

Direct Testimony and Schedules  
Dylan W. D'Ascendis

Before the North Dakota Public Service Commission  
State of North Dakota

In the Matter of the Application of Northern States Power Company  
for Authority to Increase Rates for Natural Gas Service in North Dakota

Case No. PU-21-\_\_\_\_  
Exhibit\_\_\_\_(DWD-1)

**Rate of Return**

September 1, 2021

## Table of Contents

I.	Introduction and Purpose	1
II.	Summary	3
III.	General Principles	7
	A. Business Risk	11
	B. Financial Risk	13
IV.	NSP and the Utility Proxy Group	14
V.	Capital Structure	19
VI.	Cost of Long- and Short-Term Debt	26
VII.	Common Equity Cost Rate Models	28
	A. Discounted Cash Flow Market	30
	B. The Risk Premium Model	33
	1. Predictive Risk Premium Model	34
	2. Total Market Approach Risk Premium Model	38
	C. The Capital Asset Pricing Model	52
	D. Common Equity Cost Rates for a Proxy Group of Domestic, Non-Price Regulated Companies Based on the DCF, RPM, and CAPM	59
VIII.	Conclusion of Common Equity Cost Analytical Results before Adjustments	63
IX.	Adjustments to the Common Equity Cost Rate	64
	A. Business Risk Adjustment	64
	B. Credit Risk Adjustment	74
	C. Flotation Costs	75
X.	Conclusion	77

## Schedules

- Schedule 1: Summary of Overall Cost of Capital and Return on Equity
- Schedule 2: Financial Profile of the Company and Derivation of Requested Capital Structure
- Schedule 3: Financial Profile and Capital Structures of the Utility Proxy Group
- Schedule 4: Derivation of Long and Short-Term Debt Cost Rates
- Schedule 5: Application of the Discounted Cash Flow Model
- Schedule 6: Application of the Risk Premium Model
- Schedule 7: Application of the Capital Asset Pricing Model
- Schedule 8: Basis of Selection for the Non-Price Regulated Companies Comparable in Total Risk to the Utility Proxy Group
- Schedule 9: Application of Cost of Common Equity Models to the Non-Price Regulated Proxy Group
- Schedule 10: Derivation of Business Risk Adjustment
- Schedule 11: Utility Proxy Group Capital Expenditures to Net Plant
- Schedule 12: Derivation of Flotation Cost Adjustment

1 **I. INTRODUCTION AND PURPOSE**

2

3 Q. PLEASE STATE YOUR NAME, AFFILIATION, AND BUSINESS ADDRESS.

4 A. My name is Dylan W. D’Ascendis. I am employed by ScottMadden, Inc.  
5 as Partner. My business address is 3000 Atrium Way, Suite 200, Mount  
6 Laurel, NJ 08054.

7

8 Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

9 A. I am submitting this direct testimony (referred to throughout as my Direct  
10 Testimony) before the North Dakota Public Service Commission  
11 (Commission) on behalf of Northern States Power, a Minnesota  
12 corporation (NSP or the Company).

13

14 Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND  
15 EDUCATIONAL BACKGROUND.

16 A. I have offered expert testimony on behalf of investor-owned utilities  
17 before 30 state regulatory commissions in the United States, the Federal  
18 Energy Regulatory Commission (FERC), the Alberta Utility Commission,  
19 and one American Arbitration Association panel on issues including, but  
20 not limited to, common equity cost rate, rate of return, valuation, capital  
21 structure, class cost of service, and rate design.

22

23 On behalf of the American Gas Association (AGA), I calculate the AGA  
24 Gas Index, which serves as the benchmark against which the performance  
25 of the American Gas Index Fund (AGIF) is measured on a monthly basis.  
26 The AGA Gas Index and AGIF are a market capitalization weighted index

1 and mutual fund, respectively, comprised of the common stocks of the  
2 publicly traded corporate members of the AGA.

3  
4 I am a member of the Society of Utility and Regulatory Financial Analysts  
5 (SURFA). In 2011, I was awarded the professional designation “Certified  
6 Rate of Return Analyst” by SURFA, which is based on education,  
7 experience, and the successful completion of a comprehensive written  
8 examination.

9  
10 I am also a member of the National Association of Certified Valuation  
11 Analysts (NACVA) and was awarded the professional designation  
12 “Certified Valuation Analyst” by NACVA in 2015.

13  
14 I am a graduate of the University of Pennsylvania, where I received a  
15 Bachelor of Arts degree in Economic History. I have also received a  
16 Master of Business Administration with high honors and concentrations  
17 in Finance and International Business from Rutgers University.

18  
19 The details of my educational background and expert witness appearances  
20 are shown in Appendix A.

21  
22 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

23 A. The purpose of my testimony is to present evidence on behalf of the  
24 Company and recommend a weighted average cost of capital (WACC) to  
25 be used in setting rates in this proceeding. My testimony first provides a  
26 summary of financial theory and regulatory principles pertinent to the

1 development of the recommended cost of capital. I then present evidence  
2 and analysis on: (1) the appropriate capital structure, (2) the appropriate  
3 cost of long- and short-term debt, and (3) the appropriate return on  
4 common equity (ROE) on the Company's North Dakota jurisdictional  
5 rate base.

6  
7 Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR  
8 RECOMMENDATION?

9 A. Yes. I have prepared Exhibit\_\_(DWD-1), which contains Schedules 1  
10 through 12, and was prepared by me or under my direction.

11  
12 **II. SUMMARY**

13  
14 Q. WHAT IS YOUR RECOMMENDATION REGARDING THE WACC FOR THE  
15 COMPANY IN THIS PROCEEDING?

16 A. I recommend that the Commission authorize the Company the  
17 opportunity to earn a WACC of 7.45% on its North Dakota-jurisdictional  
18 rate base. My recommendation is based on the Company's forecasted  
19 capital structure for the test year ending December 31, 2022 that consists  
20 of 47.03% long-term debt at a forecasted cost rate of 4.10%, 0.43% short-  
21 term debt at a forecasted cost rate of 1.09%, and 52.54% common equity  
22 at my recommended ROE of 10.50%. Those capital structure ratios and  
23 cost rates result in a return on investor-supplied capital of 7.45%,  
24 summarized on page 1 of Exhibit\_\_(DWD-1), Schedule 1 and in Table  
25 1 below:  
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**Table 1**  
**Summary of Recommended Weighted Average Cost of Capital**

<b>Type of Capital</b>	<b>Ratios</b>	<b>Cost Rate</b>	<b>Weighted Cost Rate</b>
Long-Term Debt	47.03%	4.10%	1.93%
Short-Term Debt	0.43%	1.09%	0.00%
Common Equity	52.54%	10.50%	5.52%
Total	100.00%		7.45%

Q. PLEASE SUMMARIZE YOUR RECOMMENDED ROE.

A. My recommended ROE of 10.50% is summarized on page 2 of Exhibit\_\_\_(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*<sup>1</sup> and *Bluefield*<sup>2</sup> decisions, which I discuss further in Section III, below. Of course, no proxy group can be identical in risk to any single company. Consequently, there must 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.

My recommendation results from applying and considering several cost of common equity models, specifically the Constant Growth Discounted Cash Flow (DCF) model, the Risk Premium Model (RPM), and the Capital

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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*).

1 Asset Pricing Model (CAPM), to the market data of the Utility Proxy  
 2 Group whose selection criteria will be discussed below. In addition, I  
 3 applied these same models to a Non-Price Regulated Proxy Group. The  
 4 results derived from these analyses are as follows:

5 **Table 2**  
 6 **Summary of Common Equity Cost Rates<sup>3</sup>**

7	Discounted Cash Flow Model	9.44%
8	Risk Premium Model	10.96%
9	Capital Asset Pricing Model	11.75%
10	Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	<u>12.42%</u>
11	Indicated Range of Common Equity Cost Rates Before Adjustments	9.44% - 12.42%
12	Business Risk Adjustment	0.50%
13	Credit Risk Adjustment	-0.04%
14	Flotation Cost Adjustment	0.14%
15	Indicated Range of Common Equity Cost Rates after Adjustment	<u>10.04% - 13.02%</u>
16	Recommended Cost of Common Equity	<u>10.50%</u>
17		

18  
 19 The indicated range of common equity cost rates applicable to the Utility  
 20 Proxy Group is between 9.44% and 12.42% before any Company-specific  
 21 adjustments. I then adjusted the indicated common equity cost rate  
 22 upward by 0.50% to reflect the Company's greater relative business risk  
 23 and downward by 0.04% to account for a less risky bond rating, as  
 24 compared to the Utility Proxy Group. I also adjusted the indicated  
 25 common equity cost rate upward by 0.14% to account for flotation costs.<sup>4</sup>

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

1 These adjustments resulted in a Company-specific indicated range of  
2 common equity cost rates between 10.04% and 13.02%.

3

4 The wide range of model results may reflect increased uncertainty related  
5 to the COVID-19 pandemic and unknown timeframe for when economic  
6 conditions will normalize as vaccinations ramp up and the public health  
7 crises subsides. Because of this uncertainty, I recommend an ROE for  
8 the Company toward the lower end of my Company-specific range,  
9 specifically 10.50%.

10

11 Q. PLEASE SUMMARIZE YOUR RECOMMENDATION WITH RESPECT TO THE  
12 COMPANY'S CAPITAL STRUCTURE.

13 A. As mentioned briefly above, I recommend a capital structure including  
14 52.54% common equity, 47.03% long-term debt, and 0.43% short-term  
15 debt. That capital structure is consistent with the Company's historical  
16 capital structures, the capital structures of the Utility Proxy Group, and  
17 the operating subsidiary companies of the Utility Proxy Group.

18

19 Q. PLEASE SUMMARIZE YOUR RECOMMENDATION WITH RESPECT TO THE  
20 COMPANY'S COST OF LONG-TERM AND SHORT-TERM DEBT.

21 A. I recommend a cost of long-term debt of 4.10% and a cost of short-term  
22 debt of 1.09% as will be discussed in detail below.

23

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

25 A. The remainder of my Direct Testimony is organized as follows:

- 1 • *Section III* – Provides a summary of financial theory and regulatory  
2 principles pertinent to the development of the Cost of Capital;
- 3 • *Section IV* – Explains my selection of the Utility Proxy Group used to  
4 develop my analytical results;
- 5 • *Section V* – Explains the proposed capital structure;
- 6 • *Section VI* – Explains my selection of the Utility Proxy Group used to  
7 develop my analytical results;
- 8 • *Section VII* – Describes the analyses on which my recommendation is  
9 based;
- 10 • *Section VIII* – Summarizes my common equity cost rate before  
11 adjustments to reflect Company-specific factors;
- 12 • *Section IX* – Explains my adjustments to my common equity cost rate to  
13 reflect the Company-specific factors; and
- 14 • *Section X* – Presents my conclusions.

15

### 16 **III. GENERAL PRINCIPLES**

17

18 Q. WHAT PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR  
19 RECOMMENDATIONS?

20 A. In unregulated industries, marketplace competition is the principal  
21 determinant of the price of products or services. For regulated public  
22 utilities, regulation must act as a substitute for marketplace competition.  
23 Assuring that the utility can fulfill its obligations to the public, while  
24 providing safe and reliable service at all times, requires a level of earnings  
25 sufficient to maintain the integrity of presently invested capital. Sufficient

1 earnings also permit the attraction of needed new capital at a reasonable  
2 cost, for which the utility must compete with other firms of comparable  
3 risk, consistent with the fair rate of return standards established by the  
4 U.S. Supreme Court in the previously cited *Hope* and *Bluefield* cases.

5  
6 The U.S. Supreme Court affirmed the fair rate of return standards in *Hope*,  
7 when it stated:

8 The rate-making process under the Act, *i.e.*, the fixing of ‘just and  
9 reasonable’ rates, involves a balancing of the investor and the  
10 consumer interests. Thus we stated in the Natural Gas Pipeline  
11 Co. case that ‘regulation does not insure that the business shall  
12 produce net revenues.’ 315 U.S. at page 590, 62 S.Ct. at page 745.  
13 But such considerations aside, the investor interest has a  
14 legitimate concern with the financial integrity of the company  
15 whose rates are being regulated. From the investor or company  
16 point of view it is important that there be enough revenue not  
17 only for operating expenses but also for the capital costs of the  
18 business. These include service on the debt and dividends on the  
19 stock. Cf. *Chicago & Grand Trunk R. Co. v. Wellman*, 143 U.S.  
20 339, 345, 346 12 S.Ct. 400,402. By that standard the return to the  
21 equity owner should be commensurate with returns on  
22 investments in other enterprises having corresponding risks.  
23 That return, moreover, should be sufficient to assure confidence  
24 in the financial integrity of the enterprise, so as to maintain its  
25 credit and to attract capital.<sup>5</sup>

26 In summary, the U.S. Supreme Court has found a return that is adequate  
27 to attract capital at reasonable terms enables the utility to provide service  
28 while maintaining its financial integrity. As discussed above, and in  
29 keeping with established regulatory standards, that return should be

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5 *Hope*, 320 U.S. 591 (1944), at 603.

1 commensurate with the returns expected elsewhere for investments of  
2 equivalent risk. The Commission's decision in this proceeding, therefore,  
3 should provide the Company with the opportunity to earn a return that is:  
4 (1) adequate to attract capital at reasonable cost and terms; (2) sufficient  
5 to ensure its financial integrity; and (3) commensurate with returns on  
6 investments in enterprises having corresponding risks.

7  
8 Lastly, the required return for a regulated public utility is established on a  
9 stand-alone basis, i.e., for the utility operating company at issue in a rate  
10 case. Parent entities, like other investors, have capital constraints and  
11 must look at the attractiveness of the expected risk-adjusted return of each  
12 investment alternative in their capital budgeting process. That is, utility  
13 holding companies that own many utility operating companies have  
14 choices as to where they will invest their capital within the holding  
15 company family. Therefore, the opportunity cost concept applies  
16 regardless of whether the funding source is public or corporate.

17  
18 When funding is provided by a parent entity, the return still must be  
19 sufficient to provide an incentive to allocate equity capital to the subsidiary  
20 or business unit rather than other internal or external investment  
21 opportunities. That is, the regulated subsidiary must compete for capital  
22 with all the parent company's affiliates, and with other similar risk  
23 companies, which may include non-utilities. In that regard, investors  
24 value corporate entities on a sum-of-the-parts basis and expect each  
25 division within the parent company to provide an appropriate risk-  
26 adjusted return.

1 It therefore is important that the authorized ROE for the Company  
2 reflects the risks and prospects of its operations and supports its financial  
3 integrity from a stand-alone perspective.  
4

5 Q. WITHIN THAT BROAD FRAMEWORK, HOW IS THE COST OF CAPITAL  
6 ESTIMATED IN REGULATORY PROCEEDINGS?

7 A. Regulated utilities primarily use common stock and long-term debt to  
8 finance their permanent property, plant, and equipment (*i.e.*, rate base).  
9 The fair rate of return for a regulated utility is based on its WACC, in  
10 which, as noted earlier, the costs of the individual sources of capital are  
11 weighted by their respective book values.  
12

13 The cost of capital is the return investors require to make an investment  
14 in a firm. Investors will provide funds to a firm only if the return that  
15 they *expect* is equal to, or greater than, the return that they *require* to accept  
16 the risk of providing funds to the firm.  
17

18 The cost of capital (that is, the combination of the costs of debt and  
19 equity) is based on the economic principle of “opportunity costs.” The  
20 principle of opportunity costs recognizes that investing in any asset  
21 (whether debt or equity securities) represents a forgone opportunity to  
22 invest in alternative assets. For any investment to be sensible, its expected  
23 return must be at least equal to the return expected on alternative  
24 investment opportunities with comparable risks. Because investments  
25 with like risks should offer similar returns, the opportunity cost of an

1 investment should equal the return available on an investment of  
2 comparable risk.

3 The cost of debt is contractually defined and can be directly observed as  
4 the interest rate or yield on debt securities. However, the cost of equity  
5 must be estimated based on market data and various financial models.  
6 Because the cost of equity is premised on opportunity costs, the models  
7 used to determine it are typically applied to a group of “comparable” or  
8 “proxy” companies.

9  
10 In the end, the estimated cost of capital should reflect the return that  
11 investors require in light of the subject company’s business and financial  
12 risks, and the returns available on comparable investments.

13

14 **A. Business Risk**

15 Q. PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT FOR  
16 DETERMINING A FAIR RATE OF RETURN.

17 A. The investor-required return on common equity reflects investors’  
18 assessment of the total investment risk of the subject firm. Total  
19 investment risk is often discussed in the context of business and financial  
20 risk.

21

22 Business risk reflects the uncertainty associated with owning a company’s  
23 common stock without the company’s use of debt and/or preferred stock  
24 financing. One way of considering the distinction between business and  
25 financial risk is to view the former as the uncertainty of the expected

1 earned return on common equity, assuming the firm is financed with no  
2 debt.

3  
4 Examples of business risks generally faced by utilities include, but are not  
5 limited to, the regulatory environment, mandatory environmental  
6 compliance requirements, customer mix and concentration of customers,  
7 service territory economic growth, market demand, operations, capital  
8 intensity, size, the degree of operating leverage, emerging technologies  
9 including distributed energy resources, the vagaries of weather, and the  
10 like, all of which have a direct bearing on earnings.

11  
12 Although analysts, including rating agencies, may categorize business risks  
13 individually, as a practical matter, such risks are interrelated and not wholly  
14 distinct from one another. When determining an appropriate return on  
15 common equity, the relevant issue is where investors see the subject  
16 company in relation to other similarly situated utility companies (i.e., the  
17 Utility Proxy Group). To the extent investors view a company as being  
18 exposed to higher risk, the required return will increase, and vice versa.

19  
20 For regulated utilities, business risks are both long-term and near-term in  
21 nature. Whereas near-term business risks are reflected in year-to-year  
22 variability in earnings and cash flow brought about by economic or  
23 regulatory factors, long-term business risks reflect the prospect of an  
24 impaired ability of investors to obtain both a fair rate of return on, and  
25 return of, their capital. Moreover, because utilities accept the obligation  
26 to provide safe, adequate, and reliable service at all times (in exchange for

1 a reasonable opportunity to earn a fair return on their investment), they  
2 generally do not have the option to delay, defer, or reject capital  
3 investments. Because those investments are capital-intensive, utilities  
4 generally do not have the option to avoid raising external funds. The  
5 obligation to serve and the corresponding need to access capital is even  
6 more acute during periods of capital market distress.

7  
8 Because utilities invest in long-lived assets, long-term business risks are of  
9 paramount concern to equity investors. That is, the risk of not recovering  
10 the return on their investment extends far into the future. The timing and  
11 nature of events that may lead to losses, however, also are uncertain and,  
12 consequently, those risks and their implications for the required return on  
13 equity tend to be difficult to quantify. Regulatory commissions (like  
14 investors who commit their capital) must review a variety of quantitative  
15 and qualitative data and apply their reasoned judgment to determine how  
16 long-term risks weigh in their assessment of the market-required return  
17 on common equity.

18  
19 **B. Financial Risk**

20 Q. PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT IN  
21 DETERMINING A FAIR RATE OF RETURN.

22 A. Financial risk is the additional risk created by the introduction of debt and  
23 preferred stock into the capital structure. The higher the proportion of  
24 debt and preferred stock in the capital structure, the higher the financial  
25 risk to common equity owners (*i.e.*, failure to receive dividends due to  
26 default or other covenants). Therefore, consistent with the basic financial

1 principle of risk and return, common equity investors require higher  
2 returns as compensation for bearing higher financial risk.

3  
4 Q. CAN BOND AND CREDIT RATINGS BE A PROXY FOR A FIRM'S COMBINED  
5 BUSINESS AND FINANCIAL RISKS TO EQUITY OWNERS (I.E., TOTAL  
6 INVESTMENT RISK)?

7 A. Yes, similar bond ratings/issuer credit ratings reflect, and are  
8 representative of, similar combined business and financial risks (*i.e.*, total  
9 investment risk) faced by bond investors.<sup>6</sup> Although specific business or  
10 financial risks may differ between companies, the same bond/credit rating  
11 indicates that the combined risks are roughly similar from a debtholder  
12 perspective. The caveat is that these debtholder risk measures do not  
13 translate directly to risks for common equity.

#### 14 15 **IV. NSP AND THE UTILITY PROXY GROUP**

16  
17 Q. WHY IS IT NECESSARY TO DEVELOP A PROXY GROUP WHEN ESTIMATING  
18 THE ROE FOR THE COMPANY?

19 A. Because the Company is not publicly traded and does not have publicly  
20 traded equity securities, it is necessary to develop groups of publicly  
21 traded, comparable companies to serve as “proxies” for the Company. In  
22 addition to the analytical necessity of doing so, the use of proxy companies

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6 Risk distinctions within Standard and Poor's (S&P) 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.

1 is consistent with the *Hope* and *Bluefield* comparable risk standards, as  
2 discussed above. I have selected two proxy groups that, in my view, are  
3 fundamentally risk-comparable to the Company: A Utility Proxy Group  
4 and a Non-Price Regulated Proxy Group, which is comparable in total  
5 risk to the Utility Proxy Group.<sup>7</sup>

6  
7 Even when proxy groups are carefully selected, it is common for analytical  
8 results to vary from company to company. Despite the care taken to  
9 ensure comparability, because no two companies are identical, market  
10 expectations regarding future risks and prospects will vary within the  
11 proxy group. It therefore is common for analytical results to reflect a  
12 seemingly wide range, even for a group of similarly situated companies.  
13 At issue is how to estimate the ROE from within that range. That  
14 determination will be best informed by employing a variety of sound  
15 analyses and necessarily must consider the sort of quantitative and  
16 qualitative information discussed throughout my Direct Testimony.  
17 Additionally, a relative risk analysis between the Company and the Utility  
18 Proxy Group must be made to determine whether or not explicit  
19 Company-specific adjustments need to be made to the Utility Proxy  
20 Group indicated results.

21  
22 My analyses are based on the Utility Proxy Group, containing U.S. natural  
23 gas utilities. As discussed earlier, utilities must compete for capital with  
24 other companies with commensurate risk (including non-utilities) and, to

---

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

1 do so, must be provided the opportunity to earn a fair and reasonable  
2 return. Consequently, it is appropriate to consider the Utility Proxy  
3 Group's market data in determining the Company's ROE.  
4

5 Q. PLEASE SUMMARIZE THE COMPANY'S OPERATIONS.

6 A. NSP is a vertically integrated electric and natural gas utility that provides  
7 electric generation, transmission, and distribution service, as well as  
8 natural gas distribution service to approximately 1,500,000 retail electric  
9 customers and 600,000 natural gas customers in North Dakota,  
10 Minnesota, and South Dakota.<sup>8</sup> The operations that are subject to the  
11 Commission's jurisdiction provides natural gas service to approximately  
12 60,000 retail customers in North Dakota.<sup>9</sup> The Company has long-term  
13 issuer ratings of A2 from Moody's Investor Services (Moody's) and A-  
14 from Standard & Poor's (S&P).<sup>10</sup> The Company is not publicly-traded as  
15 it is an operating subsidiary of Xcel Energy Inc. (XEI or the Parent). XEI  
16 is publicly-traded under ticker symbol XEL.  
17

18 Page 1 of Exhibit\_\_\_(DWD-1), Schedule 2 contains comparative  
19 capitalization and financial statistics for the Company for the years 2016  
20 to 2020.<sup>11</sup> During the five-year period ending 2020, the historically  
21 achieved average earnings rate on book common equity for the Company  
22 averaged 9.15%. The average common equity ratio based on total capital

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8 Xcel Energy, SEC Form 10-K at 9 (Dec. 31, 2020).

9 *2020 Reports of Regulated Earnings for Xcel Energy's North Dakota Electric and Natural Gas Operations*, Case  
No. PU-21-159, April 30, 2021, at S-1.

10 Source: S&P Global Market Intelligence.

11 Source: Company audited financial statements per the as-filed Form 10-Ks.

1 (including short-term debt) was 52.36%, and the average dividend payout  
2 ratio was 86.42%.

3  
4 Total debt to earnings before interest, taxes, depreciation, and  
5 amortization for the years 2016 to 2020 ranges between 3.09 and 3.69  
6 times, with an average of 3.38 times. Funds from operations to total debt  
7 range from 15.52% to 31.94%, with an average of 22.67%.<sup>12</sup>

8  
9 Q. PLEASE EXPLAIN HOW YOU CHOSE THE COMPANIES IN THE UTILITY  
10 PROXY GROUP.

11 A. Because the Cost of Equity is a comparative exercise, my objective in  
12 developing a proxy group was to select companies that are comparable to  
13 the Company. Because the Company is a 100% rate regulated natural gas  
14 utility, I applied the following criteria to select my Utility Proxy Group:

- 15 (i) They were included in the Natural Gas Utility Group of *Value*  
16 *Line Investment Survey* (Standard Edition)(*Value Line*);
- 17 (ii) They have 60% or greater of fiscal year 2020 total operating  
18 income derived from, and 60% or greater of fiscal year 2020 total  
19 assets attributable to, regulated natural gas distribution  
20 operations;
- 21 (iii) At the time of preparation of this testimony, they had not publicly  
22 announced that they were involved in any major merger or  
23 acquisition activity (*i.e.*, one publicly-traded utility merging with  
24 or acquiring another) or any other major development;

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12 Source: Company audited financial statements per the as filed Form 10-Ks.

- 1 (iv) They have not cut or omitted their common dividends during the  
2 five years ending 2020 or through the time of preparation of this  
3 testimony;
- 4 (v) They have *Value Line* and Bloomberg Professional Services  
5 (Bloomberg) adjusted Betas;
- 6 (vi) They have positive *Value Line* five-year dividends per share (DPS)  
7 growth rate projections; and
- 8 (vii) They have *Value Line*, Zacks, or Yahoo! Finance consensus five-  
9 year earnings per share (EPS) growth rate projections.

10 The following seven companies met these criteria:

11

12

### Table 3

13

#### Utility Proxy Group Companies

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15

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Company Name	Ticker Symbol
Atmos Energy Corporation	ATO
New Jersey Resources Corporation	NJR
Northwest Natural Holding Company	NWN
ONE Gas, Inc.	OGS
South Jersey Industries, Inc.	SJI
Southwest Gas Holdings, Inc.	SWX
Spire Inc.	SR

1 Q. PLEASE SUMMARIZE THE UTILITY PROXY GROUP'S HISTORICAL  
2 CAPITALIZATION AND FINANCIAL STATISTICS.

3 A. Page 1 of Exhibit\_\_\_(DWD-1), Schedule 3 contains comparative  
4 capitalization and financial statistics for the Utility Proxy Group for the  
5 years 2016 to 2020.

6  
7 During the five-year period ending 2020, the historically achieved average  
8 earnings rate on book common equity for the group averaged 8.97%, the  
9 average common equity ratio based on total capital (including short-term  
10 debt) was 47.69% , and the average dividend payout ratio was 64.57%.

11 Total debt to earnings before interest, taxes, depreciation, and  
12 amortization for the years 2016 to 2020 ranges between 4.00 and 7.72  
13 times, with an average of 5.61 times. Funds from operations to total debt  
14 range from 13.18% to 23.75%, with an average of 17.96%. Given that  
15 those capitalization and financial statistics are generally consistent with the  
16 Company's, I conclude the Utility Proxy Group is comparable in risk to  
17 the Company.

18

## 19 V. CAPITAL STRUCTURE

20

21 Q. HOW DOES THE CAPITAL STRUCTURE AFFECT THE RATE OF RETURN?

22 A. As discussed above, there are two general categories of risk: business risk  
23 and financial risk. The capital structure relates to a company's financial  
24 risk, which represents the risk that a company may not have adequate cash  
25 flows to meet its financial obligations, and is a function of the percentage  
26 of debt (or financial leverage) in its capital structure. In that regard, as the

1 percentage of debt in the capital structure increases, so do the fixed  
2 obligations for the repayment of that debt. Consequently, as the degree  
3 of financial leverage increases, the risk of financial distress (*i.e.*, financial  
4 risk) also increases.<sup>13</sup> In essence, even if two firms face the same business  
5 risks, a company with meaningfully higher levels of debt in its capital  
6 structure is likely to have a higher cost of both debt and equity. Since the  
7 capital structure can affect the subject company's overall level of risk, it is  
8 an important consideration in establishing a just and reasonable rate of  
9 return.

10

11 Q. IS THERE SUPPORT FOR THE PROPOSITION THAT THE CAPITAL STRUCTURE  
12 IS A KEY CONSIDERATION IN ESTABLISHING AN APPROPRIATE RATE OF  
13 RETURN?

14 A. Yes. The Supreme Court and various utility commissions have long  
15 recognized the role of capital structure in the development of a just and  
16 reasonable rate of return for a regulated utility. In particular, a utility's  
17 leverage, or debt ratio, has been explicitly recognized as an important  
18 element in determining a just and reasonable rate of return:

19 Although the determination of whether bonds or stocks should  
20 be issued is for management, the matter of debt ratio is not  
21 exclusively within its province. Debt ratio substantially affects  
22 the manner and cost of obtaining new capital. It is therefore an  
23 important factor in the rate of return and must necessarily be  
24 considered by and come within the authority of the body charged  
25 by law with the duty of fixing a just and reasonable rate of  
26 return.<sup>14</sup>

---

13 See, Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 45-46. (Morin).

14 *New England Telephone & Telegraph Co. v. State*, 98 N.H. 211, 97 A.2d 213, (1953) (citing *New England Tel.*

1 Perhaps ultimate authority for balancing the issues of cost and financial  
2 integrity is found in the Supreme Court’s statement in *Hope*: “The rate-  
3 making process under the Act, i.e., the fixing of ‘just and reasonable’ rates,  
4 involves a balancing of the investor and the consumer interests”.<sup>15</sup>

5  
6 And as the U.S. Court of Appeals, District of Columbia Circuit found in  
7 *Communications Satellite Corp. et. al. v. FCC*: “The equity investor’s stake is  
8 made less secure as the company’s debt rises, but the consumer rate-  
9 payer’s burden is alleviated”.<sup>16</sup>

10 That is, the U.S. Court of Appeals, District of Columbia Circuit found that  
11 because there is a relationship between the capital structure and the cost  
12 of equity, investor and consumer interests must be balanced.  
13 Consequently, the principles of fairness and reasonableness with respect  
14 to the allowed rate of return and capital structure are considered at both  
15 the federal and state levels.

16  
17 Q. PLEASE SUMMARIZE THE COMPONENTS OF THE COMPANY’S  
18 RECOMMENDED CAPITAL STRUCTURE AND WACC.

19 A. The Company’s proposed test year capital structure includes long-term  
20 debt, short-term debt, and common equity. The Company’s proposed  
21 revenue requirement for the test year reflects a WACC of 7.45%, as shown  
22 on Exhibit\_\_(DWD-1), Schedule 1, page 1 and Table 1, above.

23  

---

<sup>15</sup> *El. Tel. Co. v. Department of Pub. Util.*, 327 Mass. 81, 97 N.E. 2d 509, 514 (1951)); *see also Petitions of New*  
<sup>16</sup> *England Tel. & Tel. Co.* 116 Vt. 480, 80 A2d 671, 685-86 (1951).  
*Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S., at 603 (1944).  
*Communications Satellite Corp. et. al. v. FCC*, 198 U.S. App. D.C. 60, 63-64611 F.2d 883.

1 Q. DOES THE COMPANY HAVE A SEPARATE CAPITAL STRUCTURE THAT IS  
2 RECOGNIZED BY INVESTORS?

3 A. Yes. The Company is a separate corporate entity that has its own capital  
4 structure and issues its own debt with the Securities and Exchange  
5 Commission. That being said, the North Dakota jurisdictional operations'  
6 capital structure is an allocated portion of the Company's capital structure.  
7

8 Q. WHY IS IT IMPORTANT THAT THE COMPANY'S RECOMMENDED CAPITAL  
9 STRUCTURE BE AUTHORIZED IN THIS PROCEEDING?

10 A. As a preliminary matter, the Company's recommended capital structure is  
11 comparable to its historical capital structure, and is within a reasonable  
12 range from the perspective of the Utility Proxy Group companies.<sup>17</sup> The  
13 use of an operating subsidiary's capital structure is consistent with the  
14 FERC's precedent, under which they use the applicant's capital structure,  
15 where possible.<sup>18</sup> In particular, the FERC will use the utility operating  
16 company's capital structure if it meets three criteria: (1) it issues its own  
17 debt without guarantees; (2) it has its own bond rating; and (3) it has a  
18 capital structure within the range of capital structures approved by the  
19 commission.<sup>19</sup> The Company meets all of these criteria.  
20

21 Importantly, in order to provide safe, reliable, and affordable service to its  
22 customers, the Company must meet the needs and serve the interests of  
23 its various stakeholders, including customers, shareholders, and

---

17 Exhibit\_\_(DWD-1), Schedule 3.

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

19 148 FERC ¶ 61,049 Docket No. EL14-12-000, at 190.

1 bondholders. The interests of these stakeholder groups are aligned when  
2 the Company maintains a healthy balance sheet, strong credit ratings, and  
3 a supportive regulatory environment, ensuring it has access to capital on  
4 reasonable terms in order to make necessary investments.

5  
6 Safe and reliable service cannot be maintained at a reasonable cost if  
7 utilities do not have the financial flexibility and strength to access  
8 competitive financing markets on reasonable terms. The authorization of  
9 a capital structure that understates the Company's actual common equity  
10 will weaken the financial condition of its operations and adversely impact  
11 the Company's ability to address expenses and investment, to the  
12 detriment of customers and shareholders. Safe and reliable service for  
13 customers cannot be sustained over the long term if the interests of  
14 shareholders and bondholders are minimized such that the public interest  
15 is not optimized.

16  
17 Consequently, the Company's recommended capital structure should be  
18 used to set rates in this proceeding.

19  
20 Q. WHAT METHODOLOGY DID THE COMPANY USE TO DEVELOP BALANCES  
21 FOR THE VARIOUS COMPONENTS OF CAPITAL STRUCTURE?

22 A. The Company's methodology to develop its balances for the various  
23 components of capital structure is as follows:

- 24 • Long-term debt balances are based on the average of forecasted  
25 month-end balances for the 12 months ending December 2022,

1 and include forecasted long-term debt issuances and retirements  
2 during that period;

- 3 • Short-term debt balances are based on the average of forecasted  
4 month-end balances for the 12 months ending December 2022;  
5 and
- 6 • Common equity balances represent the average of forecasted 13  
7 month-end equity balances from December 2021 through  
8 December 2022. The common equity balance averages the  
9 accounting month-end balances consistent with Generally  
10 Accepted Accounting Principles (GAAP) and eliminates the  
11 non-regulated investments.

12

13 The derivation of the balances of long-term debt, short-term debt, and  
14 common equity for the Company's proposed capital structure is presented  
15 on Exhibit\_\_(DWD-1), Schedule 2, page 2.

16

17 Q. HOW DOES THE COMPANY'S REQUESTED TEST YEAR CAPITAL STRUCTURE  
18 COMPARE WITH ITS RECENT CAPITAL STRUCTURES?

19 A. The requested test year capital structure is highly consistent with NSP's  
20 historical capital structures. As shown on Exhibit\_\_(DWD-1), Schedule  
21 2, page 1, the common equity ratios for years 2016 through 2020 range  
22 from 52.08% to 52.67%, averaging 52.36%.

23

1 Q. HOW DOES NSP'S RECOMMENDED COMMON EQUITY RATIO OF 52.54%  
2 COMPARE WITH THE COMMON EQUITY RATIOS MAINTAINED BY THE  
3 UTILITY PROXY GROUP?

4 A. The Company's requested ratemaking common equity ratio of 52.54% is  
5 reasonable and consistent with the range of common equity ratios  
6 maintained by the Utility Proxy Group. In order to assess the  
7 reasonableness of the Company's requested ratemaking common equity  
8 ratio, I reviewed the actual common equity ratios maintained by the  
9 companies within the Utility Proxy Group.<sup>20</sup> As shown on page 2 of  
10 Exhibit\_\_(DWD-1), Schedule 3, common equity ratios of the utilities  
11 range from 32.16% to 59.98% for fiscal year 2020. The Company's  
12 recommended equity ratio of 52.54% falls within this range and  
13 demonstrates both the reasonableness of using it to set rates and the  
14 Company's relative financial health. Setting the WACC as requested by  
15 the Company will continue to support the long-term financial health of  
16 the Company for the benefit of all of its stakeholders, including North  
17 Dakota customers.

18  
19 I also considered *Value Line's* projected capital structures for the Utility  
20 Proxy Group for 2023-2025. That analysis shows a range of projected  
21 common equity ratios between 39.50% and 60.00%.<sup>21</sup>

22  
23 In addition to comparing the Company's ratemaking common equity ratio  
24 with common equity ratios currently and expected to be maintained by

---

20 The development of the Utility Proxy Group is described more fully in Section VI.  
21 Exhibit\_\_(DWD-1), Schedule 5, at 2-8.

1 the Utility Proxy Group (*i.e.*, at the holding company level), I also  
2 compared the Company's ratemaking common equity ratio with the equity  
3 ratios maintained by the operating subsidiaries of the Utility Proxy Group  
4 companies. As shown on page 3 of Exhibit\_\_\_(DWD-1), Schedule 3,  
5 common equity ratios of the operating utility subsidiaries of the Utility  
6 Proxy Group range from 40.43% to 58.75% for fiscal year 2020.

7  
8 Q. IS THE COMPANY'S PROPOSED EQUITY RATIO OF 52.54% APPROPRIATE  
9 FOR RATEMAKING PURPOSES GIVEN THE RANGE OF THE UTILITY PROXY  
10 GROUP?

11 A. Yes, it is. The Company's proposed equity ratio of 52.54% is appropriate  
12 for ratemaking purposes in the current proceeding because it aligns with  
13 its historical capital structure and it is well within industry norms.

14  
**VI. COST OF LONG- AND SHORT-TERM DEBT**

15  
16 Q. HOW IS THE COMPANY PROPOSING TO SET ITS COST OF DEBT?

17 A. The Company is proposing to use its expected cost of debt for the test year.

18  
19 Q. HOW WAS THE PROPOSED COST OF LONG-TERM DEBT DETERMINED?

20 A. As shown on Exhibit\_\_\_(DWD-1), Schedule 4, page 1, the overall 4.10%  
21 cost of long-term debt for the test year includes the actual and forecasted  
22 coupon rate on all bonds expected to be outstanding for each month of

1 the test year.<sup>22</sup> In addition to the interest expense, the cost of long-term  
2 debt also includes actual amortization expense for debt issuance costs,  
3 discounts or premiums, losses on reacquired debt, gains and losses from  
4 hedging transactions, and the annual amortization of the upfront fees  
5 associated with the Company's multi-year credit agreement.

6  
7 Q. HOW WAS THE COMPANY'S RECOMMENDED TEST YEAR SHORT-TERM  
8 DEBT COST CALCULATED?

9 A. The 1.09% cost of short-term debt in the test year included: (1) 0.31%  
10 actual interest expense for commercial paper, and (2) 0.78% actual  
11 monthly financing fee associated with the Company's June 2019  
12 "Amended and Restated Credit Agreement" for its participation in the  
13 credit facility, which provides the back-up liquidity required for its  
14 commercial paper program.

15  
16 Q. HAVE YOU ANALYZED THE COMPANY'S COST OF LONG-TERM DEBT FOR  
17 REASONABLENESS?

18 A. Yes, I have. To test the reasonableness of the Company's proposed long-  
19 term debt cost, I reviewed the yield on equivalent debt at the time of  
20 issuance. As shown in Exhibit\_\_\_(DWD-1), Schedule 4, page 3, I  
21 compared the cost of each individual issuance to the Bloomberg Fair  
22 Value Curves for A-rated and BBB-rated utility debt at the time of the  
23 issuance. The expected cost of long-term debt based on the Bloomberg

---

22 The 4.10% cost of long-term debt includes forecasted interest rates for the 2021 and 2022 planned issuances. The forecast used for capital structure and cost of debt purposes was the Company's February forecast and precedes NSP's issuance of \$825 million on March 30, 2021. As such, the 4.10% cost of long-term debt includes forecasted interest rates for the aforementioned years.

1 Fair Value Curves for A-rated and BBB-rated utility debt ranges from  
2 4.19% to 4.57%, respectively, indicating that its 4.10% proposed cost of  
3 long-term debt is reasonable.

4  
5 Q. HAVE YOU ANALYZED THE COMPANY'S COST OF SHORT-TERM DEBT FOR  
6 REASONABLENESS?

7 A. To determine the reasonableness of the proposed short-term debt rate, I  
8 reviewed the expected cost of short-term debt, based on the one-year  
9 Bloomberg Fair Value Curves for A-rated and BBB-rated utility debt in  
10 2020. The cost of one-year A-rated utility debt ranged from 0.26% to  
11 2.39%, with an average of 0.84% and the cost of one-year BBB-rated  
12 utility debt ranged from 0.33% to 3.46%, with an average of 1.02%. As  
13 such, the proposed cost of short-term debt of 1.09% is reasonable.

14  
15 Q. GIVEN THE ABOVE, IS THE COMPANY'S OVERALL COST OF DEBT  
16 REASONABLE?

17 A. Yes.

18  
19 **VII. COMMON EQUITY COST RATE MODELS**

20  
21 Q. IS IT IMPORTANT THAT COST OF COMMON EQUITY MODELS BE MARKET-  
22 BASED?

23 A. Yes. As discussed previously, regulated public utilities, like the  
24 Company, must compete for equity in capital markets along with all other  
25 companies with commensurate risk, including non-utilities. The cost of

1 common equity is thus determined based on equity market expectations  
2 for the returns of those companies. If an individual investor is choosing  
3 to invest their capital among companies with comparable risk, they will  
4 choose the company providing a higher return over a company providing  
5 a lower return.

6  
7 Q. ARE THE COST OF COMMON EQUITY MODELS YOU USE MARKET-BASED  
8 MODELS?

9 A. Yes. The DCF model is market-based in that market prices are used in  
10 developing the dividend yield component of the model. The RPM and  
11 CAPM are also market-based in that the bond/issuer ratings and expected  
12 bond yields/risk-free rate used in the application of the RPM and CAPM  
13 reflect the market's assessment of bond/credit risk. In addition, the use  
14 of the Beta coefficient to determine the equity risk premium also reflects  
15 the market's assessment of market/systematic risk, as Beta coefficients are  
16 derived from regression analyses of market prices. Moreover, market  
17 prices are used in the development of the monthly returns and equity risk  
18 premiums used in the Predictive Risk Premium Model (PRPM). Selection  
19 criteria for the Non-Price Regulated Proxy Group are based on regression  
20 analyses of market prices and reflect the market's assessment of total risk.

21  
22 Q. WHAT ANALYTICAL APPROACHES DID YOU USE TO DETERMINE THE  
23 COMPANY'S ROE?

24 A. As discussed earlier, I have relied on the DCF model, the RPM, and the  
25 CAPM, which I apply to the Utility Proxy Group described above. I also

1 applied these same models to a Non-Price Regulated Proxy Group  
2 described later in this section.

3  
4 I rely on multiple models because reasonable investors use a variety of  
5 tools and do not rely exclusively on a single source of information or single  
6 model. Moreover, the specific models on which I rely focus on different  
7 aspects of return requirements, and provide different insights into  
8 investors' views of risk and return. The DCF model, for example,  
9 estimates the investor-required return assuming a constant expected  
10 dividend yield and growth rate in perpetuity, while Risk Premium-based  
11 methods (*i.e.*, the RPM and CAPM approaches) provide the ability to  
12 reflect investors' views of risk, future market returns, and the relationship  
13 between interest rates and the Cost of Equity. Just as the use of market  
14 data for the Utility Proxy Group adds the reliability necessary to inform  
15 expert judgment in arriving at a recommended common equity cost rate,  
16 the use of multiple generally accepted common equity cost rate models  
17 also adds reliability and accuracy when arriving at a recommended  
18 common equity cost rate.

19  
20 **A. Discounted Cash Flow Model**

21 Q. PLEASE DESCRIBE THE DCF MODEL GENERALLY.

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

1 from the cash flows received from dividends and market price  
2 appreciation. Mathematically, the expected dividend yield on market price  
3 plus a growth rate equals the capitalization rate; *i.e.*, the total common  
4 equity return rate expected by investors, as shown in Equation [1] below:  
5

$$6 \quad K_e = (D_0 (1+g))/P + g$$

7 where:

8  $K_e$  = the required Return on Equity;

9  $D_0$  = the annualized Dividend Per Share;

10  $P$  = the current stock price; and

11  $g$  = the growth rate.  
12

13 Q. WHICH VERSION OF THE DCF MODEL DID YOU USE?

14 A. I used the single-stage constant growth DCF model.  
15

16 Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN APPLYING THE  
17 CONSTANT GROWTH DCF MODEL.

18 A. The unadjusted dividend yields are based on the proxy companies'  
19 dividends as of May 28, 2021 divided by the average closing market price  
20 for the 60 trading days ended May 28, 2021.<sup>23</sup>  
21

22 Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO THE DIVIDEND YIELD.

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

---

23 <sup>23</sup> See, Column 1, page 1 of Exhibit\_\_\_\_(DWD-1), Schedule 5.

1 DCF theory calls for using the full growth rate, or  $D_1$ , in calculating the  
2 model's dividend yield component. Since the companies in the Utility  
3 Proxy Group increase their quarterly dividends at various times during the  
4 year, a conservative assumption is to reflect one-half the annual dividend  
5 growth rate rather than the full growth rate in the dividend yield  
6 component, or  $D_{1/2}$ . Because the dividend should be representative of the  
7 next 12-month period, this adjustment is a conservative approach that  
8 does not overstate the dividend yield. Therefore, the actual average  
9 dividend yields in Column 1, page 1 of Exhibit\_\_\_\_(DWD-1), Schedule 5  
10 have been adjusted upward to reflect one-half the average projected  
11 growth rate shown in Column 6.

12  
13 Q. PLEASE EXPLAIN THE BASIS FOR THE GROWTH RATES YOU APPLY IN YOUR  
14 CONSTANT GROWTH DCF MODEL.

15 A. Investors with more limited resources than institutional investors are likely  
16 to rely on widely available financial information services, such as *Value*  
17 *Line*, *Zacks*, and *Yahoo! Finance*. Investors realize that analysts have  
18 significant insight into the dynamics of the industries and individual  
19 companies they analyze, as well as companies' abilities to effectively  
20 manage the effects of changing laws and regulations, and ever-changing  
21 economic and market conditions. For these reasons, I used analysts' five-  
22 year forecasts of EPS growth in my DCF analysis.

23  
24 Over the long run, there can be no growth in DPS without growth in EPS.  
25 Security analysts' earnings expectations have a more significant influence  
26 on market prices than dividend expectations. Thus, using projected

1 earnings growth rates in a DCF analysis provides a better match between  
2 investors' market price appreciation expectations and the growth rate  
3 component of the DCF.  
4

5 Q. PLEASE SUMMARIZE THE CONSTANT GROWTH DCF MODEL RESULTS.

6 A. As shown on page 1 of Exhibit\_\_\_(DWD-1), Schedule 5, the application  
7 of the Constant Growth DCF model to the Utility Proxy Group results in  
8 a wide range of indicated ROEs from 8.06% to 11.66%. The mean of  
9 those results is 9.57%, the median result is 9.30%, and the average of the  
10 mean and median results is 9.44%. In arriving at a conclusion of the  
11 indicated common equity cost rate for the Utility Proxy Group implied by  
12 the Constant Growth DCF model, I relied on an average of the mean and  
13 the median results (*i.e.*, 9.44%) of the DCF. By doing so, I have  
14 considered the DCF results for each company without giving undue  
15 weight to outliers on either the high or the low side.  
16

## 17 **B. The Risk Premium Model**

18 Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.

19 A. The RPM is based on the fundamental financial principle of risk and  
20 return; namely, that investors require greater returns for bearing greater  
21 risk. The RPM recognizes that common equity capital has greater  
22 investment risk than debt capital, as common equity shareholders are  
23 behind debt holders in any claim on a company's assets and earnings. As  
24 a result, investors require higher returns from common stocks than from  
25 bonds to compensate them for bearing the additional risk.  
26

1 While it is possible to directly observe bond returns and yields, investors'  
2 required common equity returns cannot be directly determined or  
3 observed. According to RPM theory, one can estimate a common equity  
4 risk premium over bonds (either historically or prospectively), and use that  
5 premium to derive a cost rate of common equity. The cost of common  
6 equity equals the expected cost rate for long-term debt capital, plus a risk  
7 premium over that cost rate, to compensate common shareholders for the  
8 added risk of being unsecured and last-in-line for any claim on the  
9 corporation's assets and earnings upon liquidation.

10

11 Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF COMMON  
12 EQUITY BASED ON THE RPM.

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

19

20 1. *Predictive Risk Premium Model*

21 Q. PLEASE EXPLAIN THE PRPM.

22 A. The PRPM, published in the *Journal of Regulatory Economics*,<sup>24</sup> was developed  
23 from the work of Robert F. Engle, who shared the Nobel Prize in

---

24 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.

1 Economics in 2003 “for methods of analyzing economic time series with  
2 time-varying volatility” or ARCH.<sup>25</sup> Engle found that volatility changes  
3 over time and is related from one period to the next, especially in financial  
4 markets. Engle discovered that volatility of prices and returns clusters  
5 over time and is therefore highly predictable and can be used to predict  
6 future levels of risk and risk premiums. That is, historical volatility can be  
7 used to predict future volatility, which then can be translated to a predicted  
8 equity risk premium.

9  
10 The PRPM estimates the risk-return relationship directly, as the predicted  
11 equity risk premium is generated by predicting volatility or risk. The  
12 PRPM is not based on an estimate of investor behavior, but rather on an  
13 evaluation of the results of that behavior (*i.e.*, the variance of historical  
14 equity risk premiums).

15  
16 The inputs to the model are the historical returns on the common shares  
17 of each Utility Proxy Group company minus the historical monthly yield  
18 on long-term U.S. Treasury securities through May 2021. Using a  
19 generalized form of ARCH, known as GARCH, I calculated each Utility  
20 Proxy Group company’s projected equity risk premium using Eviews<sup>®</sup>  
21 statistical software. When the GARCH model is applied to the historical  
22 return data, it produces a predicted GARCH variance series<sup>26</sup> and a  
23 GARCH coefficient.<sup>27</sup> Multiplying the predicted monthly variance by the

---

25 Autoregressive conditional heteroscedasticity; *See also*, [www.nobelprize.org](http://www.nobelprize.org).  
26 Illustrated on Columns 1 and 2, page 2 of Exhibit\_\_\_(DWD-1), Schedule 6.  
27 Illustrated on Column 4, page 2 of Exhibit\_\_\_(DWD-1), Schedule 6.

1 GARCH coefficient and then annualizing it<sup>28</sup> produces the predicted  
2 annual equity risk premium. I then added the forecasted 30-year U.S.  
3 Treasury bond yield of 2.88%<sup>29</sup> to each company's PRPM-derived equity  
4 risk premium to arrive at an indicated cost of common equity. The 30-  
5 year U.S. Treasury bond yield is a consensus forecast derived from *Blue*  
6 *Chip Financial Services (Blue Chip)*.<sup>30</sup> The mean PRPM indicated common  
7 equity cost rate for the Utility Proxy Group is 11.67%, the median is  
8 11.19%, and the average of the two is 11.43%. Consistent with my  
9 reliance on the average of the median and mean results of the DCF  
10 models, I relied on the average of the mean and median results of the  
11 Utility Proxy Group PRPM to calculate a cost of common equity rate of  
12 11.43%.

13

14 Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.

15 A. As shown in Exhibit\_\_\_\_(DWD-1), Schedules 6 and 7, the risk-free rate  
16 adopted for applications of the RPM and CAPM is 2.88%. This risk-free  
17 rate is based on the average of the *Blue Chip* consensus forecast of the  
18 expected yields on 30-year U.S. Treasury bonds for the six quarters ending  
19 with the third calendar quarter of 2022, and long-term projections for the  
20 years 2023 to 2027 and 2028 to 2033.

21

---

28 Annualized Return = (1 + Monthly Return) ^12 - 1  
29 See, Column 6, page 2 of Exhibit\_\_\_\_(DWD-1), Schedule 6.  
30 *Blue Chip Financial Forecasts (Blue Chip)*, June 1, 2021 at 2, 14.

1 Q. WHY DO YOU USE THE PROJECTED 30-YEAR TREASURY YIELD IN YOUR  
2 ANALYSES?

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

11

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

15 The traditional thinking regarding the time horizon of the chosen  
16 Treasury security is that it should match the time horizon of  
17 whatever is being valued. When valuing a business that is being  
18 treated as a going concern, the appropriate Treasury yield should  
19 be that of a long-term Treasury bond. Note that the horizon is a  
20 function of the investment, not the investor. If an investor plans  
21 to hold stock in a company for only five years, the yield on a five-  
22 year Treasury note would not be appropriate since the company  
23 will continue to exist beyond those five years.<sup>31</sup>

24 Morin also confirms this when he states:

25 [b]ecause common stock is a long-term investment and  
26 because the cash flows to investors in the form of dividends  
27 last indefinitely, the yield on very long-term government

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31 Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook, at 44.

1           bonds, namely, the yield on 30-year Treasury bonds, is the  
2           best measure of the risk-free rate for use in the CAPM  
3           (footnote omitted)... The expected common stock return is  
4           based on long-term cash flows, regardless of an individual's  
5           holding time period.<sup>32</sup>

6           Pratt and Grabowski recommend a similar approach to selecting the risk-  
7           free rate: “[i]n theory, when determining the risk-free rate and the  
8           matching ERP you should be matching the risk-free security and the ERP  
9           with the period in which the investment cash flows are expected.”<sup>33</sup>  
10          Similarly, a 2004 paper titled *Applying The Capital Asset Pricing Model* by  
11          Robert Harris reviews current practices for application of the CAPM and,  
12          when summarizing best current practices, concludes “[t]he risk-free rate  
13          should match the tenor of the cash flows being valued.”<sup>34</sup>

14  
15          As a practical matter, equity securities represent a perpetual claim on cash  
16          flows; 30-year Treasury bonds are the longest-maturity securities available  
17          to approximate that perpetual claim. Thus, the use of a 30-year Treasury  
18          bond yield is a more appropriate risk-free rate as it more accurately reflects  
19          the life of the assets it finances.

20  
21                           2.       *Total Market Approach Risk Premium Model*

22    Q.    PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.

23    A.    The total market approach RPM adds a prospective public utility bond  
24          yield to an average of: 1) an equity risk premium that is derived from a

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32    Morin, at 151.

33    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.

34    Paper cited with permission of author.

1 Beta-adjusted total market equity risk premium, 2) an equity risk premium  
2 based on the S&P Utilities Index, and 3) an equity risk premium based on  
3 authorized ROEs for natural gas utilities.  
4

5 Q. PLEASE EXPLAIN HOW YOU DETERMINED THE EXPECTED BOND YIELD,  
6 APPLICABLE TO THE UTILITY PROXY GROUP.

7 A. The first step in the total market approach RPM analysis is to determine  
8 the expected bond yield. Because both ratemaking and the cost of capital,  
9 including the common equity cost rate, are prospective in nature, a  
10 prospective yield on similarly-rated long-term debt is essential. Because I  
11 am unaware of any publication that provides forecasted public utility bond  
12 yields, I relied on a consensus forecast of about 50 economists of the  
13 expected yield on Aaa-rated corporate bonds for the six calendar quarters  
14 ending with the third calendar quarter of 2022, and *Blue Chip's* long-term  
15 projections for 2023 to 2027, and 2028 to 2032. As shown on line 1, page  
16 3 of Exhibit\_\_\_(DWD-1), Schedule 6, the average expected yield on  
17 Moody's Aaa-rated corporate bonds is 3.56%.

18  
19 Because that 3.56% estimate represents a corporate bond yield and not a  
20 utility specific bond yield, I adjusted the expected Aaa-rated corporate  
21 bond yield to an equivalent A2-rated public utility bond yield. That  
22 resulted in an upward adjustment of 0.39%, which represents a recent  
23 spread between Aaa-rated corporate bonds and A2-rated public utility  
24 bonds.<sup>35</sup> Adding that recent 0.39% spread to the expected Aaa-rated

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35 As shown on line 2 and explained in note 2, page 3 of Exhibit\_\_\_(DWD-1), Schedule 6.

1 corporate bond yield of 3.56% results in an expected A2-rated public  
2 utility bond yield of 3.95%.

3  
4 I then reviewed the average credit rating for the Utility Proxy Group from  
5 Moody's to determine if an adjustment to the estimated A2-rated public  
6 utility bond was necessary. Since the Utility Proxy Group's average  
7 Moody's long-term issuer rating is A2/A3, another adjustment to the  
8 expected A2-rated public utility bond is needed to reflect the difference in  
9 bond ratings. An upward adjustment of 0.04%, which represents one-  
10 sixth of a recent spread between A2-rated and Baa2-rated public utility  
11 bond yields, is necessary to make the A2 prospective bond yield applicable  
12 to an A2/A3-rated public utility bond.<sup>36</sup> Adding the 0.04% to the 3.95%  
13 prospective A2-rated public utility bond yield results in a 3.99% expected  
14 bond yield applicable to the Utility Proxy Group.

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36 As shown on line 4 and explained in note 3, page 3 of Exhibit\_\_\_\_(DWD-1), Schedule 6. Moody's does not provide public utility bond yields for A3-rated bonds. As such, it was necessary to estimate the difference between A2-rated and A2/A3-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 one-sixth of the difference between the A2-rated and Baa2-rated public utility bond yield was appropriate.

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**Table 4**  
**Summary of the Calculation of the Utility Proxy Group**  
**Projected Bond Yield<sup>37</sup>**

Prospective Yield on Moody’s Aaa-Rated Corporate Bonds ( <i>Blue Chip</i> )	3.56%
Adjustment to Reflect Yield Spread Between Moody’s Aaa-Rated Corporate Bonds and Moody’s A2-Rated Utility Bonds	0.39%
Adjustment to Reflect the Utility Proxy Group’s Average Moody’s Bond Rating of A2/A3	<u>0.04%</u>
Prospective Bond Yield Applicable to the Utility Proxy Group	<u>3.99%</u>

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

a. Beta Coefficient 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) the Beta coefficient. 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 Exhibit\_\_\_\_(DWD-1), Schedule 6. The total Beta-derived equity

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<sup>37</sup> As shown on page 3 of Exhibit\_\_\_\_(DWD-1), Schedule 6.

1 risk premium I applied is based on an average of three historical market  
2 data-based equity risk premiums, two *Value Line*-based equity risk  
3 premiums and a Bloomberg-based equity risk premium. Each of these is  
4 described below.

5  
6 Q. HOW DID YOU DERIVE A MARKET EQUITY RISK PREMIUM BASED ON LONG-  
7 TERM HISTORICAL DATA?

8 A. To derive a historical market equity risk premium, I used the most recent  
9 holding period returns for the large company common stocks from the  
10 Stocks, Bonds, Bills, and Inflation (SBBI) Yearbook 2021 (SBBI - 2021)<sup>38</sup>  
11 less the average historical yield on Moody's Aaa/Aa-rated corporate  
12 bonds for the period 1928 to 2020. Using holding period returns over a  
13 very long time is appropriate because it is consistent with the long-term  
14 investment horizon presumed by investing in a going concern, *i.e.*, a  
15 company expected to operate in perpetuity.

16  
17 SBBI's long-term arithmetic mean monthly total return rate on large  
18 company common stocks was 11.94% and the long-term arithmetic mean  
19 monthly yield on Moody's Aaa/Aa-rated corporate bonds was 6.02%.<sup>39</sup>  
20 As shown on line 1, page 8 of Exhibit\_\_\_(DWD-1), Schedule 6,  
21 subtracting the mean monthly bond yield from the total return on large  
22 company stocks results in a long-term historical equity risk premium of  
23 5.92%.

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38 *See, SBBI-2021* Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2020.

39 As explained in note 1, page 9 of Exhibit\_\_\_(DWD-1), Schedule 6.

1 I used the arithmetic mean monthly total return rates for the large  
2 company stocks and yields (income returns) for the Moody's Aaa/Aa  
3 corporate bonds, because they are appropriate for the purpose of  
4 estimating the cost of capital as noted in SBBI-2021.<sup>40</sup> Using the  
5 arithmetic mean return rates and yields is appropriate because historical  
6 total returns and equity risk premiums provide insight into the variance  
7 and standard deviation of returns needed by investors in estimating future  
8 risk when making a current investment. If investors relied on the  
9 geometric mean of historical equity risk premiums, they would have no  
10 insight into the potential variance of future returns, because the geometric  
11 mean relates the change over many periods to a constant rate of change,  
12 thereby obviating the year-to-year fluctuations, or variance, which is  
13 critical to risk analysis.

14

15 Q. PLEASE EXPLAIN THE DERIVATION OF THE REGRESSION-BASED MARKET  
16 EQUITY RISK PREMIUM.

17 A. To derive the regression-based market equity risk premium of 8.69%  
18 shown on line 2, page 8 of Exhibit\_\_\_(DWD-1), Schedule 6, I used the  
19 same monthly annualized total returns on large company common stocks  
20 relative to the monthly annualized yields on Moody's Aaa/Aa-rated  
21 corporate bonds as mentioned above. I modeled the relationship between  
22 interest rates and the market equity risk premium using the observed  
23 monthly market equity risk premium as the dependent variable, and the  
24 monthly yield on Moody's Aaa/Aa-rated corporate bonds as the

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40 See, SBBI-2021, at page 10-22, 10-23.

1 independent variable. I then used a linear Ordinary Least Squares (OLS)  
2 regression, in which the market equity risk premium is expressed as a  
3 function of the Moody's Aaa/Aa-rated corporate bond yield:

$$4 \qquad \qquad \qquad RP = \alpha + \beta (R_{Aaa/Aa})$$

6  
7 Q. PLEASE EXPLAIN THE DERIVATION OF THE PRPM EQUITY RISK PREMIUM.

8 A. I used the same PRPM approach described above to the PRPM equity risk  
9 premium. The inputs to the model are the historical monthly returns on  
10 large company common stocks minus the monthly yields on Moody's  
11 Aaa/Aa-rated corporate bonds during the period from January 1928  
12 through May 2021.<sup>41</sup> Using the previously discussed generalized form of  
13 ARCH, known as GARCH, the projected equity risk premium is  
14 determined using Eviews<sup>®</sup> statistical software. The resulting PRPM  
15 predicted a market equity risk premium of 9.02%.<sup>42</sup>

16  
17 Q. PLEASE EXPLAIN THE DERIVATION OF A PROJECTED EQUITY RISK  
18 PREMIUM BASED ON *VALUE LINE* DATA FOR YOUR RPM ANALYSIS.

19 A. As noted above, because both ratemaking and the cost of capital are  
20 prospective, a prospective market equity risk premium is needed. The  
21 derivation of the forecasted or prospective market equity risk premium  
22 can be found in note 4, page 9 of Exhibit\_\_\_\_(DWD-1), Schedule 6.  
23 Consistent with my calculation of the dividend yield component in my

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41 Data from January 1926 to December 2020 is from SBBI - 2021. Data from January 2021 to May 2021 is from Bloomberg.

42 Shown on line 3, page 8 of Exhibit\_\_\_\_(DWD-1), Schedule 6.

1 DCF analysis, this prospective market equity risk premium is derived from  
2 an average of the three- to five-year median market price appreciation  
3 potential by *Value Line* for the 13 weeks ended May 28, 2021, plus an  
4 average of the median estimated dividend yield for the common stocks of  
5 the 1,700 firms covered in *Value Line* (Standard Edition).<sup>43</sup>

6  
7 The average median expected price appreciation is 28%, which translates  
8 to a 6.37% annual appreciation, and, when added to the average of *Value*  
9 *Line's* median expected dividend yields of 1.79%, equates to a forecasted  
10 annual total return rate on the market of 8.16%. The forecasted Moody's  
11 Aaa-rated corporate bond yield of 3.56% is deducted from the total  
12 market return of 8.16%, resulting in an equity risk premium of 4.60%, as  
13 shown on line 4, page 8 of Exhibit\_\_\_(DWD-1), Schedule 6.

14  
15 Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED  
16 ON THE S&P 500 COMPANIES.

17 A. Using data from *Value Line*, I calculated an expected total return on the  
18 S&P 500 companies using expected dividend yields and long-term growth  
19 estimates as a proxy for capital appreciation. The expected total return  
20 for the S&P 500 is 14.32%. Subtracting the prospective yield on Moody's  
21 Aaa-rated corporate bonds of 3.56% results in a 10.76% projected equity  
22 risk premium.

23

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43 As explained in detail in note 1, page 2 of Exhibit\_\_\_(DWD-1), Schedule 7.

1 Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED  
2 ON BLOOMBERG DATA.

3 A. Using data from Bloomberg, I calculated an expected total return on the  
4 S&P 500 using expected dividend yields and long-term growth estimates  
5 as a proxy for capital appreciation, identical to the method described  
6 above. The expected total return for the S&P 500 is 16.34%. Subtracting  
7 the prospective yield on Moody's Aaa-rated corporate bonds of 3.56%  
8 results in a 12.78% projected equity risk premium.

9  
10 Q. WHAT IS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM  
11 FOR USE IN YOUR RPM ANALYSIS?

12 A. I gave equal weight to all six equity risk premiums based on each source -  
13 historical, *Value Line*, and Bloomberg - in arriving at an 8.63% equity risk  
14 premium.

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**Table 5**  
**Summary of the Calculation of the Equity Risk Premium**  
**Using Total Market Returns<sup>44</sup>**

Historical Spread Between Total Returns of Large Stocks and Aaa and Aa-Rated Corporate Bond Yields (1928 – 2020)	5.92%
Regression Analysis on Historical Data	8.69%
PRPM Analysis on Historical Data	9.02%
Prospective Equity Risk Premium using Total Market Returns from <i>Value Line</i> Summary & Index less Projected Aaa Corporate Bond Yields	4.60%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from <i>Value Line</i> for the S&P 500 less Projected Aaa Corporate Bond Yields	10.76%
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	<u>12.78%</u>
<b>Average</b>	<u>8.63%</u>

After calculating the average market equity risk premium of 8.63%, I adjusted it by the Beta coefficient to account for the risk of the Utility Proxy Group. As discussed below, the Beta coefficient 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 page 1 of Exhibit\_\_\_\_(DWD-1), Schedule 6, the average of the mean and median Beta coefficient for the Utility Proxy Group is 0.93. Multiplying

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44 As shown on page 8 of Exhibit\_\_\_\_(DWD-1), Schedule 6.

1 the 0.93 average Beta coefficient by the market equity risk premium of  
2 8.63% results in a Beta-adjusted equity risk premium for the Utility Proxy  
3 Group of 8.03%.

4  
5 b. S&P Utility Index Derived Equity Risk Premium

6 Q. HOW DID YOU DERIVE THE EQUITY RISK PREMIUM BASED ON THE S&P  
7 UTILITY INDEX AND MOODY'S A-RATED PUBLIC UTILITY BONDS?

8 A. I estimated three equity risk premiums based on S&P Utility Index holding  
9 period returns, and two equity risk premiums based on the expected  
10 returns of the S&P Utilities Index, using *Value Line* and Bloomberg data,  
11 respectively. Turning first to the S&P Utility Index holding period  
12 returns, I derived a long-term monthly arithmetic mean equity risk  
13 premium between the S&P Utility Index total returns of 10.65% and  
14 monthly Moody's A-rated public utility bond yields of 6.49% from 1928  
15 to 2020 to arrive at an equity risk premium of 4.16%.<sup>45</sup> I then used the  
16 same historical data to derive an equity risk premium of 6.37% based on  
17 a regression of the monthly equity risk premiums. The final S&P Utility  
18 Index holding period equity risk premium involved applying the PRPM  
19 using the historical monthly equity risk premiums from January 1928 to  
20 May 2021 to arrive at a PRPM-derived equity risk premium of 5.41% for  
21 the S&P Utility Index.

22  
23 I then derived expected total returns on the S&P Utilities Index of 11.40%  
24 and 9.77% using data from *Value Line* and Bloomberg, respectively, and

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45 As shown on line 1, page 12 of Exhibit\_\_\_\_(DWD-1), Schedule 6.

1 subtracted the prospective Moody’s A2-rated public utility bond yield of  
 2 3.95%<sup>46</sup>, which resulted in equity risk premiums of 7.45% and 5.82%,  
 3 respectively. As with the market equity risk premiums, I averaged each  
 4 risk premium based on each source (*i.e.*, historical, *Value Line*, and  
 5 Bloomberg) to arrive at my utility-specific equity risk premium of 5.84%.

6  
 7 **Table 6**  
 8 **Summary of the Calculation of the Equity Risk Premium**  
 9 **Using S&P Utility Index Holding Returns<sup>47</sup>**

10		
11	Historical Spread Between Total Returns of the	
12	S&P Utilities Index and A2-Rated Utility Bond	4.16%
	Yields (1928 – 2020)	
13	Regression Analysis on Historical Data	6.37%
14	PRPM Analysis on Historical Data	5.41%
15	Prospective Equity Risk Premium using	
16	Measures of Capital Appreciation and Income	
17	Returns from <i>Value Line</i> for the S&P Utilities	7.45%
18	Index Less Projected A2 Utility Bond Yields	
19	Prospective Equity Risk Premium using	
20	Measures of Capital Appreciation and Income	
21	Returns from Bloomberg Professional Services	<u>5.82%</u>
22	for the S&P Utilities Index Less Projected A2	
	Utility Bond Yields	
	<b>Average</b>	<u>5.84%</u>

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46 Derived on line 3, page 3 of Exhibit\_\_\_\_(DWD-1), Schedule 6.

47 As shown on page 12 of Exhibit\_\_\_\_(DWD-1), Schedule 6.

1 c. Authorized Return Derived Equity Risk Premium

2 Q. HOW DO YOU DERIVE AN EQUITY RISK PREMIUM OF 5.64% BASED ON  
3 AUTHORIZED ROES FOR NATURAL GAS UTILITIES?

4 A. The equity risk premium of 5.64% shown on line 3, page 7 of  
5 Exhibit\_\_\_(DWD-1), Schedule 6 is the result of a regression analysis  
6 based on regulatory awarded ROEs related to the yields on Moody's A-  
7 rated public utility bonds. That analysis is shown on page 13 of  
8 Exhibit\_\_\_(DWD-1), Schedule 6. Page 13 of Exhibit\_\_\_(DWD-1),  
9 Schedule 6 contains the graphical results of a regression analysis of 800  
10 rate cases for natural gas utilities which were fully litigated during the  
11 period from January 1, 1980 through May 28, 2021. It shows the implicit  
12 equity risk premium relative to the yields on A2-rated public utility bonds  
13 immediately prior to the issuance of each regulatory decision. That is, the  
14 analysis considers the relationship between authorized returns and  
15 prevailing public utility bond yields at the time of the decision.

16  
17 It is readily discernible that there is an inverse relationship between the  
18 yield on A2-rated public utility bonds and equity risk premiums. In other  
19 words, as interest rates decline, the equity risk premium rises and vice  
20 versa, a result consistent with financial literature on the subject.<sup>48</sup> I used  
21 the regression results to estimate the equity risk premium applicable to the  
22 projected yield on Moody's A2-rated public utility bonds. Given the  
23 expected A2-rated utility bond yield of 3.95%, it can be calculated that the

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48 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.

1 indicated equity risk premium applicable to that bond yield is 5.64%,  
2 which is shown on line 3, page 7 of Exhibit\_\_\_(DWD-1), Schedule 6.

3

4 Q. WHAT IS YOUR CONCLUSION OF AN EQUITY RISK PREMIUM FOR USE IN  
5 YOUR TOTAL MARKET APPROACH RPM ANALYSIS?

6 A. The equity risk premium I apply to the Utility Proxy Group is 6.50%,  
7 which is the average of the Beta-adjusted equity risk premium for the  
8 Utility Proxy Group, the S&P Utilities Index, and the authorized return  
9 utility equity risk premiums of 8.03%, 5.84%, and 5.64%, respectively.<sup>49</sup>

10

11 Q. WHAT IS THE INDICATED RPM COMMON EQUITY COST RATE BASED ON  
12 THE TOTAL MARKET APPROACH?

13 A. As shown on line 7, page 3 of Exhibit\_\_\_(DWD-1), Schedule 6 and  
14 shown on Table 7, below, I calculated a common equity cost rate of  
15 10.49% for the Utility Proxy Group based on the total market approach  
16 RPM.

17

18

### Table 7

19

#### Summary of the Total Market Return Risk Premium Model<sup>50</sup>

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Prospective Moody's A3-Rated Utility Bond Applicable to the Utility Proxy Group	3.99%
Prospective Equity Risk Premium	<u>6.50%</u>
Indicated Cost of Common Equity	<u>10.49%</u>

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<sup>49</sup> As shown on page 7 of Exhibit\_\_\_(DWD-1), Schedule 6.

<sup>50</sup> As shown on page 3 of Exhibit\_\_\_(DWD-1), Schedule 6.

1 Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE PRPM AND THE  
2 TOTAL MARKET APPROACH RPM?

3 A. As shown on page 1 of Exhibit\_\_\_(DWD-1), Schedule 6, the indicated  
4 RPM-derived common equity cost rate is 10.96%, which gives equal  
5 weight to the PRPM (11.43%) and the adjusted-market approach results  
6 (10.49%).

7

### 8 **C. The Capital Asset Pricing Model**

9 Q. PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.

10 A. CAPM theory defines risk as the co-variability of a security's returns with  
11 the market's returns as measured by the Beta coefficient ( $\beta$ ). A Beta  
12 coefficient less than 1.0 indicates lower variability than the market as a  
13 whole, while a Beta coefficient greater than 1.0 indicates greater variability  
14 than the market.

15

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

26

27

1                         $R_s = R_f + \beta (R_m - R_f)$   
 2                Where:  $R_s =$  Return rate on the common stock  
 3                         $R_f =$  Risk-free rate of return  
 4                         $R_m =$  Return rate on the market as a whole  
 5                         $\beta =$  Adjusted Beta coefficient (volatility of the  
 6    security relative to the market as a whole)  
 7

8                Numerous tests of the traditional CAPM have measured the extent to  
 9                which security returns and Beta coefficients are related as predicted by the  
 10               CAPM, confirming its validity. The empirical CAPM (ECAPM) reflects  
 11               the reality that while the results of these tests support the notion that the  
 12               Beta coefficient is related to security returns, the empirical Security Market  
 13               Line (SML) described by the CAPM formula is not as steeply sloped as  
 14               the predicted SML.<sup>51</sup>  
 15

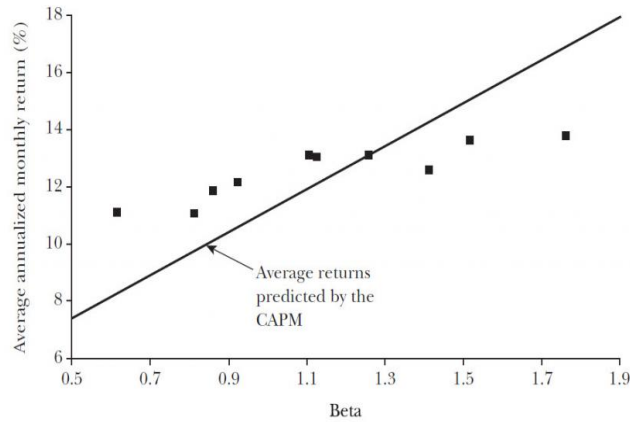
16               In their work on the CAPM, Fama and French clearly state regarding  
 17               Figure 2, below, that “[t]he returns on the low beta portfolios are too high,  
 18               and the returns on the high beta portfolios are too low.”<sup>52</sup>  
 19

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51               Morin, at 175.

52               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).

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



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.<sup>53</sup>

\* \* \*

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

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53 Morin, at 175.

1 = 0.0829 + 0.0520  $\beta$  is between 0.25 and 0.30. If  $x = 0.25$ ,  
2 the equation becomes:

3 
$$K = R_F + 0.25(R_M - R_F) + 0.75 \beta(R_M - R_F)^{54}$$

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

6 The early tests firmly reject the Sharpe-Lintner version of the  
7 CAPM. There is a positive relation between beta and  
8 average return, but it is too 'flat.'... The regressions  
9 consistently find that the intercept is greater than the average  
10 risk-free rate... and the coefficient on beta is less than the  
11 average excess market return... This is true in the early  
12 tests... as well as in more recent cross-section regressions  
13 tests, like Fama and French (1992).<sup>55</sup>

14 Finally, Fama and French further note:

15 Confirming earlier evidence, the relation between beta and  
16 average return for the ten portfolios is much flatter than the  
17 Sharpe-Linter CAPM predicts. The returns on low beta  
18 portfolios are too high, and the returns on the high beta  
19 portfolios are too low. For example, the predicted return on  
20 the portfolio with the lowest beta is 8.3 percent per year; the  
21 actual return as 11.1 percent. The predicted return on the  
22 portfolio with the t beta is 16.8 percent per year; the actual  
23 is 13.7 percent.<sup>56</sup>

24  
25 Clearly, the justification from Morin, Fama, and French, along with their  
26 reviews of other academic research on the CAPM, validate the use of the  
27 ECAPM. In view of theory and practical research, I have applied both

---

54 *Ibid.*, at 190.

55 Fama & French, at 32.

56 *Ibid.*, at 33.

1 the traditional CAPM and the ECAPM to the companies in the Utility  
2 Proxy Group and averaged the results.

3  
4 Q. WHAT BETA COEFFICIENTS DID YOU USE IN YOUR CAPM ANALYSIS?

5 A. For the Beta coefficients in my CAPM analysis, I considered two sources:  
6 *Value Line* and Bloomberg Professional Services. While both of those  
7 services adjust their calculated (or “raw”) Beta coefficients to reflect the  
8 tendency of the Beta coefficient to regress to the market mean of 1.00,  
9 *Value Line* calculates the Beta coefficient over a five-year period, while  
10 Bloomberg calculates it over a two-year period.

11  
12 Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.

13 A. As discussed previously, the risk-free rate adopted for both applications  
14 of the CAPM is 2.88%. This risk-free rate is based on the average of the  
15 *Blue Chip* consensus forecast of the expected yields on 30-year U.S.  
16 Treasury bonds for the six quarters ending with the third calendar quarter  
17 of 2022, and long-term projections for the years 2023 to 2027 and 2028  
18 to 2033.

19  
20 Q. PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED RISK PREMIUM FOR  
21 THE MARKET USED IN YOUR CAPM ANALYSES.

22 A. The basis of the market risk premium is explained in detail in note 1 on  
23 Exhibit\_\_\_\_(DWD-1), Schedule 7. As discussed above, the market risk  
24 premium is derived from an average of three historical data-based market  
25 risk premiums, two *Value Line* data-based market risk premiums, and one  
26 Bloomberg data-based market risk premium.

1 The long-term income return on U.S. Government securities of 5.05%  
2 was deducted from the SBBI – 2021 monthly historical total market return  
3 of 12.20%, which results in an historical market equity risk premium of  
4 7.15%.<sup>57</sup> I applied a linear OLS regression to the monthly annualized  
5 historical returns on the S&P 500 relative to historical yields on long-term  
6 U.S. Government securities from SBBI - 2021. That regression analysis  
7 yielded a market equity risk premium of 9.39%. The PRPM market equity  
8 risk premium is 10.04%, and is derived using the PRPM relative to the  
9 yields on long-term U.S. Treasury securities from January 1926 through  
10 May 2021.

11  
12 The *Value Line*-derived forecasted total market equity risk premium is  
13 derived by deducting the forecasted risk-free rate of 2.88%, discussed  
14 above, from the *Value Line* projected total annual market return of 8.16%,  
15 resulting in a forecasted total market equity risk premium of 5.28%. The  
16 S&P 500 projected market equity risk premium using *Value Line* data is  
17 derived by subtracting the projected risk-free rate of 2.88% from the  
18 projected total return of the S&P 500 of 14.32%. The resulting market  
19 equity risk premium is 11.44%.

20  
21 The S&P 500 projected market equity risk premium using Bloomberg data  
22 is derived by subtracting the projected risk-free rate of 2.88% from the  
23 projected total return of the S&P 500 of 16.34%. The resulting market

---

57 SBBI - 2020, at Appendix A-1 (1) through A-1 (3) and Appendix A-7 (19) through A-7 (21).

1 equity risk premium is 13.46%. These six measures, when averaged, result  
 2 in an average total market equity risk premium of 9.46%.

3  
 4 **Table 8**  
 5 **Summary of the Calculation of the**  
 6 **Market Risk Premium for Use in the CAPM<sup>58</sup>**

8	Historical Spread Between Total Returns of	
9	Large Stocks and Long-Term Government	7.15%
	Bond Yields (1926 – 2019)	
10	Regression Analysis on Historical Data	9.39%
11	PRPM Analysis on Historical Data	10.04%
12	Prospective Equity Risk Premium using Total	
13	Market Returns from <i>Value Line</i> Summary &	5.28%
	Index less Projected 30-Year Treasury Bond	
	Yields	
14	Prospective Equity Risk Premium using	
15	Measures of Capital Appreciation and Income	11.44%
16	Returns from <i>Value Line</i> for the S&P 500 less	
	Projected 30-Year Treasury Bond Yields	
17	Prospective Equity Risk Premium using	
18	Measures of Capital Appreciation and Income	
	Returns from Bloomberg Professional	<u>13.46%</u>
19	Services for the S&P 500 less Projected 30-	
	Year Treasury Bond Yields	
20	<b>Average</b>	<u>9.46%</u>

21  
 22 Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL  
 23 AND EMPIRICAL CAPM TO THE UTILITY PROXY GROUP?

24 A. As shown on page 1 of Exhibit\_\_\_\_(DWD-1), Schedule 7, the mean result  
 25 of my CAPM/ECAPM analyses is 11.81%, the median is 11.68%, and the  
 26 average of the two is 11.75%. Consistent with my reliance on the average

---

58 As shown on page 2 of Exhibit\_\_\_\_(DWD-1), Schedule 7.

1 of mean and median DCF results discussed above, the indicated common  
2 equity cost rate using the CAPM/ECAPM is 11.75%.

3  
4 **D. Common Equity Cost Rates for a Proxy Group of Domestic,**  
5 **Non-Price Regulated Companies Based on the DCF, RPM,**  
6 **and CAPM**

7  
8 Q. WHY DO YOU ALSO CONSIDER A PROXY GROUP OF DOMESTIC, NON-PRICE  
9 REGULATED COMPANIES?

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

20  
21 Q. HOW DID YOU SELECT NON-PRICE REGULATED COMPANIES THAT ARE  
22 COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

23 A. In order to select a proxy group of domestic, non-price regulated  
24 companies similar in total risk to the Utility Proxy Group, I relied on the  
25 Beta coefficients and related statistics derived from *Value Line* regression  
26 analyses of weekly market prices over the most recent 260 weeks (*i.e.*, five

1 years). These selection criteria resulted in a proxy group of 48 domestic,  
2 non-price regulated firms comparable in total risk to the Utility Proxy  
3 Group. Total risk is the sum of non-diversifiable market risk and  
4 diversifiable company-specific risks. The criteria used in selecting the  
5 domestic, non-price regulated firms was:

- 6 (i) They must be covered by *Value Line* (Standard Edition);
- 7 (ii) They must be domestic, non-price regulated companies, *i.e.*, not  
8 utilities;
- 9 (iii) Their Beta coefficients must lie within plus or minus two standard  
10 deviations of the average unadjusted Beta coefficients of the  
11 Utility Proxy Group; and
- 12 (iv) The residual standard errors of the *Value Line* regressions which  
13 gave rise to the unadjusted Beta coefficients must lie within plus  
14 or minus two standard deviations of the average residual standard  
15 error of the Utility Proxy Group.

16  
17 Beta coefficients measure market, or systematic, risk, which is not  
18 diversifiable. The residual standard errors of the regressions measure each  
19 firm's company-specific, diversifiable risk. Companies that have similar  
20 Beta coefficients and similar residual standard errors resulting from the  
21 same regression analyses have similar total investment risk.

22

1 Q. HAVE YOU PREPARED A SCHEDULE WHICH SHOWS THE DATA FROM WHICH  
2 YOU SELECTED THE 48 DOMESTIC, NON-PRICE REGULATED COMPANIES  
3 THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

4 A. Yes, the basis of my selection and both proxy groups' regression statistics  
5 are shown in Exhibit\_\_\_\_(DWD-1), Schedule 8.

6

7 Q. DID YOU CALCULATE COMMON EQUITY COST RATES USING THE DCF  
8 MODEL, RPM, AND CAPM FOR THE NON-PRICE REGULATED PROXY  
9 GROUP?

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

16

17 Page 2 of Exhibit\_\_\_\_(DWD-1), Schedule 9 derives the Constant Growth  
18 DCF model common equity cost rate. As shown, the indicated common  
19 equity cost rate is 12.83%.

20

21 Pages 3 through 5 of Exhibit\_\_\_\_(DWD-1), Schedule 9 contain the data  
22 and calculations that support the 12.49% RPM common equity cost rate.  
23 As shown on line 1, page 3 of Exhibit\_\_\_\_(DWD-1), Schedule 9, the  
24 consensus prospective yield on Moody's Baa-rated corporate bonds for

1 the six quarters ending in the third quarter of 2022, and for the years 2023  
2 to 2027 and 2028 to 2033, is 4.46%.<sup>59</sup>

3  
4 When the Beta-adjusted risk premium of 8.03%<sup>60</sup> relative to the Non-  
5 Price Regulated Proxy Group is added to the prospective Baa2-rated  
6 corporate bond yield of 4.46%, the indicated RPM common equity cost  
7 rate is 12.49%.

8  
9 Page 6 of Exhibit\_\_\_\_(DWD-1), Schedule 9 contains the inputs and  
10 calculations that support my indicated CAPM/ECAPM common equity  
11 cost rate of 11.69%.

12  
13 Q. HOW IS THE COST RATE OF COMMON EQUITY BASED ON THE NON-PRICE  
14 REGULATED PROXY GROUP COMPARABLE IN TOTAL RISK TO THE UTILITY  
15 PROXY GROUP?

16 A. As shown on page 1 of Exhibit\_\_\_\_(DWD-1), Schedule 9, the results of  
17 the common equity models applied to the Non-Price Regulated Proxy  
18 Group -- which is comparable in total risk to the Utility Proxy Group --  
19 are as follows: 12.83% (DCF), 12.49% (RPM), and 11.69% (CAPM). The  
20 average of the mean and median of these models is 12.42%, which I used  
21 as the indicated common equity cost rates for the Non-Price Regulated  
22 Proxy Group.

23

---

59 *Blue Chip Financial Forecasts*, June 1, 2021, at 2, 14.

60 Derived on page 5 of Exhibit\_\_\_\_(DWD-1), Schedule 9.

1                   **VIII. CONCLUSION OF COMMON EQUITY COST**  
2                   **ANALYTICAL RESULTS BEFORE ADJUSTMENTS**

3  
4    Q.    BASED ON YOUR ANALYSES, WHAT IS THE INDICATED COMMON EQUITY  
5           COST RATE BEFORE ADJUSTMENTS?

6    A.    By applying multiple cost of common equity models to the Utility Proxy  
7           Group and the Non-Price Regulated Proxy Group, the indicated range of  
8           common equity cost rates attributable to the Utility Proxy Group before  
9           any relative risk adjustments is between 9.44% and 12.42%. I used  
10          multiple cost of common equity models as primary tools in arriving at my  
11          recommended common equity cost rate, because each of these models is  
12          theoretically sound and available to investors and because no single model  
13          is so inherently precise that it can be relied on to the exclusion of other  
14          theoretically sound models. Using multiple models adds reliability to the  
15          estimated common equity cost rate, with the prudence of using multiple  
16          cost of common equity models supported in both the financial literature  
17          and regulatory precedent.

18  
19          Based on these common equity cost results, I conclude that a range of  
20          common equity cost rates between 9.44% and 12.42% is reasonable and  
21          appropriate before any adjustments for relative risk differences between  
22          the Company and the Utility Proxy Group are made.

23

1 IX. ADJUSTMENTS TO THE  
2 COMMON EQUITY COST RATE

3  
4 **A. Business Risk Adjustment**

5 Q. WHAT COMPANY-SPECIFIC BUSINESS RISKS DID YOU CONSIDER IN YOUR  
6 RELATIVE RISK ANALYSIS?

7 A. As detailed below I considered NSP's small size and its high levels of  
8 customer growth and capital expenditures relative to the Utility Proxy  
9 Group.

10  
11 Q. PLEASE COMPARE NSP'S SIZE WITH THAT OF THE UTILITY PROXY GROUP.

12 A. As shown on Table 9, below, NSP is smaller than the median utility in the  
13 Utility Proxy Group, as measured by market capitalization.

14  
15 **Table 9**  
16 **Size as Measured by Market Capitalization for NSPM's**  
17 **Electric Operations and the Utility Proxy Group**

	Market Capitalization* (\$ Millions)	Times Greater than The Company
NSP ND Jurisdictional	\$114.612	
Utility Proxy Group	\$4,615.314	40.3x

23 \*From page 1 of Exhibit\_\_(DWD-1), Schedule 10.

24  
25 The Company's estimated market capitalization for its North Dakota  
26 operations was \$114.612 million as of May 28, 2021, compared with the

1 market capitalization of the average company in the Utility Proxy Group  
2 of \$4,615.314 million as of May 28, 2021. The average company in the  
3 Utility Proxy Group has a market capitalization 40.3 times the size of the  
4 Company's estimated North Dakota-based market capitalization.

5  
6 Q. SINCE NSP IS PART OF A LARGER COMPANY, WHY IS THE SIZE OF XEI NOT  
7 MORE APPROPRIATE TO USE WHEN DETERMINING THE SIZE ADJUSTMENT?

8 A. The return derived in this proceeding will not apply to XEI's operations  
9 as a whole, but only to the Company's North Dakota operations. XEI is  
10 the sum of its constituent parts, including those constituent parts' ROEs.  
11 Potential investors in the Parent are aware that it is a combination of  
12 operations in each state, and that each state's operations experience the  
13 operating risks specific to their jurisdiction. The market's expectation of  
14 XEI's return is commensurate with the realities of the Company's  
15 composite operations in each of the states in which it operates. That said,  
16 I recognize that NSP's North Dakota natural gas operations are a portion  
17 of NSP's overall operations.

18  
19 Q. SHOULD THE COMPANY BE COMPARED WITH OTHER OPERATING NATURAL  
20 GAS UTILITIES IN NORTH DAKOTA TO DETERMINE ANY ADJUSTMENT TO  
21 THE PROXY GROUP-DERIVED ROE?

22 A. No, it shouldn't. Since the indicated ROE is determined using the market  
23 data of the Utility Proxy Group, any type of adjustment to the indicated  
24 ROE must reflect relative differences between the Company and the  
25 Utility Proxy Group. Since this is the case, the relative size of other North  
26 Dakota utilities is not relevant to determining the ROE for the Company.

1 Q. DOES THE COMPANY'S SMALLER SIZE RELATIVE TO THE UTILITY PROXY  
2 GROUP COMPANIES INCREASE ITS BUSINESS RISK?

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

13  
14 Size affects business risk because smaller companies generally are less able  
15 to cope with significant events that affect sales, revenues, and earnings.  
16 For example, smaller companies face more risk exposure to business  
17 cycles and economic conditions, both nationally and locally. Additionally,  
18 the loss of revenues from a few larger customers would have a greater  
19 effect on a small company than on a bigger company with a larger, more  
20 diverse, customer base. This is true for utilities, as well as for non-  
21 regulated companies.

22  
23 As further evidence that smaller firms are riskier, investors generally  
24 demand greater returns from smaller firms to compensate for less  
25 marketability and liquidity of their securities. Duff & Phelps' 2020  
26 Valuation Handbook – U.S. Guide to Cost of Capital (D&P - 2020)

1 discusses the nature of the small-size phenomenon, providing an  
2 indication of the magnitude of the size premium based on several  
3 measures of size. In discussing “Size as a Predictor of Equity Returns,”  
4 D&P - 2020 states:

5 The size effect is based on the empirical observation that  
6 companies of smaller size are associated with greater risk and,  
7 therefore, have greater cost of capital [sic]. The “size” of a  
8 company is one of the most important risk elements to consider  
9 when developing cost of equity capital estimates for use in valuing  
10 a business simply because size has been shown to be a *predictor* of  
11 equity returns. In other words, there is a significant (negative)  
12 relationship between size and historical equity returns - as size  
13 *decreases*, returns tend to *increase*, and vice versa. (footnote omitted)  
14 (emphasis in original)<sup>61</sup>  
15

16 Furthermore, in “The Capital Asset Pricing Model: Theory and  
17 Evidence,” Fama and French note size is indeed a risk factor which must  
18 be reflected when estimating the cost of common equity. On page 37,  
19 they note:

20 . . . the higher average returns on small stocks and high  
21 book-to-market stocks reflect unidentified state variables  
22 that produce undiversifiable risks (covariances) in returns  
23 not captured in the market return and are priced separately  
24 from market betas.<sup>62</sup>

25  
26 Based on this evidence, Fama and French proposed their three-factor  
27 model which includes a size variable in recognition of the effect size has  
28 on the cost of common equity.

---

61 Duff & Phelps Valuation Handbook – U.S. Guide to Cost of Capital, Wiley 2020, at 4-1.

62 Fama & French, at 25-43.

1 Also, it is a basic financial principle that the use of funds invested, and not  
2 the source of funds, is what gives rise to the risk of any investment.<sup>63</sup>

3 Eugene Brigham, a well-known authority, states:

4 A number of researchers have observed that portfolios of small-  
5 firms (sic) have earned consistently higher average returns than  
6 those of large-firm stocks; this is called the “small-firm effect.”  
7 On the surface, it would seem to be advantageous to the small  
8 firms to provide average returns in a stock market that are higher  
9 than those of larger firms. In reality, it is bad news for the small  
10 firm; **what the small-firm effect means is that the capital**  
11 **market demands higher returns on stocks of small firms**  
12 **than on otherwise similar stocks of the large firms.** (emphasis  
13 added)<sup>64</sup>  
14

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

22  
23 Q. EARLIER YOU EXPLAINED THAT CREDIT RATINGS CAN ACT AS A PROXY  
24 FOR A FIRM’S COMBINED BUSINESS AND FINANCIAL RISKS TO EQUITY

---

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

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

1 OWNERS. DO RATING AGENCIES ACCOUNT FOR COMPANY SIZE IN THEIR  
2 BOND RATINGS?

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

7

8 Q. PLEASE DESCRIBE THE COMPANY'S HIGH CUSTOMER GROWTH.

9 A. NSP's total number of retail customers has increased by approximately  
10 4,500 (*i.e.*, 8.1%) over the past five years.<sup>65</sup> The increased customer  
11 growth in NSP's service territory necessitates increased capital investment.

12 Q. PLEASE BRIEFLY SUMMARIZE THE COMPANY'S CAPITAL INVESTMENT  
13 PLANS.

14 A. NSP currently plans to invest approximately \$61 million of additional  
15 capital over the 2021-2022 period,<sup>66</sup> which represents 66.60% of its 2020  
16 year-end net utility plant.<sup>67</sup> That amount includes investments required to  
17 support growth, and to maintain safe, sufficient, and reliable service in  
18 both its transmission and distribution facilities. The Company will require  
19 continued access to the capital markets, at reasonable terms, to finance its  
20 capital spending plan. As the Company moves forward with its capital  
21 spending plan, timely recovery of its capital costs is critical to mitigate the  
22 delay of capital recovery and execute its capital spending program.

23

---

65 *2020 Reports of Regulated Earnings for Xcel Energy's North Dakota Electric and Natural Gas Operations*, Case No. PU-21-159, April 30, 2021, at S-1.

66 Company provided data.

67 *Ibid.*, at G-3.

1 Q. DO SUBSTANTIAL CAPITAL EXPENDITURES DIRECTLY RELATE TO A  
2 UTILITY BEING ALLOWED THE OPPORTUNITY TO EARN A RETURN  
3 ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?

4 A. Yes, they do. The allowed ROE should enable the subject utility to  
5 finance capital expenditures and working capital requirements at  
6 reasonable rates, and to maintain its financial integrity in a variety of  
7 economic and capital market conditions. As discussed throughout my  
8 direct testimony, a return adequate to attract capital at reasonable terms  
9 enables the utility to provide safe, reliable service while maintaining its  
10 financial soundness. To the extent a utility is provided the opportunity to  
11 earn its market-based cost of capital, neither customers nor shareholders  
12 should be disadvantaged. These requirements are of particular  
13 importance to a utility when it is engaged in a substantial capital  
14 expenditure program.

15  
16 The ratemaking process is predicated on the principle that, for investors  
17 and companies to commit the capital needed to provide safe and reliable  
18 utility services, the utility must have the opportunity to recover the return  
19 of, and the market-required return on, invested capital. Regulatory  
20 commissions recognize that since utility operations are capital intensive,  
21 regulatory decisions should enable the utility to attract capital at  
22 reasonable terms; doing so balances the long-term interests of the utility  
23 and its ratepayers.

24  
25 Further, the financial community carefully monitors the current and  
26 expected financial conditions of utility companies, as well as the regulatory

1 environment in which those companies operate. In that respect, the  
2 regulatory environment is one of the most important factors considered  
3 in both debt and equity investors' assessments of risk. That is especially  
4 important during periods in which the utility expects to make significant  
5 capital investments and, therefore, may require access to capital markets.

6  
7 Q. DO CREDIT RATING AGENCIES RECOGNIZE RISK ASSOCIATED WITH  
8 INCREASED CAPITAL EXPENDITURES?

9 A. Yes, they do. From a credit perspective, the additional pressure on cash  
10 flows associated with high levels of capital expenditures exerts  
11 corresponding pressure on credit metrics and, therefore, credit ratings.  
12 S&P has noted several long-term challenges for utilities' financial health  
13 including: heavy construction programs to address demand growth;  
14 declining capacity margins; and aging infrastructure and regulatory  
15 responsiveness to mounting requests for rate increases.<sup>68</sup> More recently,  
16 S&P noted:

17 We assume that capital spending will remain a focus of most  
18 utility managements and strain credit metrics. It provides growth  
19 when sales are diminished by ongoing demanded efficiency from  
20 regulators and other trends, and it is welcomed by policymakers  
21 that appreciate the economic stimulus and the benefits of safer,  
22 more reliable service. The speed with which the regulatory  
23 process turns the new spending into higher rates to begin to pay  
24 for it is an important factor in our assumptions and the forecast.  
25 Any extended lag between spending and recovery can exacerbate

---

68 Standard & Poor's, Industry Report Card: Utility Sectors in the Americas Remain Stable, While Challenges Beset European, Australian, and New Zealand Counterparts, RatingsDirect, June 27, 2008, at 4.

1 the negative effect on credit metrics and therefore ratings.<sup>69</sup>

2

3 The rating agency views noted above also are consistent with certain  
4 observations discussed in my direct testimony: (1) the benefits of  
5 maintaining a strong financial profile are significant when capital access is  
6 required and become particularly acute during periods of market  
7 instability; and (2) the Commission's decision in this proceeding will have  
8 a direct bearing on the company's credit profile and its ability to access  
9 the capital needed to fund its investments.

10

11 Q. HOW DO THE COMPANY'S EXPECTED CAPITAL EXPENDITURES COMPARE  
12 TO THE UTILITY PROXY GROUP?

13 A. To reasonably make that comparison, I calculated the ratio of expected  
14 capital expenditures to net plant for each company in the Utility Proxy  
15 Group. I performed that calculation using NSP's projected capital  
16 expenditures during 2021 and 2022 relative to its net plant for the year  
17 ended December 31, 2020. As shown in Exhibit\_\_\_(DWD-1), Schedule  
18 11, NSP has the highest ratio of projected capital expenditures to net plant  
19 relative to the Utility Proxy Group, approximately 41.60% higher than the  
20 Utility Proxy Group median.

21

22 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF NSP'S  
23 CAPITAL INVESTMENT PLAN ON ITS RISK PROFILE AND COST OF CAPITAL?

24 A. It is clear that NSP's capital investment plan relative to net plant is larger  
25 than the median of the Utility Proxy Group companies. It also is clear

---

69 Standard & Poor's, *Industry Top Trends 2017: Utilities*, RatingsDirect, February 16, 2017, at 4.

1 that equity investors and credit rating agencies recognize the additional  
2 risks associated with substantial capital expenditures.

3  
4 Q. WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S RELATIVE RISK  
5 AS COMPARED TO THE UTILITY PROXY GROUP?

6 A. In view of the above, the Company is smaller and faces a higher level of  
7 expected capital expenditures than the Utility Proxy Group. Since the cost  
8 of capital is a comparative exercise, the Company faces relatively higher  
9 risk than the Utility Proxy Group.

10  
11 Q. CAN A RELATIVE RISK ADJUSTMENT BE QUANTIFIED FOR THE COMPANY?

12 A. Yes. As discussed above, NSP has greater relative risk than the Utility  
13 Proxy Group. As a result, it is necessary to upwardly adjust the indicated  
14 range of common equity cost rates attributable to the Utility Proxy Group  
15 to reflect the Company's greater risk due to its greater business risk. As a  
16 proxy for the business risk adjustment, I will use the SBBI-2021 size study.  
17 The determination of the business risk adjustment is based on the size  
18 premiums for portfolios of the New York Stock Exchange, American  
19 Stock Exchange, and NASDAQ listed companies, ranked by deciles for  
20 the 1926 to 2020 period.<sup>70</sup> The average size premium for the Utility Proxy  
21 Group with a market capitalization of \$4,615.314 million falls in the 4<sup>th</sup>  
22 decile, while the Company's estimated market capitalization of \$114.612  
23 million places it in the 10<sup>th</sup> decile. The size premium spread between the  
24 4<sup>th</sup> decile and the 10<sup>th</sup> decile is 4.26%.<sup>71</sup> Even though a 4.26% upward risk

---

70 Source: Duff & Phelps Cost of Capital Navigator.

71 *Ibid.*, See also, Exhibit\_\_(DWD-1), Schedule 10.

1 adjustment to the common cost of equity is indicated, I only applied a risk  
2 premium of 0.50% to the Company's indicated common equity cost rate  
3 to reflect that the Company's North Dakota natural gas operations are a  
4 portion of NSP's overall operations and benefit from that relationship. I  
5 believe 0.50% is a conservative adjustment due to the Company's higher  
6 relative risk.

7  
8 **B. Credit Risk Adjustment**

9 Q. Please discuss your proposed credit risk adjustment.

10 A. NSP's long-term issuer ratings are A2 and A- from Moody's Investors  
11 Services and S&P, respectively, which are slightly less risky than the  
12 average long-term issuer ratings for the Utility Proxy Group of A2/A3  
13 and A-, respectively.<sup>72</sup> Hence, a downward credit risk adjustment is  
14 necessary to reflect the higher credit rating, *i.e.*, A2, of the Company  
15 relative to the A2/A3 average Moody's bond rating of the Utility Proxy  
16 Group.<sup>73</sup>

17  
18 An indication of the magnitude of the necessary downward adjustment to  
19 reflect the lower credit risk inherent in an A2 bond rating is one-sixth of  
20 a recent three-month average spread between Moody's Baa and A-rated  
21 public utility bond yields of 0.26%, shown on page 4 of  
22 Exhibit\_\_(DWD-1), Schedule 6, or negative 0.04%.<sup>74</sup>

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72 Source of Information: S&P Global Market Intelligence.

73 As shown on page 5 of Exhibit\_\_(DWD-1), Schedule 6.

74 0.04% = 0.26% \* (1/6). Moody's does not provide public utility bond yields for A3-rated bonds. As such, it was necessary to estimate the difference between A2-rated and A3-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 one-sixth of the difference between the A2-rated and Baa2-rated public utility bond yield was appropriate to reflect the proxy group's average rating of A2/A3.

1           **C. Flotation Costs**

2    Q.    WHAT ARE FLOTATION COSTS?

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

9  
10   Q.    WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE  
11           ALLOWED COMMON EQUITY COST RATE?

12   A.    It is important because there is no other mechanism in the ratemaking  
13           paradigm through which such costs can be recognized and recovered.  
14           Because these costs are real, necessary, and legitimate, recovery of these  
15           costs should be permitted. As noted by Dr. Roger Morin:

16           The costs of issuing these securities are just as real as operating  
17           and maintenance expenses or costs incurred to build utility plants,  
18           and fair regulatory treatment must permit recovery of these  
19           costs....

20           The simple fact of the matter is that common equity capital is not  
21           free....[Flotation costs] must be recovered through a rate of  
22           return adjustment.<sup>75</sup>

23

---

75           Morin, at p. 321.

1 Q. DO THE COMMON EQUITY COST RATE MODELS YOU HAVE USED ALREADY  
2 REFLECT INVESTORS' ANTICIPATION OF FLOTATION COSTS?

3 A. No. All of these models assume no transaction costs. The literature is  
4 quite clear that these costs are not reflected in the market prices paid for  
5 common stocks. For example, Brigham and Daves confirm this and  
6 provide the methodology utilized to calculate the flotation adjustment.<sup>76</sup>  
7 In addition, Morin confirms the need for such an adjustment even when  
8 no new equity issuance is imminent.<sup>77</sup> Consequently, it is proper to  
9 include a flotation cost adjustment when using cost of common equity  
10 models to estimate the common equity cost rate.

11

12 Q. HOW DID YOU CALCULATE THE FLOTATION COST ALLOWANCE?

13 A. I modified the DCF calculation to provide a dividend yield that would  
14 reimburse investors for issuance costs in accordance with the method  
15 cited in literature by Brigham and Daves, as well as by Morin. The  
16 flotation cost adjustment recognizes the actual costs of issuing equity that  
17 were incurred by XEI in its equity issuances during fiscal years 2010, 2018,  
18 and 2019. Based on the issuance costs shown on page 1 of  
19 Exhibit\_\_(DWD-1), Schedule 12, an adjustment of 0.14% is required to  
20 reflect the flotation costs applicable to the Utility Proxy Group.

21

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

77 Morin, at pp. 327-30.

1 Q. WHAT IS THE INDICATED COST OF COMMON EQUITY AFTER YOUR  
2 COMPANY-SPECIFIC ADJUSTMENTS?

3 A. Applying the 0.50% business risk adjustment, the negative 0.04% credit  
4 risk adjustment, and the 0.14% flotation cost adjustment to the indicated  
5 range of common equity cost rates between 9.44% and 12.42% results in  
6 a Company-specific range of common equity rates between 10.04% and  
7 13.02%. The wide range of model results may reflect increased uncertainty  
8 related to the COVID-19 pandemic and unknown timeframe for when  
9 economic conditions will normalize as vaccinations ramp up and the  
10 public health crises subsides. Because of this uncertainty, I recommend  
11 an ROE for the Company toward the lower end of my Company-specific  
12 range, specifically 10.50%.

13

14 **X. CONCLUSION**

15

16 Q. WHAT IS YOUR RECOMMENDED ROE FOR THE COMPANY?

17 A. Given the discussion above and the results from the analyses, I  
18 recommend that an ROE of 10.50% is appropriate for the Company at  
19 this time.

20 Q. IN YOUR OPINION, IS YOUR PROPOSED ROE OF 10.50% FAIR AND  
21 REASONABLE TO NSP AND ITS CUSTOMERS?

22 A. Yes, it is.

23

1 Q. IN YOUR OPINION, IS NSP'S PROPOSED CAPITAL STRUCTURE CONSISTING  
2 OF 52.54% COMMON EQUITY, 0.43% SHORT-TERM DEBT, AND 47.03%  
3 LONG-TERM DEBT FAIR AND REASONABLE?

4 A. Yes, they are.

5

6 Q. IN YOUR OPINION, ARE NSP'S PROPOSED COST OF SHORT-TERM DEBT OF  
7 1.09% AND COST OF LONG-TERM DEBT OF 4.10% FAIR AND REASONABLE?

8 A. Yes, they are.

9

10 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

11 A. Yes, it does.



**Dylan W. D'Ascendis, CRRA, CVA**  
**Partner**

### *Summary*

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). He has served as a consultant for investor-owned and municipal utilities and authorities for 12 years. Dylan has extensive experience in rate of return analyses, class cost of service, rate design, and valuation for regulated public utilities. He has testified as an expert witness in the subjects of rate of return, cost of service, rate design, and valuation before 30 regulatory commissions in the U.S., one Canadian province, and an American Arbitration Association panel.

He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured.

### *Areas of Specialization*

- Regulation and Rates
- Utilities
- Mutual Fund Benchmarking
- Capital Market Risk
- Financial Modeling
- Valuation
- Regulatory Strategy
- Rate Case Support
- Rate of Return
- Cost of Service
- Rate Design

### *Recent Expert Testimony Submission/Apearances*

<b><i>Jurisdiction</i></b>	<b><i>Topic</i></b>
■ Massachusetts Department of Public Utilities	Rate of Return
■ New Jersey Board of Public Utilities	Rate of Return
■ Hawaii Public Utilities Commission	Cost of Service, Rate Design
■ South Carolina Public Service Commission	Return on Common Equity
■ American Arbitration Association	Valuation

### *Recent Assignments*

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

### *Recent Publications and Speeches*

- Co-Author of: "Decoupling, Risk Impacts and the Cost of Capital", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. The Electricity Journal, March, 2020.
- Co-Author of: "Decoupling Impact and Public Utility Conservation Investment", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. Energy Policy Journal, 130 (2019), 311-319.
- "Establishing Alternative Proxy Groups", before the Society of Utility and Regulatory Financial Analysts: 51st Financial Forum, April 4, 2019, New Orleans, LA.
- "Past is Prologue: Future Test Year", Presentation before the National Association of Water Companies 2017 Southeast Water Infrastructure Summit, May 2, 2017, Savannah, GA.
- Co-author of: "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013.
- "Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN



**Dylan W. D'Ascendis, CRRA, CVA**  
**Partner**

Sponsor	Date	Case/Applicant	Docket No.	Subject
<b>Regulatory Commission of Alaska</b>				
Alaska Power Company	09/20	Alaska Power Company; Goat Lake Hydro, Inc.; BBL Hydro, Inc.	Tariff Nos. TA886-2; TA6-521; TA4-573	Capital Structure
Alaska Power Company	07/16	Alaska Power Company	Docket No. TA857-2	Rate of Return
<b>Alberta Utilities Commission</b>				
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	01/20	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	2021 Generic Cost of Capital, Proceeding ID. 24110	Rate of Return
<b>Arizona Corporation Commission</b>				
EPCOR Water Arizona, Inc.	06/20	EPCOR Water Arizona, Inc.	Docket No. WS-01303A-20-0177	Rate of Return
Arizona Water Company	12/19	Arizona Water Company – Western Group	Docket No. W-01445A-19-0278	Rate of Return
Arizona Water Company	08/18	Arizona Water Company – Northern Group	Docket No. W-01445A-18-0164	Rate of Return
<b>Arkansas Public Service Commission</b>				
CenterPoint Energy Resources Corp.	05/21	CenterPoint Arkansas Gas	Docket No. 21-004-U	Return on Equity
<b>Colorado Public Utilities Commission</b>				
Summit Utilities, Inc.	04/18	Colorado Natural Gas Company	Docket No. 18AL-0305G	Rate of Return
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Rate of Return
<b>Delaware Public Service Commission</b>				
Delmarva Power & Light Co.	11/20	Delmarva Power & Light Co.	Docket No. 20-0149 (Electric)	Return on Equity
Delmarva Power & Light Co.	10/20	Delmarva Power & Light Co.	Docket No. 20-0150 (Gas)	Return on Equity
Tidewater Utilities, Inc.	11/13	Tidewater Utilities, Inc.	Docket No. 13-466	Capital Structure
<b>Public Service Commission of the District of Columbia</b>				
Washington Gas Light Company	09/20	Washington Gas Light Company	Formal Case No. 1162	Rate of Return
<b>Federal Energy Regulatory Commission</b>				
LS Power Grid California, LLC	10/20	LS Power Grid California, LLC	Docket No. ER21-195-000	Rate of Return
<b>Florida Public Service Commission</b>				
Tampa Electric Company	04/21	Tampa Electric Company	Docket No. 20210034-EI	Return on Equity
Peoples Gas System	09/20	Peoples Gas System	Docket No. 20200051-GU	Rate of Return
Utilities, Inc. of Florida	06/20	Utilities, Inc. of Florida	Docket No. 20200139-WS	Rate of Return
<b>Hawaii Public Utilities Commission</b>				
Launiupoko Irrigation Company, Inc.	12/20	Launiupoko Irrigation Company, Inc.	Docket No. 2020-0217 / Transferred to 2020-0089	Capital Structure
Lanai Water Company, Inc.	12/19	Lanai Water Company, Inc.	Docket No. 2019-0386	Cost of Service / Rate Design
Manele Water Resources, LLC	08/19	Manele Water Resources, LLC	Docket No. 2019-0311	Cost of Service / Rate Design
Kaupulehu Water Company	02/18	Kaupulehu Water Company	Docket No. 2016-0363	Rate of Return
Aqua Engineers, LLC	05/17	Puhi Sewer & Water Company	Docket No. 2017-0118	Cost of Service / Rate Design
Hawaii Resources, Inc.	09/16	Laie Water Company	Docket No. 2016-0229	Cost of Service / Rate Design
<b>Illinois Commerce Commission</b>				
Utility Services of Illinois, Inc.	02/21	Utility Services of Illinois, Inc.	Docket No. 21-0198	Rate of Return
Ameren Illinois Company d/b/a Ameren Illinois	07/20	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 20-0308	Return on Equity



**Dylan W. D'Ascendis, CRRA, CVA**  
**Partner**

Sponsor	Date	Case/Applicant	Docket No.	Subject
Utility Services of Illinois, Inc.	11/17	Utility Services of Illinois, Inc.	Docket No. 17-1106	Cost of Service / Rate Design
Aqua Illinois, Inc.	04/17	Aqua Illinois, Inc.	Docket No. 17-0259	Rate of Return
Utility Services of Illinois, Inc.	04/15	Utility Services of Illinois, Inc.	Docket No. 14-0741	Rate of Return
<b>Indiana Utility Regulatory Commission</b>				
Aqua Indiana, Inc.	03/16	Aqua Indiana, Inc. Aboite Wastewater Division	Docket No. 44752	Rate of Return
Twin Lakes, Utilities, Inc.	08/13	Twin Lakes, Utilities, Inc.	Docket No. 44388	Rate of Return
<b>Kansas Corporation Commission</b>				
Atmos Energy	07/19	Atmos Energy	19-ATMG-525-RTS	Rate of Return
<b>Kentucky Public Service Commission</b>				
Duke Energy Kentucky, Inc.	06/21	Duke Energy Kentucky, Inc.	2021-00190	Return on Equity
Bluegrass Water Utility Operating Company	10/20	Bluegrass Water Utility Operating Company	2020-00290	Return on Equity
<b>Louisiana Public Service Commission</b>				
Southwestern Electric Power Company	12/20	Southwestern Electric Power Company	Docket No. U-35441	Return on Equity
Atmos Energy	04/20	Atmos Energy	Docket No. U-35535	Rate of Return
Louisiana Water Service, Inc.	06/13	Louisiana Water Service, Inc.	Docket No. U-32848	Rate of Return
<b>Maryland Public Service Commission</b>				
Washington Gas Light Company	08/20	Washington Gas Light Company	Case No. 9651	Rate of Return
FirstEnergy, Inc.	08/18	Potomac Edison Company	Case No. 9490	Rate of Return
<b>Massachusetts Department of Public Utilities</b>				
Unitil Corporation	12/19	Fitchburg Gas & Electric Co. (Elec.)	D.P.U. 19-130	Rate of Return
Unitil Corporation	12/19	Fitchburg Gas & Electric Co. (Gas)	D.P.U. 19-131	Rate of Return
Liberty Utilities	07/15	Liberty Utilities d/b/a New England Natural Gas Company	Docket No. 15-75	Rate of Return
<b>Minnesota Public Utilities Commission</b>				
Northern States Power Company	11/20	Northern States Power Company	Docket No. E002/GR-20-723	Rate of Return
<b>Mississippi Public Service Commission</b>				
Atmos Energy	03/19	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Atmos Energy	07/18	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
<b>Missouri Public Service Commission</b>				
Spire Missouri, Inc.	12/20	Spire Missouri, Inc.	Case No. GR-2021-0108	Return on Equity
Indian Hills Utility Operating Company, Inc.	10/17	Indian Hills Utility Operating Company, Inc.	Case No. SR-2017-0259	Rate of Return
Raccoon Creek Utility Operating Company, Inc.	09/16	Raccoon Creek Utility Operating Company, Inc.	Docket No. SR-2016-0202	Rate of Return
<b>Public Utilities Commission of Nevada</b>				
Southwest Gas Corporation	08/20	Southwest Gas Corporation	Docket No. 20-02023	Return on Equity
<b>New Hampshire Public Utilities Commission</b>				
Aquarion Water Company of New Hampshire, Inc.	12/20	Aquarion Water Company of New Hampshire, Inc.	Docket No. DW 20-184	Rate of Return
<b>New Jersey Board of Public Utilities</b>				
Middlesex Water Company	05/21	Middlesex Water Company	Docket No. WR21050813	Rate of Return
Atlantic City Electric Company	12/20	Atlantic City Electric Company	Docket No. ER20120746	Return on Equity



**Dylan W. D'Ascendis, CRRA, CVA**  
**Partner**

Sponsor	Date	Case/Applicant	Docket No.	Subject
FirstEnergy	02/20	Jersey Central Power & Light Co.	Docket No. ER20020146	Rate of Return
Aqua New Jersey, Inc.	12/18	Aqua New Jersey, Inc.	Docket No. WR18121351	Rate of Return
Middlesex Water Company	10/17	Middlesex Water Company	Docket No. WR17101049	Rate of Return
Middlesex Water Company	03/15	Middlesex Water Company	Docket No. WR15030391	Rate of Return
The Atlantic City Sewerage Company	10/14	The Atlantic City Sewerage Company	Docket No. WR14101263	Cost of Service / Rate Design
Middlesex Water Company	11/13	Middlesex Water Company	Docket No. WR1311059	Capital Structure
<b>New Mexico Public Regulation Commission</b>				
Southwestern Public Service Company	01/21	Southwestern Public Service Company	Case No. 20-00238-UT	Return on Equity
<b>North Carolina Utilities Commission</b>				
Piedmont Natural Gas Co.Inc.	03/21	Piedmont Natural Gas Co., Inc.	Docket No. G-9, Sub 781	Return on Equity
Duke Energy Carolinas, LLC	07/20	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1214	Return on Equity
Duke Energy Progress, LLC	07/20	Duke Energy Progress, LLC	Docket No. E-2, Sub 1219	Return on Equity
Aqua North Carolina, Inc.	12/19	Aqua North Carolina, Inc.	Docket No. W-218 Sub 526	Rate of Return
Carolina Water Service, Inc.	06/19	Carolina Water Service, Inc.	Docket No. W-354 Sub 364	Rate of Return
Carolina Water Service, Inc.	09/18	Carolina Water Service, Inc.	Docket No. W-354 Sub 360	Rate of Return
Aqua North Carolina, Inc.	07/18	Aqua North Carolina, Inc.	Docket No. W-218 Sub 497	Rate of Return
<b>North Dakota Public Service Commission</b>				
Northern States Power Company	11/20	Northern States Power Company	Case No. PU-20-441	Rate of Return
<b>Public Utilities Commission of Ohio</b>				
Aqua Ohio, Inc.	05/16	Aqua Ohio, Inc.	Docket No. 16-0907-WW-AIR	Rate of Return
<b>Pennsylvania Public Utility Commission</b>				
Vicinity Energy Philadelphia, Inc.	04/21	Vicinity Energy Philadelphia, Inc.	Docket No. R-2021-3024060	Rate of Return
Delaware County Regional Water Control Authority	02/20	Delaware County Regional Water Control Authority	Docket No. A-2019-3015173	Valuation
Valley Energy, Inc.	07/19	C&T Enterprises	Docket No. R-2019-3008209	Rate of Return
Wellsboro Electric Company	07/19	C&T Enterprises	Docket No. R-2019-3008208	Rate of Return
Citizens' Electric Company of Lewisburg	07/19	C&T Enterprises	Docket No. R-2019-3008212	Rate of Return
Steelton Borough Authority	01/19	Steelton Borough Authority	Docket No. A-2019-3006880	Valuation
Mahoning Township, PA	08/18	Mahoning Township, PA	Docket No. A-2018-3003519	Valuation
SUEZ Water Pennsylvania Inc.	04/18	SUEZ Water Pennsylvania Inc.	Docket No. R-2018-000834	Rate of Return
Columbia Water Company	09/17	Columbia Water Company	Docket No. R-2017-2598203	Rate of Return
Veolia Energy Philadelphia, Inc.	06/17	Veolia Energy Philadelphia, Inc.	Docket No. R-2017-2593142	Rate of Return
Emporium Water Company	07/14	Emporium Water Company	Docket No. R-2014-2402324	Rate of Return
Columbia Water Company	07/13	Columbia Water Company	Docket No. R-2013-2360798	Rate of Return
Penn Estates Utilities, Inc.	12/11	Penn Estates, Utilities, Inc.	Docket No. R-2011-2255159	Capital Structure / Long-Term Debt Cost Rate
<b>South Carolina Public Service Commission</b>				
Blue Granite Water Co.	12/19	Blue Granite Water Company	Docket No. 2019-292-WS	Rate of Return
Carolina Water Service, Inc.	02/18	Carolina Water Service, Inc.	Docket No. 2017-292-WS	Rate of Return
Carolina Water Service, Inc.	06/15	Carolina Water Service, Inc.	Docket No. 2015-199-WS	Rate of Return
Carolina Water Service, Inc.	11/13	Carolina Water Service, Inc.	Docket No. 2013-275-WS	Rate of Return
United Utility Companies, Inc.	09/13	United Utility Companies, Inc.	Docket No. 2013-199-WS	Rate of Return



**Dylan W. D'Ascendis, CRRA, CVA**  
**Partner**

Sponsor	Date	Case/Applicant	Docket No.	Subject
Utility Services of South Carolina, Inc.	09/13	Utility Services of South Carolina, Inc.	Docket No. 2013-201-WS	Rate of Return
Tega Cay Water Services, Inc.	11/12	Tega Cay Water Services, Inc.	Docket No. 2012-177-WS	Capital Structure
<b>Tennessee Public Utility Commission</b>				
Piedmont Natural Gas Company	07/20	Piedmont Natural Gas Company	Docket No. 20-00086	Return on Equity
<b>Public Utility Commission of Texas</b>				
Southwestern Public Service Company	02/21	Southwestern Public Service Company	Docket No. 51802	Return on Equity
Southwestern Electric Power Company	10/20	Southwestern Electric Power Company	Docket No. 51415	Rate of Return
<b>Virginia State Corporation Commission</b>				
Virginia Natural Gas, Inc.	04/21	Virginia Natural Gas, Inc.	PUR-2020-00095	Return on Equity
Massanutten Public Service Corporation	12/20	Massanutten Public Service Corporation	PUE-2020-00039	Return on Equity
Aqua Virginia, Inc.	07/20	Aqua Virginia, Inc.	PUR-2020-00106	Rate of Return
WGL Holdings, Inc.	07/18	Washington Gas Light Company	PUR-2018-00080	Rate of Return
Atmos Energy Corporation	05/18	Atmos Energy Corporation	PUR-2018-00014	Rate of Return
Aqua Virginia, Inc.	07/17	Aqua Virginia, Inc.	PUR-2017-00082	Rate of Return
Massanutten Public Service Corp.	08/14	Massanutten Public Service Corp.	PUE-2014-00035	Rate of Return / Rate Design

Northern States Power Company  
 Recommended Capital Structure and Cost Rates  
for Ratemaking Purposes

<u>Type Of Capital</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	47.03%	4.10% (1)	1.93%
Short-Term Debt	0.43%	1.09% (1)	0.00%
Common Equity	<u>52.54%</u>	10.50% (2)	<u>5.52%</u>
Total	<u>100.00%</u>		<u>7.45%</u>

Notes:

- (1) Company-provided.
- (2) From page 2 of this Schedule.

Northern States Power Company  
Brief Summary of Common Equity Cost Rate

<u>Line No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Seven Natural Gas Distribution Companies</u>
1.	Discounted Cash Flow Model (DCF) (1)	9.44%
2.	Risk Premium Model (RPM) (2)	10.96%
3.	Capital Asset Pricing Model (CAPM) (3)	11.75%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>12.42%</u>
5.	Range of Common Equity Model Results	9.44% - 12.42%
6.	Business Risk Adjustment (5)	0.50%
7.	Credit Risk Adjustment (6)	-0.04%
8.	Flotation Cost Adjustment (7)	<u>0.14%</u>
9.	Indicated Range of Common Equity Cost Rates after Adjustment	<u>10.04% - 13.02%</u>
10.	Recommended Common Equity Cost Rate	<u><u>10.50%</u></u>

- Notes:
- (1) From page 1 of Schedule DWD-5.
  - (2) From page 1 of Schedule DWD-6.
  - (3) From page 1 of Schedule DWD-7.
  - (4) From page 1 of Schedule DWD-9.
  - (5) Adjustment to reflect the Company's greater business risk relative to the Utility Proxy Group as detailed in Mr. D'Ascendis' direct testimony.
  - (6) Company-specific risk adjustment to reflect the Company's lower risk due to a higher long-term issuer rating relative to the proxy group as detailed in Mr. D'Ascendis' direct testimony.
  - (7) From page 1 of Schedule DWD-12.

Northern States Power Company

Northern States Power Company  
CAPITALIZATION AND FINANCIAL STATISTICS (1)  
2015 - 2020, Inclusive

	2020	2019	2018	2017	2016	
	(MILLIONS OF DOLLARS)					
<b>CAPITALIZATION STATISTICS</b>						
<b>AMOUNT OF CAPITAL EMPLOYED</b>						
TOTAL PERMANENT CAPITAL	\$ 12,673.000	\$ 11,603.100	\$ 10,510.300	\$ 10,408.588	\$ 10,198.734	
SHORT-TERM DEBT	179.000	30.000	150.000	20.000	85.000	
TOTAL-CAPITAL EMPLOYED	<u>\$ 12,852.000</u>	<u>\$ 11,633.100</u>	<u>\$ 10,660.300</u>	<u>\$ 10,428.588</u>	<u>\$ 10,283.734</u>	
<b>INDICATED AVERAGE CAPITAL COST RATES (2)</b>						
TOTAL DEBT	4.28 %	4.38 %	4.51 %	4.61 %	4.69 %	
<b>CAPITAL STRUCTURE RATIOS</b>						
<b>BASED ON TOTAL PERMANENT CAPITAL:</b>						<b>5 YEAR</b>
						<b>AVERAGE</b>
LONG-TERM DEBT	46.59 %	47.58 %	46.97 %	47.39 %	47.49 %	47.20 %
PREFERRED STOCK	-	-	-	-	-	-
COMMON EQUITY	53.41	52.42	53.03	52.61	52.51	52.80
TOTAL	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<b>BASED ON TOTAL CAPITAL:</b>						
TOTAL DEBT, INCLUDING SHORT-TERM	47.33 %	47.72 %	47.72 %	47.49 %	47.92 %	47.64 %
PREFERRED STOCK	-	-	-	-	-	-
COMMON EQUITY	52.67	52.28	52.28	52.51	52.08	52.36
TOTAL	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
DIVIDEND PAYOUT RATIO	69.04 %	85.99 %	92.69 %	103.36 %	81.00 %	86.42 %
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	9.20 %	9.31 %	8.91 %	9.05 %	9.29 %	9.15 %
TOTAL DEBT / EBITDA (3)	3.69 x	3.46 x	3.45 x	3.09 x	3.23 x	3.38 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	15.52 %	17.70 %	31.94 %	22.53 %	25.64 %	22.67 %
TOTAL DEBT / TOTAL CAPITAL	47.33 %	47.72 %	47.72 %	47.49 %	47.92 %	47.64 %

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: Company audited financial statements

Northern States Power Company

Northern States Power Company,  
 Calculation of 2022 Balances of Long-Term Debt, Short-Term Debt  
 and Common Equity (1)

First Mortgage Bonds	Long-Term Debt		2022 Average		Short-Term Debt		Common Equity		Total Capital
	Balance	Month	Balance	Month	Balance	Month	Balance	Month	
Series due July 1, 2025 (FMB)	\$ 249,583	2022 Jan	\$ 180,563	2021 Dec	\$ 7,578,504				
Series due March 1, 2028 (FMB)	149,393	2022 Feb	93,416	2022 Jan	7,649,446				
Series due July 15, 2035 (FMB)	248,475	2022 Mar	63,070	2022 Feb	7,689,095				
Series due June 1, 2036 (FMB)	404,657	2022 Apr	75,327	2022 Mar	7,630,096				
Series due July 1, 2037 (FMB)	346,848	2022 May	187,626	2022 Apr	7,662,038				
Series due November 1, 2039 (FMB)	295,421	2022 June	-	2022 May	7,690,358				
Series due August 15, 2040 (FMB)	247,754	2022 Jul	-	2022 Jun	7,641,548				
Series due August 15, 2022 (FMB)	174,940	2022 Aug	-	2022 Jul	7,734,830				
Series due August 15, 2042 (FMB)	463,174	2022 Sep	-	2022 Aug	7,819,061				
Series due May 15, 2023 (FMB)	399,564	2022 Oct	60,185	2022 Sep	7,765,614				
Series due May 15, 2044 (FMB)	296,583	2022 Nov	44,644	2022 Oct	7,801,061				
Series due Aug 15, 2045 (FMB)	293,233	2022 Dec	61,127	2022 Nov	7,835,762				
Series due May 15, 2046 (FMB)	344,033			2022 Dec	7,781,872				
Series due Sep 15, 2047 (FMB)	580,579								
Series due Mar 1, 2050 (FMB)	581,592								
Series due Jun 1, 2051 (FMB)	678,582								
Series due Mar 29, 2031 (FMB)	419,454								
Series due Mar 29, 2051 (FMB)	418,901								
Series due Jun 1, 2052 (FMB)	316,074								
Right of Way Notes	486								
Unamortized Loss on Reactquired Debt	(4,529)								
Total	\$ 6,904,800	Avg. Balance	\$ 63,830	Avg. Balance	\$ 7,713,791		\$ 14,682,421		
Percent of Total Capital	47.03%		0.43%		52.54%		100.00%		

Notes:  
 (1) Company-provided data.

Northern States Power Company

Proxy Group of Seven Natural Gas Distribution Companies  
CAPITALIZATION AND FINANCIAL STATISTICS (1)  
2016 - 2020, Inclusive

	2020	2019	2018	2017	2016	
	(MILLIONS OF DOLLARS)					
<u>CAPITALIZATION STATISTICS</u>						
<u>AMOUNT OF CAPITAL EMPLOYED</u>						
TOTAL PERMANENT CAPITAL	\$5,167.601	\$4,449.970	\$4,008.781	\$3,441.727	\$3,183.771	
SHORT-TERM DEBT	\$314.214	\$422.695	\$317.279	\$309.051	\$263.516	
TOTAL CAPITAL EMPLOYED	<u>\$5,481.815</u>	<u>\$4,872.665</u>	<u>\$4,326.060</u>	<u>\$3,750.778</u>	<u>\$3,447.287</u>	
<u>INDICATED AVERAGE CAPITAL COST RATES (2)</u>						
TOTAL DEBT	3.34 %	3.66 %	3.70 %	3.79 %	3.57 %	
PREFERRED STOCK	6.12	2.81				
<u>CAPITAL STRUCTURE RATIOS</u>						
<u>BASED ON TOTAL PERMANENT CAPITAL:</u>						
LONG-TERM DEBT	50.44 %	47.91 %	48.37 %	47.45 %	46.11 %	48.06 %
PREFERRED STOCK	0.69	0.74	-	-	-	0.28
COMMON EQUITY	48.87	51.35	51.63	52.55	53.89	51.66
TOTAL	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>BASED ON TOTAL CAPITAL:</u>						
TOTAL DEBT, INCLUDING SHORT-TERM	53.98 %	52.38 %	52.43 %	51.86 %	49.66 %	52.06 %
PREFERRED STOCK	0.61	0.64	-	-	-	0.25
COMMON EQUITY	45.41	46.98	47.57	48.14	50.34	47.69
TOTAL	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>FINANCIAL STATISTICS</u>						
<u>FINANCIAL RATIOS - MARKET BASED</u>						
EARNINGS / PRICE RATIO	4.85 %	3.92 %	4.60 %	4.61 %	4.73 %	4.54 %
MARKET / AVERAGE BOOK RATIO	179.50	218.48	211.77	218.10	196.09	204.79
DIVIDEND YIELD	3.34	2.74	2.86	2.75	2.94	2.93
DIVIDEND PAYOUT RATIO	77.37	73.87	54.17	55.23	62.20	64.57
<u>RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY</u>	8.77 %	8.62 %	9.88 %	8.28 %	9.29 %	8.97 %
<u>TOTAL DEBT / EBITDA (3)</u>	5.48 x	5.35 x	5.49 x	7.72 x	4.00 x	5.61 x
<u>FUNDS FROM OPERATIONS / TOTAL DEBT (4)</u>	14.20 %	13.18 %	23.75 %	16.76 %	21.91 %	17.96 %
<u>TOTAL DEBT / TOTAL CAPITAL</u>	53.98 %	52.38 %	52.43 %	51.86 %	49.66 %	52.06 %

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

Northern States Power Company

Capital Structure Based upon Total Permanent Capital for the  
 Proxy Group of Seven Natural Gas Distribution Companies  
 2016 - 2020, Inclusive

	2020	2019	2018	2017	2016	5 YEAR AVERAGE
<u>Atmos Energy Corporation</u>						
Long-Term Debt	40.02 %	36.22 %	36.47 %	41.37 %	36.23 %	38.06 %
Short-Term Debt	-	4.77	6.84	6.04	12.33	6.00
Preferred Stock	-	-	-	-	-	0.00
Common Equity	59.98	59.01	56.69	52.59	51.44	55.94
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>New Jersey Resources Corporation</u>						
Long-Term Debt	53.72 %	49.70 %	45.36 %	43.62 %	46.62 %	47.80 %
Short-Term Debt	2.94	0.81	5.29	9.98	5.04	4.81
Preferred Stock	-	-	-	-	-	0.00
Common Equity	43.34	49.48	49.35	46.40	48.34	47.38
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Northwest Natural Holding Company</u>						
Long-Term Debt	44.47 %	46.47 %	42.89 %	49.46 %	44.32 %	45.52 %
Short-Term Debt	14.17	7.86	12.68	3.44	3.28	8.29
Preferred Stock	-	-	-	-	-	0.00
Common Equity	41.36	45.67	44.43	47.10	52.40	46.19
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>ONE Gas, Inc.</u>						
Long-Term Debt	37.65 %	32.71 %	35.44 %	33.99 %	36.97 %	35.35 %
Short-Term Debt	9.83	13.14	8.26	10.18	4.50	9.18
Preferred Stock	-	-	-	-	-	0.00
Common Equity	52.51	54.16	56.31	55.84	58.54	55.47
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>South Jersey Industries, Inc.</u>						
Long-Term Debt	56.33 %	52.76 %	64.88 %	43.54 %	39.61 %	51.42 %
Short-Term Debt	11.51	17.64	6.18	12.71	11.28	11.86
Preferred Stock	-	-	-	-	-	0.00
Common Equity	32.16	29.60	28.94	43.75	49.11	36.71
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Southwest Gas Holdings, Inc.</u>						
Long-Term Debt	49.91 %	47.56 %	47.10 %	46.66 %	49.06 %	48.06 %
Short-Term Debt	1.93	4.07	3.35	5.65	-	3.00
Preferred Stock	-	-	-	-	-	0.00
Common Equity	48.16	48.37	49.55	47.69	50.94	48.94
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Spire Inc.</u>						
Long-Term Debt	43.93 %	39.24 %	40.57 %	45.91 %	49.02 %	43.73 %
Short-Term Debt	11.46	13.74	11.71	10.46	9.38	11.35
Preferred Stock	4.28	4.47	-	-	-	1.75
Common Equity	40.33	42.54	47.72	43.63	41.60	43.16
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Proxy Group of Seven Natural Gas Distribution Companies</u>						
Long-Term Debt	46.57 %	43.52 %	44.67 %	43.51 %	43.12 %	44.28 %
Short-Term Debt	7.41	8.86	7.76	8.35	6.54	7.78
Preferred Stock	0.61	0.64	-	-	-	0.25
Common Equity	45.41	46.98	47.57	48.14	50.34	47.68
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>

Source of Information  
 Annual Forms 10-K

Northern States Power Company

Northern States Power Company  
Operating Subsidiary Company Capital Structures of the  
Proxy Group of Seven Natural Gas Distribution Companies

<u>Company Name</u>	<u>Parent Company Ticker</u>	2020				<u>Total Capital</u>
		<u>Common Equity</u>	<u>Long-Term Debt</u>	<u>Short-Term Debt</u>		
Atmos Energy Corporation	ATO	58.75%	41.25%	0.00%	100.00%	
New Jersey Natural Gas Company	NJR	53.09%	46.91%	0.00%	100.00%	
Northwest Natural Gas Company	NWN	40.43%	48.36%	11.21%	100.00%	
ONE Gas, Inc.	OGS	52.28%	37.93%	9.79%	100.00%	
Elizabethtown Gas Company	SJI	NA	NA	NA	NA	
South Jersey Gas Company	SJI	53.87%	44.17%	1.96%	100.00%	
Southwest Gas Corporation	SWX	47.21%	51.59%	1.20%	100.00%	
Missouri Gas Energy	SR	NA	NA	NA	NA	
Spire Alabama Inc.	SR	58.68%	32.96%	8.36%	100.00%	
Spire Gulf Inc.	SR	NA	NA	NA	NA	
Spire Mississippi Inc.	SR	NA	NA	NA	NA	
Spire Missouri Inc.	SR	50.71%	38.65%	10.64%	100.00%	
	Mean	<u>51.88%</u>	<u>42.73%</u>	<u>5.40%</u>	<u>100.00%</u>	

Source: S&P Global Market Intelligence

Northern States Power Company

Northern States Power Company  
 Composite Cost of Long-Term Debt

Description	Coupon Rate	Issue Date	Maturity Date	Amount	Premium or Hedge Gain/(Loss)	Bond Discount	Bond Expense	LRD	(4) Capital Employed	(5) Interest Charge	Total Bond Cost			Cost of Capital	Capital Cost %
											Amortization	Amortization	Amortization		
<b>First Mortgage Bonds</b>															
Series due July 1, 2025 (FMB)	7.1250	Jul-95	Jul-25	250,000	-	230	187		249,583	17,813	78	63	17,953	7.19%	
Series due March 1, 2028 (FMB)	6.5000	Mar-98	Mar-28	150,000	-	330	277		149,393	9,750	59	49	9,858	6.60%	
Series due July 15, 2035 (FMB)	5.2500	Jul-05	Jul-35	250,000	-	210	1,314		248,475	13,125	16	101	13,242	5.33%	
Series due June 1, 2036 (FMB)	6.2500	May-06	Jun-36	400,000	7,561	649	2,255		404,657	25,000	47	162	24,665	6.10%	
Series due July 1, 2037 (FMB)	6.2000	Jun-07	Jul-37	350,000	-	991	2,162		346,848	21,700	66	144	21,911	6.32%	
Series due November 1, 2039 (FMB)	5.3500	Nov-09	Nov-39	300,000	(1,851)	329	2,398		295,421	16,050	19	139	16,315	5.52%	
Series due August 15, 2040 (FMB)	4.8500	Aug-10	Aug-40	250,000	-	426	1,819		247,754	12,125	24	101	12,249	4.94%	
Series due August 15, 2022 (FMB) (2)	2.1500	Aug-12	Aug-22	175,000	-	8	52		174,940	3,763	28	191	3,962	2.28%	
Series due August 15, 2042 (FMB)	3.4000	Aug-12	Aug-42	500,000	(30,069)	2,556	4,200		463,174	17,000	127	209	18,833	4.07%	
Series due May 15, 2023 (FMB)	2.6000	May-13	May-23	400,000	-	61	375		399,564	10,400	73	453	10,927	2.73%	
Series due May 15, 2044 (FMB)	4.1250	May-14	May-44	300,000	-	635	2,782		296,583	12,375	29	127	12,531	4.23%	
Series due Aug 15, 2045 (FMB)	4.0000	Aug-15	Aug-45	300,000	-	3,767	2,999		293,233	12,000	163	130	12,293	4.19%	
Series due May 15, 2046 (FMB)	3.6000	May-16	May-46	350,000	-	1,665	4,302		344,033	12,600	70	180	12,850	3.74%	
Series due Sep 15, 2047 (FMB)	3.7000	Sep-17	Sep-47	600,000	-	5,017	7,381	7.023	580,579	22,200	199	293	22,971	3.96%	
Series due Mar 1, 2050 (FMB)	2.9000	Sep-19	Mar-50	600,000	-	10,492	7,916		581,592	17,400	380	286	18,066	3.11%	
Series due Jun 1, 2051 (FMB)	2.6000	Jun-20	Jun-51	700,000	-	12,286	9,132		678,582	18,200	425	316	18,941	2.79%	
Series due Mar 29, 2031 (FMB)	2.1500	Mar-21	Mar-31	425,000	-	-	5,546		419,454	9,138	-	637	9,775	2.33%	
Series due Mar 29, 2051 (FMB)	3.1500	Mar-21	Mar-51	425,000	-	-	6,099		418,901	13,388	-	212	13,600	3.25%	
Series due Jun 1, 2052 (FMB) (1)	3.2000	Jun-22	Jun-52	320,833	-	-	4,759		316,074	10,267	-	161	10,428	3.30%	
<b>Other Debt</b>															
Right of Way Notes	var	var	var	486	-	-	-		486	-	-	-	-	-	0.00%
<b>TOTAL DEBT</b>				<b>7,046,319</b>	<b>(24,360)</b>	<b>39,652</b>	<b>65,955</b>	<b>7,023</b>	<b>6,909,329</b>	<b>274,292</b>	<b>1,803</b>	<b>3,957</b>	<b>281,389</b>	<b>4.07%</b>	
Unamortized Loss on Reacquired Debt Fees on 5-year Credit Facility (3)									(4,529)				1,020		
<b>GRAND TOTAL and COST OF DEBT</b>									<b>6,904,800</b>				<b>282,788</b>	<b>4.10%</b>	

**Notes:**  
 (1) NSPM 2022 issuance of \$550M 30 year bond, balance is 7 of 12 months.  
 (2) NSPM 2012 issuance of \$300M 10 year bond, balance is 7 of 12 months.  
 (3) Fees associated with the 5 Year Credit Facility are amortized over the life of the facility and are incorporated into the long-term debt rate.  
 (4) Capital Employed is based on the Premium / Discount / Expense Balances representing average declining balances. New and Maturing Debt averaged on number of months in the year.  
 (5) Interest Expense is a Straight Interest Expense calculation.

Northern States Power Company  
Calculation of Short-Term Debt Cost Rate

<b>Cost of Short Term Debt</b>					
	Month End Short Term Debt NSPM (1)	Average of Daily Balances (2)	Monthly Interest Expense (3)	Monthly Fees Expense (4)	Average Short Term Debt Cost
2022 Jan	\$180,562,536	\$141,809,189	\$33,903	\$43,476	
2022 Feb	\$93,416,195	\$136,989,366	\$29,581	\$39,390	
2022 Mar	\$63,070,330	\$78,243,263	\$18,706	\$43,476	
2022 Apr	\$75,326,726	\$69,198,528	\$18,158	\$42,114	
2022 May	\$187,626,231	\$131,476,478	\$35,651	\$43,476	
2022 June	\$0	\$93,813,115	\$24,618	\$42,114	
2022 Jul	\$0	\$0	\$0	\$43,476	
2022 Aug	\$0	\$0	\$0	\$43,476	
2022 Sep	\$0	\$0	\$0	\$42,114	
2022 Oct	\$60,184,895	\$30,092,447	\$9,567	\$43,476	
2022 Nov	\$44,644,469	\$52,414,682	\$16,126	\$42,114	
2022 Dec	\$61,127,485	\$52,885,977	\$16,813	\$43,476	
Average	\$63,829,906	\$65,576,920			
Total			\$ 203,123	\$ 512,179	
			0.31%	0.78%	1.09%

**Notes:**

- (1) Month-end Balances. Includes commercial paper, utility money pool or direct borrowings under the credit facility.
- (2) 12 month average of average daily balances
- (3) Monthly Interest Expense is based on the weighted average of short term debt outstanding.
- (4) Ongoing fees for NSP-MN's five-year credit facility that was re-syndicated on June 7, 2019.

This expense represents the monthly cost of NSP-MN unused portion of the credit facility. Credit facility is used primarily as back up for commercial paper and letters of credit. (Upfront expenses for the five year credit facility are amortized over the life of the facility and are included in the cost of long term debt.)

Northern States Power Company

Northern States Power Company  
 Cost of Long-Term Debt Comparison

Issue	Initial Offering	Date of Offering	Date of Maturity	Years to Maturity	Net Issuance		Net Proceeds	Annual Interest Expense	Annual Net Amortization	Total Expense	Yield	Bloomberg Fair Value Curve		
					Coupon	Costs						BFV Term	Utility A-Rated	Utility BBB-Rated
Series due July 1, 2025 (FMB)	\$ 250,000	7/7/1995	7/1/2025	30	7.125%	\$ 417	\$ 249,583	\$ 17,813	\$ 141	\$ 17,953	7.19%	30	7.42%	7.50%
Series due March 1, 2028 (FMB)	\$ 150,000	3/11/1998	3/1/2028	30	6.500%	\$ 607	\$ 149,393	\$ 9,750	\$ 108	\$ 9,858	6.60%	30	6.86%	7.07%
Series due July 15, 2035 (FMB)	\$ 250,000	7/21/2005	7/15/2035	30	5.250%	\$ 1,525	\$ 248,475	\$ 13,125	\$ 117	\$ 13,242	5.33%	30	5.18%	5.55%
Series due June 1, 2036 (FMB)	\$ 400,000	5/25/2006	6/1/2036	30	6.250%	\$ (4,657)	\$ 404,657	\$ 25,000	\$ (335)	\$ 24,665	6.10%	30	6.27%	6.59%
Series due July 1, 2037 (FMB)	\$ 350,000	6/1/2007	7/1/2037	30	6.200%	\$ 3,152	\$ 346,848	\$ 21,700	\$ 211	\$ 21,911	6.32%	30	6.09%	6.24%
Series due November 1, 2039 (FMB)	\$ 300,000	11/17/2009	11/1/2039	30	5.350%	\$ 4,579	\$ 295,421	\$ 16,050	\$ 265	\$ 16,315	5.52%	30	5.57%	6.23%
Series due August 15, 2040 (FMB)	\$ 250,000	8/11/2010	8/15/2040	30	4.850%	\$ 2,246	\$ 247,754	\$ 12,125	\$ 124	\$ 12,249	4.94%	30	5.25%	5.76%
Series due August 15, 2022 (FMB) (2)	\$ 175,000	8/13/2012	8/15/2022	10	2.150%	\$ 60	\$ 174,940	\$ 3,763	\$ 220	\$ 3,982	2.28%	10	2.78%	3.53%
Series due August 15, 2042 (FMB)	\$ 500,000	8/13/2012	8/15/2042	30	3.400%	\$ 36,826	\$ 463,174	\$ 17,000	\$ 1,833	\$ 18,833	4.07%	30	3.74%	4.19%
Series due May 15, 2023 (FMB)	\$ 400,000	5/20/2013	5/15/2023	10	2.600%	\$ 436	\$ 399,564	\$ 10,400	\$ 527	\$ 10,927	2.73%	10	2.81%	3.38%
Series due May 15, 2044 (FMB)	\$ 300,000	5/13/2014	5/15/2044	30	4.125%	\$ 3,417	\$ 296,583	\$ 12,375	\$ 156	\$ 12,531	4.23%	30	4.35%	4.72%
Series due Aug 15, 2045 (FMB)	\$ 300,000	8/11/2015	8/15/2045	30	4.000%	\$ 6,767	\$ 293,233	\$ 12,000	\$ 293	\$ 12,293	4.19%	30	4.37%	4.77%
Series due May 15, 2046 (FMB)	\$ 350,000	5/31/2016	5/15/2046	30	3.600%	\$ 5,967	\$ 344,033	\$ 12,600	\$ 250	\$ 12,850	3.74%	30	3.95%	4.42%
Series due Sep 15, 2047 (FMB)	\$ 600,000	9/13/2017	9/15/2047	30	3.700%	\$ 19,421	\$ 580,579	\$ 22,200	\$ 771	\$ 22,971	3.96%	30	3.85%	4.17%
Series due Mar 1, 2050 (FMB)	\$ 600,000	9/10/2019	3/1/2050	30	2.900%	\$ 18,408	\$ 581,592	\$ 17,400	\$ 666	\$ 18,066	3.11%	30	3.29%	3.66%
Series due Jun 1, 2051 (FMB)	\$ 700,000	6/15/2020	6/1/2051	31	2.600%	\$ 21,418	\$ 678,582	\$ 18,200	\$ 741	\$ 18,941	2.79%	31	3.12%	3.55%
Series due Mar 29, 2031 (FMB)	\$ 425,000	3/29/2021	3/29/2031	10	2.150%	\$ 5,546	\$ 419,454	\$ 9,138	\$ 637	\$ 9,775	2.33%	10	2.32%	2.53%
Series due Mar 29, 2051 (FMB)	\$ 425,000	3/29/2021	3/29/2051	30	3.150%	\$ 6,099	\$ 418,901	\$ 13,388	\$ 212	\$ 13,600	3.25%	30	3.35%	3.65%
<b>TOTAL</b>	\$ 6,725,000				Weighted Averages:						4.10%		4.19%	4.57%

Notes:

Sources: Company provided data and Bloomberg Professional.  
 Fair Value Curve yields are 30-day averages from Bloomberg Professional.

Northern States Power Company  
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the  
Proxy Group of Seven Natural Gas Distribution Companies

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Zack's Five Year Projected Growth Rate in EPS (3)	Bloomberg'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)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
Atmos Energy Corporation	2.54 %	7.00 %	7.10 %	7.17 %	7.14 %	2.63 %	9.77 %
New Jersey Resources Corporation	3.19	2.00	7.33	6.00	5.61	3.28	8.89
Northwest Natural Holding Company	3.57	5.50	4.42	3.80	4.41	3.65	8.06
ONE Gas, Inc.	3.02	6.50	5.67	5.00	5.54	3.10	8.64
South Jersey Industries, Inc.	4.84	11.50	4.93	4.80	6.66	5.00	11.66
Southwest Gas Holdings, Inc.	3.45	9.00	4.50	4.00	5.75	3.55	9.30
Spire Inc.	3.49	10.00	5.33	7.31	7.04	3.61	10.65
						Average	9.57 %
						Median	9.30 %
						Average of Mean and Median	9.44 %

NA= Not Available  
NMF= Not Meaningful Figure

## Notes:

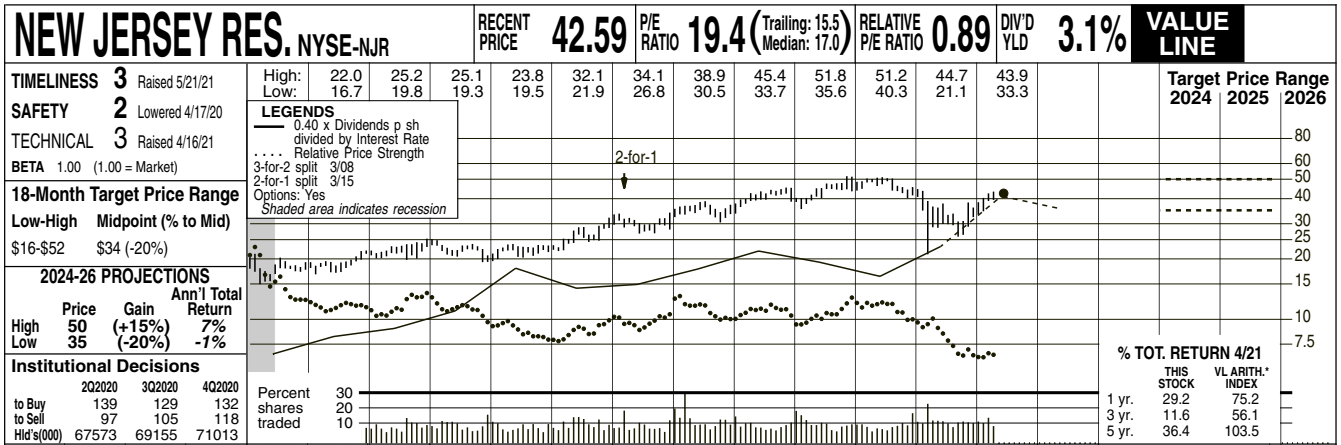
- (1) Indicated dividend at 05/28/2021 divided by the average closing price of the last 60 trading days ending 05/28/2021 for each company.
- (2) From pages 2 through 8 of this Schedule.
- (3) Average of columns 2 through 5 excluding negative growth rates.
- (4) This reflects a growth rate component 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 Atmos Energy Corporation,  $2.54\% \times (1 + (1/2 \times 7.14\%)) = 2.63\%$ .
- (5) Column 6 + column 7.

## Source of Information:

Value Line Investment Survey  
www.zacks.com Downloaded on 05/28/2021  
www.yahoo.com Downloaded on 05/28/2021  
Bloomberg Professional Services

<b>ATMOS ENERGY CORP. NYSE-ATO</b>				RECENT PRICE	98.51	P/E RATIO	18.9	(Trailing: 18.5) (Median: 19.0)	RELATIVE P/E RATIO	0.87	DIV'D YLD	2.7%	VALUE LINE											
<b>TIMELINESS</b> 3 Lowered 4/2/21	High: 32.0 Low: 25.9	35.6 28.5	37.3 30.4	47.4 34.9	58.2 44.2	64.8 50.8	82.0 60.0	93.6 72.5	100.8 76.5	115.2 89.2	121.1 77.9	105.0 84.6	Target Price Range 2024 2025 2026											
<b>SAFETY</b> 1 Raised 6/8/14	<b>LEGENDS</b> 0.50 x Dividends p sh divided by Interest Rate ..... Relative Price Strength Options: Yes Shaded area indicates recession																							
<b>TECHNICAL</b> 5 Lowered 4/9/21																								
<b>BETA</b> .80 (1.00 = Market)	% TOT. RETURN 4/21 THIS STOCK VS. ARITH. INDEX 1 yr. 4.1 75.2 3 yr. 26.8 56.1 5 yr. 58.9 103.5																							
<b>18-Month Target Price Range</b>				Low-High Midpoint (% to Mid)										\$75-\$159 \$117 (20%)										
<b>2024-26 PROJECTIONS</b>				Price	Gain	Ann'l Total Return																		
				High 160	(+60%)	15%																		
				Low 130	(+30%)	10%																		
<b>Institutional Decisions</b>				2020		3Q2020	4Q2020	Percent		24														
				to Buy	233	256	280	shares		16														
				to Sell	262	231	228	traded		8														
				Hold's(000)	108597	108898	107949																	
<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	© VALUE LINE PUB. LLC	<b>24-26</b>					
61.75	75.27	66.03	79.52	53.69	53.12	48.15	38.10	42.88	49.22	40.82	32.23	26.01	28.00	24.32	22.41	<b>24.50</b>	<b>25.05</b>	Revenues per sh <sup>A</sup>	<b>35.50</b>					
3.90	4.26	4.14	4.19	4.29	4.64	4.72	4.76	5.14	5.42	5.81	6.19	6.62	7.24	7.57	8.03	<b>8.55</b>	<b>9.10</b>	"Cash Flow" per sh	<b>10.25</b>					
1.72	2.00	1.94	2.00	1.97	2.16	2.26	2.10	2.50	2.96	3.09	3.38	3.60	4.00	4.35	4.72	<b>5.10</b>	<b>5.45</b>	Earnings per sh <sup>AB</sup>	<b>6.50</b>					
1.24	1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.48	1.56	1.68	1.80	1.94	2.10	2.30	<b>2.50</b>	<b>2.70</b>	Div'ds Decl'd per sh <sup>C</sup>	<b>3.30</b>					
4.14	5.20	4.39	5.20	5.51	6.02	6.90	8.12	9.32	8.32	9.61	10.46	10.72	13.19	14.19	15.38	<b>15.80</b>	<b>15.75</b>	Cap'l Spending per sh	<b>15.15</b>					
19.90	20.16	22.01	22.60	23.52	24.16	24.98	26.14	28.47	30.74	31.48	33.32	36.74	42.87	48.18	53.95	<b>62.15</b>	<b>70.25</b>	Book Value per sh	<b>87.85</b>					
80.54	81.74	89.33	90.81	92.55	90.16	90.30	90.24	90.64	100.39	101.48	103.93	106.10	111.27	119.34	125.88	<b>133.00</b>	<b>137.00</b>	Common Shs Outst'g <sup>D</sup>	<b>155.00</b>					
16.1	13.5	15.9	13.6	12.5	13.2	14.4	15.9	15.9	16.1	17.5	20.8	22.0	21.7	23.2	22.3	<b>Bold figures are Value Line estimates</b>		Avg Ann'l P/E Ratio	<b>22.5</b>					
.86	.73	.84	.82	.83	.84	9.0	1.01	.89	.85	.88	1.09	1.11	1.17	1.24	1.13			Relative P/E Ratio	<b>1.25</b>					
4.5%	4.7%	4.2%	4.8%	5.3%	4.7%	4.2%	4.1%	3.5%	3.1%	2.9%	2.4%	2.3%	2.2%	2.1%	2.2%			Avg Ann'l Div'd Yield	<b>2.3%</b>					
<b>CAPITAL STRUCTURE as of 3/31/21</b>				<p>Total Debt \$7316.6 mill. Due in 5 Yrs \$410.0 mill. LT Debt \$7316.4 mill. LT Interest \$370.0 mill. (LT interest earned: 9.5x; total interest coverage: 9.5x) Leases, Uncapitalized Annual rentals \$20.4 mill.</p>																				
<b>Pfd Stock None</b>				<p>Pension Assets-9/20 \$528.9 mill. Oblig. \$604.2 mill.</p>																				
<b>Common Stock 130,671,944 shs. as of 4/30/21</b>				<p>MARKET CAP: \$12.9 billion (Large Cap)</p>																				
<b>CURRENT POSITION (SMILL)</b>				2019		2020		3/31/21		<b>BUSINESS:</b> Atmos Energy Corporation is engaged primarily in the distribution and sale of natural gas to over three million customers through six regulated natural gas utility operations: Louisiana Division, West Texas Division, Mid-Tex Division, Mississippi Division, Colorado-Kansas Division, and Kentucky/Mid-States Division. Gas sales breakdown for fiscal 2020: 68.6%, residential; 26.2%, commercial; 3.6%, industrial; and 1.6% other. The company sold Atmos Energy Marketing, 1/17. Officers and directors own approximately 1.2% of common stock (12/20 Proxy). President and Chief Executive Officer: Kevin Akers. Incorporated: Texas. Address: Three Lincoln Centre, Suite 1800, 5430 LBJ Freeway, Dallas, Texas 75240. Telephone: 972-934-9227. Internet: www.atmosenergy.com.														
				Cash Assets	24.5	20.8	865.3	<p><b>Atmos Energy shined during the first half of fiscal 2021 (which concludes on September 30th).</b> Earnings per share jumped 17%, to \$4.01, relative to the previous-year total of \$3.42. One contributor was the natural gas distribution unit, which benefited from higher rates, primarily in the Mid-Tex, Mississippi, Louisiana, and West Texas divisions. Customer growth, mainly in the Mid-Tex unit, and a decrease in operating expenses also helped. Meanwhile, the performance of the pipeline and storage business got a lift from a GRIP filing approved in May, 2020 plus diminished system maintenance costs. Although the coronavirus has not gone away, full-year profits might increase around 8%, to \$5.10 a share, compared to last year's \$4.72 figure. Regarding fiscal 2022, we look for share net to rise at a similar percentage rate, to \$5.45, assuming that operating margins widen further. <b>A powerful storm hit the service area, particularly Texas, in February.</b> Consequently, the company experienced unprecedented market pricing for natural gas costs, resulting in total gas purchases during that month of \$2.3 billion. To help pay for those expenses, it issued \$2.2 billion in long-term debt. Leadership adds that it is working with regulators to recover these costs. Even though finances are now more leveraged, we believe these actions make sense. <b>Good things appear to be in store over the 2024-2026 time frame.</b> Atmos ranks as one of the country's largest natural gas-only distributors, boasting more than three million customers across several states, including Texas, Louisiana, and Mississippi. Furthermore, it appears that the pipeline and storage unit has promising overall expansion opportunities, since it operates in one of the most-active drilling regions in the world. Finally, the balance sheet remains adequate. In the company's present configuration, annual earnings advances might be between 6% and 8% during the 3- to 5-year period. <b>The stock holds decent, risk-adjusted total return potential.</b> Long-term capital appreciation possibilities are solid, even after taking recent price strength into account. Consider, too, the healthy dividend growth prospects.</p>																
				Other	433.5	450.5	755.1	<p>Frederick L. Harris, III May 28, 2021</p>																
				Current Assets	458.0	471.3	1620.4																	
				Accts Payable	265.0	235.8	263.6																	
				Debt Due	464.9	.2	.2																	
				Other	479.5	546.4	607.5																	
				Current Liab.	1209.4	782.4	871.3																	
				Fix. Chg. Cov.	990%	1306%	1320%																	
<b>ANNUAL RATES</b>				Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26																		
				Revenues	-8.5%	-11.0%	6.0%																	
				"Cash Flow"	5.5%	7.0%	5.0%																	
				Earnings	8.0%	9.0%	7.0%																	
				Dividends	5.0%	7.5%	7.5%																	
				Book Value	7.5%	10.0%	10.5%																	
<b>Fiscal Year Ends</b>				<b>QUARTERLY REVENUES (\$ mill.) <sup>A</sup></b>			<b>Full Fiscal Year</b>																	
				Dec.31	Mar.31	Jun.30	Sep.30																	
2018				889.2	1219.4	562.2	444.7	3115.5																
2019				877.8	1094.6	485.7	443.7	2901.8																
2020				875.6	977.6	493.0	474.9	2821.1																
2021				914.5	1319.1	<b>525.9</b>	<b>500.5</b>	<b>3260</b>																
2022				<b>960</b>	<b>1405</b>	<b>545</b>	<b>520</b>	<b>3430</b>																
<b>Fiscal Year Ends</b>				<b>EARNINGS PER SHARE <sup>A B E</sup></b>			<b>Full Fiscal Year</b>																	
				Dec.31	Mar.31	Jun.30	Sep.30																	
2018				1.40	1.57	.64	.41	4.00																
2019				1.38	1.82	.68	.49	4.35																
2020				1.47	1.95	.79	.53	4.72																
2021				1.71	2.30	<b>.67</b>	<b>.42</b>	<b>5.10</b>																
2022				<b>1.82</b>	<b>2.27</b>	<b>.80</b>	<b>.56</b>	<b>5.45</b>																
<b>Cal-endar</b>				<b>QUARTERLY DIVIDENDS PAID <sup>C</sup></b>			<b>Full Year</b>																	
				Mar.31	Jun.30	Sep.30	Dec.31																	
2017				.45	.45	.45	.485	1.84																
2018				.485	.485	.485	.525	1.98																
2019				.525	.525	.525	.575	2.15																
2020				.575	.575	.575	.625	2.35																
2021				.625	.625																			
<b>(A)</b> Fiscal year ends Sept. 30th. <b>(B)</b> Diluted shrs. Excl. nonrec. gains (loss): '10, '5c; '11, '1c; '18, \$1.43; '20, 17c. Excludes discontinued operations: '11, '10c; '12, '27c; '13, '14c; '17, 13c. Next egs. rpt. due early Aug. <b>(D)</b> In millions. <b>(E)</b> Qtrs may not add due to change in shrs outstanding.				<b>(C)</b> Dividends historically paid in early March, June, Sept., and Dec. = Div. reinvestment plan. Direct stock purchase plan avail.																				
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Northern States Power Company



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
38.10	39.81	36.31	45.37	31.17	32.05	36.30	27.08	38.38	44.40	32.09	21.90	26.28	33.24	29.01	20.39	24.75	26.55	Revenues per sh <sup>A</sup>	28.40	
1.31	1.37	1.22	1.81	1.58	1.63	1.70	1.86	1.93	2.73	2.52	2.46	2.68	3.72	2.99	3.30	3.45	3.75	"Cash Flow" per sh	4.00	
.88	.93	.78	1.35	1.20	1.23	1.29	1.36	1.37	2.08	1.78	1.61	1.73	2.72	1.96	2.07	2.15	2.40	Earnings per sh <sup>B</sup>	2.55	
.45	.48	.51	.56	.62	.68	.72	.77	.81	.86	.93	.98	1.04	1.11	1.19	1.27	1.34	1.42	Div'ds Decl'd per sh <sup>C</sup>	1.65	
.64	.64	.73	.86	.90	1.05	1.13	1.26	1.33	3.76	4.15	3.80	4.39	5.83	4.65	4.10	4.10	4.10	Cap'l Spending per sh	4.00	
5.30	7.50	7.75	8.64	8.29	8.81	9.36	9.80	10.65	11.48	12.99	13.58	14.33	16.18	17.37	19.26	20.30	21.50	Book Value per sh <sup>D</sup>	24.60	
82.64	82.88	83.22	84.12	83.17	82.35	82.89	83.05	83.32	84.20	85.19	85.88	86.32	87.69	89.34	95.80	97.00	98.00	Common Shs Outst'g <sup>E</sup>	100.00	
16.8	16.1	21.6	12.3	14.9	15.0	16.8	16.8	16.0	11.7	16.6	21.3	22.4	15.6	24.3	17.7	Bold figures are Value Line estimates	Avg Ann'l P/E Ratio	17.0		
.89	.87	1.15	.74	.99	.95	1.05	1.07	.90	.62	.84	1.12	1.13	.84	1.29	.91	Relative P/E Ratio		.95		
3.1%	3.2%	3.0%	3.3%	3.5%	3.7%	3.3%	3.4%	3.7%	3.5%	3.1%	2.9%	2.7%	2.6%	2.5%	3.5%	Avg Ann'l Div'd Yield		3.7%		

CAPITAL STRUCTURE as of 3/31/21		2019	2020	3/31/21	2019	2020	3/31/21	2019	2020	3/31/21	2019	2020	3/31/21	2019	2020	3/31/21	2019	2020	3/31/21	2019	2020	3/31/21
Total Debt	\$2296.3 mill.	3009.2	2248.9	3198.1	3738.1	2734.0	1880.9	2268.6	2915.1	2592.0	1953.7	2400	2600	Revenues (\$mill) <sup>A</sup>	2840							
LT Debt	\$2265.2 mill.	106.5	112.4	113.7	176.9	153.7	138.1	149.4	240.5	175.0	196.2	210	235	Net Profit (\$mill)	260							
LT Interest	\$47.1 mill.	30.2%	7.1%	25.4%	30.2%	26.3%	15.5%	17.2%	--	NMF	5.0%	5.0%	Income Tax Rate	5.0%								
Incl. \$54.9 mill. capitalized leases.		3.5%	5.0%	3.6%	4.7%	5.6%	7.3%	6.6%	8.2%	6.7%	10.0%	8.7%	9.1%	Net Profit Margin	9.1%							
(LT interest earned: 5.0x; total interest coverage: 5.0x)		35.5%	39.2%	36.6%	38.2%	43.2%	47.7%	44.6%	45.4%	49.8%	55.1%	54.0%	54.5%	Long-Term Debt Ratio	53.0%							
Pension Assets-9/20 \$404.4 mill.		64.5%	60.8%	63.4%	61.8%	56.8%	52.3%	55.4%	54.6%	50.2%	44.9%	46.0%	45.5%	Common Equity Ratio	47.0%							
Oblig. \$643.0 mill.		1203.1	1339.0	1400.3	1564.4	1950.6	2230.1	2233.7	2599.6	3088.9	4104.2	4270	4605	Total Capital (\$mill)	5260							
Pfd Stock None		1295.9	1484.9	1643.1	1884.1	2128.3	2407.7	2609.7	2651.0	3041.2	3983.0	4065	4145	Net Plant (\$mill)	4400							
Common Stock 96,339,849 shs.		9.7%	9.2%	9.0%	12.1%	8.6%	6.9%	7.7%	10.1%	6.4%	5.6%	6.0%	6.0%	Return on Total Cap'l	6.0%							
as of 5/3/21		13.7%	13.8%	12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	10.6%	10.5%	11.0%	Return on Shr. Equity	10.5%							
MARKET CAP: \$4.1 billion (Mid Cap)		13.7%	13.8%	12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	10.6%	10.5%	11.0%	Return on Com Equity	10.5%							
CURRENT POSITION (\$MILL.)		6.2%	6.2%	5.2%	11.0%	7.0%	4.8%	5.0%	10.2%	4.6%	4.3%	4.0%	4.5%	Retained to Com Eq	3.5%							
Cash Assets	2.7	117.0	57.7	55%	55%	59%	40%	60%	59%	40%	60%	62%	59%	All Div'ds to Net Prof	64%							
Other	508.9	505.3	477.5	<b>BUSINESS:</b> New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in NJ, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had 558,000 cust. at 9/30/20. Fiscal 2020 volume: 215 bill. cu. ft. (14% interruptible, 21% res., 10% commercial & elec. utility, 55% capacity release programs). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2020 dep. rate: 2.8%. Has 1,156 empl. Off./dir. own 1.3% of common; BlackRock, 14.3%; Vanguard, 10.6% (12/20 Proxy). CEO, President & Director: Steven D. Westhoven. Incorporated: New Jersey. Address: 1415 Wyckoff Road, Wall, NJ 07719. Telephone: 732-938-1480. Web: www.njresources.com.																		
Current Assets	511.6	622.3	535.2	<b>Since our February review, shares of New Jersey Resources have advanced nicely.</b> The company's stock price increased about 15% over that time frame. This uptick likely reflected the better-than-expected financial results, of late.																		
Accts Payable	295.9	270.1	288.2	<b>The retailer and wholesaler of energy services posted solid results for the March quarter.</b> To that point, revenues increased 25.4%, to \$802.2 million, thanks to double-digit gains of nonutility volumes of nearly 44% and to a lesser extent a 4% rise in utility volumes. Meanwhile, on the profitability front, overall expenses fell 970 basis points, as a percentage of the top line. All told, these factors drove the bottom line 58% higher, to \$1.77 per share. This was markedly better than our call for earnings of \$0.90.																		
Debt Due	46.9	152.6	31.1	<b>We have raised our fiscal 2021 (ends September 30th) share-net estimate by \$0.50, bringing that figure to \$2.15.</b> Our revised figure would represent a year-over-year gain of about 4%, and falls at the top end of management's recently increased guidance range of \$2.05 to \$2.15. The primary driver of this year's results will largely be the Energy Services division that has been able to take advantage of the increased volatility affecting commodity prices these days. At the same time, the New Jersey Natural Gas (NJNG) regulated utility segment has added roughly 3,700 new customer accounts in the first six months of this year. Combined, we look for New Jersey Resources annual revenues to advance more than 20% this year, to \$2.4 billion. That said, the industry's operating environment has been experiencing elevated uncertainty due to the COVID-19 pandemic; volatility surrounding commodity prices; a slump in end-user demand; and now fossil fuels transportation factors.																		
Other	103.6	111.0	96.8	<b>We look for this steady momentum to continue into next year, as well.</b> The NJNG unit is on pace to add 28,000-30,000 new customers from 2021-2023. At the same time, the regulated utility business filed for a base rate case increase of about \$165 million, which would help to return some of its investments in capital expansion projects.																		
Current Liab.	446.4	533.7	416.1	<b>Steady dividend growth aside, these shares appear richly valued.</b>																		
Fix. Chg. Cov.	545%	545%	550%	<b>Bryan J. Fong</b> May 28, 2021																		

Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2018	705.3	1019.1	543.4	647.3	2915.1
2019	811.8	866.2	434.9	479.1	2592.0
2020	615.0	639.6	299.0	400.1	1953.7
2021	454.3	802.2	525	618.5	2400
2022	505	850	575	670	2600

Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2018	1.53	1.61	d.09	d.33	2.72
2019	.61	1.27	d.20	.29	1.96
2020	.44	1.12	d.06	.57	2.07
2021	.46	1.77	d.20	.12	2.15
2022	.50	1.85	d.13	.18	2.40

(A) Fiscal year ends Sept. 30th. (B) Diluted earnings. Qtrly. revenues and eggs. may not sum to total due to rounding and change in shares outstanding. Next earnings report due early Aug. (C) Dividends historically paid in early Jan., April, July, and October. ■ Dividend reinvestment plan available. (D) Includes regulatory assets in 2020: \$527.5 million, \$5.51/share. (E) In millions, adjusted for splits.

Company's Financial Strength	A+
Stock's Price Stability	80
Price Growth Persistence	60
Earnings Predictability	55

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Northern States Power Company

N.W. NATURAL NYSE-NWN				RECENT PRICE	P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE	
<b>TIMELINESS</b> 3 Raised 11/20/20 <b>SAFETY</b> 3 Lowered 3/19/21 <b>TECHNICAL</b> 4 Raised 5/7/21 <b>BETA</b> .85 (1.00 = Market)				54.22	21.3 (Trailing: 20.4; Median: 24.0)	0.98	3.5%		
<b>18-Month Target Price Range</b> Low-High Midpoint (% to Mid) \$27-\$71 \$49 (-10%)								Target Price Range 2024 2025 2026 128 96 80 64 48 40 32 24 16 12	
<b>2024-26 PROJECTIONS</b> High Price 90 (+65%) Low Price 60 (+10%) Ann'l Total Return 15% 6%								% TOT. RETURN 4/21 THIS STOCK INDEX VL ARITH.* 1 yr. -13.9 75.2 3 yr. -3.8 56.1 5 yr. 21.6 103.5	
<b>INSTITUTIONAL DECISIONS</b> 2020Q2 3Q2020 4Q2020 to Buy 73 92 99 to Sell 103 94 85 Hid's(000) 21936 21896 22201 Percent shares traded 15 10 5				2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022				© VALUE LINE PUB. LLC 24-26	
<b>CAPITAL STRUCTURE as of 3/31/21</b> Total Debt \$1192.2 mill. (Due in 5 Yrs \$360.2 mill.) LT Debt \$860.7 mill. LT Interest \$43.1 mill.				848.8 730.6 758.5 754.0 723.8 676.0 762.2 706.1 746.4 773.7 830 860 63.9 59.9 60.5 58.7 53.7 58.9 d55.6 67.3 65.3 70.3 79.0 82.0				Revenues per sh 31.05 "Cash Flow" per sh 6.85 Earnings per sh <sup>A</sup> 3.10 Div'ds Decl'd per sh <sup>B</sup> 1.96 Cap'l Spending per sh 9.40 Book Value per sh <sup>D</sup> 45.30 Common Shs Outst'g <sup>C</sup> 32.00	
<b>Pension Assets-12/20</b> \$373.9 mill. Oblig. \$595.2 mill. Pfd Stock None Common Stock 30,656,006 shares as of 4/26/21				40.4% 42.4% 40.8% 41.5% 40.0% 40.9% -- 26.4% 16.2% 23.1% 21.0% 21.0% 7.5% 8.2% 8.0% 7.8% 7.4% 8.7% 9.5% 8.8% 9.1% 9.5% 9.5%				Avg Ann'l P/E Ratio 24.0 Relative P/E Ratio 1.35 Avg Ann'l Div'd Yield 2.6%	
<b>MARKET CAP \$1.7 billion (Mid Cap)</b>				47.3% 48.5% 47.6% 44.8% 42.5% 44.4% 47.9% 48.1% 48.2% 49.2% 49.0% 46.5% 52.7% 51.5% 52.4% 55.2% 57.5% 55.6% 52.1% 51.9% 51.8% 50.8% 51.0% 53.5%				Long-Term Debt Ratio 43.0% Common Equity Ratio 57.0% Total Capital (\$mill) 2550 Net Plant (\$mill) 3105	
<b>CURRENT POSITION</b> 2019 2020 3/31/21 (\$MILL.)				6.2% 5.7% 5.8% 5.8% 5.5% 5.1% NMF 5.8% 5.2% 5.2% 4.0% 4.0% 8.9% 8.2% 8.1% 7.6% 6.9% 6.9% NMF 8.8% 7.5% 7.9% 7.5% 7.0% 8.9% 8.2% 8.1% 7.6% 6.9% 6.9% NMF 8.8% 7.5% 7.9% 7.5% 7.0%				Return on Total Cap'l 4.0% Return on Shr. Equity 7.0% Return on Com Equity 7.0% Retained to Com Eq 2.5% All Div'ds to Net Prof 63%	
<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 to '24-'26 of change (per sh)				2.4% 1.6% 1.5% 1.1% .6% .9% NMF 2.1% 1.4% 1.7% 2.0% 2.0% 73% 80% 81% 85% 92% 87% NMF 76%				Net Profit (\$mill) 995 Net Profit (\$mill) 120 Income Tax Rate 21.0% Net Profit Margin 10.0% Long-Term Debt Ratio 43.0% Common Equity Ratio 57.0%	
<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year Cal-endar Mar.31 Jun.30 Sep.30 Dec.31				<b>BUSINESS:</b> Northwest Natural Holding Co. distributes natural gas to 1000 communities, 775,000 customers, in Oregon (89% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 3.7 mill. (77% in OR). Company buys gas supply from Canadian and U.S. producers; has transportation rights on Northwest Pipeline system. Owns local underground storage. Rev. breakdown: residential, 37%; commercial, 22%; industrial, gas transportation, 41%. Employs 1,167. BlackRock Inc. owns 16.4% of shares; State Street, 15.4%; Off./Dir., 1.03% (4/21 proxy). CEO: David H. Anderson. Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Tel.: 503-226-4211. Internet: www.nwnatural.com.				percentage of the top line. Combined, these factors drove the bottom line 22.8% higher, to \$1.94 a share. This bested our call of \$1.60.	
<b>QUARTERLY EARNINGS PER SHARE <sup>A</sup></b> Full Year Cal-endar Mar.31 Jun.30 Sep.30 Dec.31				<b>Since our February review, shares of Northwest Natural Holding Co. are trading markedly higher.</b> In fact, over that time frame, the stock's price climbed approximately 17%. While this is encouraging, investors should recall that NWN shares did sell off from the highs experienced in 2020. In fact, the stock lost more than 45% of its value through the lows that were hit earlier this year.				<b>We have raised our 2021 revenue and earnings estimate by \$10 million and \$0.05, to \$830 million and \$2.55 a share, respectively.</b> Our revised figure would represent a more-than-10% year-over-year share-net advance. This should be supported by an estimated 7.5% rise in sales, thanks to new customer accounts at the Natural Gas Distribution business. At the same time, the Other business segment has been getting a boost from acquisitions. The NW Natural Water Company continues to purchase water and waste water utilities, thereby expanding its geographic footprint and providing clean, reliable service to its customers.	
<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year Cal-endar Mar.31 Jun.30 Sep.30 Dec.31				<b>Meanwhile, the company posted solid financial results for the March quarter.</b> This is evident in revenues advancing 10.8%, to \$315.9 million, thanks to new rate increases in Oregon, customer growth, and asset management benefits. In fact, the regulated utility business added 11,000 natural gas meters over the past 12 months. Additionally, the colder-than-normal weather patterns across NWN's service territory helped to drive end-use consumer demand. Those benefits were partially offset by ongoing challenges stemming from the COVID-19 pandemic. However, with vaccines rolling out, it appears that there is a light at the end of that tunnel. On the margin front, overall expenses decreased 320 basis points, as a				<b>Neutrally ranked shares of Northwest Natural may appeal to income-seeking patient investors.</b> Indeed, the stock's above-average dividend yield is enticing and well covered. What's more, NWN offers worthwhile recovery potential for the pull to 2024-2026.	
<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 to '24-'26 of change (per sh)				1.46 d.01 d.39 1.27 2.33 1.50 .07 d.61 1.26 2.19 1.58 d.17 d.61 1.50 2.30 1.94 d.10 d.60 1.31 2.55 2022 1.96 d.08 d.58 1.35 2.65				Bryan J. Fong May 28, 2021	
<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 to '24-'26 of change (per sh)				1.46 d.01 d.39 1.27 2.33 1.50 .07 d.61 1.26 2.19 1.58 d.17 d.61 1.50 2.30 1.94 d.10 d.60 1.31 2.55 2022 1.96 d.08 d.58 1.35 2.65				Bryan J. Fong May 28, 2021	

(A) Diluted earnings per share. Excludes non-recurring items: '08, (\$0.06); '08, (\$0.03); '09, \$0.06; May not sum due to rounding. Next earnings report due in early Aug.  
 (B) Dividends historically paid in mid-February, May, August, and November.  
 (C) In millions.  
 (D) Includes intangibles. In 2020: \$69.2 million, \$2.26/share.  
 Company's Financial Strength A  
 Stock's Price Stability 85  
 Price Growth Persistence 30  
 Earnings Predictability 5  
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ONE GAS, INC. NYSE-OGS			RECENT PRICE	74.20	P/E RATIO	19.5 (Trailing: 19.8 Median: NMF)	RELATIVE P/E RATIO	0.90	DIV/D YLD	3.2%	VALUE LINE						
<b>TIMELINESS</b> 3	Raised 3/26/21		High:	44.3	51.8	67.4	79.5	87.8	96.7	97.0	81.9	<b>Target Price Range</b> 2024 2025 2026 200 160 100 50 20					
<b>SAFETY</b> 2	New 6/17	<b>LEGENDS</b> 0.50 x Dividends p sh divided by Interest Rate . . . . Relative Price Strength Options: Yes Shaded area indicates recession	Low:	31.9	38.9	48.0	61.4	62.2	75.8	63.7	66.8						
<b>TECHNICAL</b> 4	Raised 5/28/21																
<b>BETA</b> .80	(1.00 = Market)																
<b>18-Month Target Price Range</b>																	
<b>Low-High</b> Midpoint (% to Mid) \$60-\$121 \$91 (20%)																	
<b>2024-26 PROJECTIONS</b>																	
	Price	Gain	Ann'l Total														
High	145	(+95%)	20%														
Low	105	(+40%)	12%														
<b>Institutional Decisions</b>																	
	2Q2020	3Q2020	4Q2020	Percent								21					
to Buy	142	130	123	shares								14					
to Sell	137	151	163	traded								7					
Hid's(000)	42060	42057	42726														
The shares of ONE Gas, Inc. began trading "regular-way" on the New York Stock Exchange on February 3, 2014. That happened as a result of the separation of ONEOK's natural gas distribution operation. Regarding the details of the spinoff, on January 31, 2014, ONEOK distributed one share of OGS common stock for every four shares of ONEOK common stock held by ONEOK shareholders of record as of the close of business on January 21. It should be mentioned that ONEOK did not retain any ownership interest in the new company.			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26	
			--	--	--	34.92	29.62	27.30	29.43	31.08	31.32	28.78	31.30	33.85	Revenues per sh	43.00	
			--	--	--	4.52	4.82	5.43	5.96	6.32	6.96	7.36	7.75	8.20	"Cash Flow" per sh	9.75	
			--	--	--	2.07	2.24	2.65	3.02	3.25	3.51	3.68	3.80	4.00	Earnings per sh <sup>A</sup>	5.00	
			--	--	--	.84	1.20	1.40	1.68	1.84	2.00	2.16	2.32	2.48	Div'ds Decl'd per sh <sup>B</sup>	2.95	
			--	--	--	5.70	5.63	5.91	6.81	7.50	7.91	8.87	9.00	9.20	Cap'l Spending per sh	9.75	
			--	--	--	34.45	35.24	36.12	37.47	38.86	40.35	42.01	44.40	48.45	Book Value per sh	74.40	
			--	--	--	52.08	52.26	52.28	52.31	52.57	52.77	53.17	53.50	53.50	Common Shs Outst'g <sup>C</sup>	57.00	
			--	--	--	17.8	19.8	22.7	23.5	23.1	25.3	21.7	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	25.0	
			--	--	--	.94	1.00	1.19	1.18	1.25	1.35	1.11			Relative P/E Ratio	1.40	
			--	--	--	2.3%	2.7%	2.3%	2.4%	2.5%	2.3%	2.7%			Avg Ann'l Div'd Yield	2.4%	
			--	--	--	1818.9	1547.7	1427.2	1539.6	1633.7	1652.7	1530.3	1675	1810	Revenues (\$mill)	2450	
			--	--	--	109.8	119.0	140.1	159.9	172.2	186.7	196.4	205	215	Net Profit (\$mill)	285	
<b>CAPITAL STRUCTURE as of 3/31/21</b> Total Debt \$4529.7 mill. Due in 5 Yrs \$1020.0 mill. LT Debt \$4082.7 mill. LT Interest \$150.0 mill. (LT interest earned: 4.8x; total interest coverage: 4.8x) Leases, Uncapitalized Annual rentals \$7.9 mill. Pfd Stock None Pension Assets-12/20 \$987.6 mill. Oblig. \$1077.6 mill. Common Stock 53,245,144 shs. as of 4/26/21 MARKET CAP: \$4.0 billion (Mid Cap)			--	--	--	--	--	--	--	--	--	--	--	--	--	Income Tax Rate	22.0%
			--	--	--	6.0%	7.7%	9.8%	10.4%	10.5%	11.3%	12.8%	12.2%	11.9%	Net Profit Margin	11.6%	
			--	--	--	40.1%	39.5%	38.7%	37.8%	38.6%	37.7%	41.5%	64.0%	62.0%	Long-Term Debt Ratio	47.0%	
			--	--	--	59.9%	60.5%	61.3%	62.2%	61.4%	62.3%	58.5%	36.0%	38.0%	Cap'l Spending P/E Ratio	53.0%	
			--	--	--	2995.3	3042.9	3080.7	3153.5	3328.1	3415.5	3815.7	6600	6820	Total Capital (\$mill)	8000	
			--	--	--	3293.7	3511.9	3731.6	4007.6	4283.7	4565.2	4867.1	5100	5330	Net Plant (\$mill)	6000	
			--	--	--	4.4%	4.7%	5.2%	5.8%	5.9%	6.4%	6.0%	5.0%	5.0%	Return on Total Cap'l	5.0%	
			--	--	--	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	8.5%	8.5%	Return on Shr. Equity	6.5%	
			--	--	--	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	8.5%	8.5%	Return on Com Equity	6.5%	
			--	--	--	3.7%	3.1%	3.5%	3.7%	3.7%	3.8%	3.7%	3.5%	3.0%	Retained to Com Eq	3.0%	
			--	--	--	4.0%	53%	52%	55%	56%	56%	58%	61%	62%	All Div'ds to Net Prof	59%	
<b>CURRENT POSITION (SMILL)</b> Cash Assets 17.9 8.0 704.9 Other 488.3 531.9 453.8 Current Assets 506.2 539.9 1158.7 Accts Payable 120.5 152.3 228.0 Debt Due 516.5 418.2 447.0 Other 235.7 226.6 204.0 Current Liab. 872.7 797.1 879.0 Fix. Chg. Cov. 567% 587% 595%												<b>BUSINESS:</b> ONE Gas, Inc. provides natural gas distribution services to more than two million customers. There are three divisions: Oklahoma Natural Gas, Kansas Gas Service, and Texas Gas Service. The company purchased 153 Bcf of natural gas supply in 2020, compared to 174 Bcf in 2019. Total volumes delivered by customer (fiscal 2020): transportation, 58.3%; residential, 31.7%; commercial & industrial, 9.4%; other, .6%. ONE Gas has around 3,600 employees. BlackRock owns 11.9% of common stock; The Vanguard Group, 9.7%; American Century Investment, 7.6%; officers and directors, 1.9% (4/21 Proxy). CEO: Pierce H. Norton II. Incorporated: Oklahoma. Address: 15 East Fifth Street, Tulsa, Oklahoma 74103. Tel.: 918-947-7000. Internet: www.onegas.com.					
<b>ANNUAL RATES</b> Past Past Est'd '18-'20 of change (per sh) 10 Yrs. 5 Yrs. to '24-'26 Revenues -- -1.0% 6.0% "Cash Flow" -- 8.0% 6.0% Earnings -- 10.0% 6.5% Dividends -- 14.5% 7.0% Book Value -- 3.0% 10.5%												<b>ONE Gas' bottom line exhibited some improvement in the opening quarter of 2021.</b> Share net of \$1.79 was 4% higher than the prior-year total of \$1.72. That partially reflected benefits from new rates, primarily in Texas and Oklahoma. Another contributing factor was an expanded customer base in Oklahoma and Texas. The effective income tax rate decreased, as well. The company adds that there was only a small number of outages across the service area despite the severe storm that occurred there in February (see below for more details). Although the effects of the coronavirus have continued, we believe that full-year earnings will increase around 3%, to \$3.80 a share. Assuming further growth of operating margins in 2022, share net might advance another 5%, to \$4.00.					
<b>QUARTERLY REVENUES (\$ mill.)</b> Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2018 638.5 292.5 238.3 464.4 1633.7 2019 661.0 290.6 248.6 452.5 1652.7 2020 528.2 273.3 244.6 484.2 1530.3 2021 625.3 320 257 472.7 1675 2022 650 355 300 505 1810												<b>Business prospects over the 2024-2026 span seem promising.</b> The company remains the leading natural gas distributor (as measured by customer count) in both Oklahoma and Kansas, and holds the number-three position in Texas. Moreover, these markets seem to have decent growth possibilities and are located in one of the most active drilling regions in the United States. Also, ONE Gas seems capable of satisfying its working capital requirements, capital expenditures, and other commitments for a while.					
<b>EARNINGS PER SHARE <sup>A</sup></b> Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2018 1.72 .39 .31 .83 3.25 2019 1.76 .46 .33 .96 3.51 2020 1.72 .48 .39 1.09 3.68 2021 1.79 .51 .42 1.08 3.80 2022 1.85 .55 .47 1.13 4.00												<b>Winter Storm Uri prompted leadership to take certain actions.</b> Given that event, ONE Gas experienced unprecedented market pricing for gas costs in its Kansas, Oklahoma, and Texas territories, which resulted in aggregated natural gas purchases for February of approximately \$2.1 billion. To pay for these expenses, the company issued \$1 billion of 0.85 percent senior notes due 2023, \$700 million of 1.10 percent senior notes due 2024, and \$800 million of floating-rate senior notes due 2023. It should also be stated that ONE Gas seeks to recover those costs through future rate filings. Still, since the balance sheet is now more leveraged, we lowered the Financial Strength rating one notch, to B++.					
<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2017 .42 .42 .42 .42 1.68 2018 .46 .46 .46 .46 1.84 2019 .50 .50 .50 .50 2.00 2020 .54 .54 .54 .54 2.16 2021 .58 .58												<b>These shares, although just an Average (3) selection for Timeliness, possess solid long-term total return potential.</b> Frederick L. Harris, III May 28, 2021					

(A) Diluted EPS. Excludes nonrecurring gain: 2017, \$0.06. Next earnings report due early Aug. Quarterly EPS for 2018 don't add up due to rounding. (B) Dividends historically paid in early March, June, Sept., and Dec. ■ Dividend reinvestment plan. Direct stock purchase plan. (C) In millions.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	100

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Northern States Power Company

SOUTH JERSEY INDS. NYSE-SJI				RECENT PRICE	P/E RATIO	TRAILING P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE																
<b>TIMELINESS 5</b> Lowered 5/28/21 <b>SAFETY 3</b> Lowered 8/28/20 <b>TECHNICAL 5</b> Lowered 5/21/21 <b>BETA 1.05</b> (1.00 = Market)				25.66	14.3	(Trailing: 14.2; Median: 19.0)	0.66	5.0%																	
<b>18-Month Target Price Range</b> Low-High \$18-\$51 Midpoint (% to Mid) \$35 (35%)										<b>Target Price Range</b> 2024 2025 2026															
<b>2024-26 PROJECTIONS</b> High Price 50 Gain (+95%) Ann'l Total Return 27% Low Price 35 Gain (+35%) Ann'l Total Return 12%										<b>% TOT. RETURN 4/21</b> THIS STOCK INDEX VL ARITH.* 1 yr. -10.4 75.2 3 yr. -10.7 56.1 5 yr. 5.7 103.5															
<b>Institutional Decisions</b> 2020 3Q20 4Q20 to Buy 88 132 110 to Sell 110 64 91 Hid's(000) 83521 85672 110377																									
				2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26		
				15.89	15.88	16.15	16.18	14.19	15.48	13.71	11.16	11.18	12.98	13.52	13.04	15.63	19.20	17.63	15.32	17.25	18.10	Revenues per sh	21.75		
				1.25	1.75	1.60	1.74	1.86	2.10	2.23	2.34	2.48	2.67	2.42	2.67	2.79	2.91	2.56	3.32	2.95	3.25	"Cash Flow" per sh	4.15		
				.86	1.23	1.05	1.14	1.19	1.35	1.45	1.52	1.52	1.57	1.44	1.34	1.23	1.38	1.12	1.68	1.80	1.95	Earnings per sh A	2.70		
				.43	.46	.51	.56	.61	.68	.75	.83	.90	.96	1.02	1.06	1.10	1.13	1.16	1.19	1.25	1.32	Div'ds Decl'd per sh B	1.50		
				1.60	1.26	.94	1.04	1.83	2.79	3.20	4.01	4.84	5.01	4.87	3.50	3.43	3.99	5.46	4.84	5.85	6.65	Cap'l Spending per sh	7.85		
				6.75	7.55	8.12	8.67	9.12	9.54	10.33	11.63	12.64	13.65	14.62	16.22	14.99	14.82	15.41	16.51	18.20	18.85	Book Value per sh C	22.60		
				57.96	58.65	59.22	59.46	59.59	59.75	60.43	63.31	65.43	68.33	70.97	79.48	79.55	85.51	92.39	100.59	103.00	105.00	Common Shs Outst'g D	115.00		
				16.6	11.9	17.2	15.9	15.0	16.8	18.4	16.9	18.9	18.0	17.9	21.7	27.9	22.6	28.3	14.9	Bold figures are Value Line estimates	14.9	16.0	Avg Ann'l P/E Ratio	16.0	
				.88	.64	.91	.96	1.00	1.07	1.15	1.08	1.06	.95	.90	1.14	1.40	1.22	1.51	.77				.90	Relative P/E Ratio	.90
				3.0%	3.2%	2.8%	3.1%	3.4%	3.0%	2.8%	3.2%	3.1%	3.4%	3.9%	3.6%	3.2%	3.6%	3.7%	4.8%				3.5%	Avg Ann'l Div'd Yield	3.5%
<b>CAPITAL STRUCTURE as of 3/31/21</b> Total Debt \$3377.5 mill. Due in 5 Yrs \$380.1 mill. LT Debt \$3063.4 mill. LT Interest \$100 mill.				828.6	706.3	731.4	887.0	959.6	1036.5	1243.1	1641.3	1628.6	1541.4	1775	1900	Revenues (\$mill)	2500								
				87.0	93.3	97.1	104.0	99.0	102.8	98.1	116.2	103.0	163.0	185	205	Net Profit (\$mill)	300								
				22.4%	10.8%	--	--	5.9%	42.0%	--	--	--	21.0%	21.0%	Income Tax Rate	21.0%									
				10.5%	13.2%	13.3%	11.7%	10.3%	9.9%	7.9%	7.1%	6.3%	10.6%	10.4%	10.8%	Net Profit Margin	12.0%								
<b>Leases, Uncapitalized Annual rentals \$1.2 mill.</b> <b>Pension Assets-12/20 \$331 mill.</b> <b>Oblig. \$481.8 mill.</b>				40.5%	45.0%	45.1%	48.0%	49.2%	38.5%	48.5%	62.4%	59.2%	62.6%	63.0%	63.0%	Long-Term Debt Ratio	60.5%								
				59.5%	55.0%	54.9%	52.0%	50.8%	61.5%	51.5%	37.6%	40.8%	37.0%	37.0%	Common Equity Ratio	39.5%									
<b>Prfd Stock None</b>				1048.3	1337.6	1507.4	1791.9	2043.9	2097.2	2315.4	3373.9	3493.9	4437.3	5075	5380	Total Capital (\$mill)	6600								
<b>Common Stock 112,421,394 shs. as of 5/1/21</b>				1352.4	1578.0	1859.1	2134.1	2448.1	2623.8	2700.2	3653.5	4073.5	4464.2	4800	5150	Net Plant (\$mill)	5800								
<b>MARKET CAP: \$2.9 billion (Mid Cap)</b>				8.9%	7.4%	6.8%	6.4%	5.4%	5.4%	5.1%	4.4%	4.0%	4.8%	4.5%	5.0%	Return on Total Cap'l	5.5%								
				13.9%	12.7%	11.7%	11.2%	9.5%	8.0%	8.2%	9.2%	7.2%	9.8%	10.0%	10.5%	Return on Shr. Equity	11.5%								
				13.9%	12.7%	11.7%	11.2%	9.5%	8.0%	8.2%	9.2%	7.2%	9.8%	10.0%	10.5%	Return on Com Equity	11.5%								
				6.7%	5.8%	4.8%	4.3%	2.8%	1.6%	.9%	1.7%	NMF	2.9%	3.0%	3.5%	Retained to Com Eq	5.0%								
				52%	55%	59%	61%	71%	80%	89%	82%	104%	70%	70%	68%	All Div'ds to Net Prof	58%								
<b>CURRENT POSITION</b> 2019 2020 3/31/21 (\$MILL.)										<b>BUSINESS:</b> South Jersey Industries, Inc. is a holding company. The company distributes natural gas in New Jersey and Maryland. South Jersey Gas rev. mix '20: residential, 48%; commercial, 23%; cogen. and electric gen., 9%; industrial, 20%. Acq. Elizabethtown Gas and Elkton Gas, 7/18. Nonutil. oper. incl. South Jersey Energy, South Jersey Resources Group, South Jersey Exploration, Marina Energy, South Jersey Energy Service Plus, and SJI Midstream. Has about 1,130 empl. Off.dir. own less than 1% of common; BlackRock, 14.4%; State Street Corporation, 13.9%; The Vanguard Group, 10.8% (3/21 proxy). Pres. & CEO: Michael J. Renna. Chairman: Joseph M. Rigby, Inc.: NJ. Addr.: 1 South Jersey Plaza, Folsom, NJ 08037. Tel.: 609-561-9000. Web: www.sjindustries.com.															
<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 to '24-'26 of change (per sh)										<b>South Jersey Industries has recently completed two concurrent registered public offerings.</b> This included \$228 million in shares of common stock and \$300 million in equity units. The equity units were also listed on the New York Stock Exchange. Net proceeds from these offerings will be used to reduce leverage and for general purposes, as well as for capital expenditures mainly for its regulated businesses, such as infrastructure investments. Investors were not pleased by this development and the shares fell on the news. This issuance of additional shares drives down the price of a security and dilutes the ownership interest of existing stockholders. <b>But the equity has staged a partial rebound lately.</b> The company posted good results for the March quarter. The top line increased roughly 26%, year over year, to \$674.3 million. Adjusted earnings per share of \$1.26 compared favorably with the prior-year tally. The company's utility and nonutility operations both fared well in the recent period. <b>Prospects for the coming years appear favorable here.</b> The company's utility businesses should continue to benefit from solid customer growth, rate relief, and infrastructure modernization programs that allow South Jersey to enhance the reliability of its systems and earn an authorized return on these investments. Elsewhere, we expect favorable results on the nonutility side. The Energy Management segment's Wholesale Services line should continue to benefit from improved asset optimization opportunities and additional fuel management contracts. Earnings from fuel cell and solar investments ought to support performance at the Energy Production segment. <b>This stock is ranked to trail the broader market averages for the coming six to 12 months.</b> Looking further out, we anticipate increasing revenue and healthy growth in earnings per share for the company over the pull to mid-decade. From the recent quotation, this equity offers attractive long-term total return potential. This is helped by a relatively generous dividend yield. All told, patient, income-oriented accounts may find something to like here. <i>Michael Napoli, CFA</i> <span style="float: right;"><i>May 28, 2021</i></span>															
<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year																									
<b>QUARTERLY EARNINGS PER SHARE A</b> Full Year																									
<b>QUARTERLY DIVIDENDS PAID B</b> Full Year																									

(A) Based on economic eqs. from 2007. GAAP EPS: '10, \$1.11; '11, \$1.49; '12, \$1.49; '13, \$1.28; '14, \$1.46; '15, \$1.52; '16, \$1.56; '17, (\$0.04); '18, \$0.21; '19, \$0.84; '20, \$1.62. Excl. nonrecr. gain (loss): '10, (\$0.24); '11, \$0.04; '12, (\$0.03); '13, (\$0.24); '14, (\$0.11); '15, \$0.08; '16, \$0.22; '17, (\$1.27); '18, (\$1.17); '19, (\$0.28); '20, (\$0.06). Next eqs. rpt. due early August. (B) Div'ds paid early April, July, Oct., and late Dec. Div. reinvest. plan avail. (C) Incl. reg. assets. In 2020: \$674.0 mill., \$6.70 per shr. (D) In mill., adj. for split.

Company's Financial Strength	B++
Stock's Price Stability	60
Price Growth Persistence	15
Earnings Predictability	65

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Northern States Power Company

SOUTHWEST GAS NYSE-SWX				RECENT PRICE	P/E RATIO						RELATIVE P/E RATIO		DIV'D YLD		VALUE LINE					
				68.88	15.3 (Trailing: 14.2 Median: 19.0)						0.71		3.5%		Target Price Range 2024 2025 2026					
<b>TIMELINESS</b>	3	Lowered 1/8/21	High: 37.3 Low: 26.3	43.2 32.1	46.1 39.0	56.0 42.0	64.2 47.2	63.7 50.5	79.6 53.5	86.9 72.3	86.0 62.5	92.9 73.3	81.6 45.7	73.5 57.0						
<b>SAFETY</b>	3	Lowered 1/4/91	<b>LEGENDS</b> 80 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession																	
<b>TECHNICAL</b>	4	Raised 5/28/21																		
<b>BETA</b>	.95	(1.00 = Market)																		
<b>18-Month Target Price Range</b>																				
Low-High	Midpoint (% to Mid)																			
\$48-\$119	\$84 (20%)																			
<b>2024-26 PROJECTIONS</b>																				
High	Price	Gain	Ann'l Total																	
Low	85	(+80%)	Return																	
		(+25%)	18%																	
			9%																	
<b>Institutional Decisions</b>																				
to Buy	2020	3Q20	4Q20																	
to Sell	130	116	140																	
Hld's(000)	48082	46991	48058																	
			Percent																	
			shares																	
			traded																	
			15																	
			10																	
			5																	
														% TOT. RETURN 4/21						
														THIS STOCK INDEX						
														1 yr. -4.9						
														3 yr. 3.5						
														5 yr. 22.3						
														VL ARITH.*						
														75.2						
														56.1						
														103.5						
			© VALUE LINE PUB. LLC											24-26						
2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Revenues per sh		67.70
43.59	48.47	50.28	48.53	42.00	40.18	41.07	41.77	42.08	45.61	52.00	51.82	53.00	54.31	56.72	57.68	59.30	60.65	"Cash Flow" per sh		14.00
5.20	5.97	6.21	5.76	6.16	6.46	6.81	7.73	8.24	8.47	8.62	9.29	8.83	8.14	9.40	9.87	10.50	11.05	Earnings per sh <sup>A</sup>		6.50
1.25	1.98	1.95	1.39	1.94	2.27	2.43	2.86	3.11	3.01	2.92	3.18	3.62	3.68	3.94	4.14	4.50	4.75	Div'ds Decl'd per sh <sup>B</sup>		2.80
.82	.82	.86	.90	.95	1.00	1.06	1.18	1.32	1.46	1.62	1.80	1.98	2.08	2.18	2.28	2.37	2.48	Cap'l Spending per sh		24.60
7.49	8.27	7.96	6.79	8.29	4.73	8.29	8.57	7.86	8.53	10.30	11.15	12.97	14.44	17.06	14.43	13.55	16.40	Book Value per sh		63.10
19.10	21.58	22.98	23.49	24.44	25.62	26.66	28.35	30.47	31.95	33.61	35.03	37.74	42.47	45.56	46.77	50.00	52.85	Common Shs Outst'g <sup>C</sup>		65.00
39.33	41.77	42.81	44.19	45.09	45.56	45.96	46.15	46.36	46.52	47.38	47.48	48.09	53.03	55.01	57.19	59.00	61.00	Avg Ann'l P/E Ratio		16.0
20.6	15.9	17.3	20.3	12.2	14.0	15.7	15.0	15.8	17.9	19.4	21.6	22.2	20.6	21.3	16.8	Bold figures are Value Line estimates		Relative P/E Ratio		.90
1.10	.86	.92	1.22	.81	.89	.98	.95	.89	.94	.98	1.13	1.12	1.11	1.11	.87	Avg Ann'l Div'd Yield		2.7%		
3.2%	2.6%	2.6%	3.2%	4.0%	3.2%	2.8%	2.8%	2.7%	2.7%	2.9%	2.6%	2.5%	2.7%	2.6%	3.3%					
<b>CAPITAL STRUCTURE as of 3/31/21</b>																				
Total Debt \$3073.9 mill. Due in 5 Yrs \$750.9 mill.																				
LT Debt \$2696.6 mill. LT Interest \$100.0 mill.																				
(Total interest coverage: 4.3x) (48% of Cap'l)																				
Leases, Uncapitalized Annual rentals \$13.9 mill.																				
Pension Assets-12/20 \$1238.7 mill.																				
Oblig. \$1581.4 mill.																				
Pfd Stock None																				
Common Stock 58,001,396 shs. as of 4/30/21																				
<b>MARKET CAP: \$4.0 billion (Mid Cap)</b>																				
<b>CURRENT POSITION</b>				2019	2020	3/31/21														
<b>(SMILL)</b>																				
Cash Assets	49.5		83.4	92.3																
Other	810.4		787.6	908.6																
Current Assets	859.9		871.0	1000.9																
Accts Payable	238.9		231.3	182.8																
Debt Due	374.5		147.4	377.3																
Other	466.5		533.3	475.9																
Current Liab.	1079.9		912.0	1036.0																
Fix. Chg. Cov.	340%		379%	419%																
<b>ANNUAL RATES</b>				Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26														
of change (per sh)																				
Revenues	2.5%		4.0%	3.0%																
"Cash Flow"	4.0%		1.5%	7.5%																
Earnings	7.5%		5.5%	9.0%																
Dividends	8.5%		8.0%	4.5%																
Book Value	6.0%		7.0%	6.0%																
Cal-endar	<b>QUARTERLY REVENUES (\$ mill.)</b>				<b>Full Year</b>															
	Mar.31	Jun.30	Sep.30	Dec.31																
2018	754.3	670.9	668.1	786.7	2880.0															
2019	833.6	713.0	725.2	848.1	3119.9															
2020	836.3	757.2	791.2	914.2	3298.9															
2021	885.9	825	840	949.1	3500															
2022	925	875	900	1000	3700															
Cal-endar	<b>EARNINGS PER SHARE<sup>A D</sup></b>				<b>Full Year</b>															
	Mar.31	Jun.30	Sep.30	Dec.31																
2018	1.63	.44	.25	1.36	3.68															
2019	1.77	.41	.10	1.67	3.94															
2020	1.31	.68	.32	1.82	4.14															
2021	2.03	.50	.25	1.72	4.50															
2022	1.95	.60	.35	1.85	4.75															
Cal-endar	<b>QUARTERLY DIVIDENDS PAID<sup>B</sup></b>				<b>Full Year</b>															
	Mar.31	Jun.30	Sep.30	Dec.31																
2017	.450	.495	.495	.495	1.94															
2018	.495	.520	.520	.520	2.06															
2019	.520	.545	.545	.545	2.16															
2020	.545	.570	.570	.570	2.26															
2021	.570	.595																		

(A) Diluted earnings. Excl. nonrec. gains (losses): '05, (11c); '06, 7c. Next ex. report due early August. (B) Dividends historically paid early March, June, September, and December.

Div'd reinvestment and stock purchase plan avail. (C) In millions. (D) Totals may not sum due to rounding.

Business: Southwest Gas Holdings, Inc. is the parent holding company of Southwest Gas and Centuri Group. Southwest Gas is a regulated gas distributor serving 2.1 million customers in Arizona, Nevada, and California. Centuri provides construction services. 2020 margin mix: residential and small commercial, 85%; large commercial and industrial, 3%; transportation, 12%. Total throughput: 2.2 billion therms. Has 11,149 employees. Off. & dir. own .8% of common; BlackRock, Inc., 12.3%; The Vanguard Group, Inc., 9.8%; Lazard Asset Management LLC, 9.4% (3/21 Proxy). Chairman: Michael J. Melarkey. Pres. & CEO: John P. Hester. Inc.: DE. Addr.: 8360 S. Durango Drive, P.O. Box 98510 Las Vegas, Nevada 89193. Tel.: 702-876-7237. Web: www.swgas.com.

**Shares of Southwest Gas have moved higher in price in the current year.** The company reported favorable results for the March period. The top line increased roughly 6%, year to year, to \$885.9 million. Earnings per share of \$2.03 marked a considerable improvement over the prior-year tally. The utility business benefited from favorable rulings in several rate cases. Its territories in Arizona, California, and Nevada have all experienced significant growth, driving increased demand for new homes, and natural gas services in general. Many of the communities that the company serves have benefited in recent times from the easing of pandemic-related restrictions. The infrastructure services operation, Centuri, also fared well. This business continues to gain as its regulated utility customers modernize their energy infrastructure. **We anticipate solid operating results going forward.** Southwest's utility operation ought to further benefit from healthy growth in the customer base. Infrastructure investments by the utility should also pay off in the years ahead. Rate relief will likely continue to benefit performance, too.

The company depends on such approved revenue increases to offset increasing expenses and allow it to earn an acceptable return on investment. Elsewhere, Centuri, the company's infrastructure services business, should also perform fairly well. This line derives its revenue from the installation, replacement, repair, and maintenance of energy distribution systems. Centuri has a robust client base, and ought to benefit from the ongoing need of utilities to replace aging infrastructure. Measures by the company to control costs should also pay off. **This stock is ranked to track the broader market averages for the coming six to 12 months.** Looking further out, we anticipate solid growth in revenues and earnings for the company over the pull to mid-decade. From the recent quotation, this stock offers attractive long-term total return potential. The dividend should continue to increase at a steady rate in the coming years. In addition, Southwest Gas earns good marks for Financial Strength, Price Stability, and Earnings Predictability. Volatility is subdued, too. *Michael Napoli, CFA* May 28, 2021

Company's Financial Strength	A
Stock's Price Stability	80
Price Growth Persistence	60
Earnings Predictability	100

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Northern States Power Company

SPIRE INC. NYSE-SR				RECENT PRICE	P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE					
<b>TIMELINESS</b> 3 Raised 5/21/21 <b>SAFETY</b> 2 Raised 6/20/03 <b>TECHNICAL</b> 2 Raised 5/28/21 <b>BETA</b> .85 (1.00 = Market)				74.48	14.6 (Trailing: 25.9; Median: 19.0)	0.67	3.6%						
<b>18-Month Target Price Range</b> Low-High Midpoint (% to Mid) \$37-\$92 \$65 (-15%)								<b>Target Price Range</b> 2024 2025 2026					
<b>2024-26 PROJECTIONS</b> High Low Price Gain Ann'l Total Return 130 95 (+75%) 18% 95 (+30%) 10%								% TOT. RETURN 4/21 THIS STOCK INDEX 1 yr. 7.4 75.2 3 yr. 15.3 56.1 5 yr. 38.2 103.5					
<b>Institutional Decisions</b> 2020 3Q20 4Q20 to Buy 127 145 131 to Sell 130 121 148 Hid's(000) 40679 40642 41028				Percent shares traded 18 12 6									
				© VALUE LINE PUB. LLC 24-26									
				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>									
				<b>Revenues per sh</b> <sup>A</sup> 58.20 <b>"Cash Flow" per sh</b> 10.50 <b>Earnings per sh</b> <sup>A B</sup> 5.50 <b>Div'ds Decl'd per sh</b> <sup>C</sup> 3.10 <b>Cap'l Spending per sh</b> 11.45 <b>Book Value per sh</b> <sup>D</sup> 75.00 <b>Common Shs Outst'g</b> <sup>E</sup> 55.00									
				<b>Avg Ann'l P/E Ratio</b> 20.5 <b>Relative P/E Ratio</b> 1.15 <b>Avg Ann'l Div'd Yield</b> 2.8%									
<b>CAPITAL STRUCTURE as of 3/31/21</b> Total Debt \$3456.8 mill. Due in 5 Yrs \$1690.0 mill. LT Debt \$2692.5 mill. LT Interest \$130.0 mill. (Total interest coverage: 2.0x)				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>Leases, Uncapitalized Annual rentals</b> \$8.8 mill. <b>Pension Assets-9/20</b> \$897.9 mill. <b>Pfd Stock</b> \$242.0 mill. <b>Obliq.</b> \$1401.3 mill. <b>Common Stock</b> 51,679,561 shs. <b>Pfd Div'd</b> \$14.8 mill. <b>as of 4/30/21</b>				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>MARKET CAP: \$3.8 billion (Mid Cap)</b>				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>CURRENT POSITION</b> 2019 2020 3/31/21 (\$MILL) Cash Assets 5.8 4.1 104.0 Other 608.7 586.5 936.0 Current Assets 614.5 590.6 1040.0 Accts Payable 301.5 243.3 352.1 Debt Due 783.2 708.4 764.3 Other 384.1 497.5 391.1 Current Liab. 1468.8 1449.2 1507.5 Fix. Chg. Cov. 272% 373% 385%				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 of change (per sh) Revenues -8.0% - 7.5% "Cash Flow" 4.5% 8.5% 8.0% Earnings 1.5% 4.5% 10.0% Dividends 4.5% 6.0% 4.5% Book Value 7.0% 5.5% 9.0%				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>Fiscal Year Ends</b> QUARTERLY REVENUES (\$ mill.) <sup>A</sup> Full Fiscal Year Dec.31 Mar.31 Jun.30 Sep.30 2018 561.8 813.4 350.6 239.2 1965.0 2019 602.0 803.5 321.3 225.6 1952.4 2020 566.9 715.5 321.1 251.9 1855.4 2021 512.6 1104.9 377.5 255 2250 2022 530 803 376 266 1975				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>Fiscal Year Ends</b> EARNINGS PER SHARE <sup>A B F</sup> Full Fiscal Year Dec.31 Mar.31 Jun.30 Sep.30 2018 2.39 2.03 .52 d.51 4.33 2019 1.32 3.04 d.09 d.74 3.52 2020 1.24 2.54 d1.87 d.45 1.44 2021 1.65 3.55 .48 d.68 5.00 2022 1.75 2.74 .45 d.64 4.30				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>Cal-endar</b> QUARTERLY DIVIDENDS PAID <sup>C</sup> Full Year Mar.31 Jun.30 Sep.30 Dec.31 2017 .525 .525 .525 .525 2.10 2018 .5625 .5625 .5625 .5625 2.25 2019 .5925 .5925 .5925 .5925 2.37 2020 .6225 .6225 .6225 .6225 2.49 2021 .65 .65				<b>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022</b>				<b>Revenues (\$mill)</b> <sup>A</sup> 3200 <b>Net Profit (\$mill)</b> 300 <b>Income Tax Rate</b> 23.5% <b>Net Profit Margin</b> 9.4% <b>Long-Term Debt Ratio</b> 45.0% <b>Common Equity Ratio</b> 55.0% <b>Total Capital (\$mill)</b> 7500 <b>Net Plant (\$mill)</b> 6800					
<b>Business Description:</b> Spire Inc., formerly known as the Laclede Group, Inc., is a holding company for natural gas utilities, which distributes natural gas across Missouri, including the cities of St. Louis and Kansas City, Alabama, and Mississippi. Has roughly 1.7 million customers. Acquired Missouri Gas 9/13, Alabama Gas Co 9/14. Utility terms sold and transported in fiscal 2020: 3.3 bill. Revenue mix for regulated operations: residential, 68%; commercial and industrial, 22%; transportation, 6%; other, 4%. Has about 3,583 employees. Officers and directors own 3.0% of common shares; BlackRock, 12.0% (1/21 proxy). Chairman: Edward Glotzbach; CEO: Suzanne Sitherwood, Inc.: Missouri. Address: 700 Market Street, St. Louis, Missouri 63101. Tel.: 314-342-0500. Internet: www.spireenergy.com.				<b>Spire registered impressive numbers during the first half of fiscal 2021 (concludes September 30th).</b> Share net of \$5.20 surged around 38%, compared to the prior-year total of \$3.78. This was made possible partially by the Gas Utility division, helped by increased Infrastructure System Replacement Surcharge (ISRS) revenues, the effects of colder temperatures, plus diminished operating costs. Moreover, favorable market conditions, especially in February when Winter Storm Uri struck parts of the U.S., drove the performance of the Gas Marketing unit. Given that the company faces an easy bottom-line comparison in the third quarter, it appears that full-year share net will jump nearly 3.5 times, to \$5.00, versus the uninspiring fiscal 2020 tally of \$1.44 (which was crushed by the impact of COVID-19). Turning to next year, we expect lower, though still respectable, earnings of \$4.30 a share, since the second-quarter matchup will be challenging. <b>Value Line is optimistic about the company's prospects over the 2024-2026 period.</b> The gas utilities boast 1.7 million customers in Mississippi, Alabama,				<b>and Missouri, providing a measure of regional diversity. Furthermore, the other operations, particularly pipelines, hold promise. Additional expansionary projects and technological enhancements in customer service and elsewhere ought to assist Spire, too. Finally, the balance sheet (see below) is healthy. The Financial Strength rating resides at B++.</b> When March ended, there was around \$675 million of available liquidity partly via a revolving credit facility. Too, long-term debt was a manageable 49.6% of total capital, and short-term commitments did not seem to be a major hurdle. So, the company ought to be able to meet its various obligations (including interest payments, capital expenditures, and dividends) with relative ease. Acquisitions are also plausible. <b>These good-quality shares have risen greatly in value in recent months.</b> It appears that Spire's strong results of late are a driving force behind that movement. Also, long-term total return potential is solid. Meanwhile, the stock is neutrally ranked for Timeliness. <i>Frederick L. Harris, III</i> May 28, 2021					

(A) Fiscal year ends Sept. 30th. (B) Based on diluted shares outstanding. Excludes nonrecurring loss: '06, 7c. Excludes gain from discontinued operations: '08, 94c. Next earnings report due late July. (C) Dividends paid in early January, April, July, and October. (D) Dividend reinvestment plan available. (E) In millions. (F) Qlty. egs. may not sum due to rounding or change in shares outstanding.

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Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	55
Earnings Predictability	50

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Northern States Power Company  
Summary of Risk Premium Models for the  
Proxy Group of Seven Natural Gas Distribution Companies

	<u>Proxy Group of Seven Natural Gas Distribution Companies</u>
Predictive Risk Premium Model (PRPM) (1)	11.43 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>10.49 %</u>
Average	<u><u>10.96 %</u></u>

## Notes:

- (1) From page 2 of this Schedule.
- (2) From page 3 of this Schedule.

Northern States Power Company  
Indicated ROE  
Derived by the Predictive Risk Premium Model (1)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Seven Natural Gas Distribution Companies	LT Average Predicted Variance	Spot Predicted Variance	Recommended Variance (2)	GARCH Coefficient	Predicted Risk Premium (3)	Risk-Free Rate (4)	Indicated ROE (5)
Atmos Energy Corporation	0.33%	0.48%	0.41%	2.2565	11.58%	2.88%	14.46%
New Jersey Resources Corporation	0.38%	0.34%	0.36%	2.0814	9.43%	2.88%	12.31%
Northwest Natural Holding Company	0.32%	0.38%	0.35%	1.5413	6.68%	2.88%	9.56%
ONE Gas, Inc.	0.30%	0.43%	0.37%	4.0633	19.39%	2.88%	NMF
South Jersey Industries, Inc.	0.39%	0.69%	0.54%	1.6346	11.03%	2.88%	13.91%
Southwest Gas Holdings, Inc.	0.43%	0.38%	0.41%	1.3628	6.84%	2.88%	9.72%
Spire Inc.	0.71%	0.52%	0.61%	0.9445	7.18%	2.88%	10.06%
						Average	11.67%
						Median	11.19%
						Average of Mean and Median	11.43%

## 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 Service.
- (2) Average of Columns [1] and [2].
- (3)  $(1 + (\text{Column [3]} * \text{Column [4]}^{12}) - 1)$ .
- (4) From note 2 on page 2 of Schedule DWD-7.
- (5)  $\text{Column [5]} + \text{Column [6]}$ .

Northern States Power Company  
Indicated Common Equity Cost Rate  
Through Use of a Risk Premium Model  
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Seven Natural Gas Distribution Companies</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	3.56 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds	<u>0.39 (2)</u>
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	3.95 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	<u>0.04 (3)</u>
5.	Adjusted Prospective Bond Yield	3.99 %
6.	Equity Risk Premium (4)	<u>6.50</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u><u>10.49 %</u></u>

Notes: (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 10 and 11 of this Schedule).

(2) The average yield spread of A2 rated public utility bonds over Aaa rated corporate bonds of 0.39% from page 4 of this Schedule.

(3) Adjustment to reflect the A2/A3 Moody's LT issuer rating of the Utility Proxy Group as shown on page 5 of this Schedule. The 0.04% upward adjustment is derived by taking 1/6 of the spread between A2 and Baa2 Public Utility Bonds ( $1/6 * 0.26\% = 0.04\%$ ) as derived from page 4 of this Schedule.

(4) From page 7 of this Schedule.

Northern States Power Company  
Interest Rates and Bond Spreads for  
Moody's Corporate and Public Utility Bonds

Selected Bond Yields - Moody's

	[1]	[2]	[3]	[4]
	<u>Aaa Rated Corporate Bond</u>	<u>Aa2 Rated Public Utility Bond</u>	<u>A2 Rated Public Utility Bond</u>	<u>Baa2 Rated Public Utility Bond</u>
May-2021	2.96 %	3.17 %	3.33 %	3.58 %
Apr-2021	2.90	3.13	3.30	3.57
Mar-2021	<u>3.04</u>	<u>3.27</u>	<u>3.44</u>	<u>3.72</u>
Average	<u>2.97 %</u>	<u>3.19 %</u>	<u>3.36 %</u>	<u>3.62 %</u>

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:	<u>0.39 % (1)</u>
Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds:	<u>0.26 % (2)</u>
A2 Rated Public Utility Bonds Over Aa2 Rated Public Utility Bonds:	<u>0.17 % (3)</u>

Notes:

- (1) Column [3] - Column [1].
- (2) Column [4] - Column [3].
- (3) Column [3] - Column [2].

Source of Information:

Bloomberg Professional Service

Northern States Power Company  
Comparison of Long-Term Issuer Ratings for  
Proxy Group of Seven Natural Gas Distribution Companies

	<u>Moody's</u>		<u>Standard &amp; Poor's</u>	
	<u>Long-Term Issuer Rating</u>		<u>Long-Term Issuer Rating</u>	
	<u>May 2021</u>		<u>May 2021</u>	
<u>Proxy Group of Seven Natural Gas Distribution Companies</u>	<u>Long-Term Issuer Rating (1)</u>	<u>Numerical Weighting (2)</u>	<u>Long-Term Issuer Rating (1)</u>	<u>Numerical Weighting (2)</u>
Atmos Energy Corporation	A1	5.0	A-	7.0
New Jersey Resources Corporation	A1	5.0	NR	- -
Northwest Natural Holding Company	Baa1	8.0	A+	5.0
ONE Gas, Inc.	A3	7.0	BBB+	8.0
South Jersey Industries, Inc.	A3	7.0	BBB	9.0
Southwest Gas Holdings, Inc.	Baa1	8.0	A-	7.0
Spire Inc.	A1/A2	5.5	A-	7.0
Average	<u>A2/A3</u>	<u>6.5</u>	<u>A-</u>	<u>7.2</u>

## 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

<u>Moody's Bond Rating</u>	<u>Numerical Bond Weighting</u>	<u>Standard &amp; Poor's Bond Rating</u>
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-

Northern States Power Company  
Judgment of Equity Risk Premium for  
Proxy Group of Seven Natural Gas Distribution Companies

<u>Line No.</u>		<u>Proxy Group of Seven Natural Gas Distribution Companies</u>
1.	Calculated equity risk premium based on the total market using the beta approach (1)	8.03 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	5.84
3.	Predicted Equity Risk Premium Based on Regression Analysis of 800 Fully-Litigated Natural Gas Utility Rate Cases	<u>5.64</u>
4.	Average equity risk premium	<u><u>6.50 %</u></u>

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

Northern States Power Company  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for the  
Proxy Group of Seven Natural Gas Distribution Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Seven Natural Gas Distribution Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.69
3.	Ibbotson Equity Risk Premium based on PRPM (3)	9.02
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	4.60
5.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	10.76
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>12.78</u>
7.	Conclusion of Equity Risk Premium	8.63 %
8.	Adjusted Beta (7)	<u>0.93</u>
9.	Forecasted Equity Risk Premium	<u><u>8.03 %</u></u>

Notes provided on page 9 of this Schedule.

Northern States Power Company  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for the  
Proxy Group of Seven Natural Gas Distribution Companies

## Notes:

- (1) Based on the arithmetic mean historical monthly returns on large company common stocks from Duff & Phelps 2021 SBBI® Yearbook minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1928-2020.
- (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 1928-2020 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 March 2021.
- (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 3.56% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 8.16% (described fully in note 1 on page 2 of Schedule DWD-7).
- (5) Using data from Value Line for the S&P 500, an expected total return of 14.32% 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 3.56% results in an expected equity risk premium of 10.76%.
- (6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 16.34% 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 3.56% results in an expected equity risk premium of 12.78%.
- (7) Average of mean and median beta from Schedule DWD-7.

## Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.  
Industrial Manual and Mergent Bond Record Monthly Update.  
Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2021  
Bloomberg Professional Service

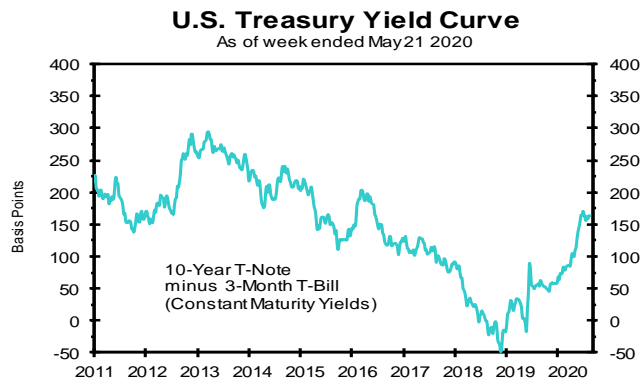
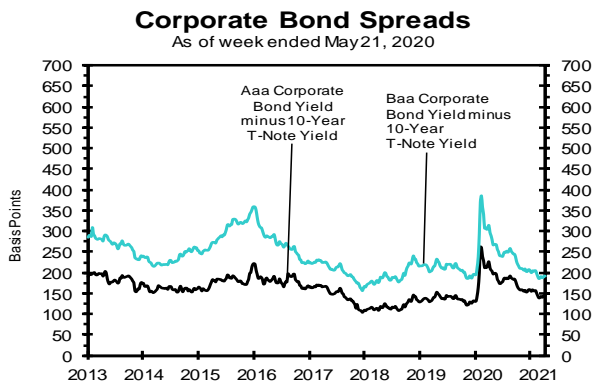
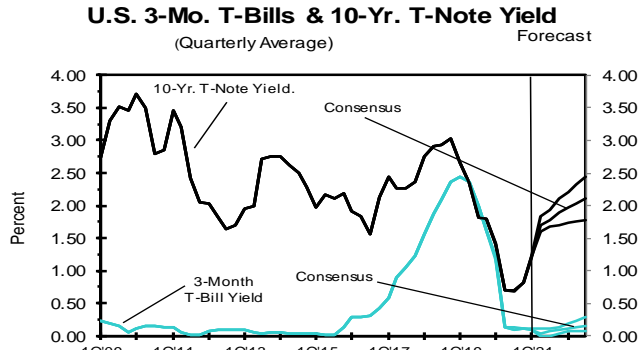
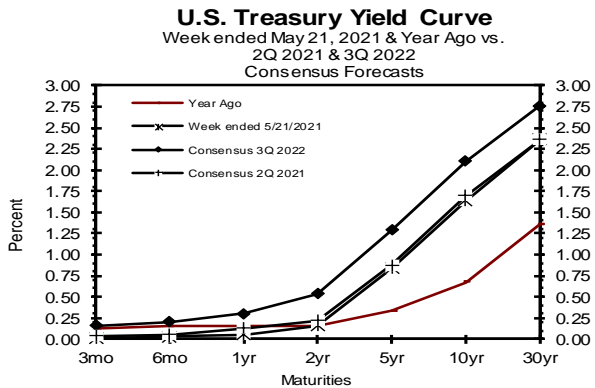
**Consensus Forecasts of U.S. Interest Rates and Key Assumptions**

Interest Rates	History								Consensus Forecasts-Quarterly Avg.						
	Average For Week Ending				Average For Month				Latest Qtr	2Q	3Q	4Q	1Q	2Q	3Q
	May 21	May 14	May 7	Apr 30	Apr	Mar	Feb	1Q 2021	2021	2021	2021	2022	2022	2022	
Federal Funds Rate	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.1	0.1	0.1	0.1	0.1	0.1	
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.3	3.3	3.3	3.3	3.3	3.3	
LIBOR, 3-mo.	0.15	0.16	0.17	0.18	0.18	0.19	0.19	0.20	0.2	0.2	0.2	0.3	0.3	0.3	
Commercial Paper, 1-mo.	0.04	0.04	0.29	0.04	0.04	0.07	0.06	0.07	0.1	0.1	0.1	0.1	0.2	0.2	
Treasury bill, 3-mo.	0.01	0.02	0.02	0.01	0.02	0.03	0.04	0.05	0.0	0.1	0.1	0.1	0.1	0.2	
Treasury bill, 6-mo.	0.03	0.04	0.04	0.04	0.04	0.05	0.06	0.07	0.1	0.1	0.1	0.1	0.2	0.2	
Treasury bill, 1 yr.	0.05	0.05	0.06	0.05	0.06	0.08	0.07	0.08	0.1	0.1	0.2	0.2	0.3	0.3	
Treasury note, 2 yr.	0.16	0.16	0.16	0.17	0.16	0.15	0.12	0.13	0.2	0.3	0.3	0.4	0.5	0.5	
Treasury note, 5 yr.	0.84	0.83	0.81	0.86	0.86	0.82	0.54	0.60	0.9	1.0	1.1	1.2	1.2	1.3	
Treasury note, 10 yr.	1.64	1.65	1.60	1.63	1.64	1.61	1.26	1.32	1.7	1.8	1.9	2.0	2.0	2.1	
Treasury note, 30 yr.	2.36	2.36	2.27	2.29	2.30	2.34	2.04	2.07	2.4	2.5	2.6	2.6	2.7	2.8	
Corporate Aaa bond	3.09	3.11	3.01	3.04	3.04	3.15	2.84	2.88	3.0	3.1	3.3	3.3	3.3	3.4	
Corporate Baa bond	3.56	3.57	3.48	3.51	3.51	3.62	3.30	3.35	3.8	4.0	4.1	4.2	4.2	4.3	
State & Local bonds	2.64	2.65	2.65	2.63	2.66	2.74	2.63	2.68	2.6	2.7	2.8	2.9	2.9	2.9	
Home mortgage rate	3.00	2.94	2.96	2.98	3.06	3.08	2.81	2.88	3.1	3.3	3.4	3.5	3.5	3.6	

Key Assumptions	History								Consensus Forecasts-Quarterly					
	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q
	2019	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021	2022	2022	2022
Fed's AFE \$ Index	110.4	110.6	110.5	111.4	112.4	107.3	105.2	103.4	102.7	102.7	102.9	102.9	103.1	103.2
Real GDP	1.5	2.6	2.4	-5.0	-31.4	33.4	4.3	6.4	9.3	6.9	5.0	3.9	3.1	2.6
GDP Price Index	2.5	1.5	1.4	1.4	-1.8	3.5	2.0	4.3	3.3	2.5	2.1	2.2	2.2	2.3
Consumer Price Index	3.5	1.3	2.6	1.0	-3.1	4.7	2.4	3.7	4.8	2.6	2.1	2.2	2.3	2.2
PCE Price Index	2.5	1.4	1.5	1.3	-1.6	3.7	1.5	3.7	4.0	2.4	2.0	2.1	2.2	2.2

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, PCE Price Index and Consumer 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; LIBOR quotes from Intercontinental Exchange. 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).



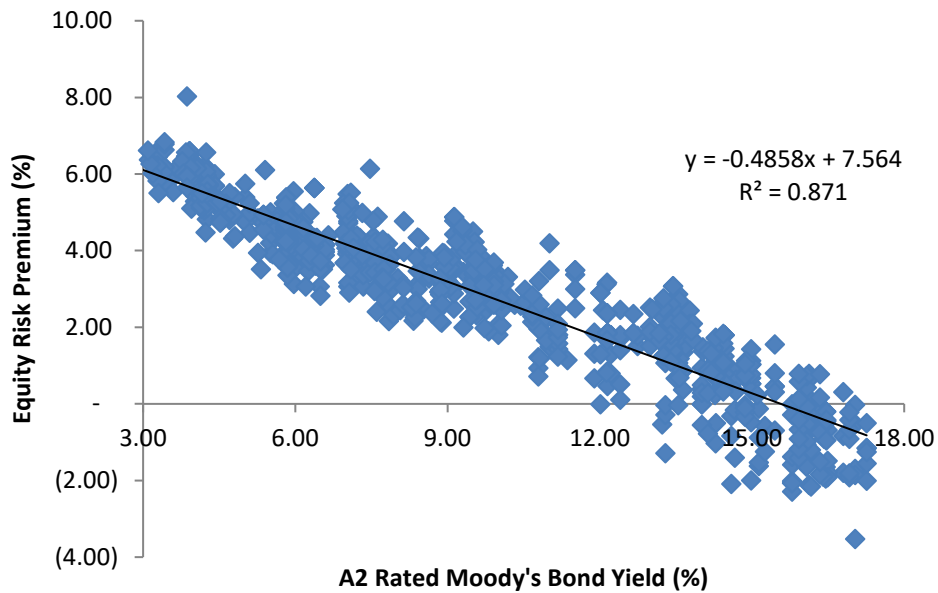


Northern States Power Company  
Derivation of Mean Equity Risk Premium Based Studies  
Using Holding Period Returns and  
Projected Market Appreciation of the S&P Utility Index

<u>Line No.</u>		<u>Implied Equity Risk Premium</u>
	<u>Equity Risk Premium based on S&amp;P Utility Index Holding Period Returns (1):</u>	
1.	Historical Equity Risk Premium	4.16 %
2.	Regression of Historical Equity Risk Premium (2)	6.37
3.	Forecasted Equity Risk Premium Based on PRPM (3)	5.41
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	7.45
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	<u>5.82</u>
6.	Average Equity Risk Premium (6)	<u><u>5.84 %</u></u>

- Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2020. 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 - 2020 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 - May 2021.
- (4) Using data from Value Line for the S&P Utilities Index, an expected return of 11.40% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 3.95%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 7.45%. (11.40% - 3.95% = 7.45%)
- (5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 9.77% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 3.95%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 5.82%. (9.77% - 3.95% = 5.82%)
- (6) Average of lines 1 through 5.

Northern States Power Company  
Prediction of Equity Risk Premiums Relative to  
Moody's A2 Rated Utility Bond Yields



		Prospective A2 Rated Utility Bond (1)	Prospective Equity Risk Premium
<u>Constant</u>	<u>Slope</u>	<u>3.95 %</u>	<u>5.64 %</u>
7.564001 %	-0.48585		

Notes:

(1) From line 3 of page 3 of this Schedule.

Source of Information:

Regulatory Research Associates  
 Bloomberg Professional Services

Northern States Power Company

Northern States Power Company  
Indicated Common Equity Cost Rate Through Use  
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Seven Natural Gas Distribution Companies	Value Line Adjusted Beta	Bloomberg Adjusted Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
Atmos Energy Corporation	0.80	0.91	0.86	9.46 %	2.88 %	11.02 %	11.35 %	11.18 %
New Jersey Resources Corporation	1.00	0.97	0.98	9.46	2.88	12.15	12.20	12.17
Northwest Natural Holding Company	0.85	0.85	0.85	9.46	2.88	10.92	11.28	11.10
ONE Gas, Inc.	0.80	1.00	0.90	9.46	2.88	11.39	11.63	11.51
South Jersey Industries, Inc.	1.05	0.98	1.02	9.46	2.88	12.53	12.48	12.51
Southwest Gas Holdings, Inc.	0.95	1.09	1.02	9.46	2.88	12.53	12.48	12.51
Spire Inc.	0.85	1.00	0.92	9.46	2.88	11.58	11.77	11.68
Mean			<u>0.94</u>			<u>11.73 %</u>	<u>11.88 %</u>	<u>11.81 %</u>
Median			<u>0.92</u>			<u>11.58 %</u>	<u>11.77 %</u>	<u>11.68 %</u>
Average of Mean and Median			<u>0.93</u>			<u>11.66 %</u>	<u>11.83 %</u>	<u>11.75 %</u>

Notes on page 2 of this Schedule.

Northern States Power 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 (1926-2020)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2020:	12.20 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	<u>5.05</u>
MRP based on Ibbotson Historical Data:	<u><u>7.15</u></u> %

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data (1926-2020)

9.39 %

Measure 3: Application of the PRPM to Ibbotson Historical Data: (January 1926 - May 2021)

10.04 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending May 28, 2021)

Total projected return on the market 3-5 years hence*:	8.16 %
Projected Risk-Free Rate (see note 2):	<u>2.88</u>
MRP based on Value Line Summary & Index:	<u><u>5.28</u></u> %

\*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:	14.32 %
Projected Risk-Free Rate (see note 2):	<u>2.88</u>
MRP based on Value Line data	<u><u>11.44</u></u> %

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	16.34 %
Projected Risk-Free Rate (see note 2):	<u>2.88</u>
MRP based on Bloomberg data	<u><u>13.46</u></u> %

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.46 %

- (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 and 11 of Schedule DWD-3.) The projection of the risk-free rate is illustrated below:

Second Quarter 2021	2.40 %
Third Quarter 2021	2.50
Fourth Quarter 2021	2.60
First Quarter 2022	2.60
Second Quarter 2022	2.70
Third Quarter 2022	2.80
2023-2027	3.50
2028-2032	<u>3.90</u>
	<u><u>2.88</u></u> %

- (3) Average of Column 6 and Column 7.

Sources of Information:

Value Line Summary and Index  
 Blue Chip Financial Forecasts, June 1, 2021  
 Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.  
 Bloomberg Professional Services

Northern States Power 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 Non-Price Regulated Proxy Group was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group companies were then selected based on the unadjusted beta range of 0.64 – 0.94 and residual standard error of the regression range of 2.7297 – 3.2557 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 Gas Utility Proxy Group's residual standard error of the regression is 0.1315. 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

$$\text{Thus, } 0.1315 = \frac{2.9927}{\sqrt{518}} = \frac{2.9927}{22.7596}$$

Source of Information: Value Line, Inc., May 2021  
Value Line Investment Survey (Standard Edition)

Northern States Power Company  
Basis of Selection of Comparable Risk  
Domestic Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
<u>Proxy Group of Seven Natural Gas Distribution Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
Atmos Energy Corporation	0.80	0.66	2.7453	0.0685
New Jersey Resources Corporation	0.95	0.92	3.0205	0.0754
Northwest Natural Holding Company	0.80	0.69	3.1454	0.0785
ONE Gas, Inc.	0.80	0.67	2.7077	0.0676
South Jersey Industries, Inc.	1.05	1.00	3.4767	0.0868
Southwest Gas Holdings, Inc.	0.95	0.88	3.0244	0.0755
Spire Inc.	0.85	0.71	2.8287	0.0706
Average	<u>0.89</u>	<u>0.79</u>	<u>2.9927</u>	<u>0.0747</u>
Beta Range (+/- 2 std. Devs. of Beta)	0.64	0.94		
2 std. Devs. of Beta	0.15			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.7297	3.2557		
Std. dev. of the Res. Std. Err.	0.1315			
2 std. devs. of the Res. Std. Err.	0.2630			

Source of Information: Valueline Proprietary Database, March 2021

Northern States Power Company

Northern States Power Company  
Proxy Group of Non-Price Regulated Companies  
Comparable in Total Risk to the  
Proxy Group of Seven Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]
<u>Proxy Group of Forty-Eight Non-Price Regulated Companies</u>	<u>VL Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
Apple Inc.	0.90	0.81	3.1746	0.0792
Abbott Labs.	0.95	0.88	2.7401	0.0684
Assurant Inc.	0.90	0.84	2.9537	0.0737
ANSYS, Inc.	0.85	0.74	2.8841	0.0720
Booz Allen Hamilton	0.90	0.82	3.0468	0.0760
Becton, Dickinson	0.80	0.66	2.8952	0.0722
Brown-Forman 'B'	0.90	0.77	2.7453	0.0685
Broadridge Fin'l	0.85	0.70	2.7332	0.0682
Brady Corp.	1.00	0.93	3.0007	0.0749
CACI Int'l	0.95	0.86	3.1684	0.0791
Casey's Gen'l Stores	0.90	0.78	3.2522	0.0812
Cadence Design Sys.	0.90	0.79	3.0338	0.0757
Cerner Corp.	0.90	0.84	2.7309	0.0681
CSW Industrials	0.90	0.81	2.8884	0.0721
Quest Diagnostics	0.85	0.75	2.7411	0.0684
Lauder (Estee)	0.95	0.85	2.8216	0.0704
Exponent, Inc.	0.90	0.79	2.9131	0.0727
Fastenal Co.	0.90	0.85	3.2203	0.0804
Gentex Corp.	0.95	0.91	2.7546	0.0687
Int'l Flavors & Frag	0.95	0.87	3.2238	0.0804
Ingredion Inc.	0.90	0.78	2.8793	0.0718
Iron Mountain	0.90	0.82	3.0897	0.0771
Hunt (J.B.)	0.95	0.86	2.8344	0.0707
J&J Snack Foods	0.90	0.84	2.9208	0.0729
Henry (Jack) & Assoc	0.85	0.71	2.7734	0.0692
ManTech Int'l 'A'	0.85	0.77	3.0653	0.0765
McCormick & Co.	0.80	0.66	2.7887	0.0696
Altria Group	0.90	0.83	2.9215	0.0729
MSA Safety	1.00	0.94	3.0076	0.0750
MSCI Inc.	0.95	0.87	2.9662	0.0740
Motorola Solutions	0.90	0.80	2.7926	0.0697
Vail Resorts	0.95	0.88	3.1939	0.0797
Maxim Integrated	0.95	0.87	2.9404	0.0734
Northrop Grumman	0.85	0.71	2.9032	0.0724
Old Dominion Freight	0.90	0.83	3.0708	0.0766
PerkinElmer Inc.	0.95	0.86	2.8896	0.0721
Philip Morris Int'l	0.95	0.88	3.2481	0.0811
Pool Corp.	0.85	0.75	3.2001	0.0799
Post Holdings	0.95	0.86	3.0105	0.0751
RLI Corp.	0.80	0.64	2.9883	0.0746
Rollins, Inc.	0.85	0.73	2.9697	0.0741
Selective Ins. Group	0.85	0.77	3.0004	0.0749
Sirius XM Holdings	0.95	0.91	2.7995	0.0699
Bio-Techne Corp.	0.80	0.67	3.2475	0.0810
Tetra Tech	0.90	0.84	3.0245	0.0755
Waters Corp.	0.95	0.86	2.7531	0.0687
West Pharmac. Svcs.	0.85	0.70	3.1887	0.0796
Western Union	0.80	0.67	2.7346	0.0682
Average	<u>0.90</u>	<u>0.80</u>	<u>2.9609</u>	<u>0.0739</u>
Proxy Group of Seven Natural Gas Distribution Companies	<u>0.89</u>	<u>0.79</u>	<u>2.9927</u>	<u>0.0747</u>

Source of Information:

Valueline Proprietary Database, March 2021

Northern States Power Company

Northern States Power Company  
 Summary of Cost of Equity Models Applied to  
 Proxy Group of Forty-Eight Non-Price Regulated Companies  
 Comparable in Total Risk to the  
Proxy Group of Seven Natural Gas Distribution Companies

<u>Principal Methods</u>	<u>Proxy Group of Forty-Eight Non- Price Regulated Companies</u>
Discounted Cash Flow Model (DCF) (1)	12.83 %
Risk Premium Model (RPM) (2)	12.49
Capital Asset Pricing Model (CAPM) (3)	11.69
	12.34 %
	12.49 %
	12.42 %

Notes:

- (1) From page 2 of this Schedule.
- (2) From page 3 of this Schedule.
- (3) From page 6 of this Schedule.

Northern States Power Company

Northern States Power Company  
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the  
Proxy Group of Seven Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Forty-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	Bloomberg'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)
Apple Inc.	0.69 %	14.50 %	12.50 %	12.10 %	17.93 %	14.26 %	0.74 %	15.00 %
Abbott Labs.	1.51	11.50	13.80	13.63	16.49	13.86	1.61	15.47
Assurant Inc.	1.76	11.50	17.50	17.50	17.50	16.00	1.90	17.90
ANSYS, Inc.	-	8.00	12.30	12.58	10.74	10.90	-	NA
Booz Allen Hamilton	1.80	10.50	10.60	13.00	9.67	10.94	1.90	12.84
Becton, Dickinson	1.35	7.50	8.90	8.30	11.85	9.14	1.41	10.55
Brown-Forman 'B'	0.97	11.00	NA	5.39	7.40	7.93	1.01	8.94
Broadridge Fin'l	1.48	8.50	NA	12.30	11.60	10.80	1.56	12.36
Brady Corp.	1.59	7.50	7.00	9.00	7.00	7.63	1.65	9.28
CACI Int'l	-	13.50	13.10	12.06	13.68	13.08	-	NA
Casey's Gen'l Stores	0.63	8.00	NA	15.81	7.85	10.55	0.66	11.21
Cadence Design Sys.	-	9.50	14.40	11.60	14.40	12.48	-	NA
Cerner Corp.	1.18	8.00	12.30	10.46	11.63	10.60	1.24	11.84
CSW Industrials	0.45	8.50	NA	12.00	12.00	10.83	0.47	11.30
Quest Diagnostics	1.91	10.00	26.50	(5.40)	3.26	13.25	2.04	15.29
Lauder (Estee)	0.71	11.00	10.70	18.20	27.18	16.77	0.77	17.54
Exponent, Inc.	0.83	12.50	NA	13.30	15.00	13.60	0.89	14.49
Fastenal Co.	2.21	8.00	9.00	8.70	7.95	8.41	2.30	10.71
Gentex Corp.	1.35	10.50	10.10	13.15	15.80	12.39	1.43	13.82
Int'l Flavors & Frag	2.20	7.50	9.80	21.48	7.72	11.63	2.33	13.96
Ingredion Inc.	2.76	7.50	NA	11.00	1.90	6.80	2.85	9.65
Iron Mountain	6.32	11.50	1.70	0.66	1.70	3.89	6.44	10.33
Hunt (J.B.)	0.71	8.00	15.00	15.00	21.53	14.88	0.76	15.64
J&J Snack Foods	1.55	10.00	NA	NA	6.00	8.00	1.61	9.61
Henry (Jack) & Assoc	1.18	9.00	10.90	12.47	10.64	10.75	1.24	11.99
ManTech Int'l 'A'	1.79	9.00	5.10	5.53	3.87	5.88	1.84	7.72
McCormick & Co.	1.53	5.50	6.70	5.87	6.00	6.02	1.58	7.60
Altria Group	6.94	6.00	4.00	4.35	4.35	4.68	7.10	11.78
MSA Safety	1.10	6.50	NA	9.00	18.00	11.17	1.16	12.33
MSCI Inc.	0.69	16.00	NA	15.00	15.31	15.44	0.74	16.18
Motorola Solutions	1.49	7.00	9.00	12.20	7.37	8.89	1.56	10.45
Vail Resorts	-	9.50	NA	87.08	72.95	56.51	-	NA
Maxim Integrated	-	8.00	10.00	11.95	21.91	12.97	-	NA
Northrop Grumman	1.84	7.00	NA	5.67	5.77	6.15	1.90	8.05
Old Dominion Freight	0.32	9.00	17.20	18.98	18.93	16.03	0.35	16.38
PerkinElmer Inc.	0.21	11.00	37.90	5.66	37.90	23.11	0.23	23.34
Philip Morris Int'l	5.19	6.50	8.70	10.75	12.75	9.67	5.44	15.11
Pool Corp.	0.83	15.00	NA	NA	17.00	16.00	0.90	16.90
Post Holdings	-	11.00	NA	20.30	31.20	20.83	-	NA
RLI Corp.	0.89	12.50	NA	NA	9.80	11.15	0.94	12.09
Rollins, Inc.	0.91	11.50	NA	NA	8.20	9.85	0.95	10.80
Selective Ins. Group	1.33	8.50	9.50	9.51	5.10	8.15	1.38	9.53
Sirius XM Holdings	0.96	35.50	12.70	40.32	10.10	24.66	1.08	25.74
Bio-Techne Corp.	0.32	12.50	14.00	19.03	15.00	15.13	0.34	15.47
Tetra Tech	0.62	13.50	15.00	13.85	15.00	14.34	0.66	15.00
Waters Corp.	-	6.00	7.10	8.19	7.77	7.26	-	NA
West Pharmac. Svcs.	0.22	17.00	25.80	18.55	25.80	21.79	0.24	22.03
Western Union	3.74	6.00	NA	4.57	9.19	6.59	3.86	10.45
							Mean	13.33 %
							Median	12.33 %
							Average of Mean and Median	12.83 %

NA= Not Available

(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 May 28, 2021. 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, Bloomberg Professional Services, 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 05/28/2021  
www.yahoo.com Downloaded on 05/28/2021  
Bloomberg Professional Services

Northern States Power Company  
Indicated Common Equity Cost Rate  
Through Use of a Risk Premium Model  
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Forty- Eight Non-Price Regulated Companies</u>
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	4.46 %
2.	Equity Risk Premium (2)	<u>8.03</u>
3.	Risk Premium Derived Common Equity Cost Rate	<u><u>12.49 %</u></u>

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2021 (see pages 10 and 11 of Schedule DWD-3). The estimates are detailed below.

Second Quarter 2021	3.80 %
Third Quarter 2021	4.00
Fourth Quarter 2021	4.10
First Quarter 2022	4.20
Second Quarter 2022	4.20
Third Quarter 2022	4.30
2023-2027	5.30
2028-2032	<u>5.80</u>
Average	<u><u>4.46 %</u></u>

(2) From page 5 of this Schedule.

Northern States Power Company  
Comparison of Long-Term Issuer Ratings for the  
Proxy Group of Forty-Eight Non-Price Regulated Companies of Comparable risk to the  
Proxy Group of Seven Natural Gas Distribution Companies

Proxy Group of Forty-Eight Non-Price Regulated Companies	Moody's Long-Term Issuer Rating May 2021		Standard & Poor's Long-Term Issuer Rating May 2021	
	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
Apple Inc.	Aa1	2.0	AA+	2.0
Abbott Labs.	A2	6.0	A+	5.0
Assurant Inc.	Baa3	10.0	BBB	9.0
ANSYS, Inc.	NA	--	NA	--
Booz Allen Hamilton	NA	--	NA	--
Becton, Dickinson	Baa3	10.0	BBB	9.0
Brown-Forman 'B'	A1	5.0	A-	7.0
Broadridge Fin'l	Baa1	8.0	BBB+	8.0
Brady Corp.	NA	--	NA	--
CACI Int'l	NA	--	BB+	11.0
Casey's Gen'l Stores	NA	--	NA	--
Cadence Design Sys.	Baa2	9.0	BBB+	8.0
Cerner Corp.	NA	--	NA	--
CSW Industrials	NA	--	NA	--
Quest Diagnostics	Baa2	9.0	BBB+	8.0
Lauder (Estee)	A1	5.0	A+	5.0
Exponent, Inc.	NA	--	NA	--
Fastenal Co.	NA	--	NA	--
Gentex Corp.	NA	--	NA	--
Int'l Flavors & Frag	Baa3	10.0	BBB	9.0
Ingredion Inc.	Baa1	8.0	BBB	9.0
Iron Mountain	Ba3	13.0	BB-	13.0
Hunt (J.B.)	Baa1	8.0	BBB+	8.0
J&J Snack Foods	NA	--	NA	--
Henry (Jack) & Assoc	NA	--	NA	--
ManTech Int'l 'A'	WR	--	BB+	11.0
McCormick & Co.	Baa2	9.0	BBB	9.0
Altria Group	A3	7.0	BBB	9.0
MSA Safety	NA	--	NA	--
MSCI Inc.	Ba1	11.0	BB+	11.0
Motorola Solutions	Baa3	10.0	BBB-	10.0
Vail Resorts	B2	15.0	BB	12.0
Maxim Integrated	Baa1	8.0	BBB+	8.0
Northrop Grumman	Baa2	9.0	BBB+	8.0
Old Dominion Freight	NA	--	NA	--
PerkinElmer Inc.	Baa3	10.0	BBB	9.0
Philip Morris Int'l	A2	6.0	A	6.0
Pool Corp.	NA	--	NA	--
Post Holdings	B2	15.0	B+	14.0
RLI Corp.	Baa2	9.0	BBB	9.0
Rollins, Inc.	NA	--	NA	--
Selective Ins. Group	Baa2	9.0	BBB	9.0
Sirius XM Holdings	NA	--	BB	12.0
Bio-Techne Corp.	NA	--	NA	--
Tetra Tech	NA	--	NA	--
Waters Corp.	NA	--	NA	--
West Pharmac. Svcs.	NA	--	NA	--
Western Union	Baa2	9.0	BBB	9.0
Average	<u>Baa2</u>	<u>8.8</u>	<u>BBB</u>	<u>8.9</u>

Notes:

(1) From page 6 of Schedule DWD-6.

Source of Information:

Bloomberg Professional Services

Northern States Power Company  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for  
Proxy Group of Forty-Eight Non-Price Regulated Companies of Comparable risk to the  
Proxy Group of Seven Natural Gas Distribution Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Forty-Eight Non- Price Regulated Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.69
3.	Ibbotson Equity Risk Premium based on PRPM (3)	9.02
4.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (4)	4.60
5	Equity Risk Premium Based on <u>Value Line</u> S&P 500 Companies (5)	10.76
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>12.78</u>
7.	Conclusion of Equity Risk Premium	8.63 %
8.	Adjusted Beta (7)	<u>0.93</u>
9.	Forecasted Equity Risk Premium	<u><u>8.03</u></u> %

## Notes:

- (1) From note 1 of page 9 of Schedule DWD-6.
- (2) From note 2 of page 9 of Schedule DWD-6.
- (3) From note 3 of page 9 of Schedule DWD-6.
- (4) From note 4 of page 9 of Schedule DWD-6.
- (5) From note 5 of page 9 of Schedule DWD-6.
- (6) From note 6 of page 9 of Schedule DWD-6.
- (7) Average of mean and median beta from page 6 of this Schedule.

## Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.  
Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2021  
Bloomberg Professional Services

Northern States Power Company

Northern States Power Company  
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the  
Proxy Group of Seven Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Forty-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)
Apple Inc.	0.90	1.01	0.96	9.46 %	2.88 %	11.96 %	12.06 %	12.01 %
Abbott Labs.	0.90	0.85	0.88	9.46	2.88	11.20	11.49	11.35
Assurant Inc.	0.90	1.00	0.95	9.46	2.88	11.87	11.99	11.93
ANSYS, Inc.	0.85	0.97	0.91	9.46	2.88	11.49	11.70	11.59
Booz Allen Hamilton	0.90	0.92	0.91	9.46	2.88	11.49	11.70	11.59
Becton, Dickinson	0.80	0.58	0.69	9.46	2.88	9.41	10.14	9.77
Brown-Forman 'B'	0.90	0.97	0.94	9.46	2.88	11.77	11.91	11.84
Broadridge Fin'l	0.80	0.84	0.82	9.46	2.88	10.64	11.06	10.85
Brady Corp.	1.00	1.05	1.02	9.46	2.88	12.53	12.48	12.51
CACI Int'l	0.95	1.01	0.98	9.46	2.88	12.15	12.20	12.17
Casey's Gen'l Stores	0.90	0.91	0.91	9.46	2.88	11.49	11.70	11.59
Cadence Design Sys.	0.90	0.98	0.94	9.46	2.88	11.77	11.91	11.84
Cerner Corp.	0.90	0.89	0.90	9.46	2.88	11.39	11.63	11.51
CSW Industrials	0.90	1.05	0.97	9.46	2.88	12.06	12.13	12.09
Quest Diagnostics	0.85	0.96	0.91	9.46	2.88	11.49	11.70	11.59
Lauder (Estee)	0.95	1.00	0.98	9.46	2.88	12.15	12.20	12.17
Exponent, Inc.	0.90	0.94	0.92	9.46	2.88	11.58	11.77	11.68
Fastenal Co.	0.90	0.95	0.92	9.46	2.88	11.58	11.77	11.68
Gentex Corp.	0.95	1.06	1.01	9.46	2.88	12.43	12.41	12.42
Int'l Flavors & Frag	0.95	1.08	1.02	9.46	2.88	12.53	12.48	12.51
Ingredion Inc.	0.90	0.92	0.91	9.46	2.88	11.49	11.70	11.59
Iron Mountain	0.90	1.02	0.96	9.46	2.88	11.96	12.06	12.01
Hunt (J.B.)	0.95	0.91	0.93	9.46	2.88	11.68	11.84	11.76
J&J Snack Foods	0.90	0.77	0.84	9.46	2.88	10.83	11.20	11.02
Henry (Jack) & Assoc	0.85	0.89	0.87	9.46	2.88	11.11	11.42	11.26
ManTech Int'l 'A'	0.85	1.11	0.98	9.46	2.88	12.15	12.20	12.17
McCormick & Co.	0.80	0.70	0.75	9.46	2.88	9.97	10.57	10.27
Altria Group	0.90	0.88	0.89	9.46	2.88	11.30	11.56	11.43
MSA Safety	1.00	0.99	1.00	9.46	2.88	12.34	12.34	12.34
MSCI Inc.	0.95	0.94	0.94	9.46	2.88	11.77	11.91	11.84
Motorola Solutions	0.90	0.96	0.93	9.46	2.88	11.68	11.84	11.76
Vail Resorts	0.95	1.14	1.05	9.46	2.88	12.81	12.69	12.75
Maxim Integrated	0.95	0.99	0.97	9.46	2.88	12.06	12.13	12.09
Northrop Grumman	0.85	0.80	0.83	9.46	2.88	10.73	11.13	10.93
Old Dominion Freight	0.95	0.97	0.96	9.46	2.88	11.96	12.06	12.01
PerkinElmer Inc.	0.90	0.84	0.87	9.46	2.88	11.11	11.42	11.26
Philip Morris Int'l	0.95	0.91	0.93	9.46	2.88	11.68	11.84	11.76
Pool Corp.	0.85	0.95	0.90	9.46	2.88	11.39	11.63	11.51
Post Holdings	0.95	0.90	0.93	9.46	2.88	11.68	11.84	11.76
RLI Corp.	0.80	0.90	0.85	9.46	2.88	10.92	11.28	11.10
Rollins, Inc.	0.85	0.69	0.77	9.46	2.88	10.16	10.71	10.44
Selective Ins. Group	0.85	0.97	0.91	9.46	2.88	11.49	11.70	11.59
Sirius XM Holdings	0.95	1.10	1.02	9.46	2.88	12.53	12.48	12.51
Bio-Techne Corp.	0.80	0.93	0.86	9.46	2.88	11.02	11.35	11.18
Tetra Tech	0.95	1.06	1.00	9.46	2.88	12.34	12.34	12.34
Waters Corp.	0.95	0.86	0.91	9.46	2.88	11.49	11.70	11.59
West Pharmac. Svcs.	0.80	0.75	0.78	9.46	2.88	10.26	10.78	10.52
Western Union	0.80	1.05	0.93	9.46	2.88	11.68	11.84	11.76
		Mean	<u>0.92</u>			<u>11.55</u> %	<u>11.75</u> %	<u>11.65</u> %
		Median	<u>0.93</u>			<u>11.63</u> %	<u>11.81</u> %	<u>11.72</u> %
		Average of Mean and Median	<u>0.93</u>			<u>11.59</u> %	<u>11.78</u> %	<u>11.69</u> %

Notes:

- (1) From note 1 of page 2 of Schedule DWD-7.
- (2) From note 2 of page 2 of Schedule DWD-7.
- (3) Average of CAPM and ECAPM cost rates.

## Northern States Power Company

Northern States Power Company  
 Derivation of Investment Risk Adjustment Based upon  
 Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.	[1]	[2]	[3]	[4]
	Market Capitalization on May 28, 2021 (1) (millions)	Applicable Decile of the NYSE/AMEX/NASDAQ (2)	Applicable Size Premium (3)	Spread from Applicable Size Premium (4)
1.	Northern States Power Company, a Minnesota Corporation \$ 114.612	10	5.01%	
2.	Proxy Group of Seven Natural Gas Distribution Companies \$ 4,615.314	40.3 x [A]	0.75% [C]	4.26% [D]
			Market Capitalization of Largest Company (millions)	Market Capitalization of Smallest Company (millions)
	Largest	1	\$ 1,966,078.882	\$ 29,025.803
		2	28,808.073	13,178.743
		3	13,177.828	6,743.361
		4	6,710.676	3,861.858
		5	3,836.536	2,445.693
		6	2,444.745	1,591.865
		7	1,591.765	911.586
		8	911.103	451.955
		9	451.800	190.019
	Smallest	10	189.831	2.194
				*From 2021 Duff & Phelps Cost of Capital Navigator
			Size Premium (Return in Excess of CAPM)*	
				-0.22%
				0.49%
				0.71%
				0.75%
				1.09%
				1.37%
				1.54%
				1.46%
				2.29%
				5.01%

## 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 4.26% in Column [4], Line No. 2 is derived as follows 4.26% = 5.01% - 0.75%.

Northern States Power Company

Northern States Power Company  
 Market Capitalization of Northern States Power Company, a Minnesota Corporation and the  
 Proxy Group of Seven Natural Gas Distribution Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2020 (millions)	[2] Book Value per Share at Fiscal Year End 2020 (1)	[3] Total Common Equity at Fiscal Year End 2020 (millions)	[4] Closing Stock Market Price on May 28, 2021	[5] Market-to- Book Ratio on May 28, 2021 (2)	[6] Market Capitalization on May 28, 2021 (3) (millions)
Northern States Power Company, a Minnesota Corporation		NA	NA	65,269 (4)	NA		
Based upon Proxy Group of Seven Natural Gas Distribution Companies						175.6 (5)	\$ 114,612 (6)
Proxy Group of Seven Natural Gas Distribution Companies							
Atmos Energy Corporation	NYSE	\$ 125,882	\$ 53.949	\$ 6,791,203	\$ 99.170	183.8 %	\$ 12,483,765
New Jersey Resources Corporation	NYSE	95,949	19,226	1,844,692	42,720	222.2	4,098,949
Northwest Natural Holding Company	NYSE	30,589	29,054	888,733	52,880	182.0	1,617,546
ONE Gas, Inc.	NYSE	53,167	42,006	2,233,311	74,320	176.9	3,951,352
South Jersey Industries, Inc.	NYSE	100,592	16,571	1,666,876	26,660	160.9	2,681,781
Southwest Gas Holdings, Inc.	NYSE	57,193	46,771	2,674,953	66,010	141.1	3,775,305
Spire Inc.	NYSE	51,612	44,182	2,280,300	71,660	162.2	3,698,501
Average		\$ 73,569	\$ 35,966	\$ 2,625,724	\$ 61,917	175.6 %	\$ 4,615,314

NA= Not Available

Notes: (1) Column 3 / Column 1.

(2) Column 4 / Column 2.

(3) Column 1 \* Column 4.

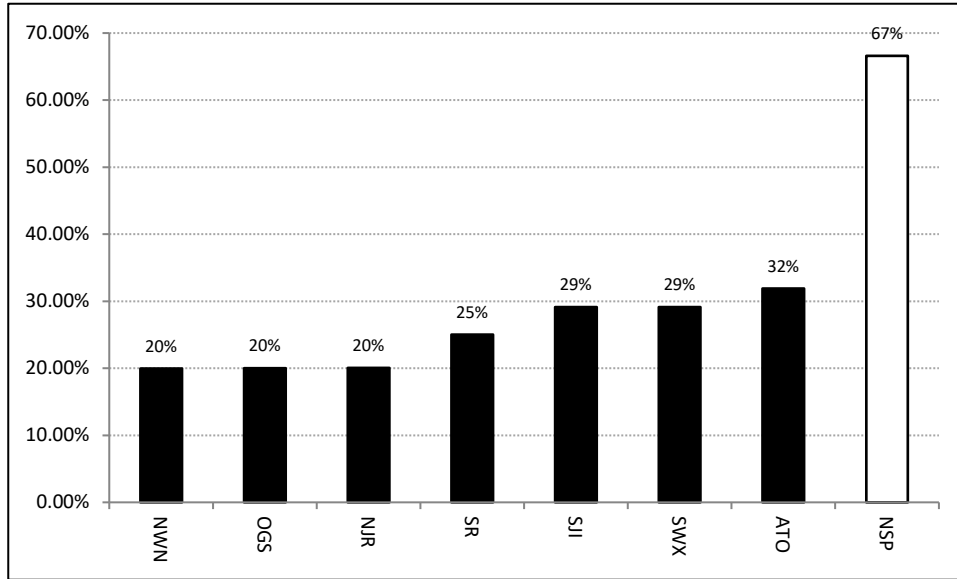
(4) Requested rate base multiplied by the initial requested common equity ratio.

(5) The market-to-book ratio of Northern States Power Company, a Minnesota Corporation on May 28, 2021 is assumed to be equal to the market-to-book ratio of Proxy Group of Seven Natural Gas Distribution Companies on May 28, 2021 as appropriate.

(6) Column [3] multiplied by Column [5].

Source of Information: 2020 Annual Forms 10K  
 yahoo.finance.com  
 Bloomberg Professional

Northern States Power Company  
Comparison of Projected Capital Expenditures Relative to Net  
Plant



Sources of Information: Value Line  
NSP 2020 Natural Gas ND Annual Report  
Company provided data

Northern States Power Company

Northern States Power Company  
 Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

Equity Issuances

Date	Issuing Company	[Column 1] Shares Issued (1)	[Column 2] Market Price per Share (1)	[Column 3] Average Offering Price per Share (1)	[Column 4] Underswriting 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	\$ 9,989	\$ 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	\$ 10,240	\$ 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	\$ 13,816	\$ 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	\$ 16,479	\$ 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	\$ 21,740	\$ 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	\$ 32,683	\$ 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	\$ 26,694	\$ 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	\$ 21,176	\$ 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	\$ 23,205	\$ 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	\$ 24,219	\$ 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	\$ 16,521	\$ 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	\$ 22,183	\$ 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	\$ 23,216	\$ 1,568,000	\$ 48,000,000	\$ 46,432,000	3.267%
5/31/1993	Northern States Power	3,041,955	\$ 44.13	\$ 43.63	\$ 1.23	\$ 0.048	\$ 42,377	\$ 5,317,337	\$ 134,226,264	\$ 128,908,927	3.961%
9/23/1997	Northern States Power	4,500,000	\$ 49.94	\$ 49.56	\$ 1.20	\$ 0.133	\$ 48,200	\$ 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	\$ 48,200	\$ 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	\$ 21,755	\$ 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	\$ 20,094	\$ 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	\$ 20,571	\$ 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	\$ 28,714	\$ 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	\$ 30,326	\$ 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	\$ 47,405	\$ 2,271,040	\$ 226,661,287	\$ 224,390,247	1.002%
8/29/2019	Xcel Energy, Inc.	9,359,103	\$ 48.42	\$ 48.42	\$ 0.17	\$ 0.030	\$ 48,213	\$ 1,901,526	\$ 453,132,797	\$ 451,231,271	0.420%
Total Public Issuances											
								\$ 119,189,213	\$ 3,171,079,321	\$ 3,051,890,108	3.759%

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)
3.44 %	6.02 %	3.54 %	9.56 %	9.70 %	0.14 %

- 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) Exhibit (DWD-1), Schedule 5
  - (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

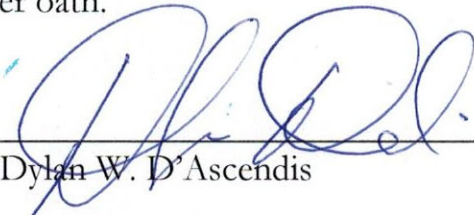
Proxy Group of Seven  
 Natural Gas  
 Distribution  
 Companies

1 STATE OF NORTH DAKOTA  
2 BEFORE THE  
3 PUBLIC SERVICE COMMISSION  
4

5  
6 In the Matter of the Application of )  
7 Northern States Power Company for Authority )  
8 To Increase Rates for Natural Gas Service ) Case No. PU-21-\_\_\_\_  
9 In North Dakota )  
10

11  
12  
13 **AFFIDAVIT OF**  
14 **Dylan W. D'Ascendis**  
15

16  
17 I, the undersigned, being duly sworn, depose and say that the foregoing is the  
18 Direct Testimony of the undersigned, and that such Direct Testimony and the  
19 exhibits or schedules sponsored by me to the best of my knowledge, information  
20 and belief, are true, correct, accurate and complete, and I hereby adopt said testimony  
21 as if given by me in formal hearing, under oath.  
22

23  
24   
25 \_\_\_\_\_  
26 Dylan W. D'Ascendis  
27

28  
29  
30 Subscribed and sworn to before me, this 23<sup>rd</sup> day of August, 2021.  
31

32  
33 Heather N. Fulmer

34 Notary Public

35 My Commission Expires:  
36

**HEATHER N. FULMER**  
**NOTARY PUBLIC OF NEW JERSEY**  
**Commission # 50115526**  
**My Commission Expires 10/25/2024**

