Direct Testimony and Schedules

Dylan W. D'Ascendis

Before the Minnesota Public Utilities Commission

State of Minnesota

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

Docket No. G002/GR-21-678

Exhibit___(DWD-1)

Rate of Return

November 1, 2021

Table of Contents

Schedules

I. INTRODUCTION AND PURPOSE

1

2

3 **Q. PLEASE STATE YOUR NAME AND OCCUPATION.**

4 A. My name is Dylan W. D'Ascendis. I am employed by ScottMadden, Inc. as

5 Partner. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, NJ

6 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 Minnesota Public Utilities Commission (Commission)

11 on behalf of Northern States Power, a Minnesota corporation (NSP or the

12 Company).

13

14 **Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.**

15 A. I have offered expert testimony on behalf of investor-owned utilities before

16 over 30 state regulatory commissions in the United States, the Federal Energy

17 Regulatory Commission (FERC), the Alberta Utility Commission, one

18 American Arbitration Association panel, and the Superior Court of Rhode

19 Island on issues including, but not limited to, common equity cost rate, rate of

20 return, valuation, capital structure, class cost of service, and rate design.

21

22 On behalf of the American Gas Association (AGA), I calculate the AGA Gas

23 Index, which serves as the benchmark against which the performance of the

24 American Gas Index Fund (AGIF) is measured on a monthly basis. The AGA

25 Gas Index and AGIF are a market capitalization weighted index and mutual

1	fund, respectively, comprised of the common stocks of the publicly traded
2	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 Rate
6	of Return Analyst" by SURFA, which is based on education, experience, and
7	the successful completion of a comprehensive written examination.
8	
9	I am also a member of the National Association of Certified Valuation Analysts
10	(NACVA) and was awarded the professional designation "Certified Valuation
11	Analyst" by NACVA in 2015.
12	
13	I am a graduate of the University of Pennsylvania, where I received a Bachelor
14	of Arts degree in Economic History. I have also received a Master of Business
15	Administration with high honors and concentrations in Finance and
16	International Business from Rutgers University.
17	
18	The details of my educational background and expert witness appearances are
19	shown in Appendix A.
20	
21	**Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**
22	A. The purpose of my testimony is to present evidence on behalf of the Company
23	and recommend an appropriate return on common equity (ROE) on the
24	Company's Minnesota jurisdictional rate base.

1   **Q.   HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR**

2   **RECOMMENDATION?**

3   A.   Yes. I have prepared Exhibit___(DWD-1), which contains Schedules 1 through

4   12, and was prepared by me or under my direction.

5

6   **II.   SUMMARY**

7

8   **Q.   PLEASE SUMMARIZE YOUR RECOMMENDED ROE.**

9   A.   My recommended ROE of 10.50% is summarized on Exhibit____(DWD-1),

10   Schedule 1. In determining my recommendation, I assessed the market-based

11   common equity cost rates of companies of relatively similar, but not necessarily

12   identical, risk to the Company. Using companies of relatively comparable risk

13   as proxies is consistent with the principles of fair rate of return established in

14   the *Hope*[1] and *Bluefield*[2] decisions, which I discuss further in Section III, below.

15   Of course, no proxy group can be identical in risk to any single company.

16   Consequently, there must be an evaluation of relative risk between the

17   Company and the proxy group to determine if it is appropriate to adjust the

18   proxy group's indicated rate of return.

19

20   My recommendation results from applying and considering several cost of

21   common equity models, specifically the Constant Growth Discounted Cash

22   Flow (DCF) model, the Risk Premium Model (RPM), and the Capital Asset

23   Pricing Model (CAPM), to the market data of the Utility Proxy Group whose

24   selection criteria will be discussed below. In addition, I applied these same

---

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 models to a Non-Price Regulated Proxy Group. The results derived from these

2 analyses are as follows:

3

4 **Table 1**

5 **Summary of Common Equity Cost Rates[3]**

6

Discounted Cash Flow Model	9.59%
Risk Premium Model	10.45%
Capital Asset Pricing Model	12.01%
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	12.81%
Indicated Range of Common Equity Cost Rates Before Adjustments	10.20% - 12.20%
Business Risk Adjustment	0.15%
Credit Risk Adjustment	-0.04%
Flotation Cost Adjustment	0.12%
Indicated Range of Common Equity Cost Rates after Adjustment	10.43% - 12.43%
Recommended Cost of Common Equity	10.50%

17

18 The indicated range of common equity cost rates applicable to the Utility Proxy

19 Group is between 10.20% and 12.20% before any Company-specific

20 adjustments.[4] I then adjusted the indicated common equity cost rate upward by

21 0.15% to reflect the Company's greater relative business risk and downward by

22 0.04% to account for a less risky bond rating, as compared to the Utility Proxy

23 Group. I also adjusted the indicated common equity cost rate upward by 0.12%

---

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

4   The indicated range is equal to 100 basis points above and below the midpoint of my four model results.

1   to account for flotation costs.[5] These adjustments resulted in a Company-

2   specific indicated range of common equity cost rates between 10.43% and

3   12.43%. I recommend an ROE for the Company toward the lower end of my

4   Company-specific range, specifically 10.50%.

5

6   **Q.   PLEASE SUMMARIZE THE COMPANY'S PROPOSED CAPITAL STRUCTURE.**

7   A.   The Company is proposing a capital structure including 52.50% common

8   equity, 46.89% long-term debt, and 0.61% short-term debt. That capital

9   structure is consistent with the Company's historical capital structures, the

10   capital structures of the Utility Proxy Group, and the operating subsidiary

11   companies of the Utility Proxy Group.

12

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

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

15   • *Section III* – Provides a summary of financial theory and regulatory principles

16   pertinent to the development of the Cost of Capital;

17   • *Section IV* – Explains my selection of the Utility Proxy Group used to develop

18   my analytical results;

19   • *Section V* – Explains the proposed capital structure;

20   • *Section VI* – Discusses the reasonability of the Company's proposed long-term

21   debt cost rate;

22   • *Section VII* – Describes the analyses on which my recommendation is based;

23   • *Section VIII* – Summarizes my common equity cost rate before adjustments to

24   reflect Company-specific factors;

---

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

1 • *Section IX* – Explains my adjustments to my common equity cost rate to reflect

2   the Company-specific factors; and

3 • *Section X* – Presents my conclusions.

4

5   **III.   GENERAL PRINCIPLES**

6

7 Q. **WHAT PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR**

8   **RECOMMENDATIONS?**

9 A. In unregulated industries, marketplace competition is the principal determinant

10   of the price of products or services. For regulated public utilities, regulation

11   must act as a substitute for marketplace competition. Assuring that the utility

12   can fulfill its obligations to the public, while providing safe and reliable service

13   at all times, requires a level of earnings sufficient to maintain the integrity of

14   presently invested capital. Sufficient earnings also permit the attraction of

15   needed new capital at a reasonable cost, for which the utility must compete with

16   other firms of comparable risk, consistent with the fair rate of return standards

17   established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield*

18   cases.

19

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

21   it stated:

22   The rate-making process under the Act, *i.e.,* the fixing of 'just and

23   reasonable' rates, involves a balancing of the investor and the consumer

24   interests. Thus we stated in the Natural Gas Pipeline Co. case that

25   'regulation does not insure that the business shall produce net revenues.'

1   315 U.S. at page 590, 62 S.Ct. at page 745. But such considerations aside,
2   the investor interest has a legitimate concern with the financial integrity of
3   the company whose rates are being regulated.   From the investor or
4   company point of view it is important that there be enough revenue not
5   only for operating expenses but also for the capital costs of the business.
6   These include service on the debt and dividends on the stock. Cf. Chicago
7   & Grand Trunk R. Co. v. Wellman, 143 U.S. 339, 345, 346 12 S.Ct.
8   400,402.   By that standard the return to the equity owner should be
9   commensurate with returns on investments in other enterprises having
10   corresponding risks. That return, moreover, should be sufficient to assure
11   confidence in the financial integrity of the enterprise, so as to maintain its
12   credit and to attract capital.[6]

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

---

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

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

10

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

19

20   It therefore is important that the authorized ROE for the Company reflects the
21   risks and prospects of its operations and supports its financial integrity from a
22   stand-alone perspective.

23

24 **Q.** **WITHIN THAT BROAD FRAMEWORK, HOW IS THE COST OF CAPITAL**
25   **ESTIMATED IN REGULATORY PROCEEDINGS?**
26 A.   Regulated utilities primarily use common stock and long-term debt to finance

1   their permanent property, plant, and equipment (*i.e.*, rate base). The fair rate of

2   return for a regulated utility is based on its weighted average cost of capital

3   (WACC), in which, as noted earlier, the costs of the individual sources of capital

4   are weighted by their respective book values.

5

6   The cost of capital is the return investors require to make an investment in a

7   firm. Investors will provide funds to a firm only if the return that they *expect* is

8   equal to, or greater than, the return that they *require* to accept the risk of

9   providing funds to the firm.

10

11   The cost of capital (that is, the combination of the costs of debt and equity) is

12   based on the economic principle of "opportunity costs." The principle of

13   opportunity costs recognizes that investing in any asset (whether debt or equity

14   securities) represents a forgone opportunity to invest in alternative assets. For

15   any investment to be sensible, its expected return must be at least equal to the

16   return expected on alternative investment opportunities with comparable risks.

17   Because investments with like risks should offer similar returns, the opportunity

18   cost of an investment should equal the return available on an investment of

19   comparable risk.

20

21   The cost of debt is contractually defined and can be directly observed as the

22   interest rate or yield on debt securities. However, the cost of equity must be

23   estimated based on market data and various financial models. Because the cost

24   of equity is premised on opportunity costs, the models used to determine it are

25   typically applied to a group of "comparable" or "proxy" companies.

26

Docket No. G002/GR-21-678
                                                           D'Ascendis Direct

1   In the end, the estimated cost of capital should reflect the return that investors

2   require in light of the subject company's business and financial risks, and the

3   returns available on comparable investments.

4

5   **A.   Business Risk**

6   **Q.   PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT FOR**

7   **DETERMINING A FAIR RATE OF RETURN.**

8   A.   The investor-required return on common equity reflects investors' assessment

9   of the total investment risk of the subject firm. Total investment risk is often

10   discussed in the context of business and financial risk.

11

12   Business risk reflects the uncertainty associated with owning a company's

13   common stock without the company's use of debt and/or preferred stock

14   financing. One way of considering the distinction between business and

15   financial risk is to view the former as the uncertainty of the expected earned

16   return on common equity, assuming the firm is financed with no debt.

17

18   Examples of business risks generally faced by utilities include, but are not

19   limited to, the regulatory environment, mandatory environmental compliance

20   requirements, customer mix and concentration of customers, service territory

21   economic growth, market demand, operations, capital intensity, size, the degree

22   of operating leverage, emerging technologies including distributed energy

23   resources, the vagaries of weather, and the like, all of which have a direct bearing

24   on earnings.

1   Although analysts, including rating agencies, may categorize business risks
2   individually, as a practical matter, such risks are interrelated and not wholly
3   distinct from one another.   When determining an appropriate return on
4   common equity, the relevant issue is where investors see the subject company
5   in relation to other similarly situated utility companies (i.e., the Utility Proxy
6   Group). To the extent investors view a company as being exposed to higher
7   risk, the required return will increase, and vice versa.
8
9   For regulated utilities, business risks are both long-term and near-term in nature.
10   Whereas near-term business risks are reflected in year-to-year variability in
11   earnings and cash flow brought about by economic or regulatory factors, long-
12   term business risks reflect the prospect of an impaired ability of investors to
13   obtain both a fair rate of return on, and return of, their capital. Moreover,
14   because utilities accept the obligation to provide safe, adequate, and reliable
15   service at all times (in exchange for a reasonable opportunity to earn a fair return
16   on their investment), they generally do not have the option to delay, defer, or
17   reject capital investments. Because those investments are capital-intensive,
18   utilities generally do not have the option to avoid raising external funds. The
19   obligation to serve and the corresponding need to access capital is even more
20   acute during periods of capital market distress.
21
22   Because utilities invest in long-lived assets, long-term business risks are of
23   paramount concern to equity investors. That is, the risk of not recovering the
24   return on their investment extends far into the future. The timing and nature
25   of events that may lead to losses, however, also are uncertain and, consequently,
26   those risks and their implications for the required return on equity tend to be

1   difficult to quantify. Regulatory commissions (like investors who commit their

2   capital) must review a variety of quantitative and qualitative data and apply their

3   reasoned judgment to determine how long-term risks weigh in their assessment

4   of the market-required return on common equity.

5

6   **B.**   **Financial Risk**

7 **Q.** **PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT IN**

8   **DETERMINING A FAIR RATE OF RETURN.**

9 A. Financial risk is the additional risk created by the introduction of debt and

10   preferred stock into the capital structure. The higher the proportion of debt

11   and preferred stock in the capital structure, the higher the financial risk to

12   common equity owners (*i.e.,* failure to receive dividends due to default or other

13   covenants). Therefore, consistent with the basic financial principle of risk and

14   return, common equity investors require higher returns as compensation for

15   bearing higher financial risk.

16

17 **Q.** **CAN BOND AND CREDIT RATINGS BE A PROXY FOR A FIRM'S COMBINED**

18   **BUSINESS AND FINANCIAL RISKS TO EQUITY OWNERS (I.E., TOTAL**

19   **INVESTMENT RISK)?**

20 A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of,

21   similar combined business and financial risks (*i.e.*, total investment risk) faced

22   by bond investors.[7] Although specific business or financial risks may differ

23   between companies, the same bond/credit rating indicates that the combined

---

7   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.

    Docket No. G002/GR-21-678
D'Ascendis Direct

1 risks are roughly similar from a debtholder perspective. The caveat is that these

2 debtholder risk measures do not translate directly to risks for common equity.

3

4 ## IV.   NSP AND THE UTILITY PROXY GROUP

5

6 **Q. WHY IS IT NECESSARY TO DEVELOP A PROXY GROUP WHEN ESTIMATING**

7 **THE ROE FOR THE COMPANY?**

8 A. Because the Company is not publicly traded and does not have publicly traded

9   equity securities, it is necessary to develop groups of publicly traded,

10   comparable companies to serve as "proxies" for the Company. In addition to

11   the analytical necessity of doing so, the use of proxy companies is consistent

12   with the *Hope* and *Bluefield* comparable risk standards, as discussed above. I have

13   selected two proxy groups that, in my view, are fundamentally risk-comparable

14   to the Company: A Utility Proxy Group and a Non-Price Regulated Proxy

15   Group, which is comparable in total risk to the Utility Proxy Group.[8]

16

17   Even when proxy groups are carefully selected, it is common for analytical

18   results to vary from company to company. Despite the care taken to ensure

19   comparability, because no two companies are identical, market expectations

20   regarding future risks and prospects will vary within the proxy group.   It

21   therefore is common for analytical results to reflect a seemingly wide range,

22   even for a group of similarly situated companies. At issue is how to estimate

23   the ROE from within that range. That determination will be best informed by

24   employing a variety of sound analyses and necessarily must consider the sort of

---

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

1   quantitative and qualitative information discussed throughout my Direct
2   Testimony. Additionally, a relative risk analysis between the Company and the
3   Utility Proxy Group must be made to determine whether or not explicit
4   Company-specific adjustments need to be made to the Utility Proxy Group
5   indicated results.

6

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

13

14   **Q. PLEASE SUMMARIZE THE COMPANY'S OPERATIONS.**

15   A.   NSP is a vertically integrated electric and natural gas utility that provides electric
16   generation, transmission, and distribution service, as well as natural gas
17   distribution service to approximately 1,500,000 retail electric customers and
18   600,000 natural gas customers in North Dakota, Minnesota, and South Dakota.[9]
19   The operations that are subject to the Commission's jurisdiction provides
20   natural gas service to approximately 475,000 retail customers in Minnesota.[10]
21   The Company has long-term issuer ratings of A2 from Moody's Investor
22   Services (Moody's) and A- from Standard & Poor's (S&P).[11] The Company is

---

9   Xcel Energy, SEC Form 10-K at 9 (Dec. 31, 2021).
10   Company provided data.
11   Source: S&P Global Market Intelligence.

1   not publicly-traded as it is an operating subsidiary of Xcel Energy Inc. (XEI or

2   the Parent). XEI is publicly-traded under ticker symbol XEL.

3

4   Page 1 of Exhibit___(DWD-1), Schedule 2 contains comparative capitalization

5   and financial statistics for the Company for the years 2016 to 2020.[12] During

6   the five-year period ending 2020, the historically achieved average earnings rate

7   on book common equity for the Company averaged 9.15%. The average

8   common equity ratio based on total capital (including short-term debt) was

9   52.36%, and the average dividend payout ratio was 86.42%.

10

11   Total debt to earnings before interest, taxes, depreciation, and amortization for

12   the years 2016 to 2020 ranges between 3.09 and 3.69 times, with an average of

13   3.38 times. Funds from operations to total debt range from 15.52% to 31.94%,

14   with an average of 22.67%.[13]

15

16   **Q.   PLEASE EXPLAIN HOW YOU CHOSE THE COMPANIES IN THE UTILITY**

17   **PROXY GROUP.**

18   A.   Because the Cost of Equity is a comparative exercise, my objective in

19   developing a proxy group was to select companies that are comparable to the

20   Company. Because the Company is a 100% rate regulated natural gas utility, I

21   applied the following criteria to select my Utility Proxy Group:

22   (i)   They were included in the Natural Gas Utility Group of *Value Line*

23   *Investment Survey* (Standard Edition)(*Value Line*);

---

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

1	(ii)	They have 60% or greater of fiscal year 2020 total operating income derived from, and 60% or greater of fiscal year 2020 total assets attributable to, regulated natural gas distribution operations;
4	(iii)	At the time of preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (*i.e.*, one publicly-traded utility merging with or acquiring another) or any other major development;
8	(iv)	They have not cut or omitted their common dividends during the five years ending 2020 or through the time of preparation of this testimony;
10	(v)	They have *Value Line* and Bloomberg Professional Services (Bloomberg) adjusted Betas;
12	(vi)	They have positive *Value Line* five-year dividends per share (DPS) growth rate projections; and
14	(vii)	They have *Value Line*, Zacks, or Yahoo! Finance consensus five-year earnings per share (EPS) growth rate projections.

16 The following seven companies met these criteria:

17

TABLE 2

Utility Proxy Group Companies

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 capitalization
4		and financial statistics for the Utility Proxy Group for the years 2016 to 2020.
5		

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

10

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

17

18　Q.　**DO ANY OF THE COMPANIES IN YOUR UTILITY PROXY GROUP OPERATE IN**
19　　**MINNESOTA?**
20　A.　No, they do not. None of the natural gas distribution utilities that operate in
21　　Minnesota met the screening criteria described above. In addition, investors are
22　　not limited to investing in one state or one part of the country. As such,
23　　although I did not specifically exclude companies with natural gas operations in
24　　Minnesota, I did not include any in my Utility Proxy Group.

V.   CAPITAL STRUCTURE

1

2

3   Q.   **PLEASE SUMMARIZE THE COMPONENTS OF THE COMPANY'S**

4   **RECOMMENDED CAPITAL STRUCTURE AND WACC.**

5   A.   The Company's proposed 2022 test year capital structure includes long-term

6   debt, short-term debt, and common equity. The Company's proposed revenue

7   requirement for the test year reflects a WACC of 7.46%.[14]

8

9   Q.   DOES THE COMPANY HAVE A SEPARATE CAPITAL STRUCTURE THAT IS

10   RECOGNIZED BY INVESTORS?

11   A.   Yes. The Company is a separate corporate entity that has its own capital

12   structure and issues its own debt with the Securities and Exchange Commission.

13   That being said, the Minnesota jurisdictional operations' capital structure is an

14   allocated portion of the Company's capital structure.

15

16   Q.   **WHY IS IT IMPORTANT THAT THE COMPANY'S RECOMMENDED CAPITAL**

17   **STRUCTURE BE AUTHORIZED IN THIS PROCEEDING?**

18   A.   As a preliminary matter, the Company's recommended capital structure is

19   comparable to its historical capital structure, and is within a reasonable range

20   from the perspective of the Utility Proxy Group companies.[15] The use of an

21   operating subsidiary's capital structure is consistent with the FERC's precedent,

22   under which they use the applicant's capital structure, where possible.[16] In

23   particular, the FERC will use the utility operating company's capital structure if

---

14   See, Direct Testimony of Paul A. Johnson.
15   Exhibit__(DWD-1), Schedules 2 and 3, respectively.
16   *See, Transcontinental Gas Pipe Line Corp,* 80 FERC ¶ 61,157, 61,657 (1997) (Opinion No. 414).

1   it meets three criteria: (1) it issues its own debt without guarantees; (2) it has its
2   own bond rating; and (3) it has a capital structure within the range of capital
3   structures approved by the commission.[17]   The Company meets all of these
4   criteria.

5

6   Importantly, in order to provide safe, reliable, and affordable service to its
7   customers, the Company must meet the needs and serve the interests of its
8   various stakeholders, including customers, shareholders, and bondholders. The
9   interests of these stakeholder groups are aligned when the Company maintains
10   a healthy balance sheet, strong credit ratings, and a supportive regulatory
11   environment, ensuring it has access to capital on reasonable terms in order to
12   make necessary investments.

13

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

---

17   148 FERC ¶ 61,049 Docket No. EL14-12-000, at 190.

| 1 | | Consequently, the Company's recommended capital structure should be used |
| 2 | | to set rates in this proceeding. |

3

4	Q.	HOW DOES THE COMPANY'S REQUESTED TEST YEAR CAPITAL STRUCTURE
5		COMPARE WITH ITS RECENT CAPITAL STRUCTURES?
6	A.	The requested test year capital structure is highly consistent with NSP's
7		historical capital structures. As shown on Exhibit__(DWD-1), Schedule 2, the
8		common equity ratios for years 2016 through 2020 range from 52.08% to
9		52.67%, averaging 52.36%.

10

11	Q.	**HOW DOES NSP'S RECOMMENDED COMMON EQUITY RATIO OF 52.50%**
12		**COMPARE WITH THE COMMON EQUITY RATIOS MAINTAINED BY THE**
13		**UTILITY PROXY GROUP?**
14	A.	The Company's requested ratemaking common equity ratio of 52.50% is
15		reasonable and consistent with the range of common equity ratios maintained
16		by the Utility Proxy Group. In order to assess the reasonableness of the
17		Company's requested ratemaking common equity ratio, I reviewed the actual
18		common equity ratios maintained by the companies within the Utility Proxy
19		Group.[18] As shown on page 2 of Exhibit___(DWD-1), Schedule 3, common
20		equity ratios of the utilities range from 32.16% to 59.98% for fiscal year 2020.
21		The Company's recommended equity ratio of 52.50% falls within this range and
22		demonstrates both the reasonableness of using it to set rates and the Company's
23		relative financial health. Setting the WACC as requested by the Company will

---

18   The development of the Utility Proxy Group is described more fully in Section VI.

1   continue to support the long-term financial health of the Company for the
2   benefit of all of its stakeholders, including Minnesota customers.
3
4   I also considered *Value Line's* projected capital structures for the Utility Proxy
5   Group for 2024-2026. That analysis shows a range of projected common equity
6   ratios between 38.50% and 60.00%.[19]
7
8   In addition to comparing the Company's ratemaking common equity ratio with
9   common equity ratios currently and expected to be maintained by the Utility
10   Proxy Group (*i.e.*, at the holding company level), I also compared the
11   Company's ratemaking common equity ratio with the equity ratios maintained
12   by the operating subsidiaries of the Utility Proxy Group companies. As shown
13   on page 3 of Exhibit___(DWD-1), Schedule 3, common equity ratios of the
14   operating utility subsidiaries of the Utility Proxy Group range from 40.43% to
15   58.75% for fiscal year 2020.
16
17 Q. Is the Company's proposed equity ratio of 52.50% appropriate for ratemaking
18   purposes given the range of the Utility Proxy Group?
19 A. Yes, it is. The Company's proposed equity ratio of 52.50% is appropriate for
20   ratemaking purposes in the current proceeding because it aligns with its
21   historical capital structure and it is well within industry norms.

---

19   Exhibit__(DWD-1), Schedule 5, at 3-9.

VI.   COST OF LONG-TERM DEBT

1

2

3 **Q. HOW IS THE COMPANY PROPOSING TO SET ITS COST OF LONG-TERM**

4 **DEBT?**

5 A. The Company is proposing to use its expected cost of long-term debt for the

6 test year.

7

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

9 A. The overall 4.13% cost of long-term debt for the test year includes the actual

10 and forecasted coupon rate on all bonds expected to be outstanding for each

11 month of the test year. In addition to the interest expense, the cost of long-

12 term debt also includes actual amortization expense for debt issuance costs,

13 discounts or premiums, losses on reacquired debt, gains and losses from

14 hedging transactions, and the annual amortization of the upfront fees associated

15 with the Company's multi-year credit agreement.[20]

16

17 **Q. HAVE YOU ANALYZED THE COMPANY'S COST OF LONG-TERM DEBT FOR**

18 **REASONABLENESS?**

19 A. Yes, I have. To test the reasonableness of the Company's proposed long-term

20 debt cost, I reviewed the yield on equivalent debt at the time of issuance. As

21 shown in Exhibit___(DWD-1), Schedule 4, I compared the cost of each

22 individual issuance to the Bloomberg Fair Value Curves for A-rated and BBB-

23 rated utility debt at the time of the issuance. The expected cost of long-term

24 debt based on the Bloomberg Fair Value Curves for A-rated and BBB-rated

---

20   See Direct Testimony of Paul A. Johnson.

1   utility debt ranges from 4.20% to 4.58%, respectively, indicating that the
2   Company's 4.13% proposed cost of long-term debt is reasonable.

3

4   ## VII.   COMMON EQUITY COST RATE MODELS

5   **Q.** **IS IT IMPORTANT THAT COST OF COMMON EQUITY MODELS BE MARKET-**
6   **BASED?**

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

14

15   **Q.** **ARE THE COST OF COMMON EQUITY MODELS YOU USE MARKET-BASED**
16   **MODELS?**

17   A.   Yes.   The DCF model is market-based in that market prices are used in
18   developing the dividend yield component of the model. The RPM and CAPM
19   are also market-based in that the bond/issuer ratings and expected bond
20   yields/risk-free rate used in the application of the RPM and CAPM reflect the
21   market's assessment of bond/credit risk.   In addition, the use of the Beta
22   coefficient to determine the equity risk premium also reflects the market's
23   assessment of market/systematic risk, as Beta coefficients are derived from
24   regression analyses of market prices. Moreover, market prices are used in the
25   development of the monthly returns and equity risk premiums used in the

1   Predictive Risk Premium Model (PRPM). Selection criteria for the Non-Price

2   Regulated Proxy Group are based on regression analyses of market prices and

3   reflect the market's assessment of total risk.

4

5   **Q.   WHAT ANALYTICAL APPROACHES DID YOU USE TO DETERMINE THE**

6   **COMPANY'S ROE?**

7   A.   As discussed earlier, I have relied on the DCF model, the RPM, and the CAPM,

8   which I apply to the Utility Proxy Group described above. I also applied these

9   same models to a Non-Price Regulated Proxy Group described later in this

10   section.

11

12   I rely on multiple models because reasonable investors use a variety of tools and

13   do not rely exclusively on a single source of information or single model.

14   Moreover, the specific models on which I rely focus on different aspects of

15   return requirements, and provide different insights into investors' views of risk

16   and return. The DCF model, for example, estimates the investor-required

17   return assuming a constant expected dividend yield and growth rate in

18   perpetuity, while Risk Premium-based methods (*i.e.,* the RPM and CAPM

19   approaches) provide the ability to reflect investors' views of risk, future market

20   returns, and the relationship between interest rates and the Cost of Equity. Just

21   as the use of market data for the Utility Proxy Group adds the reliability

22   necessary to inform expert judgment in arriving at a recommended common

23   equity cost rate, the use of multiple generally accepted common equity cost rate

24   models also adds reliability and accuracy when arriving at a recommended

25   common equity cost rate.

1	**A.	Discounted Cash Flow Model**

2	**Q.	PLEASE DESCRIBE THE DCF MODEL GENERALLY.**

3	A.	The theory underlying the DCF model is that the present value of an expected

4	future stream of net cash flows during the investment holding period can be

5	determined by discounting those cash flows at the cost of capital, or the

6	investors' capitalization rate. DCF theory indicates that an investor buys a stock

7	for an expected total return rate, which is derived from the cash flows received

8	from dividends and market price appreciation. Mathematically, the expected

9	dividend yield on market price plus a growth rate equals the capitalization rate;

10	*i.e.*, the total common equity return rate expected by investors, as shown in

11	Equation [1] below:

12

13	$K_e = (D_0 (1+g))/P + g$

14	where:

15	K_e = the required Return on Equity;

16	D_0 = the annualized Dividend Per Share;

17	P = the current stock price; and

18	g = the growth rate.

19

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

21	A.	I used the single-stage constant growth DCF model and the two growth DCF

22	model in my analyses.

1   **Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN APPLYING THE**

2   **CONSTANT GROWTH DCF MODEL.**

3   A. The unadjusted dividend yields are based on the proxy companies' dividends as

4   of August 31, 2021 divided by the average closing market price for the 60

5   trading days ended August 31, 2021.[21]

6

7   **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO THE DIVIDEND YIELD.**

8   A. Because dividends are paid periodically (*e.g.* quarterly), as opposed to

9   continuously (daily), an adjustment must be made to the dividend yield. This is

10   often referred to as the discrete, or the Gordon Periodic, version of the DCF

11   model.

12

13   DCF theory calls for using the full growth rate, or D_1, in calculating the model's

14   dividend yield component. Since the companies in the Utility Proxy Group

15   increase their quarterly dividends at various times during the year, a conservative

16   assumption is to reflect one-half the annual dividend growth rate rather than

17   the full growth rate in the dividend yield component, or $D_{1/2}$. Because the

18   dividend should be representative of the next 12-month period, this adjustment

19   is a conservative approach that does not overstate the dividend yield. Therefore,

20   the actual average dividend yields in Column 1, page 1 of Exhibit___(DWD-1),

21   Schedule 5 have been adjusted upward to reflect one-half the average projected

22   growth rate shown in Column 6.

---

21   *See,* Column 1, page 1 of Exhibit___(DWD-1), Schedule 5.

| 1 | Q. | **PLEASE EXPLAIN THE BASIS FOR THE GROWTH RATES YOU APPLY IN YOUR** |

1 Q. **PLEASE EXPLAIN THE BASIS FOR THE GROWTH RATES YOU APPLY IN YOUR**
2   **CONSTANT GROWTH DCF MODEL.**

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

10

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

17

18 Q. **PLEASE SUMMARIZE THE CONSTANT GROWTH DCF MODEL RESULTS.**

19 A. As shown on page 1 of Exhibit___(DWD-1), Schedule 5, the application of the
20   Constant Growth DCF model to the Utility Proxy Group results in a wide range
21   of indicated ROEs from 8.46% to 12.09%. The mean of those results is 9.87%,
22   the median result is 9.39%, and the average of the mean and median results is
23   9.63%. In arriving at a conclusion of the indicated common equity cost rate for
24   the Utility Proxy Group implied by the Constant Growth DCF model, I relied
25   on an average of the mean and the median results (*i.e.*, 9.63%) of the DCF. By

1   doing so, I have considered the DCF results for each company without giving

2   undue weight to outliers on either the high or the low side.

3

4   **Q. DID YOU CONSIDER ANY OTHER CONSTANT GROWTH DCF MODEL**

5   **RESULTS?**

6   A.   No, I did not. However, consistent with the Department's past practice of

7   considering proxy groups which exclude companies whose DCF results do not

8   pass the test of reasonableness,[22] I attempted to calculate the average and

9   median result of the constant growth DCF model excluding proxy companies

10   with results below 7.00%.[23]   Based on the results presented in

11   Exhibit___(DWD-1), Schedule 5, there were no results below 7.00%.

12

13   **Q. PLEASE DESCRIBE YOUR USE OF THE TWO GROWTH DCF APPROACH IN**

14   **YOUR ANALYSES.**

15   A.   I also considered the results of the two growth DCF approach, which moderates

16   the effects of substantially high or low growth rate estimates that may be

17   influenced by near-term events and may not reflect the subject company's

18   expected long-term growth rate. The two growth DCF approach therefore may

19   be applied when the mean growth rate of a particular company is considered

20   unusually high or low relative to the proxy group. Whereas the constant growth

21   DCF method assumes a single, constant growth rate in perpetuity, the two

22   growth DCF approach allows for a near-term growth estimate (the first stage)

23   followed by a long-term "terminal" period growth estimate. This approach is

---

22   See, for example, Docket No. E017/GR-15-1033, In the Matter of the Application of Otter Tail
Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota,
August 16, 2016, at 11.

23   *See,* Column 8, page 1 of Exhibit___(DWD-1), Schedule 5.

1	consistent with the method adopted by the Commission in several prior
2	proceedings. In this case, I applied the two growth DCF approach to two Utility
3	Proxy Group companies with mean growth rates greater than one standard
4	deviation from the overall Utility Proxy Group mean growth rate.
5	
6	**Q. PLEASE EXPLAIN THE BASIS OF THE GROWTH RATES YOU APPLY IN YOUR**
7	**TWO GROWTH DCF MODEL.**
8	A. If the proxy group company's growth rate fell within the one standard deviation
9	of the mean growth rate of the Utility Proxy Group, that company would have
10	the same growth rate and same indicated ROE in both the constant growth and
11	two growth DCF models. If the company's growth rate fell outside of one
12	standard deviation of the Utility Proxy Group mean growth rate, I applied those
13	growth rates only to the first five years of the two growth DCF analysis. For
14	the second stage (that is, the terminal period of the two growth DCF analysis),
15	I used the mean growth rate of all Utility Proxy Group companies with growth
16	rates within one standard deviation of the overall mean growth rate.
17	
18	**Q. PLEASE SUMMARIZE THE TWO GROWTH DCF MODEL RESULTS.**
19	A. As shown on page 2 of Exhibit___(DWD-1), Schedule 5, for the Utility Proxy
20	Group, the mean result of applying the two growth DCF model is 9.77%, the
21	median result is 9.32%, and the average of the two is 9.55%. In arriving at a
22	conclusion for the two growth DCF-indicated common equity cost rate for the
23	Utility Proxy Group, I relied on an average of the mean and the median results
24	of the DCF.

1   **B.   The Risk Premium Model**

2 **Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.**

3 A. The RPM is based on the fundamental financial principle of risk and return;

4   namely, that investors require greater returns for bearing greater risk. The RPM

5   recognizes that common equity capital has greater investment risk than debt

6   capital, as common equity shareholders are behind debt holders in any claim on

7   a company's assets and earnings. As a result, investors require higher returns

8   from common stocks than from bonds to compensate them for bearing the

9   additional risk.

10

11   While it is possible to directly observe bond returns and yields, investors'

12   required common equity returns cannot be directly determined or observed.

13   According to RPM theory, one can estimate a common equity risk premium

14   over bonds (either historically or prospectively), and use that premium to derive

15   a cost rate of common equity. The cost of common equity equals the expected

16   cost rate for long-term debt capital, plus a risk premium over that cost rate, to

17   compensate common shareholders for the added risk of being unsecured and

18   last-in-line for any claim on the corporation's assets and earnings upon

19   liquidation.

20

21 **Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF COMMON**

22   **EQUITY BASED ON THE RPM.**

23 A. To derive my indicated cost of common equity under the RPM, I used two risk

24   premium methods. The first method was the PRPM and the second method

25   was a risk premium model using a total market approach. The PRPM estimates

1   the risk-return relationship directly, while the total market approach indirectly

2   derives a risk premium by using known metrics as a proxy for risk.

3

4   *1. Predictive Risk Premium Model*

5   **Q. PLEASE EXPLAIN THE PRPM.**

6   A. The PRPM, published in the *Journal of Regulatory Economics*,[24] was developed from

7   the work of Robert F. Engle, who shared the Nobel Prize in Economics in 2003

8   "for methods of analyzing economic time series with time-varying volatility" or

9   ARCH.[25] Engle found that volatility changes over time and is related from one

10   period to the next, especially in financial markets. Engle discovered that

11   volatility of prices and returns clusters over time and is therefore highly

12   predictable and can be used to predict future levels of risk and risk premiums.

13   That is, historical volatility can be used to predict future volatility, which then

14   can be translated to a predicted equity risk premium.

15

16   The PRPM estimates the risk-return relationship directly, as the predicted equity

17   risk premium is generated by predicting volatility or risk. The PRPM is not

18   based on an <u>estimate</u> of investor behavior, but rather on an evaluation of the

19   results of that behavior (*i.e.*, the variance of historical equity risk premiums).

20

21   The inputs to the model are the historical returns on the common shares of

22   each Utility Proxy Group company minus the historical monthly yield on long-

23   term U.S. Treasury securities through August 2021. Using a generalized form

---

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*, <u>The Journal of Regulatory Economics</u> (December 2011), 40:261-278.

25   Autoregressive conditional heteroscedasticity; *See also,* <u>www.nobelprize.org</u>.

Docket No. G002/GR-21-678
                                                            D'Ascendis Direct

1   of ARCH, known as GARCH, I calculated each Utility Proxy Group company's

2   projected equity risk premium using Eviews$^©$ statistical software. When the

3   GARCH model is applied to the historical return data, it produces a predicted

4   GARCH variance series[26] and a GARCH coefficient.[27]   Multiplying the

5   predicted monthly variance by the GARCH coefficient and then annualizing it[28]

6   produces the predicted annual equity risk premium. I then added the forecasted

7   30-year U.S. Treasury bond yield of 2.70%[29] to each company's PRPM-derived

8   equity risk premium to arrive at an indicated cost of common equity. The 30-

9   year U.S. Treasury bond yield is a consensus forecast derived from *Blue Chip*

10   *Financial Services (Blue Chip)*.[30] The mean PRPM indicated common equity cost

11   rate for the Utility Proxy Group is 10.44%, the median is 10.48%, and the

12   average of the two is 10.46%. Consistent with my reliance on the average of

13   the median and mean results of the DCF models, I relied on the average of the

14   mean and median results of the Utility Proxy Group PRPM to calculate a cost

15   of common equity rate of 10.46%.

16

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

18   A.   As shown in Exhibit___(DWD-1), Schedules 6 and 7, the risk-free rate adopted

19   for applications of the RPM and CAPM is 2.70%. This risk-free rate is based

20   on the average of the *Blue Chip* consensus forecast of the expected yields on 30-

21   year U.S. Treasury bonds for the six quarters ending with the fourth calendar

---

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.
28   Annualized Return = $(1 + \text{Monthly Return})\,\hat{}\,12 - 1$
29   *See,* Column 6, page 2 of Exhibit___(DWD-1), Schedule 6.
30   *Blue Chip Financial Forecasts (Blue Chip)*, September 1, 2021 at 2, and June 1, 2021 at 14.

1   quarter of 2022, and long-term projections for the years 2023 to 2027 and 2028
2   to 2023.

3

4 **Q. WHY DO YOU USE THE PROJECTED 30-YEAR TREASURY YIELD IN YOUR**
5   **ANALYSES?**

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

13

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

17

18   The traditional thinking regarding the time horizon of the chosen
19   Treasury security is that it should match the time horizon of whatever is
20   being valued. When valuing a business that is being treated as a going
21   concern, the appropriate Treasury yield should be that of a long-term
22   Treasury bond. Note that the horizon is a function of the investment,
23   not the investor. If an investor plans to hold stock in a company for only

1   five years, the yield on a five-year Treasury note would not be appropriate

2   since the company will continue to exist beyond those five years.[31]

3

4   Morin also confirms this when he states:

5

6   [b]ecause common stock is a long-term investment and because the cash

7   flows to investors in the form of dividends last indefinitely, the yield on

8   very long-term government bonds, namely, the yield on 30-year Treasury

9   bonds, is the best measure of the risk-free rate for use in the CAPM

10   (footnote omitted)… The expected common stock return is based on

11   long-term cash flows, regardless of an individual's holding time period.[32]

12

13   Pratt and Grabowski recommend a similar approach to selecting the risk-free

14   rate: "[i]n theory, when determining the risk-free rate and the matching ERP

15   you should be matching the risk-free security and the ERP with the period in

16   which the investment cash flows are expected."[33]

17

18   As a practical matter, equity securities represent a perpetual claim on cash flows;

19   30-year Treasury bonds are the longest-maturity securities available to

20   approximate that perpetual claim. Thus, the use of a 30-year Treasury bond

21   yield is a more appropriate risk-free rate as it more accurately reflects the life of

22   the assets it finances.

---

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

32   Roger A. Morin, <u>New Regulatory Finance</u>, at 151. (Morin)

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

| 1 | | 2. | *Total Market Approach Risk Premium Model* |

2 **Q.** **PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.**

3 **A.** The total market approach RPM adds a prospective public utility bond yield to

4 an average of: 1) an equity risk premium that is derived from a Beta-adjusted

5 total market equity risk premium, 2) an equity risk premium based on the S&P

6 Utilities Index, and 3) an equity risk premium based on authorized ROEs for

7 natural gas utilities.

8

9 **Q.** **PLEASE EXPLAIN HOW YOU DETERMINED THE EXPECTED BOND YIELD,**

10 **APPLICABLE TO THE UTILITY PROXY GROUP.**

11 **A.** The first step in the total market approach RPM analysis is to determine the

12 expected bond yield. Because both ratemaking and the cost of capital, including

13 the common equity cost rate, are prospective in nature, a prospective yield on

14 similarly-rated long-term debt is essential. Because I am unaware of any

15 publication that provides forecasted public utility bond yields, I relied on a

16 consensus forecast of about 50 economists of the expected yield on Aaa-rated

17 corporate bonds for the six calendar quarters ending with the fourth calendar

18 quarter of 2022, and *Blue Chip's* long-term projections for 2023 to 2027, and

19 2028 to 2032. As shown on line 1, page 3 of Exhibit___(DWD-1), Schedule 6,

20 the average expected yield on Moody's Aaa-rated corporate bonds is 3.41%.

21

22 Because that 3.41% estimate represents a corporate bond yield and not a utility

23 specific bond yield, I adjusted the expected Aaa-rated corporate bond yield to

24 an equivalent A2-rated public utility bond yield. That resulted in an upward

25 adjustment of 0.38%, which represents a recent spread between Aaa-rated

1	corporate bonds and A2-rated public utility bonds.[34] Adding that recent 0.38%
2	spread to the expected Aaa-rated corporate bond yield of 3.41% results in an
3	expected A2-rated public utility bond yield of 3.79%.
4	
5	I then reviewed the average credit rating for the Utility Proxy Group from
6	Moody's to determine if an adjustment to the estimated A2-rated public utility
7	bond was necessary. Since the Utility Proxy Group's average Moody's long-
8	term issuer rating is A2/A3, another adjustment to the expected A2-rated public
9	utility bond is needed to reflect the difference in bond ratings. An upward
10	adjustment of 0.04%, which represents one-sixth of a recent spread between
11	A2-rated and Baa2-rated public utility bond yields, is necessary to make the A2
12	prospective bond yield applicable to an A2/A3-rated public utility bond.[35]
13	Adding the 0.04% to the 3.79% prospective A2-rated public utility bond yield
14	results in a 3.83% expected bond yield applicable to the Utility Proxy Group.

---

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

1

Table 3

Summary of the Calculation of the Utility Proxy Group

Projected Bond Yield[36]

Prospective Yield on Moody's Aaa-Rated Corporate Bonds (*Blue Chip*)	3.41%
Adjustment to Reflect Yield Spread Between Moody's Aaa-Rated Corporate Bonds and Moody's A2-Rated Utility Bonds	0.38%
Adjustment to Reflect the Utility Proxy Group's Average Moody's Bond Rating of A2/A3	0.04%
Prospective Bond Yield Applicable to the Utility Proxy Group	3.83%

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 risk premium I applied is based

---

[36] As shown on page 3 of Exhibit___(DWD-1), Schedule 6.

1 on an average of three historical market data-based equity risk premiums, two

2 *Value Line*-based equity risk premiums and a Bloomberg-based equity risk

3 premium. Each of these is described below.

4

5 **Q. HOW DID YOU DERIVE A MARKET EQUITY RISK PREMIUM BASED ON LONG-**

6 **TERM HISTORICAL DATA?**

7 A. To derive a historical market equity risk premium, I used the most recent

8   holding period returns for the large company common stocks from the <u>Stocks,</u>

9   <u>Bonds, Bills, and Inflation (SBBI) Yearbook 2021 (SBBI - 2021)</u>[37] less the

10   average historical yield on Moody's Aaa/Aa-rated corporate bonds for the

11   period 1928 to 2020. Using holding period returns over a very long time is

12   appropriate because it is consistent with the long-term investment horizon

13   presumed by investing in a going concern, *i.e.*, a company expected to operate

14   in perpetuity.

15

16   SBBI's long-term arithmetic mean monthly total return rate on large company

17   common stocks was 11.94% and the long-term arithmetic mean monthly yield

18   on Moody's Aaa/Aa-rated corporate bonds was 6.02%.[38] As shown on line 1,

19   page 8 of Exhibit___(DWD-1), Schedule 6, subtracting the mean monthly bond

20   yield from the total return on large company stocks results in a long-term

21   historical equity risk premium of 5.92%.

22

23   I used the arithmetic mean monthly total return rates for the large company

24   stocks and yields (income returns) for the Moody's Aaa/Aa corporate bonds,

---

37 *See,* <u>SBBI-2021</u> Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2020.
38 As explained in note 1, page 9 of Exhibit___(DWD-1), Schedule 6.

1	because they are appropriate for the purpose of estimating the cost of capital as
2	noted in SBBI-2021.[39] Using the arithmetic mean return rates and yields is
3	appropriate because historical total returns and equity risk premiums provide
4	insight into the variance and standard deviation of returns needed by investors
5	in estimating future risk when making a current investment. If investors relied
6	on the geometric mean of historical equity risk premiums, they would have no
7	insight into the potential variance of future returns, because the geometric mean
8	relates the change over many periods to a constant rate of change, thereby
9	obviating the year-to-year fluctuations, or variance, which is critical to risk
10	analysis.
11	
12	**Q.** **PLEASE EXPLAIN THE DERIVATION OF THE REGRESSION-BASED MARKET**
13	**EQUITY RISK PREMIUM.**
14	A. To derive the regression-based market equity risk premium of 8.87% shown on
15	line 2, page 8 of Exhibit___(DWD-1), Schedule 6, I used the same monthly
16	annualized total returns on large company common stocks relative to the
17	monthly annualized yields on Moody's Aaa/Aa-rated corporate bonds as
18	mentioned above. I modeled the relationship between interest rates and the
19	market equity risk premium using the observed monthly market equity risk
20	premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa-
21	rated corporate bonds as the independent variable. I then used a linear Ordinary
22	Least Squares (OLS) regression, in which the market equity risk premium is

---

[39]   *See,* SBBI-2021, at page 10-22, 10-23.

1   expressed as a function of the Moody's Aaa/Aa-rated corporate bond yield:

2

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

4

5 **Q.** **PLEASE EXPLAIN THE DERIVATION OF THE PRPM EQUITY RISK PREMIUM.**

6 A. I used the same PRPM approach described above to the PRPM equity risk

7   premium. The inputs to the model are the historical monthly returns on large

8   company common stocks minus the monthly yields on Moody's Aaa/Aa-rated

9   corporate bonds during the period from January 1928 through August 2021.[40]

10   Using the previously discussed generalized form of ARCH, known as GARCH,

11   the projected equity risk premium is determined using Eviews[©] statistical

12   software. The resulting PRPM predicted a market equity risk premium of

13   7.88%.[41]

14

15 **Q.** **PLEASE EXPLAIN THE DERIVATION OF A PROJECTED EQUITY RISK**

16   **PREMIUM BASED ON *VALUE LINE* DATA FOR YOUR RPM ANALYSIS.**

17 A. As noted above, because both ratemaking and the cost of capital are

18   prospective, a prospective market equity risk premium is needed. The

19   derivation of the forecasted or prospective market equity risk premium can be

20   found in note 4, page 9 of Exhibit___(DWD-1), Schedule 6. Consistent with

21   my calculation of the dividend yield component in my DCF analysis, this

22   prospective market equity risk premium is derived from an average of the three-

23   to five-year median market price appreciation potential by *Value Line* for the 13

---

[40]   Data from January 1926 to December 2020 is from <u>SBBI - 2021</u>. Data from January 2021 to August 2021 is from Bloomberg.

[41]   Shown on line 3, page 8 of Exhibit___(DWD-1), Schedule 6.

            Docket No. G002/GR-21-678
D'Ascendis Direct

1   weeks ended August 31, 2021, plus an average of the median estimated dividend

2   yield for the common stocks of the 1,700 firms covered in *Value Line* (Standard

3   Edition).[42]

4

5   The average median expected price appreciation is 32%, which translates to a

6   7.19% annual appreciation, and, when added to the average of *Value Line's*

7   median expected dividend yields of 1.76%, equates to a forecasted annual total

8   return rate on the market of 8.95%.   The forecasted Moody's Aaa-rated

9   corporate bond yield of 3.41% is deducted from the total market return of

10   8.95%, resulting in an equity risk premium of 5.54%, as shown on line 4, page

11   8 of Exhibit___(DWD-1), Schedule 6.

12

13 **Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED**

14 **ON THE S&P 500 COMPANIES.**

15 A.   Using data from *Value Line*, I calculated an expected total return on the S&P

16   500 companies using expected dividend yields and long-term growth estimates

17   as a proxy for capital appreciation. The expected total return for the S&P 500

18   is 15.05%. Subtracting the prospective yield on Moody's Aaa-rated corporate

19   bonds of 3.41% results in a 11.64% projected equity risk premium.

20

21 **Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED**

22 **ON BLOOMBERG DATA.**

23 A.   Using data from Bloomberg, I calculated an expected total return on the S&P

24   500 using expected dividend yields and long-term growth estimates as a proxy

---

42   As explained in detail in note 1, page 2 of Exhibit___(DWD-1), Schedule 7.

1		for capital appreciation, identical to the method described above. The expected
2		total return for the S&P 500 is 18.17%. Subtracting the prospective yield on
3		Moody's Aaa-rated corporate bonds of 3.41% results in a 14.76% projected
4		equity risk premium.
5	**Q.**	**WHAT IS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM**
6		**FOR USE IN YOUR RPM ANALYSIS?**
7	A.	I gave equal weight to all six equity risk premiums based on each source -
8		historical, *Value Line*, and Bloomberg - in arriving at an 9.10% equity risk
9		premium.

Table 4

Summary of the Calculation of the Equity Risk Premium

Using Total Market Returns[43]

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	8.87%
PRPM Analysis on Historical Data	7.88%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected Aaa Corporate Bond Yields	5.54%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected Aaa Corporate Bond Yields	11.64%
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>14.76%</u>
Average	<u>9.10%</u>

After calculating the average market equity risk premium of 9.10%, 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 7, the average of the mean and median Beta coefficient for the Utility Proxy

---

[43] As shown on page 8 of Exhibit___(DWD-1), Schedule 6.

1   Group is 0.93. Multiplying the 0.93 average Beta coefficient by the market

2   equity risk premium of 9.10% results in a Beta-adjusted equity risk premium for

3   the Utility Proxy Group of 8.46%.

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 returns of

10   the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively.

11   Turning first to the S&P Utility Index holding period returns, I derived a long-

12   term monthly arithmetic mean equity risk premium between the S&P Utility

13   Index total returns of 10.65% and monthly Moody's A-rated public utility bond

14   yields of 6.49% from 1928 to 2020 to arrive at an equity risk premium of

15   4.16%.[44] I then used the same historical data to derive an equity risk premium

16   of 6.51% based on a regression of the monthly equity risk premiums. The final

17   S&P Utility Index holding period equity risk premium involved applying the

18   PRPM using the historical monthly equity risk premiums from January 1928 to

19   August 2021 to arrive at a PRPM-derived equity risk premium of 4.94% for the

20   S&P Utility Index.

21

22   I then derived expected total returns on the S&P Utilities Index of 10.94% and

23   9.11% using data from *Value Line* and Bloomberg, respectively, and subtracted

24   the prospective Moody's A2-rated public utility bond yield of 3.9%[45], which

---

44   As shown on line 1, page 12 of Exhibit___(DWD-1), Schedule 6.
45   Derived on line 3, page 3 of Exhibit___(DWD-1), Schedule 6.

resulted in equity risk premiums of 7.15% and 5.32%, respectively. As with the market equity risk premiums, I averaged each risk premium based on each source (*i.e.*, historical, *Value Line*, and Bloomberg) to arrive at my utility-specific equity risk premium of 5.62%.

Table 5

Summary of the Calculation of the Equity Risk Premium

Using S&P Utility Index Holding Returns[46]

Historical Spread Between Total Returns of the S&P Utilities Index and A2-Rated Utility Bond Yields (1928 – 2020)	4.16%
Regression Analysis on Historical Data	6.51%
PRPM Analysis on Historical Data	4.94%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P Utilities Index Less Projected A2 Utility Bond Yields	7.15%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P Utilities Index Less Projected A2 Utility Bond Yields	5.32%
Average	5.62%

---

[46] 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 5.73% BASED ON**

3   **AUTHORIZED ROES FOR NATURAL GAS UTILITIES?**

4   A.   The equity risk premium of 5.73% shown on line 3, page 7 of

5   Exhibit___(DWD-1), Schedule 6 is the result of a regression analysis based on

6   regulatory awarded ROEs related to the yields on Moody's A-rated public utility

7   bonds. That analysis is shown on page 13 of Exhibit___(DWD-1), Schedule 6.

8   Page 13 of Exhibit___(DWD-1), Schedule 6 contains the graphical results of a

9   regression analysis of 803 rate cases for natural gas utilities which were fully

10   litigated during the period from January 1, 1980 through August 31, 2021. It

11   shows the implicit equity risk premium relative to the yields on A2-rated public

12   utility bonds immediately prior to the issuance of each regulatory decision. That

13   is, the analysis considers the relationship between authorized returns and

14   prevailing public utility bond yields at the time of the decision.

15

16   It is readily discernible that there is an inverse relationship between the yield on

17   A2-rated public utility bonds and equity risk premiums. In other words, as

18   interest rates decline, the equity risk premium rises and vice versa, a result

19   consistent with financial literature on the subject.[47] I used the regression results

20   to estimate the equity risk premium applicable to the projected yield on Moody's

21   A2-rated public utility bonds. Given the expected A2-rated utility bond yield

22   of 3.79%, it can be calculated that the indicated equity risk premium applicable

---

[47]   *See, e.g.*, Robert S. Harris and Felicia C. Marston, *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, <u>Journal of Applied Finance</u>, 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*, <u>Financial Management</u>, Spring 1985, at 33-45.

1   to that bond yield is 5.73%, which is shown on line 3, page 7 of

2   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 6.60%, which is

7   the average of the Beta-adjusted equity risk premium for the Utility Proxy

8   Group, the S&P Utilities Index, and the authorized return utility equity risk

9   premiums of 8.46%, 5.62%, and 5.73%, respectively.[48]

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 shown on

14   Table 6, below, I calculated a common equity cost rate of 10.43% for the Utility

15   Proxy Group based on the total market approach RPM.

16

17   **Table 6**

18   **Summary of the Total Market Return Risk Premium Model[49]**

19

Prospective Moody's A3-Rated Utility Bond Applicable to the Utility Proxy Group	3.83%
Prospective Equity Risk Premium	6.60%
Indicated Cost of Common Equity	10.43%

23

---

48   As shown on page 7 of Exhibit___(DWD-1), Schedule 6.
49   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 RPM-

4 derived common equity cost rate is 10.45%, which gives equal weight to the

5 PRPM (10.46%) and the adjusted-market approach results (10.43%).

6

7 **C.** **The Capital Asset Pricing Model**

8 **Q.** **PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.**

9 **A.** CAPM theory defines risk as the co-variability of a security's returns with the

10 market's returns as measured by the Beta coefficient (β). A Beta coefficient less

11 than 1.0 indicates lower variability than the market as a whole, while a Beta

12 coefficient greater than 1.0 indicates greater variability than the market.

13

14 The CAPM assumes that all non-market or unsystematic risk can be eliminated

15 through diversification. The risk that cannot be eliminated through

16 diversification is called market, or systematic, risk. In addition, the CAPM

17 presumes that investors only require compensation for systematic risk, which is

18 the result of macroeconomic and other events that affect the returns on all

19 assets. The model is applied by adding a risk-free rate of return to a market risk

20 premium, which is adjusted proportionately to reflect the systematic risk of the

21 individual security relative to the total market as measured by the Beta

22 coefficient. The traditional CAPM model is expressed as:

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		β	$=$	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 which

9   security returns and Beta coefficients are related as predicted by the CAPM,

10   confirming its validity. The empirical CAPM (ECAPM) reflects the reality that

11   while the results of these tests support the notion that the Beta coefficient is

12   related to security returns, the empirical Security Market Line (SML) described

13   by the CAPM formula is not as steeply sloped as the predicted SML.[50]

14

15   In their work on the CAPM, Fama and French clearly state regarding Figure 2,

16   below, that "[t]he returns on the low beta portfolios are too high, and the returns

17   on the high beta portfolios are too low."[51]

---

50   Morin, at 175.

51   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
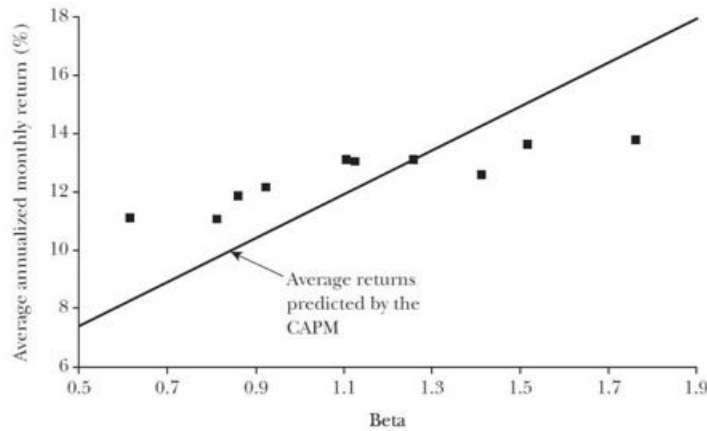
1   In addition, Morin observes that while the results of these tests support the
2   notion that Beta is related to security returns, the empirical SML described by
3   the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

> 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.[52]

* * *

> Therefore, the empirical evidence suggests that the expected
> return on a security is related to its risk by the following
> approximation:

$$K = R_F + x (R_M - R_F) + (1-x) \beta(R_M - R_F)$$

---

52   Morin, at 175.

1	where x is a fraction to be determined empirically. The value of x
2	that best explains the observed relationship [is] Return = 0.0829
3	+ 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation
4	becomes:

5

$$K = R_F + 0.25(R_M - R_F) + 0.75\ \beta(R_M - R_F)^{53}$$

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

7	The early tests firmly reject the Sharpe-Lintner version of the
8	CAPM. There is a positive relation between beta and average
9	return, but it is too 'flat.'… The regressions consistently find that
10	the intercept is greater than the average risk-free rate… and the
11	coefficient on beta is less than the average excess market return…
12	This is true in the early tests… as well as in more recent cross-
13	section regressions tests, like Fama and French (1992).[54]

14   Finally, Fama and French further note:

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

---

53   *Ibid.*, at 190.
54   Fama & French, at 32.

Docket No. G002/GR-21-678
D'Ascendis Direct

1   predicted return on the portfolio with the t beta is 16.8 percent

2   per year; the actual is 13.7 percent.[55]

3

4 Clearly, the justification from Morin, Fama, and French, along with their

5 reviews of other academic research on the CAPM, validate the use of the

6 ECAPM. In view of theory and practical research, I have applied both the

7 traditional CAPM and the ECAPM to the companies in the Utility Proxy Group

8 and averaged the results.

9

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

11 A. For the Beta coefficients in my CAPM analysis, I considered two sources: *Value*

12 *Line* and Bloomberg Professional Services. While both of those services adjust

13 their calculated (or "raw") Beta coefficients to reflect the tendency of the Beta

14 coefficient to regress to the market mean of 1.00, *Value Line* calculates the Beta

15 coefficient over a five-year period, while Bloomberg calculates it over a two-

16 year period.

17

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

19 A. As discussed previously, the risk-free rate adopted for both applications of the

20 CAPM is 2.70%. This risk-free rate is based on the average of the *Blue Chip*

21 consensus forecast of the expected yields on 30-year U.S. Treasury bonds for

22 the six quarters ending with the fourth calendar quarter of 2022, and long-term

23 projections for the years 2023 to 2027 and 2028 to 2032.

---

55   *Ibid.,* at 33.

1   **Q.** **PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED RISK PREMIUM FOR**

2   **THE MARKET USED IN YOUR CAPM ANALYSES.**

3   A. The basis of the market risk premium is explained in detail in note 1 on

4   Exhibit___(DWD-1), Schedule 7. As discussed above, the market risk premium

5   is derived from an average of three historical data-based market risk premiums,

6   two *Value Line* data-based market risk premiums, and one Bloomberg data-

7   based market risk premium.

8   The long-term income return on U.S. Government securities of 5.05% was

9   deducted from the <u>SBBI – 2021</u> monthly historical total market return of

10   12.20%, which results in an historical market equity risk premium of 7.15%.[56] I

11   applied a linear OLS regression to the monthly annualized historical returns on

12   the S&P 500 relative to historical yields on long-term U.S. Government

13   securities from <u>SBBI - 2021</u>. That regression analysis yielded a market equity

14   risk premium of 9.57%. The PRPM market equity risk premium is 8.77%, and

15   is derived using the PRPM relative to the yields on long-term U.S. Treasury

16   securities from January 1926 through August 2021.

17

18   The *Value Line*-derived forecasted total market equity risk premium is derived

19   by deducting the forecasted risk-free rate of 2.70%, discussed above, from the

20   *Value Line* projected total annual market return of 8.95%, resulting in a

21   forecasted total market equity risk premium of 6.25%. The S&P 500 projected

22   market equity risk premium using *Value Line* data is derived by subtracting the

23   projected risk-free rate of 2.70% from the projected total return of the S&P 500

24   of 15.05%. The resulting market equity risk premium is 12.35%.

---

56   <u>SBBI - 2021</u>, at Appendix A-1 (1) through A-1 (3) and Appendix A-7 (19) through A-7 (21).

1   The S&P 500 projected market equity risk premium using Bloomberg data is

2   derived by subtracting the projected risk-free rate of 2.70% from the projected

3   total return of the S&P 500 of 18.17%. The resulting market equity risk

4   premium is 15.47%. These six measures, when averaged, result in an average

5   total market equity risk premium of 9.93%.

6

7   **Table 7**

8   **Summary of the Calculation of the**

9   **Market Risk Premium for Use in the CAPM[57]**

10

Historical Spread Between Total Returns of Large Stocks and Long-Term Government Bond Yields (1926 – 2019)	7.15%
Regression Analysis on Historical Data	9.57%
PRPM Analysis on Historical Data	8.77%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected 30-Year Treasury Bond Yields	6.25%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected 30-Year Treasury Bond Yields	12.35%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected 30-Year Treasury Bond Yields	15.47%
Average	9.93%

---

57   As shown on page 2 of Exhibit___(DWD-1), Schedule 7.

    Docket No. G002/GR-21-678
D'Ascendis Direct

1   **Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL**

2   **AND EMPIRICAL CAPM TO THE UTILITY PROXY GROUP?**

3   A.   As shown on page 1 of Exhibit___(DWD-1), Schedule 7, the mean result of my

4   CAPM/ECAPM analyses is 12.09%, the median is 11.93%, and the average of

5   the two is 12.01%. Consistent with my reliance on the average of mean and

6   median DCF results discussed above, the indicated common equity cost rate

7   using the CAPM/ECAPM is 12.01%.

8

9   **D.   Common Equity Cost Rates for a Proxy Group of Domestic, Non-**

10   **Price Regulated Companies Based on the DCF, RPM, and CAPM**

11   **Q. WHY DO YOU ALSO CONSIDER A PROXY GROUP OF DOMESTIC, NON-PRICE**

12   **REGULATED COMPANIES?**

13   A.   Although I am not an attorney, my interpretation of the *Hope* and *Bluefield* cases

14   is that they did not specify that comparable risk companies had to be utilities.

15   Since the purpose of rate regulation is to be a substitute for marketplace

16   competition, non-price regulated firms operating in the competitive

17   marketplace make an excellent proxy if they are comparable in total risk to the

18   Utility Proxy Group being used to estimate the cost of common equity. The

19   selection of such domestic, non-price regulated competitive firms theoretically

20   and empirically results in a proxy group which is comparable in total risk to the

21   Utility Proxy Group, since all of these companies compete for capital in the

22   exact same markets.

23

24   **Q. HOW DID YOU SELECT NON-PRICE REGULATED COMPANIES THAT ARE**

25   **COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?**

26   A.   In order to select a proxy group of domestic, non-price regulated companies

1	similar in total risk to the Utility Proxy Group, I relied on the Beta coefficients
2	and related statistics derived from *Value Line* regression analyses of weekly
3	market prices over the most recent 260 weeks (*i.e.*, five years). These selection
4	criteria resulted in a proxy group of 41 domestic, non-price regulated firms
5	comparable in total risk to the Utility Proxy Group. Total risk is the sum of
6	non-diversifiable market risk and diversifiable company-specific risks. The
7	criteria used in selecting the domestic, non-price regulated firms was:
8	(i) They must be covered by *Value Line* (Standard Edition);
9	(ii) They must be domestic, non-price regulated companies, *i.e.*, not
10	utilities;
11	(iii) Their Beta coefficients must lie within plus or minus two standard
12	deviations of the average unadjusted Beta coefficients of the Utility Proxy
13	Group; and
14	(iv) The residual standard errors of the *Value Line* regressions which gave rise
15	to the unadjusted Beta coefficients must lie within plus or minus two
16	standard deviations of the average residual standard error of the Utility
17	Proxy Group.
18	
19	Beta coefficients measure market, or systematic, risk, which is not diversifiable.
20	The residual standard errors of the regressions measure each firm's company-
21	specific, diversifiable risk. Companies that have similar Beta coefficients <u>and</u>
22	similar residual standard errors resulting from the same regression analyses have
23	similar total investment risk.

1   **Q. HAVE YOU PREPARED A SCHEDULE WHICH SHOWS THE DATA FROM WHICH**

2   **YOU SELECTED THE 41 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 are

5   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 rationale

12   and application of each model. One exception is in the application of the RPM,

13   where I did not use public utility-specific equity risk premiums, nor did I apply

14   the PRPM to the individual non-price regulated companies.

15

16   Page 2 of Exhibit___(DWD-1), Schedule 9 derives the Constant Growth DCF

17   model common equity cost rate, and page 3 of Exhibit___(DWD-1), Schedule

18   9 derives the two growth DCF model common equity cost rate. As shown, the

19   indicated common equity cost rate, using an average of the constant growth

20   DCF and the two growth DCF for the Non-Price Regulated Proxy Group

21   comparable in total risk to the Utility Proxy Group, is 13.39%.

22

23   Pages 4 through 6 of Exhibit___(DWD-1), Schedule 9 contain the data and

24   calculations that support the 12.85% RPM common equity cost rate. As shown

25   on line 1, page 4 of Exhibit___(DWD-1), Schedule 9, the consensus prospective

26   yield on Moody's Baa-rated corporate bonds for the six quarters ending in the

1   third quarter of 2022, and for the years 2023 to 2027 and 2028 to 2032, is

2   4.30%.[58]

3

4   When the Beta-adjusted risk premium of 8.55%[59] relative to the Non-Price

5   Regulated Proxy Group is added to the prospective Baa2-rated corporate bond

6   yield of 4.30%, the indicated RPM common equity cost rate is 12.85%.

7

8   Page 7 of Exhibit___(DWD-1), Schedule 9 contains the inputs and calculations

9   that support my indicated CAPM/ECAPM common equity cost rate of 12.06%.

10

11   **Q.   HOW IS THE COST RATE OF COMMON EQUITY BASED ON THE NON-PRICE**

12   **REGULATED PROXY GROUP COMPARABLE IN TOTAL RISK TO THE UTILITY**

13   **PROXY GROUP?**

14   A.   As shown on page 1 of Exhibit___(DWD-1), Schedule 9, the results of the

15   common equity models applied to the Non-Price Regulated Proxy Group --

16   which is comparable in total risk to the Utility Proxy Group -- are as follows:

17   13.39% (DCF), 12.85% (RPM), and 12.06% (CAPM). The average of the mean

18   and median of these models is 12.81%, which I used as the indicated common

19   equity cost rates for the Non-Price Regulated Proxy Group.

---

58   *Blue Chip Financial Forecasts*, August 1, 2021, at 2, June 1, 2021, at 14.
59   Derived on page 6 of Exhibit___(DWD-1), Schedule 9.

VIII. CONCLUSION OF COMMON EQUITY COST ANALYTICAL RESULTS BEFORE ADJUSTMENTS

1
2

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

5 A. By applying multiple cost of common equity models to the Utility Proxy Group
6   and the Non-Price Regulated Proxy Group, the indicated range of common
7   equity cost rates attributable to the Utility Proxy Group before any relative risk
8   adjustments is between 10.20% and 12.20%. I used multiple cost of common
9   equity models as primary tools in arriving at my recommended common equity
10   cost rate, because each of these models is theoretically sound and available to
11   investors and because no single model is so inherently precise that it can be
12   relied on to the exclusion of other theoretically sound models. Using multiple
13   models adds reliability to the estimated common equity cost rate, with the
14   prudence of using multiple cost of common equity models supported in both
15   the financial literature and regulatory precedent.

16

17   Based on these common equity cost results, I conclude that a range of common
18   equity cost rates between 10.20% and 12.20% is reasonable and appropriate
19   before any adjustments for relative risk differences between the Company and
20   the Utility Proxy Group are made.

1　IX.　　ADJUSTMENTS TO THE COMMON EQUITY COST RATE

2　　　A.　　Business Risk Adjustment

3　Q.　WHAT COMPANY-SPECIFIC BUSINESS RISKS DID YOU CONSIDER IN YOUR

4　　　RELATIVE RISK ANALYSIS?

5　A.　As detailed below I considered NSP's small size and its high levels of customer

6　　　growth and capital expenditures relative to the Utility Proxy Group.

7

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

9　A.　As shown on Table 8, below, NSP is smaller than the median utility in the Utility

10　　　Proxy Group, as measured by market capitalization.

11

12

Table 8

13

Size as Measured by Market Capitalization for NSPM's

14

Electric Operations and the Utility Proxy Group

15

	Market Capitalization* ($ Millions)	Times Greater than The Company
NSP MN Jurisdictional	$822.711	
Utility Proxy Group	$4,458.458	5.4x
*From page 1 of Exhibit___(DWD-1), Schedule 10.		

16

17

18

19

20

21

22　The Company's estimated market capitalization for its Minnesota operations

23　was $822.711 million as of August 31, 2021, compared with the market

24　capitalization of the average company in the Utility Proxy Group of $4,458.458

25　million as of August 31, 2021. The average company in the Utility Proxy Group

1 has a market capitalization 5.4 times the size of the Company's estimated

2 Minnesota-based market capitalization.

3

4 **Q. SINCE NSP IS PART OF A LARGER COMPANY, WHY IS THE SIZE OF XEI NOT**

5 **MORE APPROPRIATE TO USE WHEN DETERMINING THE SIZE ADJUSTMENT?**

6 A. The return derived in this proceeding will not apply to XEI's operations as a

7   whole, but only to the Company's gas operations in Minnesota. XEI is the sum

8   of its constituent parts, including those constituent parts' ROEs. Potential

9   investors in the Parent are aware that it is a combination of operations in each

10   state, and that each state's operations experience the operating risks specific to

11   their jurisdiction. The market's expectation of XEI's return is commensurate

12   with the realities of the Company's composite operations in each of the states

13   in which it operates. That said, I recognize that NSP's Minnesota natural gas

14   operations are a portion of NSP's overall operations.

15

16 **Q. SHOULD THE COMPANY BE COMPARED WITH OTHER OPERATING**

17 **NATURAL GAS UTILITIES IN MINNESOTA TO DETERMINE ANY**

18 **ADJUSTMENT TO THE PROXY GROUP-DERIVED ROE?**

19 A. No, it shouldn't. Since the indicated ROE is determined using the market data

20   of the Utility Proxy Group, any type of adjustment to the indicated ROE must

21   reflect relative differences between the Company and the Utility Proxy Group.

22   Since this is the case, the relative size or other risks of other Minnesota utilities

23   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 common

4 equity recommendation for the Company's Minnesota operations based on

5 market data applied to the Utility Proxy Group of risk-comparable companies,

6 in order to assess the Company's risk associated with its relative small size of its

7 Minnesota gas operations, it is necessary to compare the Company's Minnesota

8 gas operation's size relative to the Utility Proxy Group. The Company's smaller

9 size relative to the Utility Proxy Group companies indicates greater relative

10 business risk for the Company because, all else being equal, size has a material

11 bearing on risk.

12

13 Size affects business risk because smaller companies generally are less able to

14 cope with significant events that affect sales, revenues, and earnings. For

15 example, smaller companies face more risk exposure to business cycles and

16 economic conditions, both nationally and locally. Additionally, the loss of

17 revenues from a few larger customers would have a greater effect on a small

18 company than on a bigger company with a larger, more diverse, customer base.

19 This is true for utilities, as well as for non-regulated companies.

20

21 As further evidence that smaller firms are riskier, investors generally demand

22 greater returns from smaller firms to compensate for less marketability and

23 liquidity of their securities. Duff & Phelps' 2020 Valuation Handbook – U.S.

24 Guide to Cost of Capital (D&P - 2020) discusses the nature of the small-size

25 phenomenon, providing an indication of the magnitude of the size premium

1   based on several measures of size. In discussing "Size as a Predictor of Equity

2   Returns," <u>D&P - 2020</u> states:

3

4   The size effect is based on the empirical observation that companies of

5   smaller size are associated with greater risk and, therefore, have greater

6   cost of capital [sic]. The "size" of a company is one of the most

7   important risk elements to consider when developing cost of equity

8   capital estimates for use in valuing a business simply because size has

9   been shown to be a *predictor* of equity returns. In other words, there is a

10   significant (negative) relationship between size and historical equity

11   returns - as size *decreases*, returns tend to *increase*, and vice versa. (footnote

12   omitted) (emphasis in original)[60]

13

14   Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence,"

15   Fama and French note size is indeed a risk factor which must be reflected when

16   estimating the cost of common equity. On page 37, they note:

17

18   . . . the higher average returns on small stocks and high book-to-market

19   stocks reflect unidentified state variables that produce undiversifiable

20   risks (covariances) in returns not captured in the market return and are

21   priced separately from market betas.[61]

---

60   Duff & Phelps <u>Valuation Handbook – U.S. Guide to Cost of Capital</u>, Wiley 2020, at 4-1.
61   Fama & French, at 25-43.

1   Based on this evidence, Fama and French proposed their three-factor model

2   which includes a size variable in recognition of the effect size has on the cost of

3   common equity.

4

5   Also, it is a basic financial principle that the use of funds invested, and not the

6   source of funds, is what gives rise to the risk of any investment.[62]   Eugene

7   Brigham, a well-known authority, states:

8

9   A number of researchers have observed that portfolios of small-firms

10   (sic) have earned consistently higher average returns than those of large-

11   firm stocks; this is called the "small-firm effect." On the surface, it would

12   seem to be advantageous to the small firms to provide average returns in

13   a stock market that are higher than those of larger firms. In reality, it is

14   bad news for the small firm; <u>what the small-firm effect means is that the</u>

15   <u>capital market demands higher returns on stocks of small firms than on</u>

16   <u>otherwise similar stocks of the large firms.</u> (emphasis added)[63]

17

18   Consistent with the financial principle of risk and return discussed above,

19   increased relative risk due to small size must be considered in the allowed rate

20   of return on common equity. Therefore, the Commission's authorization of a

21   cost rate of common equity in this proceeding must appropriately reflect the

22   unique risks of the Company, including its small relative size to the Utility Proxy

---

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

63   Eugene F. Brigham, <u>Fundamentals of Financial Management, Fifth Edition</u> (The Dryden Press, 1989), at 623.

| 1 | Group, which is justified and supported above by evidence in the financial |
| 2 | literature. |

3

4 **Q. EARLIER YOU EXPLAINED THAT CREDIT RATINGS CAN ACT AS A PROXY FOR**

5   **A FIRM'S COMBINED BUSINESS AND FINANCIAL RISKS TO EQUITY OWNERS.**

6   **DO RATING AGENCIES ACCOUNT FOR COMPANY SIZE IN THEIR BOND**

7   **RATINGS?**

8 A. No. Neither S&P nor Moody's have minimum company size requirements for

9   any given rating level. This means, all else equal, a relative size analysis must be

10   conducted for equity investments in companies with similar bond ratings.

11

12 **Q. PLEASE DESCRIBE THE COMPANY'S HIGH CUSTOMER GROWTH.**

13 A. NSP's total number of retail customers is expected to increase by approximately

14   24,900 (*i.e.*, 5.2%) over the past five years.[64] The increased customer growth in

15   NSP's service territory necessitates increased capital investment.

16

17 **Q. PLEASE BRIEFLY SUMMARIZE THE COMPANY'S CAPITAL INVESTMENT**

18   **PLANS.**

19 A. NSP currently plans to invest approximately $778 million of additional capital

20   over the 2021-2024 period,[65] which represents approximately 78% of its 2021

21   year-end net utility plant.[66] That amount includes investments required to

22   support growth, continue on the path of carbon reduction, and to maintain safe,

23   sufficient, and reliable service in both its transmission and distribution facilities.

---

64   Company provided data (2021-2026).
65   Company provided data.
66   *Ibid.*, at G-3.

1   The Company will require continued access to the capital markets, at reasonable

2   terms, to finance its capital spending plan. As the Company moves forward

3   with its capital spending plan, timely recovery of its capital costs is critical to

4   mitigate the delay of capital recovery and execute its capital spending program.

5

6 **Q.   DO SUBSTANTIAL CAPITAL EXPENDITURES DIRECTLY RELATE TO A**

7 **UTILITY BEING ALLOWED THE OPPORTUNITY TO EARN A RETURN**

8 **ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?**

9 A.   Yes, they do. The allowed ROE should enable the subject utility to finance

10   capital expenditures and working capital requirements at reasonable rates, and

11   to maintain its financial integrity in a variety of economic and capital market

12   conditions. As discussed throughout my direct testimony, a return adequate to

13   attract capital at reasonable terms enables the utility to provide safe, reliable

14   service while maintaining its financial soundness. To the extent a utility is

15   provided the opportunity to earn its market-based cost of capital, neither

16   customers nor shareholders should be disadvantaged. These requirements are

17   of particular importance to a utility when it is engaged in a substantial capital

18   expenditure program.

19

20   The ratemaking process is predicated on the principle that, for investors and

21   companies to commit the capital needed to provide safe and reliable utility

22   services, the utility must have the opportunity to recover the return of, and the

23   market-required return on, invested capital. Regulatory commissions recognize

24   that since utility operations are capital intensive, regulatory decisions should

25   enable the utility to attract capital at reasonable terms; doing so balances the

26   long-term interests of the utility and its ratepayers.

1   Further, the financial community carefully monitors the current and expected

2   financial conditions of utility companies, as well as the regulatory environment

3   in which those companies operate. In that respect, the regulatory environment

4   is one of the most important factors considered in both debt and equity

5   investors' assessments of risk. That is especially important during periods in

6   which the utility expects to make significant capital investments and, therefore,

7   may require access to capital markets.

8

9   **Q. DO CREDIT RATING AGENCIES RECOGNIZE RISK ASSOCIATED WITH**

10   **INCREASED CAPITAL EXPENDITURES?**

11   A. Yes, they do. From a credit perspective, the additional pressure on cash flows

12   associated with high levels of capital expenditures exerts corresponding

13   pressure on credit metrics and, therefore, credit ratings. S&P has noted several

14   long-term challenges for utilities' financial health including: heavy construction

15   programs to address demand growth; declining capacity margins; and aging

16   infrastructure and regulatory responsiveness to mounting requests for rate

17   increases.[67] More recently, S&P noted:

18   We assume that capital spending will remain a focus of most utility

19   managements and strain credit metrics. It provides growth when sales are

20   diminished by ongoing demanded efficiency from regulators and other

21   trends, and it is welcomed by policymakers that appreciate the economic

22   stimulus and the benefits of safer, more reliable service. The speed with

23   which the regulatory process turns the new spending into higher rates to

---

[67]   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   begin to pay for it is an important factor in our assumptions and the

2   forecast. Any extended lag between spending and recovery can exacerbate

3   the negative effect on credit metrics and therefore ratings.[68]

4

5   The rating agency views noted above also are consistent with certain

6   observations discussed in my direct testimony: (1) the benefits of maintaining a

7   strong financial profile are significant when capital access is required and

8   become particularly acute during periods of market instability; and (2) the

9   Commission's decision in this proceeding will have a direct bearing on the

10   company's credit profile and its ability to access the capital needed to fund its

11   investments.

12

13   **Q.   HOW DO THE COMPANY'S EXPECTED CAPITAL EXPENDITURES COMPARE**

14   **TO THE UTILITY PROXY GROUP?**

15   A.   To reasonably make that comparison, I calculated the ratio of expected capital

16   expenditures to net plant for each company in the Utility Proxy Group. I

17   performed that calculation using NSP's projected capital expenditures during

18   the period 2021 through 2024 relative to its net plant for the year ended

19   December 31, 2021. As shown in Exhibit___(DWD-1), Schedule 11, NSP has

20   the highest ratio of projected capital expenditures to net plant relative to the

21   Utility Proxy Group, approximately 64% higher than the Utility Proxy Group

22   median.

---

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

1   **Q.** **WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF NSP'S**

2   **CAPITAL INVESTMENT PLAN ON ITS RISK PROFILE AND COST OF CAPITAL?**

3   **A.** It is clear that NSP's capital investment plan relative to net plant is larger than

4   the median of the Utility Proxy Group companies. It also is clear that equity

5   investors and credit rating agencies recognize the additional risks associated

6   with substantial capital expenditures.

7

8   **Q.** **WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S RELATIVE RISK**

9   **AS COMPARED TO THE UTILITY PROXY GROUP?**

10   **A.** In view of the above, the Company is smaller and faces a higher level of

11   expected capital expenditures than the Utility Proxy Group. Since the cost of

12   capital is a comparative exercise, the Company faces relatively higher risk than

13   the Utility Proxy Group.

14

15   **Q.** **CAN A RELATIVE RISK ADJUSTMENT BE QUANTIFIED FOR THE COMPANY?**

16   **A.** Yes. As discussed above, NSP has greater relative risk than the Utility Proxy

17   Group. As a result, it is necessary to upwardly adjust the indicated range of

18   common equity cost rates attributable to the Utility Proxy Group to reflect the

19   Company's greater risk due to its greater business risk. As a proxy for the

20   business risk adjustment, I will use the <u>SBBI-2021</u> size study. The determination

21   of the business risk adjustment is based on the size premiums for portfolios of

22   the New York Stock Exchange, American Stock Exchange, and NASDAQ

23   listed companies, ranked by deciles for the 1926 to 2020 period.[69] The average

24   size premium for the Utility Proxy Group with a market capitalization of

---

69   Source: Duff & Phelps Cost of Capital Navigator.

1    $4,458.458 million falls in the 4th decile, while the Company's estimated market

2   capitalization of $822.711 million places it in the 8th decile. The size premium

3   spread between the 4th decile and the 8th decile is 0.71%.[70] Even though a 0.71%

4   upward risk adjustment to the common cost of equity is indicated, I only applied

5   a risk premium of 0.15% to the Company's indicated common equity cost rate

6   to reflect that the Company's Minnesota natural gas operations are a portion of

7   NSP's overall operations and benefit from that relationship. I believe 0.15% is

8   a conservative adjustment due to the Company's higher relative risk.

9

10   **B.   Credit Risk Adjustment**

11 Q.   Please discuss your proposed credit risk adjustment.

12 A.   NSP's long-term issuer ratings are A2 and A- from Moody's and S&P,

13   respectively, which are slightly less risky than the average long-term issuer

14   ratings for the Utility Proxy Group of A2/A3 and A-/BBB+, respectively.[71]

15   Hence, a downward credit risk adjustment is necessary to reflect the higher

16   credit rating, *i.e.,* A2, of the Company relative to the A2/A3 average Moody's

17   bond rating of the Utility Proxy Group.[72]

18

19   An indication of the magnitude of the necessary downward adjustment to

20   reflect the lower credit risk inherent in an A2 bond rating is one-sixth of a recent

21   three-month average spread between Moody's Baa and A-rated public utility

22   bond yields of 0.25%, shown on page 4 of Exhibit___(DWD-1), Schedule 6, or

23   negative 0.04%.[73]

---

70   *Ibid.,* See also, Exhibit__(DWD-1), Schedule 10.
71   Source of Information: Moody's Investor Services and S&P Global Market Intelligence.
72   As shown on page 5 of Exhibit___(DWD-1), Schedule 6.
73   0.04% = 0.25% * (1/6). Moody's does not provide public utility bond yields for A3-rated bonds.

1   **C.   Flotation Costs**

2   **Q.   WHAT ARE FLOTATION COSTS?**

3   A.   Flotation costs are those costs associated with the sale of new issuances of

4   common stock. They include market pressure and the mandatory unavoidable

5   costs of issuance (*e.g.*, underwriting fees and out-of-pocket costs for printing,

6   legal, registration, etc.). For every dollar raised through debt or equity offerings,

7   the Company receives less than one full dollar in financing.

8

9   **Q.   WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE**

10   **ALLOWED COMMON EQUITY COST RATE?**

11   A.   It is important because there is no other mechanism in the ratemaking paradigm

12   through which such costs can be recognized and recovered. Because these costs

13   are real, necessary, and legitimate, recovery of these costs should be permitted.

14   As noted by Morin:

15

16   The costs of issuing these securities are just as real as operating and

17   maintenance expenses or costs incurred to build utility plants, and fair

18   regulatory treatment must permit recovery of these costs….

19

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 return

22   adjustment.[74]

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.

74   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 quite

4   clear that these costs are not reflected in the market prices paid for common

5   stocks.   For example, Brigham and Daves confirm this and provide the

6   methodology utilized to calculate the flotation adjustment.[75] In addition, Morin

7   confirms the need for such an adjustment even when no new equity issuance is

8   imminent.[76] Consequently, it is proper to include a flotation cost adjustment

9   when using cost of common equity models to estimate the common equity cost

10   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 cited in

15   literature by Brigham and Daves, as well as by Morin.   The flotation cost

16   adjustment recognizes the actual costs of issuing equity that were incurred by

17   XEI. Based on the issuance costs shown on page 1 of Exhibit__(DWD-1),

18   Schedule 12, an adjustment of 0.12% is required to reflect the flotation costs

19   applicable to the Utility Proxy Group.

20

21   **Q.   WHAT IS THE INDICATED COST OF COMMON EQUITY AFTER YOUR**

22   **COMPANY-SPECIFIC ADJUSTMENTS?**

23   A.   Applying the 0.15% business risk adjustment, the negative 0.04% credit risk

---

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

76   Morin, at pp. 327-30.

1   adjustment, and the 0.12% flotation cost adjustment to the indicated range of

2   common equity cost rates between 10.20% and 12.20% results in a Company-

3   specific range of common equity rates between 10.43% and 12.43%. From this

4   range, I recommend an ROE for the Company toward the lower end of my

5   Company-specific range, specifically 10.50%.

6

7 Q. **IN THE COMPANY'S RECENTLY FILED ELECTRIC GENERAL RATE CASE,**

8   **YOU RECOMMENDED AN ROE THAT WAS 0.51% HIGHER THAN THE LOW**

9   **END OF YOUR INDICATED RANGE OF COMMON EQUITY RATES. WHY ARE**

10   **YOU RECOMMENDING AN ROE THAT IS ONLY 0.07% HIGHER THAN THE**

11   **LOW END OF YOUR INDICATED RANGE OF COMMON EQUITY RATES IN THIS**

12   **CASE?**

13 A. Because the indicated range is higher in this case than the indicated range in the

14   Company's electric rate case, I recommended a higher ROE in this case. In the

15   interest of incrementalism, however, I recommend an ROE at the very bottom

16   of the indicated range.

17

18   **D.   Revenue Decoupling Mechanism**

19 Q. **PLEASE SUMMARIZE THE COMPANY'S REVENUE DECOUPLING**

20   **MECHANISM ("RDM") PROPOSAL.**

21 A. The Company is proposing a full decoupling RDM which includes the effects

22   of weather in the calculation of deferrals. The RDM measures sales revenues

23   against a baseline revenue-per-customer by class, with over- or under-

24   recoveries calculated and deferred each month. The annual result is credited or

25   charged to customers through a $ per therm factor applied to each individual

1   customer's usage each month for twelve months as a separate line item on their

2   bill.

3

4 **Q.   ARE DECOUPLING AND OTHER REVENUE STABILIZATION MECHANISMS**

5 **COMMON IN THE UTILITY PROXY GROUP?**

6 A.   Yes, they are.   It is important to remember that the cost of capital is a

7   comparative exercise, so if a mechanism is common throughout the companies

8   on which one bases their analyses, the comparative risk is zero, because any

9   impact of the perceived reduced risk (if any) of the mechanism(s) by investors

10   would be reflected in the market data of the proxy group.   As shown on

11   Exhibit___(DWD-1), Schedule 13, every single one of the proxy companies has

12   some form of decoupling in at least one of its jurisdictions.   As such, the

13   proposed RDM makes the Company more similar to the Utility Proxy Group.

X. CONCLUSION

1

2 **Q.** **WHAT IS YOUR RECOMMENDED ROE FOR THE COMPANY?**

3 A. Given the discussion above and the results from the analyses, I recommend that

4 an ROE of 10.50% is appropriate for the Company at this time.

5

6 **Q.** **IN YOUR OPINION, IS YOUR PROPOSED ROE OF 10.50% FAIR AND**

7 **REASONABLE TO NSP AND ITS CUSTOMERS?**

8 A. Yes, it is.

9 **Q.** **IN YOUR OPINION, IS NSP'S PROPOSED CAPITAL STRUCTURE CONSISTING**

10 **OF 52.50% COMMON EQUITY, 0.61% SHORT-TERM DEBT, AND 46.89%**

11 **LONG-TERM DEBT FAIR AND REASONABLE?**

12 A. Yes, it is.

13

14 **Q.** **IN YOUR OPINION, IS NSP'S PROPOSED COST OF LONG-TERM DEBT OF**

15 **4.13% FAIR AND REASONABLE?**

16 A. Yes, it is.

17

18 **Q.** **DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19 A. Yes, it does.

Summary

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). Dylan joined ScottMadden in 2016 and has become a leading expert witness with respect to cost of capital and capital structure. He has served as a consultant for investor-owned and municipal utilities and authorities for 13 years. Dylan has testified as an expert witness on over 100 occasions regarding rate of return, cost of service, rate design, and valuation before more than 30 regulatory jurisdictions in the United States and Canada, an American Arbitration Association panel, and the Superior Court of Rhode Island. He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured. Dylan holds a B.A. in economic history from the University of Pennsylvania and an M.B.A. with concentrations in finance and international business from Rutgers University.

Areas of Specialization

- Regulation and Rates
- Rate of Return
- Valuation
- Mutual Fund Benchmarking
- Capital Market Risk
- Cost of Service

Recent Expert Testimony Submission/Appearance

- Regulatory Commission of Alaska – Capital Structure
- Federal Energy Regulatory Commission – Rate of Return
- Public Utility Commission of Texas – Return on Equity
- Hawaii Public Utilities Commission – Cost of Service / Rate Design
- Pennsylvania Public Utility Commission - Valuation

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- 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 Articles 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

Sponsor	Date	Case/Applicant	Docket No.	Subject
Regulatory Commission of Alaska				
Cook Inlet Natural Gas Storage Alaska, LLC	07/21	Cook Inlet Natural Gas Storage Alaska, LLC	Docket No. TA45-733	Capital Structure
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
Alberta Utilities Commission				
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
Arizona Corporation Commission				
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
Arkansas Public Service Commission				
Southwestern Electric Power Co.	07/21	Southwestern Electric Power Co.	Docket No. 21-070-U	Return on Equity
CenterPoint Energy Resources Corp.	05/21	CenterPoint Arkansas Gas	Docket No. 21-004-U	Return on Equity
Colorado Public Utilities Commission				
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
Delaware Public Service Commission				
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
Public Service Commission of the District of Columbia				
Washington Gas Light Company	09/20	Washington Gas Light Company	Formal Case No. 1162	Rate of Return
Federal Energy Regulatory Commission				
LS Power Grid California, LLC	10/20	LS Power Grid California, LLC	Docket No. ER21-195-000	Rate of Return
Florida Public Service Commission				
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
Hawaii Public Utilities Commission				
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

Sponsor	Date	Case/Applicant	Docket No.	Subject
Illinois Commerce Commission				
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
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
Indiana Utility Regulatory Commission				
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
Kansas Corporation Commission				
Atmos Energy	07/19	Atmos Energy	19-ATMG-525-RTS	Rate of Return
Kentucky Public Service Commission				
Atmos Energy Corporation	07/21	Atmos Energy Corporation	2021-00304	PRP Rider Rate
Atmos Energy Corporation	06/21	Atmos Energy Corporation	2021-00214	Rate of Return
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
Louisiana Public Service Commission				
Utilities, Inc. of Louisiana	05/21	Utilities, Inc. of Louisiana	Docket No. U-36003	Rate of Return
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
Maine Public Utilities Commission				
The Maine Water Company	09/21	The Maine Water Company	Docket No. 2021-00053	Rate of Return
Maryland Public Service Commission				
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
Massachusetts Department of Public Utilities				
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
Minnesota Public Utilities Commission				
Northern States Power Company	11/20	Northern States Power Company	Docket No. E002/GR-20-723	Rate of Return
Mississippi Public Service Commission				
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
Missouri Public Service Commission				
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

Sponsor	Date	Case/Applicant	Docket No.	Subject
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
South Carolina Public Service Commission				
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
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
Tennessee Public Utility Commission				
Piedmont Natural Gas Company	07/20	Piedmont Natural Gas Company	Docket No. 20-00086	Return on Equity
Public Utility Commission of Texas				
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
Virginia State Corporation Commission				
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
Brief Summary of Common Equity Cost Rate

Line No.	Principal Methods	Proxy Group of Seven Natural Gas Distribution Companies
1.	Discounted Cash Flow Model (DCF) (1)	9.59%
2.	Risk Premium Model (RPM) (2)	10.45%
3.	Capital Asset Pricing Model (CAPM) (3)	12.01%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	12.81%
5.	Indicated Range of Common Equity Cost Rates before Adjustment for Size Risk	10.20% - 12.20%
6.	Business Risk Adjustment (5)	0.15%
7.	Credit Risk Adjustment (6)	-0.04%
8.	Flotation Cost Adjustment (7)	0.12%
9.	Recommended Range of Common Equity Cost Rates after Adjustment for Size Risk	10.43% - 12.43%
10.	Recommended Cost of Common Equity Cost Rates after Adjustment for Size Risk	10.50%

Notes: (1) Average of results from the Constant Growth DCF Model and Two Growth DCF Model from Exhibit_(DWD-1), Schedule 5.

(2) From page 1 of Exhibit_(DWD-1), Schedule 6.
(3) From page 1 of Exhibit_(DWD-1), Schedule 7.
(4) From page 1 of Exhibit_(DWD-1), Schedule 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 NSP'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 Exhibit_(DWD-1), Schedule 12.

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

	2020	2019	2018	2017	2016	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
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	$ 12,852.000	$ 11,633.100	$ 10,660.300	$ 10,428.588	$ 10,283.734	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	4.28 %	4.38 %	4.51 %	4.61 %	4.69 %	
						5 YEAR
CAPITAL STRUCTURE RATIOS						AVERAGE
BASED ON TOTAL PERMANENT CAPITAL:						
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	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
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	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
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

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

	2020	2019	2018	2017	2016	
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
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	$5,481.815	$4,872.665	$4,326.060	$3,750.778	$3,447.287	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	3.34 %	3.66 %	3.70 %	3.79 %	3.57 %	
PREFERRED STOCK	6.12	2.81				
						5 YEAR AVERAGE
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
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	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
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	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	4.85 %	3.92 %	4.60 %	3.82 %	4.73 %	4.38 %
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
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	8.77 %	8.62 %	9.88 %	8.28 %	9.29 %	8.97 %
TOTAL DEBT / EBITDA (3)	5.48 x	5.35 x	5.49 x	7.72 x	4.00 x	5.61 x
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	14.20 %	13.18 %	23.75 %	16.76 %	21.91 %	17.96 %
TOTAL DEBT / TOTAL CAPITAL	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

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	
Atmos Energy Corporation												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
New Jersey Resources Corporation												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
Northwest Natural Holding Company												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
ONE Gas, Inc.												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
South Jersey Industries, Inc.												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
Southwest Gas Holdings, Inc.												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
Spire Inc.												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%
Proxy Group of Seven Natural Gas Distribution Companies												
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	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%	100.00	%

Source of Information
    Annual Forms 10-K

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

| Company Name | Parent Company Ticker | 2020 | | | |
		Common Equity	Long-Term Debt	Short-Term Debt	Total Capital
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	51.88%	42.73%	5.40%	100.00%

Source: S&P Global Market Intelligence

Northern States Power Company
Cost of Long-Term Debt Comparison

Issue	Initial Offering	Date of Offering	Date of Maturity	Years to Maturity	Coupon	Net Issuance Costs	Net Proceeds	Annual Interest Expense	Annual Net Amortization	Total Expense	Yield	BFV Term	Bloomberg Fair Value Curve 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)	$ 100,000	8/13/2012	8/15/2022	10	2.150%	$ 60	$ 99,940	$ 2,150	$ 220	$ 2,370	2.37%	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 Apr 1, 2031 (FMB)	$ 425,000	3/30/2021	4/1/2031	10	2.250%	$ 5,885	$ 419,115	$ 9,563	$ 675	$ 10,238	2.44%	10	2.33%	2.54%
Series Due Apr 1, 2052 (FMB)	$ 425,000	3/30/2021	4/1/2052	31	3.200%	$ 7,203	$ 417,797	$ 13,600	$ 242	$ 13,842	3.31%	31	3.36%	3.66%
Series Due May 1, 2052 (FMB) (1)	$ 366,667	5/1/2022	5/1/2052	30	3.300%	$ 5,431	$ 361,236	$ 12,100	$ 184	$ 12,284	3.40%	30	N/A	N/A
TOTAL	$ 6,650,000			Weighted Averages:	3.96%						4.13%			

	Bloomberg Fair Value Curve	
	A-Rated	BBB-Rated
	4.20%	4.58%

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

Proxy Group of Seven Natural Gas Distribution Companies	[1] Average Dividend Yield (1)	[2] Value Line Projected Five Year Growth in EPS (2)	[3] Zack's Five Year Projected Growth Rate in EPS	[5] Yahoo! Finance Projected Five Year Growth in EPS	[6] Average Projected Five Year Growth in EPS (3)	[7] Adjusted Dividend Yield (4)	[8] Indicated Common Equity Cost Rate (5)
Atmos Energy Corporation	2.52 %	7.00 %	7.40 %	7.80 %	7.40 %	2.61 %	10.01 %
New Jersey Resources Corporation	3.35	2.00	7.10	6.00	5.03	3.43	8.46
Northwest Natural Holding Company	3.64	5.50	4.90	5.50	5.30	3.74	9.04
ONE Gas, Inc.	3.13	6.50	5.00	5.00	5.50	3.22	8.72
South Jersey Industries, Inc.	4.69	11.50	5.40	4.80	7.23	4.86	12.09
Southwest Gas Holdings, Inc.	3.46	8.00	5.50	4.00	5.83	3.56	9.39
Spire Inc.	3.62	10.00	5.50	7.31	7.60	3.76	11.36
						Average	9.87 %
						Median	9.39 %
						Average of Mean and Median	9.63 %

NA= Not Available
NMF= Not Meaningful Figure

Notes:
(1) Indicated dividend at 08/31/2021 divided by the average closing price of the last 60 trading days ending 08/31/2021 for each company.
(2) From pages 3 through 9 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, 2.52% x (1+(1/2 x 7.40%)) = 2.61%.
(5) Column 5 + column 6.

Source of Information: Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2021
www.yahoo.com Downloaded on 08/31/2021

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

Proxy Group of Seven Natural Gas Distribution Companies	[1] Stock Price	[2] Annualized Dividend	[3] Dividend Yield (1)	[4] Value Line Projected Five Year Growth in EPS (2)	[5] Zack's Five Year Projected Growth Rate in EPS	[7] Yahoo! Finance Projected Five Year Growth in EPS	[8] Average Projected Five Year Growth in EPS (3)	[9] Adjusted Dividend Yield (4)	[10] Indicated Common Equity Cost Rate (5)
Atmos Energy Corporation	$ 97.51	$ 2.50	2.56 %	7.00 %	7.40 %	7.80 %	7.40 %	2.65 %	8.86 %(6)
New Jersey Resources Corporation	37.34	1.33	3.56	2.00	7.10	6.00	5.03	3.65	9.59 (6)
Northwest Natural Holding Company	51.45	1.92	3.73	5.50	4.90	5.50	5.30	3.83	9.13
ONE Gas, Inc.	71.82	2.32	3.23	6.50	5.00	5.00	5.50	3.32	8.82
South Jersey Industries, Inc.	24.81	1.21	4.88	11.50	5.40	4.80	7.23	5.06	12.29
Southwest Gas Holdings, Inc.	70.31	2.38	3.39	8.00	5.50	4.00	5.83	3.49	9.32
Spire Inc.	66.70	2.60	3.90	10.00	5.50	7.31	7.60	4.05	10.40 (6)
						Average	6.27	Average	9.77 %
						1 Standard Deviation Below Mean	5.25	Median	9.32 %
						1 Standard Deviation Above Mean	7.29	Average of Mean and Median	9.55 %

NA= Not Available
NMF= Not Meaningful Figure

Notes:

(1) Indicated dividend at 08/31/2021 divided by the average closing price of the last 60 trading days ending 08/31/2021 for each company.

(2) From pages 3 through 9 of this Schedule.

(3) Average of columns 4 through 7 excluding negative growth rates.

(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 8) x column 3 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Atmos Energy Corporation, 2.56% x (1+(1/2 x 7.40%)) = 2.65%.

(5) Column 8 + column 9.

(6) The Two Growth Method was applied to Companies with short-term EPS growth rates greater than one standard deviation from the overall Utility Proxy Group mean growth rate. The mean of all Utility Proxy Group Companies with growth rates are within one standard deviation of the overall mean growth rate was applied as the long-term growth rate for these Companies.

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2021
www.yahoo.com Downloaded on 08/31/2021

ATMOS ENERGY CORP. NYSE-ATO

| RECENT PRICE | 101.07 | P/E RATIO | 19.4 | (Trailing: 19.0 Median: 19.0) | RELATIVE P/E RATIO | 1.01 | DIV'D YLD | 2.7% | VALUE LINE |

TIMELINESS	4	Lowered 8/20/21
SAFETY	1	Raised 6/6/14
TECHNICAL	3	Raised 8/27/21
BETA	.80	(1.00 = Market)

High: 32.0 35.6 37.3 47.4 58.2 64.8 82.0 93.6 100.8 115.2 121.1 105.0
Low: 25.9 28.5 30.4 34.9 44.2 50.8 60.0 72.5 76.5 89.2 77.9 84.6

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

18-Month Target Price Range

| Low-High | Midpoint (% to Mid) |
| $75-$160 | $118 (15%) |

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	160	(+60%)	14%
Low	130	(+30%)	9%

Target Price Range 2024 2025 2026

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	256	280	256
to Sell	231	228	258
Hld's(000)	108898	107949	107920

Percent shares traded: 24 16 8

% TOT. RETURN 7/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-4.6	55.5
3 yr.	14.2	48.6
5 yr.	37.6	95.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
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	24.60	25.05	Revenues per sh A	35.50
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	8.55	9.10	"Cash Flow" per sh	10.25
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	5.10	5.45	Earnings per sh AB	6.50
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	2.50	2.70	Div'ds Decl'd per sh C■	3.30
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	15.80	15.75	Cap'l Spending per sh	15.15
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	60.20	68.25	Book Value per sh	87.85
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	133.00	137.00	Common Shs Outst'g D	155.00
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	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	22.5
.86	.73	.84	.82	.83	.84	.90	1.01	.89	.85	.88	1.09	1.11	1.17	1.24	1.13			Relative P/E Ratio	1.25
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	2.3%

CAPITAL STRUCTURE as of 6/30/21
Total Debt $7328.9 mill. Due in 5 Yrs $410.0 mill.
LT Debt $7128.5 mill. LT Interest $370.0 mill.
(LT interest earned: 9.5x; total interest coverage: 9.5x)
Leases, Uncapitalized Annual rentals $20.4 mill.

Pfd Stock None

Pension Assets-9/20 $528.9 mill.
Oblig. $604.2 mill.
Common Stock 130,790,813 shs.
as of 7/30/21

MARKET CAP: $13.2 billion (Large Cap)

						4347.6	3438.5	3886.3	4940.9	4142.1	3349.9	2759.7	3115.5	2901.8	2821.1	3275	3430	Revenues ($mill) A	5500
						199.3	192.2	230.7	289.8	315.1	350.1	382.7	444.3	511.4	580.5	665	735	Net Profit ($mill)	1000
						36.4%	33.8%	38.2%	39.2%	38.3%	36.4%	36.6%	27.0%	21.4%	19.5%	19.0%	20.0%	Income Tax Rate	25.0%
						4.6%	5.6%	5.9%	5.9%	7.6%	10.5%	13.9%	14.3%	17.6%	20.6%	20.3%	21.4%	Net Profit Margin	18.2%
						49.4%	45.3%	48.8%	44.3%	43.5%	38.7%	44.0%	34.3%	38.0%	40.0%	48.0%	45.0%	Long-Term Debt Ratio	40.0%
						50.6%	54.7%	51.2%	55.7%	56.5%	61.3%	56.0%	65.7%	62.0%	60.0%	52.0%	55.0%	Common Equity Ratio	60.0%
						4461.5	4315.5	5036.1	5542.2	5650.2	5651.8	6965.7	7263.6	9279.7	11323	15400	17000	Total Capital ($mill)	22700
						5147.9	5475.6	6030.7	6725.9	7430.6	8280.5	9259.2	10371	11788	13355	14700	15850	Net Plant ($mill)	19100
						6.1%	6.1%	5.9%	6.4%	6.6%	7.2%	6.4%	6.9%	6.1%	5.5%	6.0%	5.5%	Return on Total Cap'l	5.5%
						8.8%	8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.6%	8.5%	8.0%	Return on Shr. Equity	7.5%
						8.8%	8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.6%	8.5%	8.0%	Return on Com Equity	7.5%
						3.3%	2.8%	4.0%	4.7%	4.9%	5.1%	4.9%	4.8%	4.6%	4.4%	4.0%	4.0%	Retained to Com Eq	3.5%
						62%	65%	56%	50%	51%	50%	50%	48%	48%	49%	50%	50%	All Div'ds to Net Prof	51%

BUSINESS: 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.

CURRENT POSITION

($MILL.)	2019	2020	6/30/21
Cash Assets	24.5	20.8	524.6
Other	433.5	450.5	590.8
Current Assets	458.0	471.3	1115.4
Accts Payable	265.0	235.8	280.4
Debt Due	464.9	.2	200.4
Other	479.5	546.4	581.7
Current Liab.	1209.4	782.4	1062.5
Fix. Chg. Cov.	990%	1306%	1315%

ANNUAL RATES

of change (per sh)	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%

QUARTERLY REVENUES ($ mill.) A

Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
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	605.6	435.8	3275
2022	960	1405	580	485	3430

EARNINGS PER SHARE A B E

Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
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	.78	.31	5.10
2022	1.84	2.29	.82	.50	5.45

QUARTERLY DIVIDENDS PAID C■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
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			

Atmos Energy appears to be en route to a solid fiscal 2021 (ends September 30th). Through the first nine months, share net of $4.79 was about 14% above the year-ago figure of $4.21. That was made possible partly by the natural gas distribution division, which benefited from higher rates, mainly in the Mid-Tex, Mississippi, Louisiana, and West Texas units. Customer growth, primarily in the Mid-Tex unit, also helped. Elsewhere, results of the pipeline and storage business received a boost from GRIP filings approved in May, 2020 and May, 2021. Though uncertainties surrounding the coronavirus persist, we expect full-year earnings to rise around 8%, to $5.10 a share, versus fiscal 2020's $4.72 tally. Concerning next year, share net stands to increase at a similar percentage rate, to $5.45, as operating margins expand further.

There's sufficient liquidity to meet various obligations for some time. When June ended, cash and equivalents were $524.6 million. Too, long-term debt was manageable at 48% of total capital, and short-term commitments did not seem to be a major hurdle. What's more, $4 bil-lion in common stock and/or debt securities remained available for issuance (out of $5 billion) under a shelf registration statement that expires in June, 2024. Lastly, Atmos can tap into four revolving credit facilities totaling $2.5 billion plus a $1.5 billion commercial paper program.

Business prospects out to mid-decade look encouraging. The company ranks as one of the country's biggest natural gas-only distributors, with more than three million customers across several states, including Texas, Louisiana, and Mississippi. Furthermore, we believe the pipeline and storage unit has promising overall growth opportunities, given that it operates in one of the most-active drilling regions in the world. Healthy corporate finances are another plus. So, in Atmos' current configuration, annual bottom-line advances may be between 6% and 8% over the 2024-2026 horizon.

These shares, though untimely, possess decent, risk-adjusted total return potential. Long-term capital gains possibilities are worthwhile. Dividend growth prospects appear promising, as well.
Frederick L. Harris, III   August 27, 2021

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. gains (loss): '10, 5¢; '11, (1¢); '18, $1.43; '20, 17¢. Excludes discontinued operations: '11, 10¢; '12, 27¢; '13, 14¢; '17, 13¢. Next egs. rpt. due early Nov. (C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail. (D) In millions. (E) Qtrs may not add due to change in shrs outstanding.

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

NEW JERSEY RES. NYSE-NJR

RECENT PRICE	37.88	
P/E RATIO	16.3	(Trailing: 14.3 / Median: 17.0)
RELATIVE P/E RATIO	0.85	
DIV'D YLD	3.5%	

VALUE LINE

TIMELINESS	4	Lowered 8/20/21
SAFETY	2	Lowered 4/17/20
TECHNICAL	2	Lowered 8/13/21
BETA	1.00	(1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$16-$51	$34 (-10%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+30%)	10%
Low	35	(-10%)	2%

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	129	132	105
to Sell	105	118	139
Hld's(000)	69155	71013	68468

LEGENDS
- 0.40 x Dividends p sh divided by Interest Rate
- ---- Relative Price Strength
- 3-for-2 split 3/08
- 2-for-1 split 3/15
- Options: Yes
- Shaded area indicates recession

High: 22.0 25.2 25.1 23.8 32.1 34.1 38.9 45.4 51.8 51.2 44.7 44.4
Low: 16.7 19.8 19.3 19.5 21.9 26.8 30.5 33.7 35.6 40.3 21.1 33.3

Target Price Range 2024 2025 2026

Percent shares traded: 30 / 20 / 10

% TOT. RETURN 7/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	28.7	55.5
3 yr.	-8.3	48.6
5 yr.	20.2	95.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
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	20.90	26.55	Revenues per sh A	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	3.50	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	2.20	2.40	Earnings per sh B	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 C■	1.65
.64	.64	.73	.86	.90	1.05	1.13	1.26	1.33	1.52	3.76	4.15	3.80	4.39	5.83	4.65	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	20.35	21.55	Book Value per sh D	24.65
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 E	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 6/30/21

Total Debt $2420.9 mill. Due in 5 Yrs $420.5 mill.
LT Debt $2221.6 mill. LT Interest $47.1 mill.
Incl. $54.9 mill. capitalized leases.
(LT interest earned: 5.0x; total interest coverage: 5.0x)

Pension Assets-9/20 $404.4 mill.
Oblig. $643.0 mill.

Pfd Stock None

Common Stock 96,433,901 shs.
as of 8/2/21

MARKET CAP: $3.7 billion (Mid Cap)

CURRENT POSITION	2019	2020	6/30/21
($MILL.)			
Cash Assets	2.7	117.0	4.7
Other	508.9	505.3	513.6
Current Assets	511.6	622.3	518.3
Accts Payable	295.9	270.1	310.8
Debt Due	46.9	152.6	199.3
Other	103.6	111.0	103.5
Current Liab.	446.4	533.7	613.6
Fix. Chg. Cov.	545%	545%	550%

	3009.2	2248.9	3198.1	3738.1	2734.0	1880.9	2268.6	2915.1	2592.0	1953.7	2025	2600	Revenues ($mill) A	2840
	106.5	112.4	113.7	176.9	153.7	138.1	149.4	240.5	175.0	196.2	215	235	Net Profit ($mill)	260
	30.2%	7.1%	25.4%	30.2%	26.3%	15.5%	17.2%	- -	NMF	5.0%	5.0%	5.0%	Income Tax Rate	5.0%
	3.5%	5.0%	3.6%	4.7%	5.6%	7.3%	6.6%	8.2%	6.7%	10.0%	10.6%	9.1%	Net Profit Margin	9.1%
	35.5%	39.2%	36.6%	38.2%	43.2%	47.7%	44.6%	45.4%	49.8%	55.1%	54.0%	54.0%	Long-Term Debt Ratio	53.0%
	64.5%	60.8%	63.4%	61.8%	56.8%	52.3%	55.4%	54.6%	50.2%	44.9%	46.0%	46.0%	Common Equity Ratio	47.0%
	1203.1	1339.0	1400.3	1564.4	1950.6	2230.1	2233.7	2599.6	3088.9	4104.2	4275	4610	Total Capital ($mill)	5265
	1295.9	1484.9	1643.1	1884.1	2128.3	2407.7	2609.7	2651.0	3041.2	3983.0	4065	4145	Net Plant ($mill)	4400
	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%
	13.7%	13.8%	12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	10.6%	11.0%	11.0%	Return on Shr. Equity	10.5%
	13.7%	13.8%	12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	10.6%	11.0%	11.0%	Return on Com Equity	10.5%
	6.2%	6.2%	5.2%	11.0%	7.0%	4.8%	5.0%	10.2%	4.6%	4.3%	4.5%	4.5%	Retained to Com Eq	3.5%
	55%	55%	59%	40%	50%	60%	59%	40%	59%	60%	61%	59%	All Div'ds to Net Prof	64%

BUSINESS: 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 empls. Off./dir. own 1.3% of common; BlackRock, 14.3%; Vanguard, 8% (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.

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-2.5%	-6.5%	.5%
"Cash Flow"	7.0%	7.0%	3.0%
Earnings	6.0%	5.5%	2.0%
Dividends	7.0%	6.5%	5.5%
Book Value	7.5%	8.5%	6.0%

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A				Full Fiscal Year
	Dec.31	Mar.31	Jun.30	Sep.30	
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	367.6	400.9	2025
2022	600	945	505	550	2600

Fiscal Year Ends	EARNINGS PER SHARE A B				Full Fiscal Year
	Dec.31	Mar.31	Jun.30	Sep.30	
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.15	.12	2.20
2022	.50	1.85	d.13	.18	2.40

Cal-endar	QUARTERLY DIVIDENDS PAID C■				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2017	.255	.255	.255	.273	1.04
2018	.273	.273	.273	.2925	1.11
2019	.2925	.2925	.2925	.3125	1.19
2020	.3125	.3125	.3125	.3325	1.27
2021	.3325	.3325	.3325		

Since our May review, shares of New Jersey Resources have corrected moderately. In fact, over that time frame, the stock's price has receded approximately 9.5%. This likely reflects the challenging operating environment that has persisted for some time.

The company recently posted somewhat mixed June-period financial results. For the second quarter, revenues increased nearly 23%, to $367.6 million, thanks to a more-than-40% rise in nonutility volumes, partially offset by a low single-digit decline in regulated utility volumes. On the profitability front, total operating expenses increased 180 basis points as a function of the top line. After accounting for a sizable increase in interest expense and taxes, NJR's bottom line loss fell 2.5 times deeper into the red, to a deficit of $0.15. That said, this was still markedly better than our estimate for a loss of $0.20.

As a result, we have added a nickel to our 2021 share-net estimate, bringing that figure to $2.20. Our revised figure would represent an annual earnings advance of nearly 6.5%. This ought to be sup-ported by an estimated top-line increase of about 3.5%, to roughly $2.1 billion. A primary driver this year will likely be the incremental contributions from the nonutility operations, particularly the Energy Services arm, which has been performing quite well, of late. Meanwhile, the New Jersey Natural Gas regulated utility business added 5,448 new customers over the first nine months of this fiscal year. However, that unit has been experiencing an uptick in bad-debt accounts, likely stemming from the COVID-19 pandemic and the loss of associated jobs. Elsewhere, other developments like the Southern Reliability Link project, which is anticipated to go into service this month, and a pending base-rate increase of about $165 million at the NJNG division should also be nicely additive.

These untimely shares appear richly valued at this time. NJR's stock price already reflects the bulk of the earnings growth potential we project for the pull to 2024-2026. Alternatively, the equity does offer attractive dividend growth potential and an above-average yield.

Bryan J. Fong   August 27, 2021

(A) Fiscal year ends Sept. 30th.
(B) Diluted earnings. Qtly. revenues and egs. may not sum to total due to rounding and change in shares outstanding. Next earnings report due early Nov.
(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	55
Earnings Predictability	55

N.W. NATURAL NYSE-NWN

| RECENT PRICE | 53.04 | P/E RATIO | 20.2 (Trailing: 18.9 / Median: 24.0) | RELATIVE P/E RATIO | 1.06 | DIV'D YLD | 3.6% | VALUE LINE |

High:	50.9	49.0	50.8	46.6	52.6	52.3	66.2	69.5	71.8	74.1	77.3	56.8
Low:	41.1	39.6	41.0	40.0	40.1	42.0	48.9	56.5	51.5	57.2	42.3	41.7

TIMELINESS 4 Lowered 6/11/21
SAFETY 3 Lowered 3/19/21
TECHNICAL 5 Lowered 8/13/21
BETA .85 (1.00 = Market)

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

18-Month Target Price Range
Low-High   Midpoint (% to Mid)
$26-$67 $47 (-10%)

2024-26 PROJECTIONS
	Price	Gain	Ann'l Total Return
High	90	(+70%)	17%
Low	60	(+15%)	7%

Institutional Decisions
	3Q2020	4Q2020	1Q2021
to Buy	92	99	103
to Sell	94	85	89
Hld's(000)	21896	22201	21451

Percent shares traded: 15 / 10 / 5

Target Price Range 2024 2025 2026

% TOT. RETURN 7/21
	THIS STOCK	VL ARITH.* INDEX
1 yr.	1.7	55.5
3 yr.	-12.1	48.6
5 yr.	-6.2	95.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
33.01	37.20	39.13	39.16	38.17	30.56	31.72	27.14	28.02	27.64	26.39	23.61	26.52	24.45	24.49	25.29	26.75	27.75	Revenues per sh	31.10
4.34	4.76	5.41	5.31	5.20	5.18	5.00	4.94	5.04	5.05	4.91	4.93	1.04	5.28	5.15	5.69	5.85	6.10	"Cash Flow" per sh	6.85
2.11	2.35	2.76	2.57	2.83	2.73	2.39	2.22	2.24	2.16	1.96	2.12	d1.94	2.33	2.19	2.30	2.60	2.70	Earnings per sh A	3.10
1.32	1.39	1.44	1.52	1.60	1.68	1.75	1.79	1.83	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93	Div'ds Decl'd per sh B■	1.96
3.48	3.56	4.48	3.92	5.09	9.35	3.76	4.91	5.13	4.40	4.37	4.87	7.43	7.43	7.95	9.18	8.40	8.70	Cap'l Spending per sh	9.40
21.28	22.01	22.52	23.71	24.88	26.08	26.70	27.23	27.77	28.12	28.47	29.71	25.85	26.41	28.42	29.05	33.85	37.10	Book Value per sh D	45.30
27.58	27.24	26.41	26.50	26.53	26.58	26.76	26.92	27.08	27.28	27.43	28.63	28.74	28.88	30.47	30.59	31.00	31.00	Common Shs Outst'g C	32.00
17.0	15.9	16.7	18.1	15.2	17.0	19.0	21.1	19.4	20.7	23.7	26.9	- -	26.6	30.9	25.0	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	24.0
.91	.86	.89	1.09	1.01	1.08	1.19	1.34	1.09	1.09	1.19	1.41	- -	1.44	1.65	1.30			Relative P/E Ratio	1.35
3.7%	3.7%	3.1%	3.3%	3.7%	3.6%	3.9%	3.8%	4.2%	4.1%	4.0%	3.3%	3.0%	3.0%	2.8%	3.3%			Avg Ann'l Div'd Yield	2.6%

CAPITAL STRUCTURE as of 6/30/21
Total Debt $1215.8 mill. Due in 5 Yrs $360.2 mill.
LT Debt $915.5 mill. LT Interest $43.1 mill.
(Total interest coverage: 3.1x)

Pension Assets-12/20 $373.9 mill.
Oblig. $595.2 mill.
Pfd Stock None

Common Stock 30,670,722 shares as of 7/23/21

MARKET CAP $1.6 billion (Mid Cap)

848.8	730.6	758.5	754.0	723.8	676.0	762.2	706.1	746.4	773.7	830	860	Revenues ($mill)	995
63.9	59.9	60.5	58.7	53.7	58.9	d55.6	67.3	65.3	70.3	80.0	85.0	Net Profit ($mill)	100
40.4%	42.4%	40.8%	41.5%	40.0%	40.9%	- -	26.4%	16.2%	23.1%	21.0%	21.0%	Income Tax Rate	21.0%
7.5%	8.2%	8.0%	7.8%	7.4%	8.7%	NMF	9.5%	8.8%	9.1%	9.6%	9.9%	Net Profit Margin	10.1%
47.3%	48.5%	47.6%	44.8%	42.5%	44.4%	47.9%	48.1%	48.2%	49.2%	49.0%	46.5%	Long-Term Debt Ratio	43.0%
52.7%	51.5%	52.4%	55.2%	57.5%	55.6%	52.1%	51.9%	51.8%	50.8%	51.0%	53.5%	Common Equity Ratio	57.0%
1356.2	1424.7	1433.6	1389.0	1357.7	1529.8	1426.0	1468.9	1672.0	1748.8	2050	2150	Total Capital ($mill)	2550
1893.9	1973.6	2062.9	2121.6	2182.7	2260.9	2255.0	2421.4	2438.9	2654.8	2640	2750	Net Plant ($mill)	3105
6.2%	5.7%	5.8%	5.8%	5.5%	5.1%	NMF	5.8%	5.2%	5.2%	4.0%	4.0%	Return on Total Cap'l	4.0%
8.9%	8.2%	8.1%	7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	7.5%	7.5%	Return on Shr. Equity	7.0%
8.9%	8.2%	8.1%	7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	7.5%	7.5%	Return on Com Equity	7.0%
2.4%	1.6%	1.5%	1.1%	.6%	.9%	NMF	2.1%	1.4%	1.7%	2.0%	2.0%	Retained to Com Eq	2.5%
73%	80%	81%	85%	92%	87%	NMF	76%	82%	79%	74%	72%	All Div'ds to Net Prof	63%

CURRENT POSITION ($MILL.)
	2019	2020	6/30/21
Cash Assets	9.6	30.2	20.1
Other	284.1	293.0	253.7
Current Assets	293.7	323.2	273.8
Accts Payable	113.4	97.9	97.9
Debt Due	224.2	399.9	330.3
Other	144.6	129.3	144.3
Current Liab.	482.2	627.1	572.5
Fix. Chg. Cov.	336%	335%	312%

ANNUAL RATES
of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	-3.5%	-2.0%	4.0%
"Cash Flow"	.5%	1.5%	4.0%
Earnings	-1.5%	1.5%	5.5%
Dividends	1.5%	.5%	.5%
Book Value	1.0%	- -	8.5%

QUARTERLY REVENUES ($ mill.)
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	264.7	124.6	91.2	226.7	706.1
2019	285.4	123.4	90.3	247.3	746.4
2020	285.2	135.0	93.3	260.2	773.7
2021	315.9	148.9	110	255.2	830
2022	320	150	120	270	860

EARNINGS PER SHARE A
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	1.46	d.01	d.39	1.27	2.33
2019	1.50	.07	d.61	1.26	2.19
2020	1.58	d.17	d.61	1.50	2.30
2021	1.94	d.02	d.60	1.28	2.60
2022	1.96	.01	d.57	1.30	2.70

QUARTERLY DIVIDENDS PAID B ■
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.47	.47	.47	.4725	1.88
2018	.4725	.4725	.4725	.475	1.89
2019	.475	.475	.475	.4775	1.90
2020	.4775	.4775	.4775	.48	1.91
2021	.48	.48	.48		

BUSINESS: 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.

Northwest Natural Holding recently posted better-than-expected June-quarter financial results. To that point, revenues increased 10.3%, to $148.9 million thanks to new rates in Oregon, additional customer accounts, and reduced economic headwinds from the COVID-19 pandemic. On the profitability front, total expenses declined 190 basis points, as a percentage of the top line. After accounting for a drop in interest expenses as well, NWN's share deficit was reduced by nearly 90%, to $0.02. This was markedly above our call for a loss of $0.10.

As a result, we have raised our earnings outlook for 2021 and 2022 by a nickel each, to $2.60 and $2.70, respectively. In the current year, our revised figure would represent a share-net increase of approximately 13%. This ought to be supported by a nearly 7.5% rise in revenues, to $830 million. The company has been quite successful at adding new customer meters despite the challenging operating environment. This is evident in the Natural Gas Distribution business gaining 12,000 new accounts over the past year. Additional benefits stemmed from an increase in its base rate in Oregon that went into effect last November. Elsewhere, the NW Natural Water Company continues to grow through the acquisition of water and waster water utilities. Those efforts are helping to expand that unit's geographic footprint while providing clean and reliable service to its customers.

The balance sheet is in good shape. Although cash reserves fell 33% so far this year, that financial cushion still sits at about $20 million. Meanwhile, the long-term debt load receded a bit and sits at about 50% of total capital, which is on the lower end for this industry.

Since our May review, these shares have fallen one notch in Timeliness. At this point, our Ranking System suggests NWN stock will lag the broader market averages in the coming year. However, a near term correction may provide an attractive opportunity for income-seeking accounts. The stock does offer an above-average dividend yield. At the same time, the equity is also positioned for worthwhile recovery potential over the coming 3- to 5-year time frame.

Bryan J. Fong   August 27, 2021

(A) Diluted earnings per share. Excludes nonrecurring items: '06, ($0.06); '08, ($0.03); '09, $0.06; May not sum due to rounding. Next earnings report due in early Nov.
(B) Dividends historically paid in mid-February, May, August, and November. ■ Dividend reinvestment plan available.
(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	35
Earnings Predictability	5

To subscribe call 1-800-VALUELINE

ONE GAS, INC. NYSE-OGS

RECENT PRICE **72.94**	P/E RATIO **18.7** (Trailing: 19.0 / Median: NMF)	RELATIVE P/E RATIO **0.98**
DIV'D YLD **3.3%**		VALUE LINE

TIMELINESS 4 Lowered 6/11/21
SAFETY 2 New 6/2/17
TECHNICAL 4 Raised 7/23/21
BETA .80 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$57-$116 $87 (20%)

2024-26 PROJECTIONS
	Price	Gain	Ann'l Total Return
High	145	(+100%)	21%
Low	105	(+45%)	12%

Institutional Decisions
	3Q2020	4Q2020	1Q2021
to Buy	130	123	127
to Sell	151	163	144
Hld's(000)	42057	42726	42395

Percent shares traded: 21 / 14 / 7

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

High: 44.3 51.8 67.4 79.5 87.8 96.7 97.0 81.9
Low: 31.9 38.9 48.0 61.4 62.2 75.8 63.7 66.8

Target Price Range 2024 2025 2026

% TOT. RETURN 7/21
	THIS STOCK	VL ARITH.* INDEX
1 yr.	0.4	55.5
3 yr.	2.8	48.6
5 yr.	28.0	95.5

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
Revenues per sh	--	--	--	34.92	29.62	27.30	29.43	31.08	31.32	28.78	*31.30*	*33.85*		43.00
"Cash Flow" per sh	--	--	--	4.52	4.82	5.43	5.96	6.32	6.96	7.36	*7.75*	*8.20*		9.75
Earnings per sh A	--	--	--	2.07	2.24	2.65	3.02	3.25	3.51	3.68	*3.85*	*4.05*		5.00
Div'ds Decl'd per sh B■	--	--	--	.84	1.20	1.40	1.68	1.84	2.00	2.16	*2.32*	*2.48*		2.95
Cap'l Spending per sh	--	--	--	5.70	5.63	5.91	6.81	7.50	7.91	8.87	*9.00*	*9.20*		9.75
Book Value per sh	--	--	--	34.45	35.24	36.12	37.47	38.86	40.35	42.01	*44.40*	*48.45*		74.40
Common Shs Outst'g C	--	--	--	52.08	52.26	52.28	52.31	52.57	52.77	53.17	*53.50*	*53.50*		57.00
Avg Ann'l P/E Ratio	--	--	--	17.8	19.8	22.7	23.5	23.1	25.3	21.7	*Bold figures are Value Line estimates*			25.0
Relative P/E Ratio	--	--	--	.94	1.00	1.19	1.18	1.25	1.35	1.11				1.40
Avg Ann'l Div'd Yield	--	--	--	2.3%	2.7%	2.3%	2.4%	2.5%	2.3%	2.7%				2.4%
Revenues ($mill)	--	--	--	1818.9	1547.7	1427.2	1539.6	1633.7	1652.7	1530.3	*1675*	*1810*		2450
Net Profit ($mill)	--	--	--	109.8	119.0	140.1	159.9	172.2	186.7	196.4	*205*	*215*		285
Income Tax Rate	--	--	--	38.4%	38.0%	37.8%	36.4%	23.7%	18.7%	17.5%	*17.0%*	*17.5%*		22.0%
Net Profit Margin	--	--	--	6.0%	7.7%	9.8%	10.4%	10.5%	11.3%	12.8%	*12.2%*	*11.9%*		11.6%
Long-Term Debt Ratio	--	--	--	40.1%	39.5%	38.7%	37.8%	38.6%	37.7%	41.5%	*64.0%*	*62.0%*		47.0%
Common Equity Ratio	--	--	--	59.9%	60.5%	61.3%	62.2%	61.4%	62.3%	58.5%	*36.0%*	*38.0%*		53.0%
Total Capital ($mill)	--	--	--	2995.3	3042.9	3080.7	3153.5	3328.1	3415.5	3815.7	*6600*	*6820*		8000
Net Plant ($mill)	--	--	--	3293.7	3511.9	3731.6	4007.6	4283.7	4565.2	4867.1	*5150*	*5380*		6000
Return on Total Cap'l	--	--	--	4.4%	4.7%	5.2%	5.8%	5.9%	6.4%	6.0%	*5.0%*	*5.0%*		5.0%
Return on Shr. Equity	--	--	--	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	*8.5%*	*8.5%*		6.5%
Return on Com Equity	--	--	--	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	*8.5%*	*8.5%*		6.5%
Retained to Com Eq	--	--	--	3.7%	3.1%	3.5%	3.7%	3.7%	3.8%	3.7%	*3.5%*	*3.0%*		3.0%
All Div'ds to Net Prof	--	--	--	40%	53%	52%	55%	56%	56%	58%	*61%*	*62%*		59%

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.

CAPITAL STRUCTURE as of 6/30/21
Total Debt $4082.8 mill. Due in 5 Yrs $1020.0 mill.
LT Debt $4082.8 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 53,500,783 shs.
as of 7/26/21
MARKET CAP: $3.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)
	2019	2020	6/30/21
Cash Assets	17.9	8.0	209.1
Other	488.3	531.9	394.6
Current Assets	506.2	539.9	603.7
Accts Payable	120.5	152.3	158.4
Debt Due	516.5	418.2	--
Other	235.7	226.6	210.9
Current Liab.	872.7	797.1	369.3
Fix. Chg. Cov.	567%	587%	595%

ANNUAL RATES
of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 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%

QUARTERLY REVENUES ($ mill.)
Calendar	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	315.6	*257*	*477.1*	*1675*
2022	*650*	*355*	*300*	*505*	*1810*

EARNINGS PER SHARE A
Calendar	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	.56	*.42*	*1.08*	*3.85*
2022	*1.85*	*.60*	*.47*	*1.13*	*4.05*

QUARTERLY DIVIDENDS PAID B■
Calendar	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	.58		

BUSINESS: 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: Robert S. McAnnally. Incorporated: Oklahoma. Address: 15 East Fifth Street, Tulsa, Oklahoma 74103. Tel.: 918-947-7000. Internet: www.onegas.com.

Profits for ONE Gas have been decent so far this year. In fact, through the first half, share net of $2.35 was 7% higher than the 2020 tally of $2.20. That stemmed partly from benefits from new rates, primarily in Texas and Oklahoma. Another plus was an expanded customer base in Oklahoma and Texas. The effective income tax rate was lower, too. Although the company is not out of the woods yet as far as COVID-19 goes, it seems that full-year earnings will advance almost 5%, to $3.85 a share, relative to the 2020 figure of $3.68. Assuming additional expansion of operating margins in 2022, share net stands to increase at a similar percentage rate, to $4.05.

There's a new CEO. Pierce H. Norton II stepped down in late June to become the head of ONEOK Inc. (ONE Gas was spun off from that company in early 2014 via the distribution of OGS common stock to ONEOK shareholders.) His successor, Robert S. McAnnally, has held some important positions since coming on board six years ago, the latest one being chief operating officer. So, we believe ONE Gas is in capable hands.

Prospects out to mid-decade appear promising. The company remains the top natural gas distributor (as measured by customer count) in both Oklahoma and Kansas, and holds the number-three spot in Texas. Furthermore, we think those markets have decent growth possibilities and are located in one of the most active drilling regions in the United States. Too, ONE Gas seems capable of meeting its working capital requirements, capital expenditures, and other obligations for a while.

There are risks to consider, however. The company's lack of geographic diversification leaves it somewhat more vulnerable to regional economic downturns and regulations. Also, there's competition from other energy suppliers, including electric companies and propane dealers. Finally, pipeline ruptures, leaks, and other unfortunate occurrences can take a big bite out of profits if not adequately covered by insurance.

The stock, though untimely, may appeal to total return-minded investors with a long-term stance.
Frederick L. Harris, III   August 27, 2021

(A) Diluted EPS. Excludes nonrecurring gain: 2017, $0.06. Next earnings report due early Nov. 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	70
Earnings Predictability	100

SOUTH JERSEY INDS. NYSE-SJI

RECENT PRICE	25.32	P/E RATIO	14.8 (Trailing: 26.7 / Median: 19.0)	RELATIVE P/E RATIO	0.77	DIV'D YLD	5.1%	VALUE LINE

TIMELINESS 5 Lowered 5/28/21
SAFETY 3 Lowered 8/28/20
TECHNICAL 2 Raised 7/23/21
BETA 1.05 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$10-$36 $23 (-10%)

2024-26 PROJECTIONS
	Price	Gain	Ann'l Total Return
High	50	(+95%)	22%
Low	35	(+40%)	13%

High: 27.1 29.0 29.0 31.1 30.6 30.4 34.8 38.4 36.7 34.5 33.4 29.2
Low: 18.6 21.4 22.9 25.3 25.9 21.2 22.1 30.8 26.0 26.6 18.2 20.8

Target Price Range 2024 2025 2026

LEGENDS
0.70 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 5/15
Options: Yes
Shaded area indicates recession

Institutional Decisions
	3Q2020	4Q2020	1Q2021
to Buy	132	110	141
to Sell	64	91	89
Hld's(000)	85672	110377	102245

Percent shares traded: 15 10 5

% TOT. RETURN 7/21
	THIS STOCK	VL ARITH.* INDEX
1 yr.	11.7	55.5
3 yr.	-17.1	48.6
5 yr.	-5.7	95.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
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	16.05	16.95	Revenues per sh	20.85
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	2.70	3.00	"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	1.65	1.85	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	4.90	5.65	Cap'l Spending per sh	7.50
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	16.75	17.40	Book Value per sh C	20.85
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	112.00	115.00	Common Shs Outst'g D	120.00
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		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			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%			Avg Ann'l Div'd Yield	3.5%

CAPITAL STRUCTURE as of 6/30/21
Total Debt $3293.1 mill. Due in 5 Yrs $380.1 mill.
LT Debt $3177.4 mill. LT Interest $100 mill.

Leases, Uncapitalized Annual rentals $1.2 mill.
Pension Assets-12/20 $331 mill.
Oblig. $481.8 mill.
Pfd Stock None

Common Stock 112,447,099 shs.
as of 8/1/21

MARKET CAP: $2.8 billion (Mid Cap)

828.6	706.3	731.4	887.0	959.6	1036.5	1243.1	1641.3	1628.6	1541.4	1800	1950	Revenues ($mill)	2500
87.0	93.3	97.1	104.0	99.0	102.8	98.1	116.2	103.0	163.0	180	205	Net Profit ($mill)	320
22.4%	10.8%	- -	- -	5.9%	42.0%	- -	- -	- -	9.9%	22.0%	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%	10.0%	10.5%	Net Profit Margin	12.8%
40.5%	45.0%	45.1%	48.0%	49.2%	38.5%	48.5%	62.4%	59.2%	62.6%	63.5%	63.5%	Long-Term Debt Ratio	61.5%
59.5%	55.0%	54.9%	52.0%	50.8%	61.5%	51.5%	37.6%	40.8%	37.4%	36.5%	36.5%	Common Equity Ratio	38.5%
1048.3	1337.6	1507.4	1791.9	2043.9	2097.2	2315.4	3373.9	3493.9	4437.3	5125	5450	Total Capital ($mill)	6500
1352.4	1578.0	1859.1	2134.1	2448.1	2623.8	2700.2	3653.5	4073.5	4464.2	4800	5150	Net Plant ($mill)	5800
8.9%	7.4%	6.8%	6.4%	5.4%	5.4%	5.1%	4.4%	4.0%	4.8%	4.5%	4.5%	Return on Total Cap'l	6.0%
13.9%	12.7%	11.7%	11.2%	9.5%	8.0%	8.2%	9.2%	7.2%	9.8%	9.5%	10.5%	Return on Shr. Equity	13.0%
13.9%	12.7%	11.7%	11.2%	9.5%	8.0%	8.2%	9.2%	7.2%	9.8%	9.5%	10.5%	Return on Com Equity	13.0%
6.7%	5.8%	4.8%	4.3%	2.8%	1.6%	.9%	1.7%	NMF	2.9%	2.0%	2.5%	Retained to Com Eq	5.5%
52%	55%	59%	61%	71%	80%	89%	82%	104%	70%	78%	74%	All Div'ds to Net Prof	56%

CURRENT POSITION ($MILL.)
	2019	2020	6/30/21
Cash Assets	6.4	34.0	87.9
Other	646.1	472.8	439.1
Current Assets	652.5	506.8	527.0
Accts Payable	232.2	256.6	226.1
Debt Due	1316.6	739.2	115.7
Other	183.1	167.8	247.8
Current Liab.	1731.9	1163.6	589.6
Fix. Chg. Cov.	176%	238%	254%

ANNUAL RATES
of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	1.5%	6.5%	3.0%
"Cash Flow"	4.5%	3.0%	6.0%
Earnings	1.5%	-1.5%	11.5%
Dividends	6.5%	4.0%	4.5%
Book Value	5.5%	2.5%	5.0%

QUARTERLY REVENUES ($ mill.)
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	521.9	227.3	302.5	589.6	1641.3
2019	637.3	266.9	261.2	463.2	1628.6
2020	534.1	260.0	261.5	485.8	1541.4
2021	674.3	311.8	295	518.9	1800
2022	650	335	330	635	1950

EARNINGS PER SHARE A
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	1.19	.07	d.27	.39	1.38
2019	1.09	d.13	d.30	.46	1.12
2020	1.15	d.01	d.06	.62	1.68
2021	1.26	.02	d.15	.52	1.65
2022	1.32	.02	d.07	.58	1.85

QUARTERLY DIVIDENDS PAID B■
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	- -	.273	.273	.553	1.10
2018	- -	.280	.280	.567	1.13
2019	- -	.287	.287	.582	1.16
2020	- -	.295	.295	.598	1.19
2021	- -	.303	.303		

BUSINESS: 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.

Shares of South Jersey Industries have traded in a fairly narrow range in recent months. The company reported solid results for the June quarter. The top line increased roughly 20%, on a year-over-year basis. Adjusted earnings per share of $0.02 marked a nice improvement over the prior-year deficit of $0.01. Utility South Jersey Gas benefited from continued growth in the customer base as well as infrastructure modernization programs. An increase in adjusted earnings here was partly offset by losses incurred at Elizabethtown Gas, owing to greater operating and depreciation expenses. Meanwhile, the Energy Management business has capitalized on improved asset optimization opportunities and additional fuel management contracts. Elsewhere, fuel cell and solar investments have paid off at the Energy Production segment. On a GAAP basis, South Jersey reported a share deficit of $0.87 for the recent interim. This was mostly due to an impairment charge of $87.4 million ($0.79 per share) related to the company's investment in the Penn East Pipeline.

Long-term prospects appear to be relatively favorable here. The company's utility business ought to further benefit from healthy customer growth, rate relief, and infrastructure modernization programs that allow it to enhance the reliability of its systems and earn an authorized return on these investments. Demand for natural gas should continue to rise within the company's service territories. We anticipate good performance on the nonutility side, as well. This should be driven by solid results at the Energy Management's Wholesale Services line. Measures by the company to control operating expenses will likely support profitability, too.

This stock is ranked to underperform the broader market averages for the coming six to 12 months. Looking further out, we anticipate solid growth in earnings per share for the company over the pull to mid-decade. From the recent quotation, this stock offers attractive long-term total return potential. This is supported by a generous dividend yield. All told, patient, income-seeking subscribers may want to take a closer look.
Michael Napoli, CFA   August 27, 2021

(A) Based on economic egs. 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. nonrecur. 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 egs. rpt. due early November. (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	20
Earnings Predictability	65

SOUTHWEST GAS NYSE-SWX

RECENT PRICE	72.17	P/E RATIO	16.9 (Trailing: 15.7 / Median: 19.0)	RELATIVE P/E RATIO	0.88	DIV'D YLD	3.4%	VALUE LINE

TIMELINESS	4	Lowered 8/6/21
SAFETY	3	Lowered 1/4/91
TECHNICAL	5	Lowered 7/16/21
BETA	.95	(1.00 = Market)

High/Low annual range:

	High	Low
	37.3	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

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

Target Price Range 2024 2025 2026

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$31-$88	$60 (-20%)

2024-26 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(+65%)	16%
Low	80	(+10%)	6%

Institutional Decisions

	3Q2020	4Q2020	1Q2021
to Buy	116	140	144
to Sell	137	123	132
Hld's(000)	46991	48058	48499

Percent shares traded: 15 10 5

% TOT. RETURN 7/21

	THIS STOCK	VL ARITH.* INDEX
1 yr.	3.9	55.5
3 yr.	-3.0	48.6
5 yr.	2.9	95.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
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	59.00	62.30	Revenues per sh	69.25
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	10.40	10.90	"Cash Flow" per sh	13.75
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	4.35	4.55	Earnings per sh A	6.25
.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	2.38	2.48	Div'ds Decl'd per sh B■†	2.80
7.49	8.27	7.96	6.79	4.81	4.73	8.29	8.57	7.86	8.53	10.30	11.15	12.97	14.44	17.06	14.43	11.85	14.75	Cap'l Spending per sh	22.30
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	49.15	52.05	Book Value per sh	66.90
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	Common Shs Outst'g C	65.00
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		Avg Ann'l P/E Ratio	16.0
1.10	.86	.92	1.22	.81	.89	.98	.95	.89	.94	.98	1.13	1.12	1.11	1.13	.87	Value Line		Relative P/E Ratio	.90
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%	estimates		Avg Ann'l Div'd Yield	2.8%

CAPITAL STRUCTURE as of 6/30/21

Total Debt $3116.2 mill. **Due in 5 Yrs** $750.9 mill.
LT Debt $2478.8 mill. **LT Interest** $100.0 mill.
(Total interest coverage: 4.2x) (45% 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 59,093,403 shs.
as of 7/30/21

MARKET CAP: $4.3 billion (Mid Cap)

1887.2	1927.8	1950.8	2121.7	2463.6	2460.5	2548.8	2880.0	3119.9	3298.9	3480	3800	Revenues ($mill)	4500
112.3	133.3	145.3	141.1	138.3	152.0	173.8	182.3	213.9	232.3	255	275	Net Profit ($mill)	395
36.2%	36.2%	35.0%	35.7%	36.4%	33.9%	32.8%	25.3%	20.5%	21.6%	21.0%	21.0%	Income Tax Rate	21.0%
6.0%	6.9%	7.4%	6.7%	5.6%	6.2%	6.8%	6.3%	6.9%	7.0%	7.3%	7.2%	Net Profit Margin	8.8%
43.2%	49.2%	49.4%	52.4%	49.3%	48.2%	49.8%	48.3%	47.9%	50.5%	54.5%	54.0%	Long-Term Debt Ratio	49.0%
56.8%	50.8%	50.6%	47.6%	50.7%	51.8%	50.2%	51.7%	52.1%	49.5%	45.5%	46.0%	Common Equity Ratio	51.0%
2155.9	2576.9	2793.7	3123.9	3143.5	3213.5	3613.3	4359.3	4806.4	5407.2	6400	6875	Total Capital ($mill)	8550
3218.9	3343.8	3486.1	3658.4	3891.1	4132.0	4523.7	5093.2	5685.2	6176.1	6800	7200	Net Plant ($mill)	8400
6.4%	6.4%	6.3%	5.7%	5.5%	5.8%	5.8%	5.2%	5.4%	5.3%	5.0%	5.0%	Return on Total Cap'l	5.5%
9.2%	10.2%	10.3%	9.5%	8.7%	9.1%	9.6%	8.1%	8.5%	8.7%	9.0%	8.5%	Return on Shr. Equity	9.0%
9.2%	10.2%	10.3%	9.5%	8.7%	9.1%	9.6%	8.1%	8.5%	8.7%	9.0%	8.5%	Return on Com Equity	9.0%
5.3%	6.1%	6.1%	5.0%	4.0%	4.1%	4.5%	3.6%	3.9%	4.0%	4.0%	4.0%	Retained to Com Eq	5.0%
43%	40%	41%	47%	54%	55%	53%	55%	54%	54%	55%	55%	All Div'ds to Net Prof	46%

CURRENT POSITION ($MILL.)

	2019	2020	6/30/21
Cash Assets	49.5	83.4	47.6
Other	810.4	787.6	959.2
Current Assets	859.9	871.0	1006.8
Accts Payable	238.9	231.3	182.3
Debt Due	374.5	147.4	637.4
Other	466.5	533.3	452.7
Current Liab.	1079.9	912.0	1272.4
Fix. Chg. Cov.	340%	379%	513%

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
Revenues	2.5%	4.0%	3.5%
"Cash Flow"	4.0%	1.5%	7.0%
Earnings	7.5%	5.5%	8.0%
Dividends	8.5%	8.0%	4.5%
Book Value	6.0%	7.0%	7.0%

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
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	821.4	835	937.7	3480
2022	950	900	925	1025	3800

EARNINGS PER SHARE A D

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
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	.43	.20	1.69	4.35
2022	1.95	.55	.27	1.78	4.55

QUARTERLY DIVIDENDS PAID B■†

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
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			

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 through-put: 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.

Southwest Gas reported mixed results for the second quarter. The company posted revenue of $821.4 million, an advance of roughly 8% on a year-over-year basis. Southwest's utility operations benefited from rate relief and growth in the customer base. Elsewhere, Centuri experienced greater demand for gas infrastructure services. However, operating expenses also rose significantly, largely owing to an increase in the cost of completing gas infrastructure work. All told, share net of $0.43 was no match for the prior-year tally.

The company's infrastructure services provider, Centuri, has agreed to acquire Riggs Distler for $855 million in cash. This purchase will be funded by new debt. The transaction, which is scheduled to be completed in the current quarter, is expected to be accretive to the company's earnings in the first full year. This move will broaden Centuri's electric services platform to include 5G telecom and renewables services. It will expand the company's operating footprint into new markets in the Northeast and Mid-Atlantic region. This will also enhance Centuri's utility service offerings for its existing customers. **We anticipate solid results here in the coming years.** The company's utility business ought to further benefit from rate relief and expansion in the customer base. Infrastructure investments should also bear fruit. Meantime, Centuri will probably continue to experience growing demand. This operation has a robust client base, and should further benefit from the need of utilities to replace aging infrastructure. A measure of cost control would also help.

This stock is ranked to trail the broader market for the coming six to 12 months. Looking further out, we anticipate solid growth in earnings for the company out to mid-decade. From the recent quotation, this equity offers healthy long-term total return potential. This is helped by a respectable dividend yield. The payout should continue to rise going forward. Also, Southwest Gas earns good marks for Financial Strength, Price Stability, and Earnings Predictability. Conservative accounts with a long time horizon may want to take a closer look.

Michael Napoli, CFA *August 27, 2021*

(A) Diluted earnings. Excl. nonrec. gains (losses): '05, (11¢); '06, 7¢. Next egs. report due early November. (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.

Company's Financial Strength	A
Stock's Price Stability	80
Price Growth Persistence	65
Earnings Predictability	95

SPIRE INC. NYSE-SR

RECENT PRICE	72.28	P/E RATIO	17.9	(Trailing: 15.1 / Median: 19.0)	RELATIVE P/E RATIO	0.94	DIV'D YLD	3.7%	VALUE LINE

TIMELINESS 4 Lowered 8/20/21
SAFETY 2 Raised 6/20/03
TECHNICAL 3 Lowered 7/2/21
BETA .85 (1.00 = Market)

| High: | 37.8 | 42.8 | 44.0 | 48.5 | 55.2 | 61.0 | 71.2 | 82.9 | 81.1 | 88.0 | 88.0 | 77.9 |
| Low: | 30.8 | 32.9 | 36.5 | 37.4 | 44.0 | 49.1 | 57.1 | 62.3 | 60.1 | 71.7 | 50.6 | 59.3 |

Target Price Range 2024 2025 2026

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

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$37-$92 $65 (-10%)

2024-26 PROJECTIONS
	Price	Gain	Ann'l Total Return
High	130	(+80%)	18%
Low	95	(+30%)	10%

Institutional Decisions
	3Q2020	4Q2020	1Q2021
to Buy	145	131	124
to Sell	121	148	139
Hld's(000)	40642	41028	42475

Percent shares traded: 18 / 12 / 6

% TOT. RETURN 7/21
	THIS STOCK	VL ARITH.* INDEX
1 yr.	19.6	55.5
3 yr.	9.5	48.6
5 yr.	20.1	95.5

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	© VALUE LINE PUB. LLC	24-26
75.43	93.51	93.40	100.44	85.49	77.83	71.48	49.90	31.10	37.68	45.59	33.68	36.07	38.78	38.30	35.96	42.30	37.75	Revenues per sh A	58.20
2.98	3.81	3.87	4.22	4.56	4.11	4.62	4.58	3.12	3.87	6.15	6.16	6.54	7.55	7.12	5.25	8.75	8.10	"Cash Flow" per sh	10.50
1.90	2.37	2.31	2.64	2.92	2.43	2.86	2.79	2.02	2.35	3.16	3.24	3.43	4.33	3.52	1.44	4.70	4.00	Earnings per sh A B	5.50
1.37	1.40	1.45	1.49	1.53	1.57	1.61	1.66	1.70	1.76	1.84	1.96	2.10	2.25	2.37	2.49	2.60	2.72	Div'ds Decl'd per sh C■	3.10
2.84	2.97	2.72	2.57	2.36	2.56	3.02	4.83	4.00	3.96	6.68	6.42	9.08	9.86	16.15	12.37	11.35	10.95	Cap'l Spending per sh	11.45
17.31	18.85	19.79	22.12	23.32	24.02	25.56	26.67	32.00	34.93	36.30	38.73	41.26	44.51	45.14	44.19	47.95	50.90	Book Value per sh D	70.60
21.17	21.36	21.65	21.99	22.17	22.29	22.43	22.55	32.70	43.18	43.36	45.65	48.26	50.67	50.97	51.60	52.00	53.00	Common Shs Outst'g E	55.00
16.2	13.6	14.2	14.3	13.4	13.7	13.0	14.5	21.3	19.8	16.5	19.6	19.8	16.7	22.8	NMF	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	20.5
.86	.73	.75	.86	.89	.87	.82	.92	1.20	1.04	.83	1.03	1.00	.90	1.21	NMF			Relative P/E Ratio	1.15
4.4%	4.3%	4.4%	3.9%	3.9%	4.7%	4.3%	4.1%	4.0%	3.8%	3.5%	3.1%	3.1%	3.1%	3.0%	3.4%			Avg Ann'l Div'd Yield	2.8%

CAPITAL STRUCTURE as of 6/30/21
Total Debt $3510.8 mill. **Due in 5 Yrs** $1720.0 mill.
LT Debt $2939.0 mill. **LT Interest** $135.0 mill.
(Total interest coverage: 2.0x)

Leases, Uncapitalized Annual rentals $8.8 mill.
Pension Assets-9/20 $897.9 mill.
Oblig. $1401.3 mill.
Pfd Stock $242.0 mill. **Pfd Div'd** $14.8 mill.
Common Stock 51,684,120 shs.
as of 7/31/21

MARKET CAP: $3.7 billion (Mid Cap)

	1603.3	1125.5	1017.0	1627.2	1976.4	1537.3	1740.7	1965.0	1952.4	1855.4	2200	2000	Revenues ($mill) A	3200
	63.8	62.6	52.8	84.6	136.9	144.2	161.6	214.2	184.6	88.6	245	210	Net Profit ($mill)	300
	31.4%	29.6%	25.0%	27.6%	31.2%	32.5%	32.4%	32.4%	15.7%	12.3%	20.0%	21.0%	Income Tax Rate	23.5%
	4.0%	5.6%	5.2%	5.2%	6.9%	9.4%	9.3%	10.9%	9.5%	4.8%	11.1%	10.5%	Net Profit Margin	9.4%
	38.9%	36.1%	46.6%	55.1%	53.0%	50.9%	50.0%	45.7%	45.0%	49.0%	52.0%	51.0%	Long-Term Debt Ratio	45.0%
	61.1%	63.9%	53.4%	44.9%	47.0%	49.1%	50.0%	54.3%	55.0%	51.0%	48.0%	49.0%	Common Equity Ratio	55.0%
	937.7	941.0	1959.0	3359.4	3345.1	3601.9	3986.3	4155.5	4625.6	4946.0	5700	6000	Total Capital ($mill)	7500
	928.7	1019.3	1776.6	2759.7	2941.2	3300.9	3665.2	3970.5	4352.0	4680.1	5050	5350	Net Plant ($mill)	6800
	8.1%	7.9%	3.3%	3.1%	5.1%	4.9%	5.0%	6.3%	5.1%	2.9%	6.0%	5.0%	Return on Total Cap'l	5.5%
	11.1%	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.3%	3.5%	9.0%	7.0%	Return on Shr. Equity	7.5%
	11.1%	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.9%	3.2%	9.0%	7.0%	Return on Com Equity	7.5%
	4.9%	4.3%	1.0%	1.5%	3.7%	3.3%	3.3%	4.7%	2.7%	NMF	3.5%	2.0%	Retained to Com Eq	3.0%
	56%	59%	81%	73%	58%	59%	60%	51%	66%	NMF	61%	76%	All Div'ds to Net Prof	62%

CURRENT POSITION
($MILL.)	2019	2020	6/30/21
Cash Assets	5.8	4.1	23.9
Other	608.7	586.5	874.4
Current Assets	614.5	590.6	898.3
Accts Payable	301.5	243.3	352.1
Debt Due	783.2	708.4	571.8
Other	384.1	497.5	367.9
Current Liab.	1468.8	1449.2	1291.8
Fix. Chg. Cov.	272%	373%	385%

ANNUAL RATES
of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '18-'20 to '24-'26
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%	7.5%

QUARTERLY REVENUES ($ mill.) A
Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
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	327.8	254.7	2200
2022	530	892	325	253	2000

EARNINGS PER SHARE A B F
Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
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	.03	d.53	4.70
2022	1.75	2.78	.05	d.58	4.00

QUARTERLY DIVIDENDS PAID C ■
Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
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	.65		

BUSINESS: 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 therms sold and transported in fiscal 2020: 3.3 bill. Revenue mix for regu-lated 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.

Spire Inc. seems to be headed toward a record fiscal 2021, which ends on September 30th. Through the first nine months, earnings per share were $5.23, some 2.7 times higher than the year-ago tally of $1.91 (hurt by the effects of the coronavirus). One supporting factor was the Gas Utility unit, aided by increased Infrastructure System Replacement Surcharge (ISRS) revenues for the Missouri operations, the impact of colder weather, plus rate adjustments at Spire Alabama. Furthermore, favorable market conditions, particularly in February when Winter Storm Uri struck parts of the United States, boosted results of the Gas Marketing division. If there are no major downside surprises in the fourth quarter, it appears that full-year profits will surge more than threefold, to $4.70 a share, compared to the fiscal 2020 total of $1.44. Concerning fiscal 2022, we anticipate diminished, though still respectable, share net of $4.00, given that this year's second-quarter number will be difficult to beat.

Corporate finances are in solid condition. When the June period concluded, cash on hand stood at nearly $24 million. Moreover, there was $975 million available through a revolving credit facility expiring in October, 2023. Also, long-term debt was a manageable 52% of total capital, and short-term obligations were not a big obstacle. So, the company should continue to satisfy its various commitments with little trouble.

Prospects out to mid-decade look decent. The gas utilities boast 1.7 million customers in Mississippi, Alabama, and Missouri, providing a measure of regional diversity. Furthermore, the other businesses, especially pipelines, hold promise. Additional expansionary projects and technological enhancements in customer service and elsewhere ought to help Spire, as well. Lastly, acquisitions are possible, supported, of course, by the healthy balance sheet.

The good-quality stock ought to draw the interest of total return-focused accounts with a long-term view. Capital appreciation potential during the 2024-2026 period seems appealing. Consider, also, the promising dividend growth possibilities. But these shares are untimely.

Frederick L. Harris, III   August 27, 2021

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

	Proxy Group of Seven Natural Gas Distribution Companies
Predictive Risk Premium Model (PRPM) (1)	10.46 %
Risk Premium Using an Adjusted Total Market Approach (2)	10.43 %
Average	10.45 %

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%	0.37%	0.35%	2.2456	9.89%	2.70%	12.59%
New Jersey Resources Corporation	0.38%	0.33%	0.36%	2.0122	8.94%	2.70%	11.64%
Northwest Natural Holding Company	0.32%	0.26%	0.29%	1.5386	5.49%	2.70%	8.19%
ONE Gas, Inc.	0.29%	0.32%	0.30%	3.6705	14.27%	2.70%	NMF
South Jersey Industries, Inc.	0.38%	0.49%	0.44%	1.6281	8.89%	2.70%	11.59%
Southwest Gas Holdings, Inc.	0.43%	0.34%	0.39%	1.3903	6.67%	2.70%	9.37%
Spire Inc.	0.71%	0.42%	0.56%	0.9400	6.56%	2.70%	9.26%
						Average	10.44%
						Median	10.48%
					Average of Mean and Median		10.46%

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+(Column [3] * Column [4]) $^{\wedge 12}$) - 1.
(4) From note 2 on page 2 of Exhibit_(DWD-1), Schedule 7.
(5) Column [5] + Column [6].

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

Line No.		Proxy Group of Seven Natural Gas Distribution Companies
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	3.41 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds	0.38 (2)
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	3.79 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group(4)	0.04
5.	Adjusted Bond Yield	3.83 %
6.	Equity Risk Premium (5)	6.60
7.	Risk Premium Derived Common Equity Cost Rate	10.43 %

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 0.38% from page 4 of this Schedule.

(3) Source of Information: Bloomberg Professional Services.

(4) 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 (1/3 * 0.25% = 0.04%) as derived from page 4 of this Schedule.

(5) 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]
	Aaa Rated Corporate Bond	A2 Rated Public Utility Bond	Baa2 Rated Public Utility Bond
Aug-2021	2.55 %	2.95 %	3.19 %
Jul-2021	2.57	2.95	3.20
Jun-2021	2.79	3.16	3.41
Average	2.64 %	3.02 %	3.27 %

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:

0.38 % (1)

Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds:

0.25 % (2)

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

	Moody's		Standard & Poor's	
	Long-Term Issuer Rating		Long-Term Issuer Rating	
	August 2021		August 2021	
Proxy Group of Seven Natural Gas Distribution Companies	Long-Term Issuer Rating (1)	Numerical Weighting (2)	Long-Term Issuer Rating (1)	Numerical Weighting (2)
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	BBB	9.0
Spire Inc.	A1/A2	5.5	A-	7.0
Average	A2/A3	6.5	A-/BBB+	7.5

Notes:

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

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

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

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

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

Line No.		Proxy Group of Seven Natural Gas Distribution Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	8.46 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	5.62
3.	Predicted Equity Risk Premium Based on Regression Analysis of 803 Fully-Litigated Natural Gas Utility Rate Cases (3)	5.73
4.	Average equity risk premium	6.60 %

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

Line No.	Equity Risk Premium Measure	Proxy Group of Seven Natural Gas Distribution Companies
	Ibbotson-Based Equity Risk Premiums:	
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data	8.87 (2)
3.	Ibbotson Equity Risk Premium based on PRPM (3)	7.88
4.	Equity Risk Premium Based on Value Line Summary and Index	5.54 (4)
5.	Equity Risk Premium Based on Value Line S&P 500 Companies	11.64 (5)
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies	14.76 (6)
7.	Conclusion of Equity Risk Premium	9.10 %
8.	Adjusted Beta (7)	0.93
9.	Forecasted Equity Risk Premium	8.46 %

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 Ibbotson® SBBI® 2021 Market Report 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 Aa2 rated corporate bond yields from 1928-2020 referenced in Note 1 above. Using the equation generated from the regression, an expected equity risk premium is calculated using the average consensus forecast of Aaa corporate bonds of 3.41% (from page 12 of this Schedule).

(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 August 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 3.41% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 8.95% (described fully in note 1 on page 2 of Exhibit_(DWD-1), Schedule 7.

(5)   Using data from Value Line for the S&P 500, an expected total return of 15.05% 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 3.41% results in an expected equity risk premium of 11.64%.

(6)   Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 18.17% 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 3.41% results in an expected equity risk premium of 14.76%.

(7)   Average of mean and median beta from Exhibit_(DWD-1), Schedule 7.

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

2 ■ BLUE CHIP FINANCIAL FORECASTS ■ SEPTEMBER 1, 2021

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

	------------------------------History------------------------------								Consensus Forecasts-Quarterly Avg.					
	-------Average For Week Ending------				----Average For Month---			*Latest Qtr*	3Q	4Q	1Q	2Q	3Q	4Q
Interest Rates	Aug 27	Aug 20	Aug 13	Aug 6	Jul	Jun	May	2Q 2021	2021	2021	2022	2022	2022	2022
Federal Funds Rate	0.09	0.10	0.10	0.09	0.10	0.08	0.06	0.07	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.	0.12	0.13	0.12	0.12	0.13	0.13	0.15	0.16	0.2	0.2	0.2	0.3	0.3	0.3
Commercial Paper, 1-mo.	0.05	0.06	0.06	0.05	0.05	0.04	0.10	0.06	0.1	0.1	0.1	0.1	0.2	0.2
Treasury bill, 3-mo.	0.05	0.06	0.06	0.05	0.05	0.04	0.02	0.03	0.1	0.1	0.1	0.1	0.2	0.2
Treasury bill, 6-mo.	0.06	0.05	0.06	0.06	0.05	0.05	0.04	0.04	0.1	0.1	0.1	0.2	0.2	0.3
Treasury bill, 1 yr.	0.07	0.07	0.08	0.08	0.08	0.07	0.05	0.06	0.1	0.1	0.2	0.2	0.3	0.4
Treasury note, 2 yr.	0.23	0.22	0.23	0.19	0.22	0.20	0.16	0.17	0.2	0.3	0.4	0.5	0.5	0.6
Treasury note, 5 yr.	0.81	0.78	0.81	0.69	0.76	0.84	0.82	0.84	0.8	0.9	1.1	1.2	1.3	1.4
Treasury note, 10 yr.	1.31	1.26	1.34	1.22	1.32	1.52	1.62	1.59	1.4	1.6	1.7	1.8	1.9	2.0
Treasury note, 30 yr.	1.92	1.90	1.98	1.87	1.94	2.16	2.32	2.26	2.1	2.2	2.3	2.5	2.5	2.6
Corporate Aaa bond	2.72	2.70	2.79	2.67	2.72	2.91	3.06	3.00	2.7	2.9	3.0	3.1	3.2	3.3
Corporate Baa bond	3.17	3.15	3.23	3.11	3.17	3.35	3.52	3.46	3.4	3.7	3.9	4.0	4.1	4.2
State & Local bonds	2.64	2.65	2.65	2.63	2.60	2.64	2.64	2.65	2.3	2.5	2.5	2.6	2.7	2.7
Home mortgage rate	2.87	2.86	2.87	2.77	2.87	2.98	2.96	3.00	3.0	3.1	3.2	3.3	3.5	3.5

	------------------------------History------------------------------								Consensus Forecasts-Quarterly					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Key Assumptions	2019	2019	2020	2020	2020	2020	2021	2021	2021	2021	2022	2022	2022	2022
Fed's AFE $ Index	110.6	110.5	111.4	112.4	107.3	105.2	103.4	102.9	105.0	105.2	105.0	104.7	104.5	104.3
Real GDP	2.8	1.9	-5.1	-31.2	33.8	4.5	6.3	6.6	6.4	5.4	4.1	3.4	2.9	2.4
GDP Price Index	1.4	1.5	1.6	-1.5	3.6	2.2	4.3	6.1	4.2	2.8	2.4	2.3	2.4	2.3
Consumer Price Index	1.3	2.6	1.0	-3.1	4.7	2.4	3.7	8.4	5.5	2.4	2.2	2.3	2.4	2.2
PCE Price Index	1.1	1.7	1.3	-1.6	3.7	1.5	3.8	6.5	4.3	2.3	2.1	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).

U.S. Treasury Yield Curve
Week ended August 27, 2021 & Year Ago vs.
3Q 2021 & 4Q 2022
Consensus Forecasts
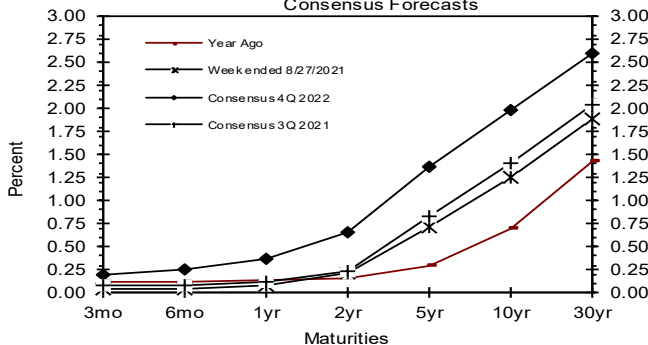
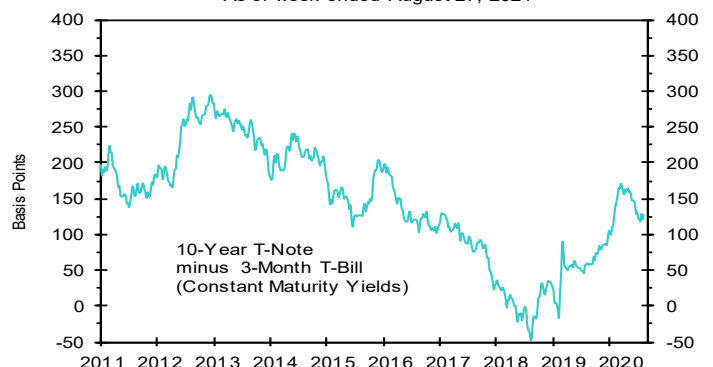### U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield
(Quarterly Average)
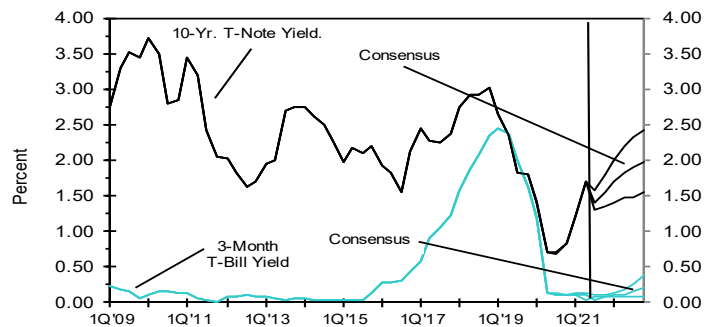
Corporate Bond Spreads
As of week endea August 27, 2021
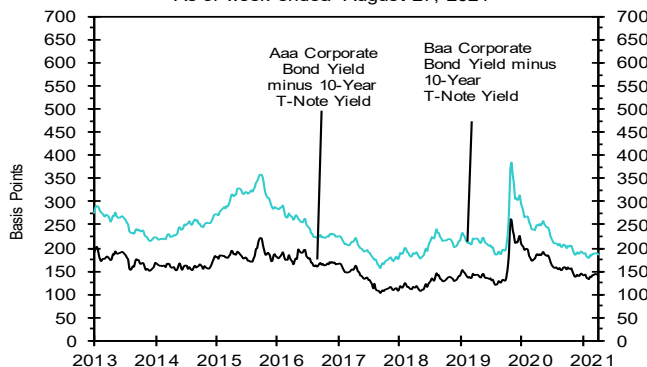
### U.S. Treasury Yield Curve
As of week ended August 27, 2021

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2022 through 2027 and averages for the five-year periods 2023-2027 and 2028-2032. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		------------- Average For The Year -------------						Five-Year Averages	
		2022	2023	2024	2025	2026	2027	2023-2027	2028-2032
1. Federal Funds Rate	CONSENSUS	0.1	0.4	1.0	1.6	1.9	2.1	1.4	2.2
	Top 10 Average	0.2	0.7	1.6	2.4	2.6	2.7	2.0	2.7
	Bottom 10 Average	0.1	0.1	0.5	0.9	1.3	1.5	0.9	1.6
2. Prime Rate	CONSENSUS	3.3	3.5	4.2	4.7	5.0	5.2	4.5	5.2
	Top 10 Average	3.4	3.8	4.7	5.4	5.7	5.8	5.1	5.8
	Bottom 10 Average	3.2	3.3	3.7	4.0	4.4	4.6	4.0	4.7
3. LIBOR, 3-Mo.	CONSENSUS	0.4	0.6	1.3	1.8	2.1	2.3	1.6	2.4
	Top 10 Average	0.5	1.0	1.8	2.4	2.7	2.9	2.2	3.0
	Bottom 10 Average	0.2	0.4	0.8	1.2	1.6	1.7	1.1	1.8
4. Commercial Paper, 1-Mo	CONSENSUS	0.2	0.6	1.3	1.8	2.1	2.3	1.6	2.4
	Top 10 Average	0.4	0.9	1.6	2.3	2.6	2.8	2.0	2.8
	Bottom 10 Average	0.1	0.3	0.9	1.3	1.8	1.9	1.2	2.0
5. Treasury Bill Yield, 3-Mo	CONSENSUS	0.2	0.5	1.0	1.6	1.9	2.1	1.4	2.2
	Top 10 Average	0.3	0.8	1.6	2.2	2.5	2.7	1.9	2.7
	Bottom 10 Average	0.1	0.2	0.6	0.9	1.3	1.5	0.9	1.6
6. Treasury Bill Yield, 6-Mo	CONSENSUS	0.2	0.5	1.1	1.6	2.0	2.2	1.5	2.3
	Top 10 Average	0.3	0.8	1.7	2.3	2.6	2.7	2.0	2.8
	Bottom 10 Average	0.1	0.3	0.6	1.0	1.4	1.6	1.0	1.7
7. Treasury Bill Yield, 1-Yr	CONSENSUS	0.3	0.7	1.2	1.8	2.1	2.3	1.6	2.4
	Top 10 Average	0.5	1.0	1.8	2.4	2.8	2.9	2.2	3.0
	Bottom 10 Average	0.2	0.3	0.7	1.1	1.5	1.7	1.1	1.8
8. Treasury Note Yield, 2-Yr	CONSENSUS	0.5	0.9	1.5	2.0	2.3	2.5	1.8	2.6
	Top 10 Average	0.7	1.3	2.1	2.7	3.0	3.1	2.5	3.3
	Bottom 10 Average	0.3	0.5	0.9	1.3	1.6	1.8	1.2	1.9
9. Treasury Note Yield, 5-Yr	CONSENSUS	1.2	1.6	2.1	2.5	2.8	2.8	2.4	3.0
	Top 10 Average	1.5	2.0	2.8	3.3	3.5	3.5	3.0	3.6
	Bottom 10 Average	0.9	1.2	1.5	1.8	2.0	2.2	1.7	2.3
10. Treasury Note Yield, 10-Yr	CONSENSUS	2.0	2.4	2.7	3.0	3.2	3.3	2.9	3.3
	Top 10 Average	2.3	2.8	3.4	3.8	4.0	3.9	3.6	4.0
	Bottom 10 Average	1.7	1.9	2.1	2.3	2.5	2.6	2.3	2.7
11. Treasury Bond Yield, 30-Yr	CONSENSUS	2.6	2.9	3.3	3.6	3.8	3.8	3.5	3.9
	Top 10 Average	3.0	3.5	4.0	4.5	4.6	4.5	4.2	4.6
	Bottom 10 Average	2.3	2.4	2.5	2.7	2.9	3.1	2.7	3.2
12. Corporate Aaa Bond Yield	CONSENSUS	3.3	3.7	4.1	4.5	4.7	4.7	4.3	4.8
	Top 10 Average	3.6	4.2	4.7	5.2	5.4	5.4	5.0	5.4
	Bottom 10 Average	3.1	3.2	3.4	3.7	3.9	4.1	3.7	4.2
13. Corporate Baa Bond Yield	CONSENSUS	4.3	4.7	5.1	5.4	5.6	5.7	5.3	5.8
	Top 10 Average	4.6	5.1	5.6	6.1	6.3	6.2	5.9	6.4
	Bottom 10 Average	4.0	4.3	4.5	4.7	4.9	5.2	4.7	5.2
14. State & Local Bonds Yield	CONSENSUS	2.9	3.2	3.6	3.9	4.1	4.2	3.8	4.2
	Top 10 Average	3.2	3.5	4.1	4.5	4.7	4.7	4.3	4.8
	Bottom 10 Average	2.6	2.9	3.1	3.4	3.7	3.7	3.3	3.8
15. Home Mortgage Rate	CONSENSUS	3.6	4.0	4.4	4.7	4.9	5.0	4.6	5.0
	Top 10 Average	4.0	4.5	5.0	5.5	5.6	5.6	5.2	5.7
	Bottom 10 Average	3.2	3.6	3.8	4.0	4.2	4.3	4.0	4.4
A. Fed's AFE Nominal $ Index	CONSENSUS	103.7	103.7	104.0	103.7	103.6	103.3	103.7	103.1
	Top 10 Average	105.3	106.0	106.8	107.0	107.3	107.5	106.9	107.9
	Bottom 10 Average	102.0	101.5	101.4	100.8	100.4	100.0	100.8	99.4

		------------- Year-Over-Year, % Change -------------						Five-Year Averages	
		2022	2023	2024	2025	2026	2027	2023-2027	2028-2032
B. Real GDP	CONSENSUS	4.2	2.6	2.3	2.2	2.1	2.1	2.2	2.1
	Top 10 Average	5.3	3.3	2.7	2.5	2.4	2.4	2.7	2.5
	Bottom 10 Average	2.9	2.0	1.9	1.8	1.8	1.7	1.8	1.7
C. GDP Chained Price Index	CONSENSUS	2.3	2.3	2.2	2.1	2.2	2.1	2.2	2.1
	Top 10 Average	2.6	2.6	2.4	2.4	2.4	2.4	2.4	2.3
	Bottom 10 Average	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9
D. Consumer Price Index	CONSENSUS	2.4	2.4	2.2	2.2	2.2	2.2	2.2	2.2
	Top 10 Average	2.8	2.7	2.5	2.5	2.5	2.4	2.5	2.4
	Bottom 10 Average	2.1	2.1	1.9	1.9	2.0	1.9	2.0	1.9
E. PCE Price Index	CONSENSUS	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1
	Top 10 Average	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.3
	Bottom 10 Average	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

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

Line No.		Implied Equity Risk Premium
	Equity Risk Premium based on S&P Utility Index Holding Period Returns (1):	
1.	Historical Equity Risk Premium	4.16 %
2.	Regression of Historical Equity Risk Premium (2)	6.51
3.	Forecasted Equity Risk Premium Based on PRPM (3)	4.94
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	7.15
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	5.32
6.	Average Equity Risk Premium (6)	5.62 %

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. Using the equation generated from the regression, an expected equity risk premium is calculated using the prospective A2 rated public utility bond yield of 3.79% (from line 3, page 3 of this Schedule).

(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A2 rated public utility bonds from January 1928 - August 2021.

(4) Using data from Value Line for the S&P Utilities Index, an expected return of 10.94% 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 3.79%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 7.15%. (10.94% - 3.79% = 7.15%)

(5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 9.11% 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 3.79%, calculated on line 3 of page 12 of this Schedule results in an equity risk premium of 5.32%. (9.11% - 3.79% = 5.32%)

(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

$y = -0.4865x + 7.5726$
$R^2 = 0.8721$
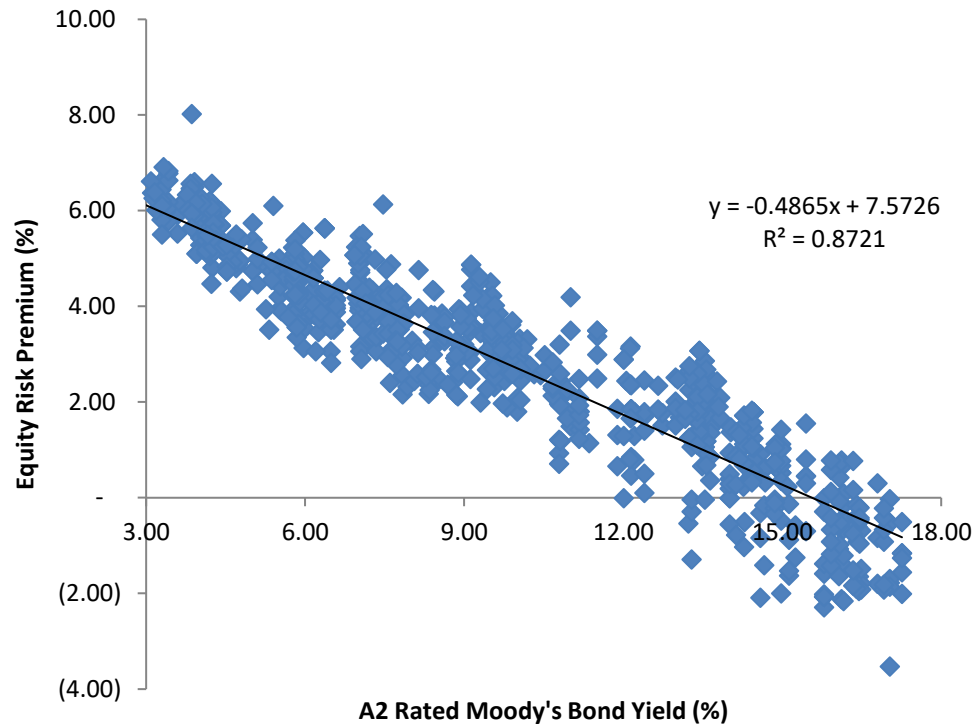
Constant	Slope	Prospective A2 Rated Utility Bond (1)	Prospective Equity Risk Premium
7.573 %	-0.4865	3.79 %	5.73 %

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

Source of Information: Regulatory Research Associates

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	0.93	0.86	9.93 %	2.70 %	11.24 %	11.59 %	11.41 %
New Jersey Resources Corporation	1.00	0.97	0.99	9.93	2.70	12.53	12.55	12.54
Northwest Natural Holding Company	0.85	0.86	0.86	9.93	2.70	11.24	11.59	11.41
ONE Gas, Inc.	0.80	1.01	0.90	9.93	2.70	11.64	11.88	11.76
South Jersey Industries, Inc.	1.05	0.99	1.02	9.93	2.70	12.83	12.78	12.80
Southwest Gas Holdings, Inc.	0.95	1.09	1.02	9.93	2.70	12.83	12.78	12.80
Spire Inc.	0.85	0.99	0.92	9.93	2.70	11.83	12.03	11.93
Mean			0.94			12.02 %	12.17 %	12.09 %
Median			0.92			11.83 %	12.03 %	11.93 %
Average of Mean and Median			0.93			11.93 %	12.10 %	12.01 %

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:	5.05	
MRP based on Ibbotson Historical Data:	7.15	%

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data
(1926-2020)   9.57 %

Measure 3: Application of the PRPM to Ibbotson Historical Data:
(January 1926 - August 2021)   8.77 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending September 03, 2021)

Total projected return on the market 3-5 years hence*:	8.95	%
Projected Risk-Free Rate (see note 2):	2.70	
MRP based on Value Line Summary & Index:	6.25	%

   *Forcasted 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:	15.05	%
Projected Risk-Free Rate (see note 2):	2.70	
MRP based on Value Line data	12.35	%

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	18.17	%
Projected Risk-Free Rate (see note 2):	2.70	
MRP based on Bloomberg data	15.47	%

Average of Value Line, Ibbotson, and Bloomberg MRP:	9.93	%

(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 Exhibit_(DWD-1), Schedule 6. The projection of the risk-free rate is illustrated below:

Third Quarter 2021	2.10	%
Fourth Quarter 2021	2.20	
First Quarter 2022	2.30	
Second Quarter 2022	2.50	
Third Quarter 2022	2.50	
Fourth Quarter 2022	2.60	
2023-2027	3.50	
2028-2032	3.90	
	2.70	%

(3) Average of Column 6 and Column 7.

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

<u>Northern States Power Company</u>
Basis of Selection of the Group of Non-Price Regulated Companies
<u>Comparable in Total Risk to the Utility Proxy Group</u>

    The criteria for selection of the proxy group of forty-one non-price regulated companies was that the non-price regulated companies be domestic and reported in <u>Value Line Investment Survey</u> (Standard Edition).

    The Non-Price Regulated Proxy Group were then selected based on the unadjusted beta range of 0.65 – 0.95 and residual standard error of the regression range of 2.8123 – 3.3543 of the Utility Proxy Group.

    These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

    The standard deviation of the Utility Proxy Group's residual standard error of the regression is 0.1355. 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

$$\text{Thus, } 0.1355 = \frac{3.0833}{\sqrt{518}} = \frac{3.0833}{22.7596}$$

Source of Information: Value Line, Inc., June 2021
                           <u>Value Line Investment Survey</u> (Standard Edition)

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

Proxy Group of Seven Natural Gas Distribution Companies	[1] Value Line Adjusted Beta	[2] Unadjusted Beta	[3] Residual Standard Error of the Regression	[4] Standard Deviation of Beta
Atmos Energy Corporation	0.80	0.67	2.7774	0.0693
New Jersey Resources Corporation	1.00	0.93	3.0337	0.0757
Northwest Natural Holding Company	0.85	0.70	3.2144	0.0802
ONE Gas, Inc.	0.80	0.68	2.7447	0.0685
South Jersey Industries, Inc.	1.05	1.01	3.7945	0.0947
Southwest Gas Holdings, Inc.	0.95	0.86	3.1572	0.0788
Spire Inc.	0.85	0.73	2.8613	0.0714
Average	0.90	0.80	3.0833	0.0769

Beta Range (+/- 2 std. Devs. of Beta)	0.65	0.95		
2 std. Devs. of Beta	0.15			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.8123	3.3543		
Std. dev. of the Res. Std. Err.	0.1355			
2 std. devs. of the Res. Std. Err.	0.2710			

Source of Information: Valueline Proprietary Database, June 2021

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]
Proxy Group of Forty-One Non-Price Regulated Companies	VL Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
Apple Inc.	0.90	0.83	3.2843	0.0819
Assurant Inc.	0.90	0.84	2.8245	0.0705
ANSYS, Inc.	0.85	0.77	3.1971	0.0798
Booz Allen Hamilton	0.90	0.84	3.1767	0.0793
Bristol-Myers Squibb	0.85	0.75	3.3304	0.0831
Brady Corp.	1.00	0.94	2.9465	0.0735
CACI Int'l	0.95	0.89	2.9930	0.0747
Casey's Gen'l Stores	0.90	0.81	3.2028	0.0799
Quest Diagnostics	0.80	0.69	2.9288	0.0731
Lauder (Estee)	0.95	0.91	2.8562	0.0713
Exponent, Inc.	0.90	0.81	2.9605	0.0739
Fastenal Co.	0.95	0.88	3.2005	0.0799
FirstCash, Inc.	0.90	0.79	3.2437	0.0809
Franklin Electric	0.95	0.89	3.2374	0.0808
GATX Corp.	1.00	0.92	3.1223	0.0779
Int'l Flavors & Frag	0.95	0.85	3.3168	0.0828
Ingredion Inc.	0.90	0.84	2.8771	0.0718
Iron Mountain	0.90	0.78	3.1699	0.0791
Hunt (J.B.)	0.95	0.87	2.8702	0.0716
J&J Snack Foods	0.95	0.86	2.9559	0.0738
Henry (Jack) & Assoc	0.85	0.71	2.8328	0.0707
ManTech Int'l 'A'	0.85	0.77	3.1011	0.0774
Monster Beverage	0.85	0.76	3.0195	0.0753
Altria Group	0.95	0.86	2.9525	0.0737
MSA Safety	1.00	0.94	3.0342	0.0757
MSCI Inc.	0.95	0.87	2.9742	0.0742
Vail Resorts	0.95	0.88	3.2995	0.0823
Northrop Grumman	0.85	0.72	2.8865	0.0720
Old Dominion Freight	0.95	0.86	2.9913	0.0746
Packaging Corp.	1.00	0.92	2.8690	0.0716
PerkinElmer Inc.	0.90	0.82	3.0422	0.0759
Philip Morris Int'l	0.95	0.91	3.2461	0.0810
Pool Corp.	0.85	0.74	3.2969	0.0823
Post Holdings	0.95	0.87	2.9481	0.0736
RLI Corp.	0.80	0.67	3.0423	0.0759
Rollins, Inc.	0.85	0.73	2.9580	0.0738
Selective Ins. Group	0.90	0.80	2.9918	0.0746
Sirius XM Holdings	0.95	0.88	2.8551	0.0712
Synopsys, Inc.	0.95	0.91	2.8936	0.0722
Tetra Tech	0.95	0.88	3.2523	0.0811
West Pharmac. Svcs.	0.80	0.69	3.2862	0.0820
Average	0.91	0.83	3.0602	0.0764
Proxy Group of Seven Natural Gas Distribution Companies	0.90	0.80	3.0833	0.0769

Source of Information: Valueline Proprietary Database, June 2021

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

Principal Methods	Proxy Group of Forty-One Non-Price Regulated Companies
Discounted Cash Flow Model (DCF) (1)	13.39 %
Risk Premium Model (RPM) (2)	12.85
Capital Asset Pricing Model (CAPM) (3)	12.06
Mean	12.77 %
Median	12.85 %
Average of Mean and Median	12.81 %

Notes:
    (1) From pages 2 and 3 of this Schedule.
    (2) From page 4 of this Schedule.
    (3) From page 7 of this Schedule.

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]	[5]	[6]	[7]	[8]
Proxy Group of Forty-One Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
Apple Inc.	0.62 %	14.50 %	12.70 %	19.61 %	15.60 %	0.67 %	16.27 %
Assurant Inc.	1.66	11.50	17.90	17.90	15.77	1.79	17.56
ANSYS, Inc.	-	8.00	12.30	12.14	10.81	-	NA
Booz Allen Hamilton	1.73	8.50	8.30	8.89	8.56	1.80	10.36
Bristol-Myers Squibb	2.91	12.50	7.00	7.37	8.96	3.04	12.00
Brady Corp.	1.61	7.50	7.00	7.00	7.17	1.67	8.84
CACI Int'l	-	13.50	5.40	1.44	6.78	-	NA
Casey's Gen'l Stores	0.69	10.50	NA	7.50	9.00	0.72	9.72
Quest Diagnostics	1.78	7.00	26.50	(8.60)	16.75	1.93	18.68
Lauder (Estee)	0.66	11.00	11.30	18.71	13.67	0.71	14.38
Exponent, Inc.	0.80	12.00	NA	15.00	13.50	0.85	14.35
Fastenal Co.	2.08	9.00	9.00	6.33	8.11	2.16	10.27
FirstCash, Inc.	1.49	9.50	NA	23.00	16.25	1.61	17.86
Franklin Electric	0.86	10.00	NA	13.40	11.70	0.91	12.61
GATX Corp.	2.21	6.00	NA	12.00	9.00	2.31	11.31
Int'l Flavors & Frag	2.12	7.50	10.50	8.10	8.70	2.21	10.91
Ingredion Inc.	2.87	7.50	NA	1.90	4.70	2.94	7.64
Iron Mountain	5.55	8.00	3.80	6.41	6.07	5.72	11.79
Hunt (J.B.)	0.72	8.00	15.00	20.50	14.50	0.77	15.27
J&J Snack Foods	1.50	10.00	NA	6.00	8.00	1.56	9.56
Henry (Jack) & Assoc	1.08	9.50	11.00	9.64	10.05	1.13	11.18
ManTech Int'l 'A'	1.78	9.00	5.10	5.38	6.49	1.84	8.33
Monster Beverage	-	11.50	14.70	14.85	13.68	-	NA
Altria Group	7.52	6.00	4.00	4.67	4.89	7.70	12.59
MSA Safety	1.08	6.50	NA	18.00	12.25	1.15	13.40
MSCI Inc.	0.73	16.00	NA	17.79	16.90	0.79	17.69
Vail Resorts	-	7.50	NA	56.46	31.98	-	NA
Northrop Grumman	1.72	7.00	9.00	6.66	7.55	1.78	9.33
Old Dominion Freight	0.30	9.50	22.70	22.70	18.30	0.33	18.63
Packaging Corp.	2.86	5.00	5.00	16.86	8.95	2.99	11.94
PerkinElmer Inc.	0.17	11.00	37.90	37.90	28.93	0.19	29.12
Philip Morris Int'l	4.82	7.00	8.80	12.63	9.48	5.05	14.53
Pool Corp.	0.69	15.00	NA	17.00	16.00	0.75	16.75
Post Holdings	-	9.50	NA	28.20	18.85	-	NA
RLI Corp.	0.94	12.00	NA	9.80	10.90	0.99	11.89
Rollins, Inc.	0.88	11.50	NA	8.20	9.85	0.92	10.77
Selective Ins. Group	1.25	9.50	12.40	10.00	10.63	1.32	11.95
Sirius XM Holdings	0.91	31.50	12.20	10.05	17.92	0.99	18.91
Synopsys, Inc.	-	13.00	16.00	16.00	15.00	-	NA
Tetra Tech	0.62	13.50	15.00	15.00	14.50	0.66	15.16
West Pharmac. Svcs.	0.17	17.00	28.40	25.80	23.73	0.19	23.92

Mean	13.87 %
Median	12.59 %
Average of Mean and Median	13.23 %

NA= Not Available
NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the Utility Proxy Group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of August 31, 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, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2021
www.yahoo.com Downloaded on 08/31/2021

Northern States Power Company
Indicated Common Equity Cost Rate Using the Two Growth Discounted Cash Flow Model for the
Proxy Group of Forty-One Non-Price Regulated Companies

	[1]	[2]	[3]	[4]	[5]	[7]	[8]	[9]	[10]
Proxy Group of Forty-One Non-Price Regulated Companies	Stock Price	Annualized Dividend	Dividend Yield (1)	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (2)	Adjusted Dividend Yield (3)	Indicated Common Equity Cost Rate (4)
Apple Inc.	$ 151.83	$ 0.88	0.58 %	14.50 %	12.70 %	19.61 %	15.60 %	0.63 %	16.23 %
Assurant Inc.	170.11	2.64	1.55	11.50	17.90	17.90	15.77	1.67	17.44
ANSYS, Inc.	365.36	-	-	8.00	12.30	12.14	10.81	0.00	NA
Booz Allen Hamilton	81.91	1.48	1.81	8.50	8.30	8.89	8.56	1.89	10.45
Bristol-Myers Squibb	66.86	1.96	2.93	12.50	7.00	7.37	8.96	3.06	12.02
Brady Corp.	53.33	0.88	1.65	7.50	7.00	7.00	7.17	1.71	8.88
CACI Int'l	257.54	-	-	13.50	5.40	1.44	6.78	0.00	NA
Casey's Gen'l Stores	204.56	1.36	0.66	10.50	NA	7.50	9.00	0.69	9.69
Quest Diagnostics	152.83	2.48	1.62	7.00	26.50	(8.60)	16.75	1.76	18.51
Lauder (Estee)	340.49	2.12	0.62	11.00	11.30	18.71	13.67	0.66	14.33
Exponent, Inc.	116.90	0.80	0.68	12.00	NA	15.00	13.50	0.73	14.23
Fastenal Co.	55.85	1.12	2.01	9.00	9.00	6.33	8.11	2.09	10.20
FirstCash, Inc.	85.69	1.20	1.40	9.50	NA	23.00	16.25	1.51	17.76
Franklin Electric	84.98	0.70	0.82	10.00	NA	13.40	11.70	0.87	12.57
GATX Corp.	91.68	2.00	2.18	6.00	NA	12.00	9.00	2.28	11.28
Int'l Flavors & Frag	151.50	3.16	2.09	7.50	10.50	8.10	8.70	2.18	10.88
Ingredion Inc.	87.86	2.56	2.91	7.50	NA	1.90	4.70	2.98	14.48 (5)
Iron Mountain	47.75	2.47	5.18	8.00	3.80	6.41	6.07	5.34	16.63 (5)
Hunt (J.B.)	177.40	1.20	0.68	8.00	15.00	20.50	14.50	0.73	15.23
J&J Snack Foods	163.76	2.53	1.55	10.00	NA	6.00	8.00	1.61	9.61
Henry (Jack) & Assoc	176.38	1.84	1.04	9.50	11.00	9.64	10.05	1.09	11.14
ManTech Int'l 'A'	79.17	1.52	1.92	9.00	5.10	5.38	6.49	1.98	13.80 (5)
Monster Beverage	97.57	-	-	11.50	14.70	14.85	13.68	0.00	NA
Altria Group	50.23	3.60	7.17	6.00	4.00	4.67	4.89	7.35	18.09 (5)
MSA Safety	162.84	1.76	1.08	6.50	NA	18.00	12.25	1.15	13.40
MSCI Inc.	634.58	4.16	0.66	16.00	NA	17.79	16.90	0.72	17.62
Vail Resorts	304.85	-	-	7.50	NA	56.46	31.98	0.00	NA
Northrop Grumman	367.70	6.28	1.71	7.00	9.00	6.66	7.55	1.77	9.32
Old Dominion Freight	288.72	0.80	0.28	9.50	22.70	22.70	18.30	0.31	18.61
Packaging Corp.	151.70	4.00	2.64	5.00	5.00	16.86	8.95	2.76	11.71
PerkinElmer Inc.	184.80	0.28	0.15	11.00	37.90	37.90	28.93	0.17	12.47 (5)
Philip Morris Int'l	103.00	4.80	4.66	7.00	8.80	12.63	9.48	4.88	14.36
Pool Corp.	494.30	3.20	0.65	15.00	NA	17.00	16.00	0.70	16.70
Post Holdings	111.91	-	-	9.50	NA	28.20	18.85	0.00	NA
RLI Corp.	109.23	1.00	0.92	12.00	NA	9.80	10.90	0.97	11.87
Rollins, Inc.	38.92	0.32	0.82	11.50	NA	8.20	9.85	0.86	10.71
Selective Ins. Group	83.57	1.00	1.20	9.50	12.40	10.00	10.63	1.26	11.89
Sirius XM Holdings	6.27	0.06	0.93	31.50	12.20	10.05	17.92	1.01	18.93
Synopsys, Inc.	332.24	-	-	13.00	16.00	16.00	15.00	0.00	NA
Tetra Tech	143.84	0.80	0.56	13.50	15.00	15.00	14.50	0.60	15.10
West Pharmac. Svcs.	451.62	0.68	0.15	17.00	28.40	25.80	23.73	0.17	12.40 (5)

Average	12.69	Average	13.67 %
1 Standard Deviation Below Mean	6.82		
1 Standard Deviation Above Mean	18.56	Median	13.40 %
		Average of Mean and Median	13.54 %

NA= Not Available
NMF= Not Meaningful Figure

Notes:
(1) Indicated dividend at 08/31/2021 divided by the average closing price of the last 60 trading days ending 08/31/2021 for each company.
(2) Average of columns 4 through 7 excluding negative growth rates.
(3) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 8) x column 3 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Apple Inc., 0.58% x (1+(1/2 x 15.60%)) = 0.63%.
(4) Column 8 + column 9.
(5) The Two Growth Method was applied to Companies with short-term EPS growth rates greater than one standard deviation from the overall Utility Proxy Group mean growth rate. The mean of all Utility Proxy Group Companies with growth rates are within one standard deviation of the overall mean growth rate was applied as the long-term growth rate for these Companies.

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 08/31/2021
www.yahoo.com Downloaded on 08/31/2021

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

Line No.		Proxy Group of Forty-One Non-Price Regulated Companies
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	4.30 %
2.	Equity Risk Premium (2)	8.55
3.	Risk Premium Derived Common Equity Cost Rate	12.85 %

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated September 1, 2021 and June 1, 2021 (see pages 10 and 11 of Exhibit_(DWD-1), Schedule 6. The estimates are detailed below.

Third Quarter 2021	3.40 %
Fourth Quarter 2021	3.70
First Quarter 2022	3.90
Second Quarter 2022	4.00
Third Quarter 2022	4.10
Fourth Quarter 2022	4.20
2023-2027	5.30
2028-2032	5.80
Average	4.30 %

(2) From page 6 of this Schedule.

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

Proxy Group of Forty-One Non-Price Regulated Companies	Moody's Long-Term Issuer Rating August 2021		Standard & Poor's Long-Term Issuer Rating August 2021	
	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
Apple Inc.	Aa1	2.0	AA+	2.0
Assurant Inc.	Baa3	10.0	BBB	9.0
ANSYS, Inc.	NA	--	NA	--
Booz Allen Hamilton	NA	--	NA	--
Bristol-Myers Squibb	A2	6.0	A+	5.0
Brady Corp.	NA	--	NA	--
CACI Int'l	NA	--	BB+	11.0
Casey's Gen'l Stores	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	--
FirstCash, Inc.	Ba1	11.0	BB	12.0
Franklin Electric	NA	--	NA	--
GATX Corp.	Baa2	9.0	BBB	9.0
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
Monster Beverage	NA	--	NA	--
Altria Group	A3	7.0	BBB	9.0
MSA Safety	NA	--	NA	--
MSCI Inc.	Ba1	11.0	BB+	11.0
Vail Resorts	B2	15.0	BB	12.0
Northrop Grumman	Baa1	8.0	BBB+	8.0
Old Dominion Freight	NA	--	NA	--
Packaging Corp.	Baa2	9.0	BBB	9.0
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
Synopsys, Inc.	NA	--	NA	--
Tetra Tech	NA	--	NA	--
West Pharmac. Svcs.	NA	--	NA	--
Average	Baa2	9.0	BBB	9.1

Notes:
(1) From page 6 of Exhibit No._(DWD-1), Schedule 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-One Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Seven Natural Gas Distribution Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Forty-One Non-Price Regulated Companies
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.87
3.	Ibbotson Equity Risk Premium based on PRPM (3)	7.88
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	5.54
5	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	11.64
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	14.76
7.	Conclusion of Equity Risk Premium	9.10 %
8.	Adjusted Beta (7)	0.94
9.	Forecasted Equity Risk Premium	8.55 %

Notes:
(1) From note 1, page 9 of Exhibit_(DWD-1), Schedule 6.
(2) From note 2, page 9 of Exhibit_(DWD-1), Schedule 6.
(3) From note 3, page 9 of Exhibit_(DWD-1), Schedule 6.
(4) From note 4, page 9 of Exhibit_(DWD-1), Schedule 6.
(5) From note 5, page 9 of Exhibit_(DWD-1), Schedule 6.
(6) From note 6, page 9 of Exhibit_(DWD-1), Schedule 6.
(7) Average of mean and median beta from page 7 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, September 1, 2021 and June 1, 2021
Bloomberg Professional Services

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-One 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 (4)
Apple Inc.	0.90	1.00	0.95	9.93 %	2.70 %	12.13 %	12.26 %	12.19 %
Assurant Inc.	0.90	1.01	0.95	9.93	2.70	12.13	12.26	12.19
ANSYS, Inc.	0.85	0.96	0.91	9.93	2.70	11.73	11.96	11.85
Booz Allen Hamilton	0.90	0.91	0.91	9.93	2.70	11.73	11.96	11.85
Bristol-Myers Squibb	0.85	0.79	0.82	9.93	2.70	10.84	11.29	11.06
Brady Corp.	1.00	1.07	1.04	9.93	2.70	13.03	12.93	12.98
CACI Int'l	0.95	1.00	0.98	9.93	2.70	12.43	12.48	12.45
Casey's Gen'l Stores	0.90	0.93	0.92	9.93	2.70	11.83	12.03	11.93
Quest Diagnostics	0.80	0.97	0.88	9.93	2.70	11.44	11.74	11.59
Lauder (Estee)	0.95	1.01	0.98	9.93	2.70	12.43	12.48	12.45
Exponent, Inc.	0.90	0.96	0.93	9.93	2.70	11.93	12.11	12.02
Fastenal Co.	0.95	0.94	0.94	9.93	2.70	12.03	12.18	12.11
FirstCash, Inc.	0.90	0.94	0.92	9.93	2.70	11.83	12.03	11.93
Franklin Electric	0.95	0.98	0.97	9.93	2.70	12.33	12.41	12.37
GATX Corp.	0.95	1.00	0.98	9.93	2.70	12.43	12.48	12.45
Int'l Flavors & Frag	0.90	1.06	0.98	9.93	2.70	12.43	12.48	12.45
Ingredion Inc.	0.90	0.93	0.91	9.93	2.70	11.73	11.96	11.85
Iron Mountain	0.90	1.05	0.97	9.93	2.70	12.33	12.41	12.37
Hunt (J.B.)	0.95	0.94	0.94	9.93	2.70	12.03	12.18	12.11
J&J Snack Foods	0.95	0.81	0.88	9.93	2.70	11.44	11.74	11.59
Henry (Jack) & Assoc	0.85	0.88	0.87	9.93	2.70	11.34	11.66	11.50
ManTech Int'l 'A'	0.85	1.13	0.99	9.93	2.70	12.53	12.55	12.54
Monster Beverage	0.85	0.97	0.91	9.93	2.70	11.73	11.96	11.85
Altria Group	0.95	0.91	0.93	9.93	2.70	11.93	12.11	12.02
MSA Safety	1.00	1.00	1.00	9.93	2.70	12.63	12.63	12.63
MSCI Inc.	0.95	0.93	0.94	9.93	2.70	12.03	12.18	12.11
Vail Resorts	0.95	1.14	1.05	9.93	2.70	13.12	13.00	13.06
Northrop Grumman	0.85	0.79	0.82	9.93	2.70	10.84	11.29	11.06
Old Dominion Freight	0.90	0.98	0.94	9.93	2.70	12.03	12.18	12.11
Packaging Corp.	1.00	0.79	0.90	9.93	2.70	11.64	11.88	11.76
PerkinElmer Inc.	0.90	0.80	0.85	9.93	2.70	11.14	11.51	11.33
Philip Morris Int'l	0.95	0.94	0.94	9.93	2.70	12.03	12.18	12.11
Pool Corp.	0.85	0.95	0.90	9.93	2.70	11.64	11.88	11.76
Post Holdings	0.95	0.90	0.92	9.93	2.70	11.83	12.03	11.93
RLI Corp.	0.80	0.91	0.85	9.93	2.70	11.14	11.51	11.33
Rollins, Inc.	0.85	0.69	0.77	9.93	2.70	10.34	10.92	10.63
Selective Ins. Group	0.90	0.99	0.94	9.93	2.70	12.03	12.18	12.11
Sirius XM Holdings	0.95	1.12	1.04	9.93	2.70	13.03	12.93	12.98
Synopsys, Inc.	0.95	1.02	0.98	9.93	2.70	12.43	12.48	12.45
Tetra Tech	0.95	1.06	1.01	9.93	2.70	12.73	12.70	12.72
West Pharmac. Svcs.	0.80	0.74	0.77	9.93	2.70	10.34	10.92	10.63
Mean			0.93			11.92 %	12.10 %	12.01 %
Median			0.94			12.03 %	12.18 %	12.11 %
Average of Mean and Median			0.94			11.98 %	12.14 %	12.06 %

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

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] Market Capitalization on August 31, 2021 (1) (millions)	(times larger)	[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	Northern States Power Company	$ 822.711		8	1.46%	
2.	Proxy Group of Seven Natural Gas Distribution Companies	$ 4,458.458	5.4 x	4	0.75%	0.71%
		[A]		[B]	[C]	[D]

Decile	Market Capitalization of Smallest Company (millions)	Market Capitalization of Largest Company (millions)	Size Premium (Return in Excess of CAPM)*
1 Largest	$ 29,025.803	$ 1,966,078.882	-0.22%
2	13,178.743	28,808.073	0.49%
3	6,743.361	13,177.828	0.71%
4	3,861.858	6,710.676	0.75%
5	2,445.693	3,836.536	1.09%
6	1,591.865	2,444.745	1.37%
7	911.586	1,591.765	1.54%
8	451.955	911.103	1.46%
9	190.019	451.800	2.29%
10 Smallest	2.194	189.831	5.01%

*From 2021 Duff & Phelps Cost of Capital Navigator

Notes:

(1) From page 2 of this Schedule.

(2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].

(3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.

(4) Line No. 1 Column [3] – Line No. 2 Column [3]. For example, the 0.71% in Column [4], Line No. 2 is derived as follows 0.71% = 1.46% - 0.75%.

Northern States Power Company
Market Capitalization of Northern States Power Company 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 August 31, 2021	[5] Market-to-Book Ratio on August 31, 2021 (2)	[6] Market Capitalization on August 31, 2021 (3) (millions)
Northern States Power Company		NA	NA	490.585 (4)	NA		
Based upon Proxy Group of Seven Natural Gas Distribution Companies						167.7 (5)	$ 822.711 (6)
Proxy Group of Seven Natural Gas Distribution Companies							
Atmos Energy Corporation	NYSE	125.882	$ 53.949	$ 6,791.203	$ 97.510	180.7 %	$ 12,274.800
New Jersey Resources Corporation	NYSE	95.949	19.226	1,844.692	37.340	194.2	3,582.742
Northwest Natural Holding Company	NYSE	30.589	29.054	888.733	51.450	177.1	1,573.804
ONE Gas, Inc.	NYSE	53.167	42.006	2,233.311	71.820	171.0	3,818.435
South Jersey Industries, Inc.	NYSE	100.592	16.571	1,666.876	24.810	149.7	2,495.686
Southwest Gas Holdings, Inc.	NYSE	57.193	46.771	2,674.953	70.310	150.3	4,021.235
Spire Inc.	NYSE	51.612	44.182	2,280.300	66.700	151.0	3,442.506
Average		73.569	$ 35.966	$ 2,625.724	$ 59.991	167.7 %	$ 4,458.458

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 requested common equity ratio.
(5) The market-to-book ratio of Northern States Power Company on August 31, 2021 is assumed to be equal to the market-to-book ratio of Proxy Group of Seven Natural Gas Distribution Companies on August 31, 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
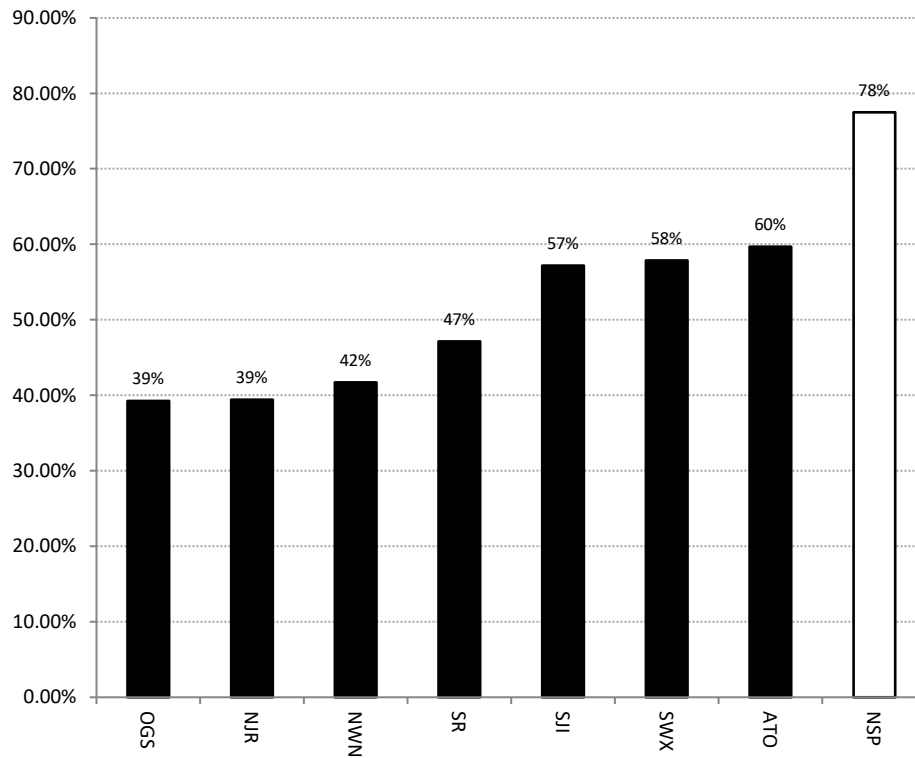
Sources of Information:
      Value Line Investment Survey
      Company provided data

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] Underwriting Discount (1)	[Column 5] Total Offering Expense per Share (1)	[Column 6] Net Proceeds per Share (2)	[Column 7] Total Flotation Costs (3)	[Column 8] Gross Equity Issue before Costs (4)	[Column 9] Net Proceeds (5)	[Column 10] Flotation Cost Percentage (6)
11/16/1949	Northern States Power	1,584,238	$ 10.75	$ 10.25	$ 0.12	$ 0.137	$ 9.989	$ 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	$ 1.20	$ 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	$ 1.23	$ 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	Northern States Power	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	$ 0.16	$ 0.041	$ 48.215	$ 1,886,029	$ 453,132,797	$ 451,246,767	0.416%
11/30/2020	Xcel Energy, Inc.	11,845,000	$ 60.86	$ 60.86	$ 0.66	$ 0.02	$ 60.175	$ 8,168,737	$ 720,941,187	$ 712,772,450	1.133%
Total Public Issuances								$ 127,342,454	$ 3,892,020,508	$ 3,764,678,054	3.272%

Flotation Cost Adjustment

	[Column 11] Average Dividend Yield (7)	[Column 12] Average Projected EPS Growth Rate (7)	[Column 13] Adjusted Dividend Yield (8)	[Column 14] Average DCF Cost Rate Unadjusted for Flotation (9)	[Column 15] DCF Cost Rate Adjusted for Flotation (10)	[Column 16] Flotation Cost Adjustment (11)
Proxy Group of Seven Natural Gas Distribution Companies	3.49 %	3.60 %	3.55 %	7.15 %	7.27 %	0.12 %

Notes:
(1) Company provided
(2) Col. 3 - 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, page 1
(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

Northern States Power Company
Summary of Adjustment Clauses & Alternative Regulation/Incentive Plans
Proxy Group of Seven Natural Gas Distribution Companies

Company	Parent	State	Adjustment Clauses					Alternative Regulation / Incentive Plans		
			Gas Commodity	Decoupling (F/P) [1]	Capital Investment [2]	Energy Efficiency [3]	Other [4]	Formula-Based Rates	Earnings Sharing/PBR	Forward Test Year Allowed in Jurisdiction [5]
Atmos Energy	ATO	Colorado	✓		✓	✓	✓			
Atmos Energy	ATO	Kansas	✓	P	✓		✓			
Atmos Energy	ATO	Kentucky	✓	P	✓	✓	✓		✓	K
Atmos Energy	ATO	Louisiana	✓	P	✓			✓		✓
Atmos Energy	ATO	Mississippi	✓	P	✓	✓		✓	✓	K
Atmos Energy	ATO	Tennessee	✓	P	✓	✓		✓		✓
Atmos Energy	ATO	Texas	✓	P	✓			✓		K
Atmos Energy	ATO	Virginia	✓	F	✓		✓			K
New Jersey Natural Gas	NJR	New Jersey	✓	P	✓	✓	✓			K
Northwest Natural Gas	NWN	Oregon	✓	P		✓	✓		✓	✓
Northwest Natural Gas	NWN	Washington	✓			✓	✓			K
Kansas Gas Service	OGS	Kansas	✓	P	✓	✓	✓			K
Oklahoma Natural Gas	OGS	Oklahoma	✓	P	✓	✓	✓	✓	✓	K
Texas Gas Service	OGS	Texas	✓	P	✓	✓	✓			K
Elizabethtown Gas	SJI	New Jersey	✓	P	✓	✓	✓			K
South Jersey Gas	SJI	New Jersey	✓	F	✓	✓	✓			K
Southwest Gas Corporation	SWX	Arizona	✓	F	✓	✓	✓			K
Southwest Gas Corporation	SWX	California	✓	F	✓	✓	✓			✓
Southwest Gas Corporation	SWX	Nevada	✓	F	✓	✓	✓			K
Spire Alabama Inc.	SR	Alabama	✓	P	✓		✓	✓		K
Spire Gulf Inc.	SR	Alabama	✓	P	✓		✓	✓		K
Spire Mississippi Inc.	SR	Mississippi	✓	P	✓		✓	✓		✓
Spire Missouri East	SR	Missouri	✓	P	✓		✓			K
Spire Missouri West	SR	Missouri	✓	P	✓		✓			K

Notes:
Note: A mechanism may cover one or more cost categories; therefore, designations may not indicate separate mechanisms for each category.
[1] Full or partial decoupling (such as Fixed Variable rate design, weather normalization clauses, and recovery of lost revenues as a result of Energy Efficiency programs). All full or partial decoupling mechanisms include weather normalization adjustments.
[2] Includes recovery of costs related to infrastructure replacement, system integrity/hardening, and other capital expenditures.
[3] Utility-sponsored conservation, energy efficiency, or other demand side management programs.
[4] Pension expenses, bad debt costs, storm costs, transmission/transportation costs, environmental, regulatory fee, government & franchise fees and taxes, economic development, and low income programs.
[5] K = Known and Measurable or similar language, partially forecasted test years are included.
Sources: Company SEC Form 10-Ks; Operating company tariffs; Regulatory Research Associates.