares Issued (1)	[Column 2] Market Price per Share (1)	[Column 3] Average Offering Price per Share (1)	[Column 4] Underwriting Discount (1)	[Column 5] Total Offering Expense per Share (1)	[Column 6] Net Proceeds per Share (2)	[Column 7] Total Flotation Costs (3)	[Column 8] Gross Equity Issue before Costs (4)	[Column 9] Net Proceeds (5)	[Column 10] Flotation Cost Percentage (6)
11/16/1949	Northern States Power	1,584,238	$10.75	$10.25	$0.12	$0.137	$ 9.9890	$ 1,205,605	$ 17,030,559	$ 15,824,953	7.079%
6/4/1952	Northern States Power	1,108,966	$10.50	$10.50	$0.10	$0.162	$ 10.2400	$ 288,331	$ 11,644,143	$ 11,355,812	2.476%
4/14/1954	Northern States Power	1,219,856	$15.25	$14.00	$0.06	$0.124	$ 13.8160	$ 1,749,274	$ 18,602,804	$ 16,853,530	9.403%
2/29/1956	Northern States Power	670,920	$17.83	$16.75	$0.05	$0.221	$ 16.4790	$ 903,058	$ 11,959,149	$ 11,056,091	7.551%
7/22/1959	Northern States Power	952,033	$23.38	$22.00	$0.07	$0.191	$ 21.7400	$ 1,556,574	$ 22,253,771	$ 20,697,197	6.995%
7/28/1965	Northern States Power	772,008	$35.25	$33.00	$0.09	$0.225	$ 32.6830	$ 1,981,745	$ 27,213,282	$ 25,231,537	7.282%
1/22/1969	Northern States Power	1,080,811	$29.00	$27.00	$0.12	$0.187	$ 26.6940	$ 2,492,350	$ 31,343,519	$ 28,851,169	7.952%
10/21/1970	Northern States Power	1,729,298	$23.13	$21.50	$0.18	$0.149	$ 21.1760	$ 3,370,402	$ 39,990,016	$ 36,619,614	8.428%
7/26/1972	Northern States Power	1,902,228	$25.00	$23.50	$0.13	$0.166	$ 23.2050	$ 3,414,499	$ 47,555,700	$ 44,141,201	7.180%
10/10/1973	Northern States Power	2,092,451	$25.83	$24.50	$0.13	$0.153	$ 24.2190	$ 3,360,476	$ 54,037,547	$ 50,677,071	6.219%
11/20/1974	Northern States Power	2,300,000	$17.63	$17.50	$0.91	$0.069	$ 16.5210	$ 2,539,200	$ 40,537,500	$ 37,998,300	6.264%
8/14/1975	Northern States Power	1,750,000	$23.00	$23.00	$0.74	$0.077	$ 22.1830	$ 1,429,750	$ 40,250,000	$ 38,820,250	3.552%
6/3/1976	Northern States Power	2,000,000	$24.00	$24.00	$0.72	$0.064	$ 23.2160	$ 1,568,000	$ 48,000,000	$ 46,432,000	3.267%
5/31/1993	Northern States Power	3,041,955	$44.13	$43.63	$1.20	$0.048	$ 42.3770	$ 5,317,337	$ 134,226,264	$ 128,908,927	3.961%
9/23/1997	Northern States Power	4,500,000	$49.94	$49.56	$1.23	$0.133	$ 48.2000	$ 7,821,000	$ 224,721,000	$ 216,900,000	3.480%
9/29/1997	Northern States Power	400,000	$50.50	$49.56	$1.23	$0.133	$ 48.2000	$ 920,000	$ 20,200,000	$ 19,280,000	4.554%
2/25/2002	Xcel Energy, Inc.	20,000,000	$22.95	$22.50	$0.73	$0.015	$ 21.7550	$ 23,900,000	$ 459,000,000	$ 435,100,000	5.207%
9/9/2008	Xcel Energy, Inc.	17,250,000	$20.86	$20.20	$0.10	$0.006	$ 20.0937	$ 13,218,352	$ 359,835,000	$ 346,616,648	3.673%
8/3/2010	Xcel Energy, Inc.	21,850,000	$22.10	$21.50	$0.65	$0.013	$ 20.5710	$ 33,407,927	$ 482,885,000	$ 449,477,073	6.918%
March 2013	Xcel Energy, Inc.	7,757,449	$29.06	$29.06	$0.29	$0.052	$ 28.7143	$ 2,657,558	$ 225,407,642	$ 222,750,085	1.179%
June 2014	Xcel Energy, Inc.	5,693,946	$30.66	$30.66	$0.31	$0.030	$ 30.3264	$ 1,915,210	$ 174,592,340	$ 172,677,130	1.097%
September 2018	Xcel Energy, Inc.	4,733,435	$47.89	$47.89	$0.41	$0.073	$ 47.4054	$ 2,271,040	$ 226,661,287	$ 224,390,247	1.002%
8/29/2019	Xcel Energy, Inc.	9,359,103	$48.42	$48.42	$0.16	$0.041	$ 48.2147	$ 1,886,029	$ 453,132,797	$ 451,246,767	0.416%
11/30/2020	Xcel Energy, Inc.	11,845,000	$60.86	$60.86	$0.66	$0.025	$ 60.1750	$ 8,168,737	$ 720,941,187	$ 712,772,450	1.133%
Nov-Dec 2021	Xcel Energy, Inc.	5,325,674	$65.63	$65.63	$0.56	$0.038	$ 65.0292	$ 3,175,377	$ 349,499,767	$ 346,324,389	0.909%
May 2022	Xcel Energy, Inc.	1,032,571	$72.63	$72.63	$0.62	$0.047	$ 71.9700	$ 685,896	$ 75,000,034	$ 74,314,138	0.915%
June 2022	Xcel Energy, Inc.	1,098,042	$68.30	$68.30	$0.58	$0.000	$ 67.7228	$ 637,499	$ 74,999,936	$ 74,362,437	0.850%
	Total Public Issuances							$ 131,841,226	$ 4,391,520,245	$ 4,259,679,019	3.002%
	Total Non-Public Issuances							$ -	$ 1,724,487,000	$ 1,724,487,000	0.000%
	Total Issuances							$ 131,841,226	$ 6,116,007,245	$ 5,984,166,019	2.156%

Flotation Cost Adjustment

	[Column 11] Average Dividend Yield (7)	[Column 12] Average Projected EPS Growth Rate (7)	[Column 13] Adjusted Dividend Yield (8)	[Column 14] Average DCF Cost Rate Unadjusted for Flotation (9)	[Column 15] DCF Cost Rate Adjusted for Flotation (10)	[Column 16] Flotation Cost Adjustment (11)
Proxy Group of Thirteen Electric Companies	3.45 %	5.02 %	3.54 %	8.56 %	8.64 %	0.08 %

Notes:
1 Company provided
2 Col. 3 - Col. 4 - Col. 5
3 (Col. 2 - Col. 6) x Col. 1
4 Col. 1 x Col. 2
5 Col. 1 x Col. 6
6 Col. 7 / Col. 8
7 Attachment__(DWD-1), Schedule 3
8 Col. 11 x (1 + 0.5 x Col. 12)
9 Col. 12 + Col. 13
10 (Col. 13 / (1 - Col. 10)) + Col. 12
11 Col. 15 - Col. 14

Attachment__(DWD-1)
Schedule 12
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