

Rebuttal Testimony and Schedules
Dylan W. D'Ascendis

Before the North Dakota Public Service Commission
State of North Dakota

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

Case No. PU-21-381
Exhibit___(DWD-2)

Rate of Return

April 1, 2022

120 PU-21-381 Filed 06/03/2022 Pages: 117
Exhibit 21 – Rebuttal Testimony of Dylan D' Ascendis (Rate of Return)
Northern States Power Company

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- Schedule 4: Corrected Griffing CAPM Analysis
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- Schedule 6: “Comparable Earnings: New Life for an Old Precept”,
Financial Quarterly Review, Summer 1994
- Schedule 7: Excerpt from *Investments: Analysis and Management*

1 **I. INTRODUCTION, PURPOSE, AND SUMMARY**

2 Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

3 A. My name is Dylan W. D'Ascendis. I am a Partner with ScottMadden, Inc..
4 My business address is 3000 Atrium Way, Suite 241, Mount Laurel, NJ
5 08054.

6

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

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

12

13 Q. DID YOU FILE DIRECT TESTIMONY IN THIS PROCEEDING?

14 A. Yes, I did.

15

16 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

17 A. The purpose of my Rebuttal Testimony is two fold. First, I update the
18 analyses in my Direct Testimony to reflect current data. Second, I respond
19 to the direct testimony of Dr. Marlon F. Griffing, the consultant retained
20 by the North Dakota Public Service Commission Advocacy Staff (Staff) as
21 its testifying witness as it relates to the Company's return on common
22 equity (ROE) on its North Dakota jurisdictional rate base and capital
23 structure.

24

1 Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

2 A. I have updated my ROE analyses as of February 28, 2022. Based on these
3 updated analyses, my range of reasonable ROEs attributable to NSP is
4 between 10.06% and 12.72% (unadjusted) and 10.70% to 13.36%
5 (adjusted). Therefore, my initial ROE recommendation of 10.50% for NSP
6 in this case continues to be reasonable and conservative. I also continue to
7 find the Company's capital structure including 52.54% common equity,
8 47.03% long-term debt, and 0.43% short-term debt reasonable.

9

10 Q. HAVE YOU PREPARED SCHEDULES IN SUPPORT OF YOUR
11 RECOMMENDATION?

12 A. Yes. I have prepared Exhibit__(DWD-2), which contains Schedules 1
13 through 7, and were prepared by me or under my direction.

14

15 Q. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY ORGANIZED?

16 A. The remainder of my Rebuttal Testimony is organized as follows:

- 17 • Section II – Summarizes my updated analytical models;
- 18 • Section III – Summarizes the current capital market conditions;
- 19 • Section IV – Provides my response to Staff Witness Griffing; and
- 20 • Section V – Presents my conclusions.

21

22 II. UPDATED ANALYSIS

23 Q. HAVE YOU UPDATED YOUR UTILITY PROXY GROUP FOR YOUR UPDATED
24 ANALYSES?

25 A. Yes, I have. Based on the most recent business segment data, NiSource,

1 Inc. now meets all my screening criteria. As such, I have included it in my
2 updated proxy group. Further, On February 24, 2022, South Jersey
3 Industries (SJI) announced an acquisition by Infrastructure Investments
4 Fund, a unit of J.P. Morgan Investment Management Inc.¹ In addition, on
5 October 27, 2021, Southwest Gas Holdings (SWX) announced it received
6 an unsolicited offer by Icahn Enterprises L.P., which was subsequently
7 terminated.² SWX also announced on March 1, 2022, that it is planning to
8 spin off Centuri Group, Inc.³ As a result, SJI and SWX no longer meet my
9 screening criteria, which requires that proxy companies not be involved in
10 merger or acquisition activities or other major developments.

11
12 Q. HAVE YOU APPLIED YOUR COST OF COMMON EQUITY MODELS TO YOUR
13 UPDATED PROXY GROUP CONSISTENT WITH HOW YOU APPLIED THEM IN
14 YOUR DIRECT ANALYSES?

15 A. Yes, I have.

16
17 Q. WHAT ARE THE RESULTS OF YOUR UPDATED ANALYSES?

18 A. Using data available as of February 28, 2022, my updated results are
19 presented in page 2 of Exhibit__(DWD-2), Schedule 1 and in Table 1,
20 below.

21
22

1 *South Jersey Industries, Inc. Enters into Agreement to be Acquired by the Infrastructure Investments Fund*, South Jersey
Industries, Inc., Press Release, February 24, 2022.
2 *Southwest Gas Holdings to Review Unsolicited Tender Offer from Carl Icahn*, Southwest Gas Holdings, Inc., Press
Release, October 27, 2021.
3 *Southwest Gas Holdings Announces Decision to Separate Centuri, Creating Two Focused, Independent Companies to
Unlock Value for Stockholders*, Southwest Gas Holdings, Inc., Press Release, March 1, 2022.

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Table 1
Summary of Common Equity Cost Rates

Discounted Cash Flow Model	10.06%
Risk Premium Model	10.58%
Capital Asset Pricing Model	11.76%
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	<u>12.72%</u>
Indicated Range of Common Equity Cost Rates Before Adjustments	10.06% - 12.72%
Size Adjustment	0.50%
Credit Risk Adjustment	0.00% ¹
Flotation Cost Adjustment	0.14%
Indicated Range of Common Equity Cost Rates after Adjustment	<u>10.70% - 13.36%</u>
Recommended Cost of Common Equity	<u>10.50%</u>

In view of the unadjusted and adjusted ranges of ROE, I maintain my original ROE recommendation of 10.50%. My recommended ROE of 10.50% is below my adjusted range of ROEs, and at the lower end of my unadjusted range of ROEs, and should be viewed as a conservative measure of the Company's ROE.

1 JURISDICTIONS OR TO AFFILIATED COMPANIES AS A BENCHMARK FOR A
2 REASONABLE RETURN IN THIS CASE?

3 A. No, it is not prudent. While historical authorized ROEs may be reasonable
4 benchmarks of acceptable ROEs in static economic conditions, they can
5 mis-specify the investor-required return in a dynamic economic
6 environment like this one. The reason why historical authorized returns
7 mis-specify the investor-required return in dynamic markets is because
8 authorized ROEs are a lagging indicator of investor-required returns; *i.e.*,
9 authorized ROEs are based on market data presented in an evidentiary
10 record, which spans a period before the decision, lasting over a year in
11 some cases. Because markets are constantly changing, historical authorized
12 returns do not completely reflect the investor required return because the
13 economic conditions in the past are not representative of economic
14 conditions now. That is, what investors require in the future may not
15 correlate to what they required and/or received in the past. We must
16 remember that projecting the investor required ROE is a forward-looking
17 concept. Dr. Griffing also agrees that historical authorized ROEs are not
18 good substitutes for current, forward-looking ROE analyses.⁵

19
20 Q. HAS CPI RISEN RECENTLY?

21 A. Yes, it has. As shown on Chart 1, CPI has increased exponentially since the
22 beginning of the pandemic, and more recently has seen year-over-year
23 increases not seen since the 1980s.⁶

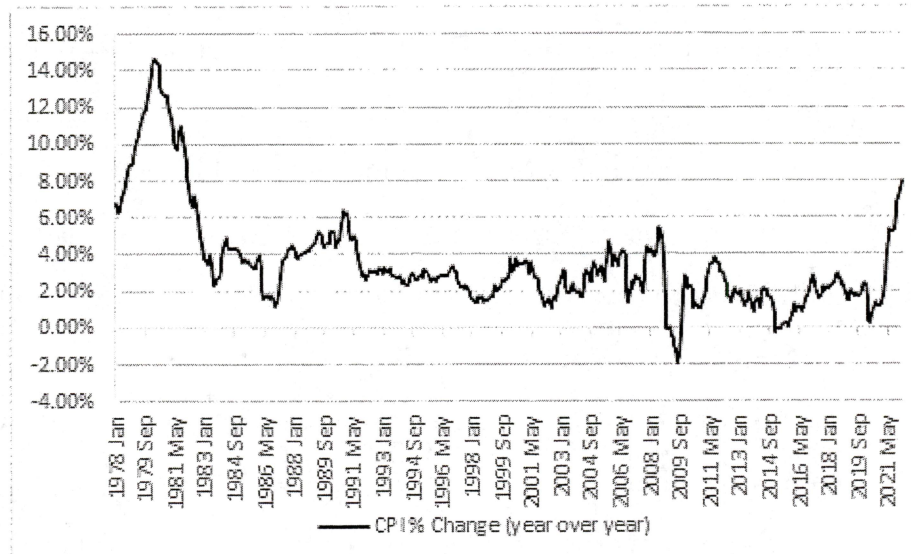
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5 Griffing Direct Testimony, at 43.

6 Source: U.S. Bureau of Labor Statistics.

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Chart 1
Consumer Price Index Change, 1978-Current⁷



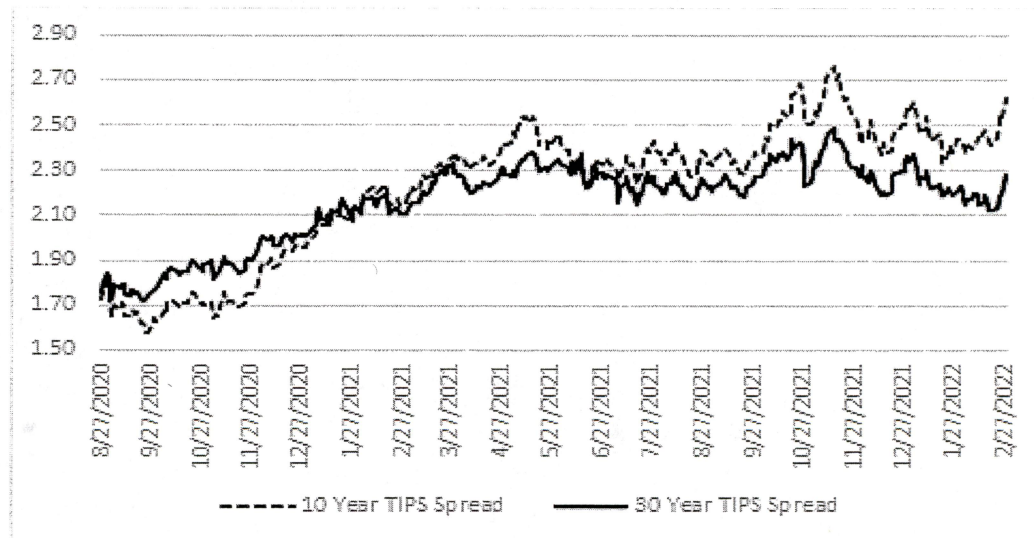
- Q. IS EXPECTED INFLATION ALSO HIGHER THAN THE FEDERAL RESERVE'S (FED) AVERAGE BENCHMARK OF 2.00%?
- A. Yes, it is. As shown on Chart 2, the ten- and 30-year breakeven inflation rates⁸ have steadily increased since August 27, 2020 when Fed Chairman Jerome H. Powell released a statement noting that the Federal Open Market Committee (FOMC) would adopt an approach towards inflation that “could be viewed as a flexible form of average inflation targeting”, meaning that following periods in which inflation has run below 2.00%, “appropriate monetary policy will likely aim to achieve inflation moderately

⁷ Source: U.S. Bureau of Labor Statistics.
⁸ The breakeven inflation rate is the market's determination of the level of inflation during the period it measures. For example, the ten-year breakeven inflation rate is the market's expectation of inflation over the next ten years.

1 above 2% for some time.”⁹ More recently, Mr. Powell has noted that “the
2 risk is rising that an extended period of high inflation could push longer-
3 term expectations uncomfortably higher, which underscores the need for
4 the Committee to move expeditiously as I have described.”¹⁰

5
6 In response to market conditions and Fed action, the breakeven inflation
7 rate, represented as the ten-year and 30-year Treasury Inflation-Protected
8 Securities spreads, has increased from 1.73% and 1.76%, respectively, to
9 2.62% and 2.28% respectively, as of February 28, 2022. Further, as shown
10 in Chart 2 below, breakeven inflation has trended upward since the Fed’s
11 policy change at a relatively consistent pace.

12 **Chart 2**
13 **Breakeven Inflation Since August 27, 2020¹¹**



9 *New Economic Challenges and the Fed’s Monetary Policy Review*, Remarks by Jerome H. Powell, Chair Board of
Governors of the Federal Reserve System, August 27, 2020.

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

11 Source: Federal Reserve (<https://www.federalreserve.gov/datadownload/>).

1 Q. HAS CHAIRMAN POWELL MADE ANY COMMENTS CONCERNING INFLATION
2 RECENTLY?

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

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

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

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

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The ultimate responsibility for price stability rests with the Federal Reserve. Price stability is essential if we are going to have another sustained period of strong labor market conditions. I believe that the policy approach that I have laid out is well suited to achieving this outcome. We will take the necessary steps to ensure a return to price stability. In particular, if we conclude that it is appropriate to move more aggressively by raising the federal funds rate by more than 25 basis points at a meeting or meetings, we will do so. And if we determine that we need to tighten beyond common measures of neutral and into a more restrictive stance, we will do that as well.¹²

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As can be inferred from Chairman Powell's testimony, he expects inflation to continue well into next year and that the Fed will use the tools at their disposal to support the economy and the labor market. As discussed above, increasing and sustained levels of inflation are consistent with a directionally higher ROE for the Company as they are strongly correlated.

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

1 Q. WHAT ARE THE TOOLS COMMONLY USED BY THE FED TO PREVENT
2 INFLATION FROM BECOMING ENTRENCHED?

3 A. Generally, the Fed can stop injecting funds into the economy (taper asset
4 purchases) and raise the Fed Funds Rate, or the rate that commercial banks
5 lend their excess reserves to each other overnight. In early March 2022,
6 the Fed ended its purchases of net purchases of Treasuries and agency
7 mortgage-backed securities, and on March 16, 2022, the Fed raised the Fed
8 Funds Rate from 0.00% - 0.25% to 0.25% - 0.50%.

9
10 Q. IS THE MARKET CURRENTLY PRICING IN EXPECTATIONS OF FUTURE FED
11 FUNDS RATE INCREASES?

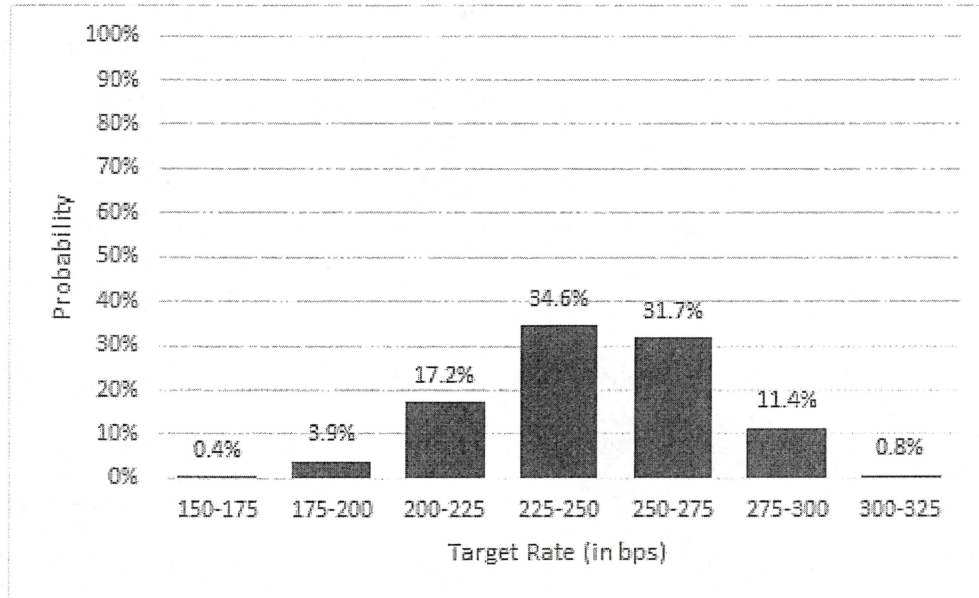
12 A. Yes. The CME FedWatch Tool, as presented in Chart 3 below, indicates
13 that 100.00% of investors are pricing in rate hikes of at least 125 basis
14 points above the current target rate of 0.25% to 0.50% by the February 1,
15 2023, FOMC meeting. The majority of investors expect rate hikes of at
16 least 200 basis points.

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Chart 3

CME FedWatch Tool – February 1, 2023 FOMC Meeting¹³



Q. WHAT IS THE IMPACT OF INFLATION ON INTEREST RATES?

A. As discussed previously, when inflation increases, central banks attempt to raise interest rates by reducing bond buying programs or increasing their interbank offered rates to attempt to keep inflation at target levels. Over the period 1947-2020, the relationship between inflation, as measured by the year-over-year change in the CPI and interest rates, had a 0.63 correlation coefficient, showing a strong positive relationship, which is statistically significant.

¹³ Source: <https://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html>, accessed March 21, 2022.

1 Q. WHAT IS YOUR CONCLUSION RELATED TO CURRENT CAPITAL MARKET
2 CONDITIONS?

3 A. As demonstrated above, current and expected market conditions are
4 dynamic and point to a directionally higher ROE for natural gas
5 distribution utilities. Specifically, the current inflationary environment is
6 influencing monetary policy, which will put upward pressure on both
7 interest rates and the investor required return.
8

9 **IV. RESPONSE TO STAFF WITNESS GRIFFING**

10 Q. PLEASE SUMMARIZE DR. GRIFFING'S ROE RECOMMENDATION.

11 A. Dr. Griffing applies single stage and multi-stage Discounted Cash Flow
12 (DCF) models, and a Capital Asset Pricing Model (CAPM), to a proxy
13 group of nine natural gas utilities using data from February 2022. However,
14 Dr. Griffing only relies on the results of his analytical models excluding SJI.
15 The results of these models are summarized in Tables 2 and 3, below.
16

17 **Table 2**

18 **Summary of Dr. Griffing's DCF Results¹⁴**

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	Constant Growth	Multi-Stage
20 Mean	9.53%	8.90%
21 Median	9.79%	9.09%

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14 Griffing Direct Testimony, at 40.

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Table 3
Summary of Dr. Griffing's CAPM Results¹⁵

Model	IBES	<i>Value Line</i>
Mean	12.34%	8.56%
Median	11.96%	8.32%

Dr. Griffing derives his 9.40% recommended ROE by assigning 37.5% weight to both his mean constant growth and multi-stage DCF model results, 10% weight to his mean IBES CAPM results, and 15% to his mean *Value Line Investment Survey (Value Line)* CAPM results.¹⁶

Q. PLEASE SUMMARIZE THE AREAS OF AGREEMENT BETWEEN YOU AND DR. GRIFFING.

A. I generally agree with Dr. Griffing on several of his methodologies and assumptions. In particular, Dr. Griffing's application of the constant growth DCF model is largely similar to the constant growth DCF model presented in my Direct Testimony and updated in Exhibit (DWD-2), Schedule 1. In addition, although I disagree with Dr. Griffing's flotation cost adjustment result, we agree that a flotation cost adjustment is appropriate.

Q. PLEASE SUMMARIZE THE KEY AREAS IN WHICH YOU DISAGREE WITH DR. GRIFFING'S ANALYSES AND RECOMMENDATIONS.

A. The key areas in which Dr. Griffing and I disagree are:

¹⁵ Griffing Direct Testimony, at 40.
¹⁶ Griffing Direct Testimony, at 41.

- 1 (i) His selection criteria for his proxy group;
- 2 (ii) The applicability of the multi-stage DCF models in his analysis;
- 3 (iii) Certain assumptions included in his CAPM analysis, including the
4 use of a current risk-free rate and the exclusion of companies in
5 the market return estimate;
- 6 (iv) His approach to limit the number of issuances included in the
7 calculation of the flotation cost adjustment;
- 8 (v) His exclusion of a size adjustment; and
- 9 (vi) His proposed capital structure.

10 **A. Proxy Group Selection**

11 Q. PLEASE SUMMARIZE THE PROCESS BY WHICH DR. GRIFFING SELECTED HIS
12 PROXY GROUP.

13 A. Dr. Griffing developed his proxy group of 16 companies by applying the
14 following criteria:

- 15 (i) U.S.-based firm;
- 16 (ii) Publicly traded;
- 17 (iii) Continuous record of paying dividends;
- 18 (iv) Not party to a merger or acquisition or engaged in an unusual
19 regulatory proceeding;
- 20 (v) Has a credit rating of BBB- or higher from Standard & Poor's
21 (S&P);
- 22 (vi) Has a positive projected analyst growth rate; and

1 (vii) A three-year average of at least 60% of net operating income, net
2 income, or operating revenue derived from regulated natural gas
3 operations.¹⁷
4

5 Q. DO YOU AGREE WITH DR. GRIFFING'S SELECTION CRITERIA AND HIS
6 ULTIMATE PROXY GROUP?

7 A. Not entirely. Although several of Dr. Griffing's screening criteria overlap
8 with mine, I disagree with his inclusion of Chesapeake Utilities (CPK).
9 Although CPK's operations are largely regulated, a large portion of its
10 regulated operations are associated with natural gas transmission activities,
11 and to a lesser extent electric distribution activities. As shown in Table 4,
12 below, the net income and total assets for CPK's natural gas distribution
13 operations represented only 31.78% and 40.70% of the total operations,
14 respectively. Both of those metrics are well below the 60.00% threshold
15 Dr. Griffing and I rely on in our proxy group screening criteria. Because a
16 majority of CPK's operations are not associated with regulated natural gas
17 distribution operations, it is not an appropriate proxy company for NSP.
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17 Griffing Direct Testimony, at 15.

1 **Table 4**

2 **2020 Regulated Net Income and Total Assets¹⁸**

3

Company	Operations	Net Income (\$)	Total Assets (\$)
<i>Regulated Operations</i>			
Delmarva Natural Gas	Natural Gas Distribution	9,448	319,028
Florida Natural Gas	Natural Gas Distribution	12,542	451,966
Eastern Shore	Natural Gas Transmission	20,320	471,492
Peninsula Pipeline	Natural Gas Transmission	9,359	129,862
Aspire Energy Express	Natural Gas Transmission	34	1,599
FPU	Electric Distribution	3,942	173,672
<i>Non-Regulated Operations</i>			
Propane Operations	Propane Delivery	6,485	144,805
Energy Transmission	Natural Gas Transmission, gathering, and processing	3,407	115,882
Energy Generation	Electricity and Steam Generation	2,260	40,666
Marlin Gas Services	Mobile CNG	1,404	45,541
% Regulated Natural Gas Distribution of Total		31.78%	40.70%

16 **B. Application of Constant Growth Discounted Cash Flow**
 17 **Model**

18 Q. PLEASE SUMMARIZE DR. GRIFFING'S CONSTANT GROWTH DCF MODEL
 19 ANALYSIS.

20 A. Dr. Griffing's Constant Growth DCF model relies on four-week average
 21 stock prices and higher of the most recently available dividends from *Value*

18 ¹⁸ Chesapeake Utilities Corporation, SEC Form 10-K, For the period ending December 31, 2020, at 2, 8.

1 *Line* and Zacks to calculate the dividend yield, which he then adjusts using
2 the mean earnings per share (EPS) growth rate and an estimate of flotation
3 costs. That expected dividend yield adjusted for flotation costs is then
4 summed with the mean projected EPS growth rate from Zacks, Yahoo!
5 Finance, and *Value Line* to arrive at the Constant Growth DCF results.¹⁹

6
7 Q. DO YOU HAVE ANY GENERAL COMMENTS REGARDING DR. GRIFFING'S
8 APPLICATION OF THE DCF MODEL?

9 A. Yes, I do. I generally agree with the assumptions and inputs used by Dr.
10 Griffing in his constant growth DCF model analysis. As I mentioned
11 above, I disagree with his inclusion of Chesapeake Utilities in his proxy
12 group. Additionally, while Dr. Griffing applied a flotation cost adjustment
13 to his DCF model and CAPM results, I disagree with his estimate of that
14 adjustment.

15
16 Q. DO YOU HAVE ANY SUGGESTED CHANGES TO DR. GRIFFING'S CONSTANT
17 GROWTH DCF ANALYSIS?

18 A. Yes, I do. As discussed above, I disagree with Dr. Griffing's inclusion of
19 CPK in his proxy group. Given that, I have updated Dr. Griffing's
20 constant growth DCF results to exclude CPK. In addition, as discussed in
21 more detail in Section IV.E, had Dr. Griffing not arbitrarily excluded
22 flotation costs prior to 2013 from his calculation of the adjustment, his
23 flotation cost percentage would have been 3.759% instead of 0.925%.
24 Removing CPK from Dr. Griffing's proxy group excluding SJI and
25 applying the flotation cost percentage of 3.759% to his constant growth

19 Chesapeake Utilities Corporation, SEC Form 10-K, For the period ending December 31, 2020, at 24-28.

1 DCF model increases the average results from 9.53% to 9.88% and median
2 results from 9.79% to 10.06%, as shown on Exhibit__ (DWD-2), Schedule
3 2. The corrected results for Dr. Griffing's proxy group including SJI
4 average 10.11%, with a median of 10.14%.

5

6 **C. Application of Multi-Stage Discounted Cash Flow Model**

7 Q. PLEASE SUMMARIZE DR. GRIFFING'S MULTI-STAGE DCF MODEL.

8 A. Dr. Griffing's multi-stage DCF model is structured similarly to his constant
9 growth DCF model and largely relies on similar inputs. The difference
10 between his constant growth DCF and multi-stage DCF models is the
11 growth rate estimate. In his multi-stage DCF model, Dr. Griffing assumes
12 a growth rate equal to a weighted average of analyst growth rates from
13 Zacks, Yahoo! Finance, and *Value Line*, which he gives two-thirds weight,
14 and an estimate of Gross Domestic Product (GDP) growth, which he gives
15 one-third weight.²⁰ Dr. Griffing's weighted average growth rate implies a
16 transition between the analyst growth rates to the expected growth rate in
17 GDP at some point in the future.

18

19 Q. IS DR. GRIFFING'S MULTI-STAGE DCF MODEL AN APPROPRIATE APPROACH
20 TO ESTIMATING THE COMPANY'S ROE?

21 A. No. The multi-stage DCF model and its growth rates reflect the
22 company/industry life cycle, which is typically described in three stages: (1)
23 the growth stage, which is characterized by rapidly expanding sales, profits,
24 and earnings. In the growth stage, dividend payout ratios are low in order

20 Griffing Direct Testimony, at 32-33.

1 to grow the firm; (2) the transition stage, which is characterized by slower
2 growth in sales, profits, and earnings.²¹ In the transition stage, dividend
3 payout ratios increase, as their need for exponential growth diminishes; and
4 (3) the maturity (steady-state) stage, which is characterized by limited,
5 slightly attractive investment opportunities, and steady earnings growth,
6 dividend payout ratios, and returns on equity. The economics of the public
7 utility business indicate that the industry is in the steady-state, or constant-
8 growth stage of a multi-stage DCF model.

9

10 Q. WHAT IS DR. GRIFFING'S REASONING BEHIND USING THE MULTI-STAGE
11 DCF FOR HIS PROXY GROUP?

12 A. Dr. Griffing cites the unusual economic conditions caused by COVID-19,
13 specifically that EPS will rebound from pandemic lows, which would be
14 unsustainable.²²

15

16 Q. DO YOU AGREE WITH DR. GRIFFING'S REASONING?

17 A. No, I do not. In the process of updating my analysis, I reviewed each
18 proxy company's *Value Line* Sheet to determine if the EPS values were
19 depressed during the pandemic period. I discovered that EPS for four of
20 six of the proxy companies increased from 2019 to 2020; and five of six
21 proxy group companies increased EPS from 2021 to 2022 (projected).²³ In
22 view of this, Dr. Griffing's justification for using the multi-stage DCF
23 should be dismissed.

21 Dr. Griffing's weighted growth rate approach does not assume a transition stage.
22 Griffing Direct Testimony, at 30.
23 Exhibit___(DWD-2), Schedule 1, Pages 4-9.

1 Q. ARE THERE EXAMPLES IN BASIC FINANCE TEXTS THAT SUPPORT YOUR
2 POSITION?

3 A. Yes. For example, in *Investments*, life cycles and multi-stage growth models
4 are discussed:

5 As useful as the constant-growth DDM (dividend discount model)
6 formula is, you need to remember that it is based on a simplifying
7 assumption, namely, that the dividend growth rate will be constant
8 forever. In fact, firms typically pass through life cycles with very
9 different dividend profiles in different phases. In early years, there
10 are ample opportunities for profitable reinvestment in the
11 company. Payout ratios are low, and growth is correspondingly
12 rapid. In later years, the firm matures, production capacity is
13 sufficient to meet market demand, competitors enter the market,
14 and attractive opportunities for reinvestment may become harder
15 to find. In this mature phase, the firm may choose to increase the
16 dividend payout ratio, rather than retain earnings. The dividend
17 level increases, but thereafter it grows at a slower pace because the
18 company has fewer growth opportunities.

19 Table 18.2 illustrates this pattern. It gives Value Line's forecasts of
20 return on assets, dividend payout ratio, and 3-year growth in
21 earnings per share for a sample of the firms in the computer
22 software industry versus those of east coast electric utilities...

23 By in large, the software firms have attractive investment
24 opportunities. The median return on assets of these firms is
25 forecast to be 19.5%, and the firms have responded with high
26 plowback ratios. Most of these firms pay no dividends at all. The
27 high return on assets and high plowback result in rapid growth.
28 The median growth rate of earnings per share in this group is
29 projected at 17.6%.

30 In contrast, the electric utilities are *more representative of mature firms*.
31 Their median return on assets is lower, 6.5%; dividend payout is
32 higher, 68%; and median growth is lower, 4.6%.

33 ***

34 To value companies with temporarily high growth, analysts use a

1 multistage version of the dividend discount model. Dividends in
2 the early high-growth period are forecast and their combined
3 present value is calculated. Then, once the firm is projected to
4 settle down to *a steady-growth phase, the constant-growth DDM is applied*
5 *to value the remaining stream of dividends.*²⁴ (Clarification and emphasis
6 added)

7 In view of the above, Dr. Griffing should not apply a multi-stage DCF
8 model, as it is not applicable to utilities, and instead exclusively rely on the
9 three- to five-year projected growth rates for each company. He also
10 should not apply the GDP growth rate to his company-specific growth
11 rates, because it is not a company-specific growth rate, nor is it an upper
12 bound for growth.

13

14 Q. WHY IS LONG-TERM GROWTH IN GDP NOT AN UPPER BOUND FOR
15 GROWTH, AS DR. GRIFFING CONTENTS?²⁵

16 A. First, GDP is not a market measure – rather it is a measure of the value of
17 the total output of goods and services, excluding inflation, in an economy.
18 While I understand that EPS growth is also not a market measure, it is well
19 established in the financial literature that projected growth in EPS is the
20 superior measure of dividend growth in a DCF model.²⁶ Furthermore,
21 GDP is simply the sum of all private industry and government output in
22 the United States, and its growth rate is simply an average of the value of
23 those industries. To illustrate, Exhibit__(DWD-2), Schedule 3 presents the

24 Z. Bodie, A. Kane, and A. J. Marcus, *Investments*, 7th Edition, McGraw-Hill Irwin, 2008, at 616-617.

25 Griffing Direct Testimony, at 30.

1 compound growth rate of the industries that comprise GDP from 1947 to
2 2020. Of the 15 industries represented, seven industries, including utilities,
3 grew faster than the overall GDP, and eight industries grew slower than the
4 overall GDP.²⁷

5

6 Q. AS A PRACTICAL MATTER, DOES DR. GRIFFING EXPLAIN THE TIMING OF THE
7 LONG-TERM GROWTH ESTIMATE IN HIS MULTI-STAGE DCF ANALYSIS?

8 A. No, he does not. As Dr. Griffing explains, his multi-stage DCF method is
9 applied in a manner similar to the constant growth DCF model. The only
10 difference is that the growth rate is a weighted average of analysts' earnings
11 growth projections, and nominal GDP growth rate projections. Dr.
12 Griffing has not calculated the implied transition year between those two
13 estimates. That is, Dr. Griffing has not considered in what year his multi-
14 stage DCF model transitions between the initial and final growth stages, or
15 how it corresponds to the forecast horizon of his analysis. As such, it is
16 difficult to determine the appropriateness of the model's growth
17 assumptions.

18

19 **D. Capital Asset Pricing Model**

20 Q. PLEASE SUMMARIZE DR. GRIFFING'S CAPITAL ASSET PRICING MODEL.

21 A. Dr. Griffing develops two CAPM estimates. The first analysis combines an

26 Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management, Spring 1986; Christofi, Christofi, Lori and Moliver, *Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate*, Journal of Investing, Spring 1999; Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, Summer 1992; and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988.

27 Source of Information: Bureau of Economic Analysis.

1 estimate of the market risk premium (MRP) of 11.95% based on data from
2 Yahoo! Finance, *Value Line* Beta coefficients (beta), and his current risk-
3 free rate of 2.07%, to calculate unadjusted CAPM results. The average and
4 median CAPM estimates are 11.96% and 12.34%, respectively. Dr.
5 Griffing's second CAPM estimate is based on the same risk-free rate and
6 betas, but relies on an estimate of the MRP of 7.54% based on data from
7 *Value Line*, which produces average and median CAPM results of 8.56%
8 and 8.32%, respectively.²⁸

9
10 Dr. Griffing's first MRP estimate is based on the weighted average DCF
11 result on the S&P 500, using the Constant Growth DCF model. The
12 model relies on dividend yields from *Value Line* and projected EPS growth
13 rates from Yahoo! Finance. Dr. Griffing's second MRP estimate is based
14 on the same assumptions and inputs but relies on projected EPS growth
15 rates from *Value Line*.²⁹

16
17 Q. DO YOU AGREE WITH DR. GRIFFING'S APPLICATION OF THE CAPM?

18 A. No, I do not. Dr. Griffing's CAPM analysis is flawed in at least four
19 respects: (1) While Dr. Griffing agrees that the cost of capital is a
20 prospective measure, he does not use projected interest rates in his CAPM
21 analysis; (2) Dr. Griffing incorrectly excludes companies in his market DCF
22 model; and (3) Dr. Griffing does not apply an Empirical CAPM (ECAPM)
23 analysis.

24

28 Griffing Direct Testimony, at 38-39.

29 Griffing Direct Testimony, 37.

1 Q. DO YOU AGREE WITH DR. GRIFFING'S USE OF CURRENT, AND NOT
2 PROJECTED, INTEREST RATINGS IN THE CAPM ANALYSIS?

3 A. No, I do not. The use of expected interest rates is consistent with both the
4 cost of capital and ratemaking. The cost of capital, including the ROE, is
5 expectational, as it reflects investors' expectations of future capital markets,
6 including an expectation of interest rate levels, as well as risks. Ratemaking
7 is expectational, as the rates set in this proceeding will be in effect for a
8 period of time in the future.

9
10 Throughout his testimony, Dr. Griffing has acknowledged the
11 expectational nature of the cost of capital. On pages 21 and 22 of his direct
12 testimony, Dr. Griffing notes that the growth rate in the DCF model
13 represents expected growth. In addition, on page 9 of his direct testimony,
14 Dr. Griffing notes that his ROE analysis is "forward-looking because it
15 relies on investors' current assessment of what is likely to happen with their
16 investments." Therefore, consistent with Dr. Griffing's own statements,
17 and the forward-looking nature of the cost of capital and ratemaking, the
18 use of expected interest rates is appropriate for cost of capital purposes.

19
20 Q. DO YOU HAVE ANY CONCERNS WITH DR. GRIFFING'S MARKET RETURN
21 ESTIMATES?

22 A. Yes, I do. Although the methodology Dr. Griffing relies on to develop his
23 market return estimate based on the Constant Growth DCF model is
24 similar to one of the approaches in my Direct Testimony, I do not agree
25 with Dr. Griffing's exclusion of companies with growth rates below 0%

1 and above 20%. Nor do I agree with Dr. Griffing's removal of non-
2 dividend paying companies.

3
4 First, the expected market return is meant to reflect just that – all
5 companies in the market. At any given time, there are companies that have
6 both high and low growth rates. Excluding companies with growth rates
7 outside a certain band causes the estimate of the market return to no longer
8 reflect the overall market, but rather an arbitrary subset of companies
9 within the market.

10
11 In addition, investors recognize the market includes both dividend and
12 non-dividend paying companies. Some of the largest companies, based on
13 market capitalization, are excluded from Dr. Griffing's calculation because
14 they do not pay dividends. For example, based on Dr. Griffing's
15 Attachment___MFG-14, Schedule 3, he excluded 220 companies from the
16 market return calculation, which comprise 45.0% of the entire S&P 500
17 market capitalization. In Attachment___MFG-14, Schedule 4, he excluded
18 164 companies from the market return calculation, which comprise 36.1%
19 of the entire S&P 500 market capitalization. As shown on Exhibit
20 ___(DWD-2), Schedule 4, of the 220 companies that were excluded, 113 do
21 not pay dividends and comprise almost 30% of the S&P 500 market
22 capitalization. Excluding those companies has a significant effect on the
23 calculated expected market return and subsequently the MRP. That is,
24 because the companies Dr. Griffing removes tend to have higher growth
25 rates, his methodology biases the estimate of the market return downward.

1 More important, the resulting estimate does not represent an estimate of
2 the market as a whole.

3

4 Q. IS THERE ANOTHER EFFECT ON CAPM INPUTS BY REMOVING COMPANIES
5 FROM THE MARKET DCF CALCULATION?

6 A. Yes. My methodological concern is with internal consistency in the model's
7 application. A fundamental assumption of the CAPM is that the required
8 return is proportional to the risk of the investment. Under the CAPM, beta
9 is the measure of risk, and is calculated by comparing the subject security's
10 returns to the overall market returns. Because beta is calculated relative to
11 the overall market, which includes both dividend paying and non-dividend
12 paying companies, it is important that the expected market return also
13 reflect the overall market. As noted above, Dr. Griffing's estimate of the
14 market return includes less than 60% of the overall S&P 500 on both an
15 absolute and market capitalization basis. As such, I do not believe it is
16 appropriate to combine betas calculated relative to the entire market with a
17 MRP calculated using only a subset of the market (*i.e.*, dividend paying
18 companies with growth rates within a range of 0% to 20%).

19

20 If Dr. Griffing chooses to remove non-dividend paying companies, and
21 companies with growth rates below 0% and above 20% from the expected
22 market return, he likewise should remove them from the index used to
23 calculate beta. Because betas are a positive function of the correlation of
24 returns between the subject company and the index, removing those
25 companies may increase the correlation, thereby increasing beta.

26 In addition, dividend paying companies may have lower volatility than non-

1 dividend paying companies. Because beta also reflects relative volatility (*i.e.*,
2 subject company relative to the index), if the volatility of the index falls, the
3 relative volatility will increase, again increasing beta. Dr. Griffing's position
4 inherently assumes the proxy companies' correlation coefficients and
5 relative volatility would remain constant, and their betas would remain
6 unchanged if non-dividend paying companies are removed from the market
7 index. But he has not shown that to be the case.
8

9 Q. DOES DR. GRIFFING PERFORM AN ECAPM IN HIS ANALYSIS?

10 A. No. Dr. Griffing failed to consider the ECAPM, despite the fact that
11 numerous tests of the CAPM have confirmed the ECAPM's validity by
12 showing that the empirical Security Market Line (SML) described by the
13 traditional CAPM is not as steeply sloped as the predicted SML. While the
14 results of these tests support the notion that betas are related to security
15 returns, the empirical SML described by the CAPM formula is not as
16 steeply sloped as the predicted SML,³⁰ as discussed on pages 46 to 47 of my
17 Direct Testimony.
18

19 Q. HAVE YOU CORRECTED DR. GRIFFING'S CAPM ANALYSES?

20 A. Yes, I have. I made the following corrections to Dr. Griffing's CAPM
21 analyses: (1) the use of a projected risk-free rate; (2) the inclusion of all S&P
22 500 companies in the calculation of the market return; (3) a flotation cost
23 adjustment using all historical issuances; and (4) the removal of CPK from
24 the proxy group. Dr. Griffing's corrected CAPM results are provided in
25 Table 5, below. Although I am not suggesting that the CAPM/ECAPM

30 Morin, at 205-206.

1 results based on the IBES (Yahoo! Finance) data should be relied on (I do
 2 not rely on data from Yahoo! Finance to calculate the market risk premium
 3 in my CAPM/ECAPM analysis), the market return using *Value Line* data is
 4 within the range of market returns I developed using a similar methodology
 5 in my Direct and Rebuttal Testimonies, and only somewhat above the high
 6 end of my recommended range.

7 **Table 5**
 8 **Dr. Griffing's Corrected CAPM and ECAPM Results³¹**

9 Model	Average	Median
10 CAPM – IBES	20.28%	19.66%
11 CAPM – <i>Value Line</i>	13.85%	13.46%
12 ECAPM – IBES	20.87%	20.41%
13 ECAPM – <i>Value Line</i>	14.23%	13.93%

14 **E. Flotation Cost Adjustment**

- 15 Q. PLEASE SUMMARIZE DR. GRIFFING'S FLOTATION COST ADJUSTMENT.
- 16 A. Dr. Griffing relies on the same data I relied on to calculate my flotation
 17 cost adjustment; however, he only includes the four most recent issuances
 18 since 2013.

31 Exhibit___(DWD-2), Schedule 4.

1 Q. IS IT APPROPRIATE TO ONLY RELY ON ISSUANCES SINCE 2013 TO CALCULATE
2 THE FLOTATION COST ADJUSTMENT?

3 A. No, it is not. Although we both agree a flotation cost adjustment is
4 appropriate, I do not agree with Dr. Griffing's estimate of the adjustment.
5 Flotation costs are reflected on the balance sheet under "paid in capital"
6 and incurred over time. As a result, flotation costs remain part of a
7 company's cost structure during the test year and beyond, even if the costs
8 were incurred prior to the test year.

9

10 As noted by Morin:

11 Unlike the case of bonds, common stock has no finite life so that
12 flotation costs cannot be amortized and therefore must be
13 recovered by way of an upward adjustment to the allowed return
14 on equity.³²

15 Morin further notes that the equity capital raised in a given offering remains
16 on the balance sheet, and as such, it "would be unfair to burden the current
17 generation of ratepayers with the full costs of raising capital when the
18 benefits of that capital extend indefinitely."³³

19

20 Q. DID DR. GRIFFING RELY ON THE SAME FLOTATION COST ADJUSTMENT IN
21 NSP'S RECENT ELECTRIC RATE CASE (DOCKET NO. PU-20-441)?

22 A. No, he did not. In his direct testimony filed on April 23, 2021, the
23 Company's electric proceeding, Dr. Griffing relied on the same flotation
24 cost percentage as I do in this proceeding, noting:

32 Roger A. Morin, Modern Regulatory Finance, PUR Books LLC, 2021, at 337. (Morin)
33 Morin, at 337. In this quote, Morin is speaking to the issue of recovering flotation costs through rates as they are incurred.

1 My recommended flotation cost adjustment is 3.759 percent. I
2 adopted this value from the analysis of Mr. D'Ascendis. [Footnote
3 omitted] He has assembled flotation cost information for NSPM
4 and XEL issuances. I inspected his work and found the flotation
5 allowance reasonable.³⁴

6 Dr. Griffing has not explained why it was appropriate to consider all
7 issuances in the Company's electric proceeding, but in the natural gas
8 proceeding the analysis should only reflect the four most recent issuances.
9

10 **F. Size Adjustment**

11 Q. DID DR. GRIFFING CONSIDER A SIZE ADJUSTMENT?

12 A. No, he did not.
13

14 Q. WHAT ARE DR. GRIFFING'S CONCERNS WITH THE SIZE ADJUSTMENT?

15 A. Dr. Griffing cites to studies from Aswath Damodaran and Clifford Ang
16 and suggests that the size effect may only be transitory and, as such, an
17 adjustment is not appropriate.³⁵
18

19 Q. HAS DR. GRIFFING SUPPORTED A SIZE PREMIUM IN PRIOR TESTIMONY?

20 A. Yes, he has. In NSP's recent electric case (Docket No. PU-20-441), Dr.
21 Griffing noted, "The CAPM size adjustment is made to incorporate
22 findings that smaller companies have higher actual ROEs than the CAPM
23 predicts."³⁶ In his CAPM analysis in that proceeding
24 (Attachment___MFG-18, Schedule 9) Dr. Griffing made an adjustment to

34 Griffing Direct Testimony, Docket No. PU-20-441, at 27.

35 Griffing Direct Testimony, at 39.

36 Griffing Direct Testimony, Docket No. PU-20-441, at 37.

1 each of his proxy companies based on their market capitalization. Dr.
2 Griffing has not explained why it was reasonable to consider the risks
3 associated with size in NSP's recent electric rate case in which he filed
4 testimony on April 23, 2021, but not in the Company's current natural gas
5 rate case.

6
7 Q. WHAT IS YOUR RESPONSE TO DR. GRIFFING AS IT RELATES TO THE SIZE
8 ADJUSTMENT?

9 A. As I discussed in my Direct Testimony, smaller companies face increased
10 business risk as they are less equipped to cope with significant events that
11 affect sales, revenues, and earnings, as the loss of a few larger customers
12 will have a greater effect on a small company than a larger company.³⁷ As
13 discussed below, there exists a link between size (as measured by market
14 capitalization) and risk (as measured by the CoV of net profit and *Value*
15 *Line* Safety Rankings) for utility companies.

16
17 Reviewing data from the same source as Ang, it is clear that small
18 capitalization stocks exhibit more volatility (*i.e.*, risk) in their returns than
19 larger capitalization stocks. Table 6 presents the largest monthly gain and
20 loss for each value-weighted decile for the period 1981 through January
21 2022.

37 D'Ascendis Direct Testimony, at 66.

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Table 6

Size and Volatility of Returns – Ang Study³⁸

Decile:	1	2	3	4	5	6	7	8	9	10
Largest Gain:	29.3%	25.8%	20.9%	18.6%	19.5%	16.7%	17.1%	14.6%	14.5%	13.4%
Largest Loss:	-28.9%	-30.6%	-29.0%	-29.6%	-28.1%	-26.1%	-26.4%	-24.4%	-22.3%	-19.7%

While it may be true that smaller stocks underperformed larger stocks in the Ang study, risk is measured by volatility, not returns. Table 6 shows that smaller stocks exhibit higher risk than larger stocks as measured by volatility.

Further, an article by Michael A. Paschall, ASA, CFA, and George B. Hawkins ASA, CFA, *Do Smaller Companies Warrant a Higher Discount Rate for Risk?* supports the applicability of a size premium. As the article makes clear, all else equal, size is a risk factor which must be taken into account when setting the cost of capital or capitalization (discount) rate. Paschall and Hawkins state in their conclusion as follows:

The current challenge to traditional thinking about a small stock premium is a very real and potentially troublesome issue. The challenge comes from bright and articulate people and has already been incorporated into some court cases, providing further ammunition for the IRS. Failing to consider the additional risk associated with most smaller companies, however, is to fail to acknowledge reality. Measured properly, small company stocks have proven to be more risky over a long period of time than have larger company stocks. This makes sense due to the various advantages that larger companies have over smaller companies.

³⁸ Deciles in ascending order with one (1) representing the smallest stocks by market capitalization. Source: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#BookEquity.

1 Investors looking to purchase a riskier company will require a
2 greater return on investment to compensate for that risk. There
3 are numerous other risks affecting a particular company, yet the
4 use of a size premium is one way to quantify the risk associated
5 with smaller companies.³⁹

6 Hence, Paschall and Hawkins corroborate the need for a small size
7 adjustment, all else equal.

8

9 Q. HAVE YOU CONDUCTED AN ADDITIONAL STUDY COMPARING THE SIZE OF
10 NSP WITH THE AVERAGE PROXY COMPANY?

11 A. Yes, I have. Exhibit___(DWD-2), Schedule 5 contains indicated small size
12 risk premiums using various measures of size as described by Duff &
13 Phelps' 2021 Valuation Handbook.⁴⁰ The measures are listed below:

- 14 • Market Value of Common Equity;
- 15 • Book Value of Common Equity;
- 16 • Five-Year Average Net Income;
- 17 • Market Value of Invested Capital;
- 18 • Total Assets;
- 19 • Five Year Average EBITDA; and
- 20 • Total Sales.

21 As shown on Exhibit___(DWD-2), Schedule 5, in all measures, NSP is
22 smaller than Dr. Griffing's proxy group with associated size premiums
23 between 1.61% and 3.08%.⁴¹ In view of these indicated size premiums, an

39 Michael A. Paschall, ASA, CFA and George B. Hawkins ASA, CFA, *Do Smaller Companies Warrant a Higher Discount Rate for Risk?*, CCH Business Valuation Alert, Vol. 1, Issue No. 2, December 1999.

40 Duff & Phelps' 2021 Valuation Handbook, at p. 10-2.

41 The range of size premiums based on my updated Utility Proxy Group is between 1.68% and 3.21%.

1 upward size adjustment of 0.50% to the indicated cost of common equity is
2 extremely conservative.

3

4 Q. HAVE YOU PERFORMED A STUDY FOR UTILITY COMPANIES THAT LINK SIZE
5 AND RISK?

6 A. Yes, I have. The study included the universe of electric, gas, and water
7 companies included in *Value Line's* Standard Edition. From each of the
8 utilities' *Value Line* Ratings & Reports, I calculated the ten-year Coefficient
9 of Variation (CoV)⁴² of net profit (a measure of risk) and current market
10 capitalization (a measure of size) for each company. After ranking the
11 companies by size (largest to smallest) and risk (least risky to most risky), I
12 made a scatter plot of the data, as shown on Chart 4, below:

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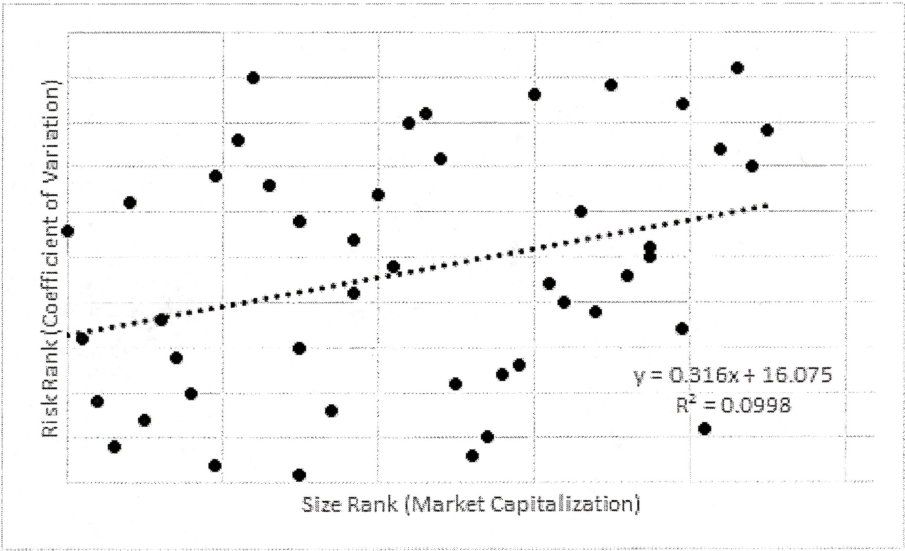
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42 The coefficient of variation is used by investors and economists to determine volatility.

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Chart 4
Relationship Between Size and CoV of Net Profit for the *Value Line*
Universe of Utility Companies⁴³



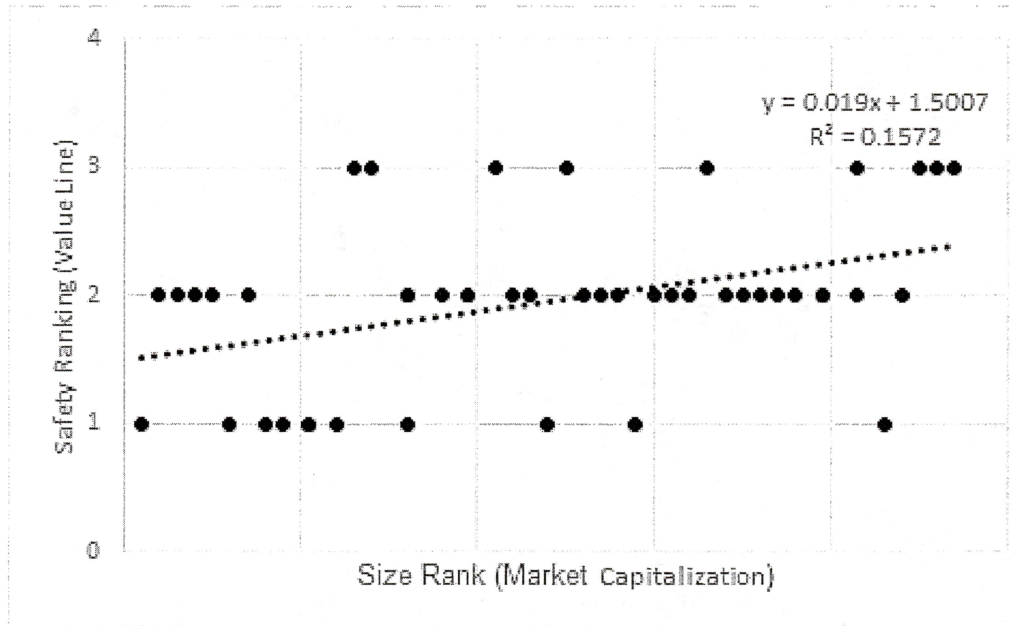
As shown in Chart 4 above, as company size decreases (increasing size rank), the CoV increases, linking size and risk for utilities, which is significant at 95.00% confidence level.

Another measure of total risk provided by *Value Line* is Safety Ranking.⁴⁴ Similar to the CoV of net profit, I made a scatterplot of the relationship between Safety Ranking and size rank:

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

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Chart 5
Relationship Between Size and Safety Ranking for the *Value Line*
Universe of Utility Companies⁴⁵



As shown on Chart 5, again, as company size rank increases, Safety Ranking degrades, indicating a link between size and risk for utilities, also significant at the 95.00% confidence level.

G. Capital Structure

Q. PLEASE SUMMARIZE THE COMPONENTS OF THE COMPANY'S RECOMMENDED CAPITAL STRUCTURE.

A. The Company's proposed capital structure includes 0.43% short-term debt, 47.03% long-term debt, and 52.54% common equity.

⁴⁵ Source: *Value Line*.

1 Q. PLEASE SUMMARIZE DR. GRIFFING'S TESTIMONY AS IT RELATES TO THE
2 COMPANY'S PROPOSED CAPITAL STRUCTURE.

3 A. Dr. Griffing recommends that the Commission authorize a hypothetical
4 common equity ratio of 52.00%, based on an eight-quarter average equity
5 ratio of his proxy group.⁴⁶ Specifically, he states that he recommends
6 "reducing the ratio from 52.54 percent to fit better with the mean ratio for
7 the peer companies."⁴⁷
8

9 Q. DOES DR. GRIFFING'S RECOMMENDED HYPOTHETICAL CAPITAL
10 STRUCTURE REFLECT THE COMPANY'S SPECIFIC OPERATING CONDITIONS?

11 A. No, it does not. Dr. Griffing's simple average of quarterly capital structures
12 of his proxy group is self-explanatory, but does not reflect any Company-
13 specific risks. The Company's requested capital structure reflects how its
14 jurisdictional rate base is actually financed, and because of this, it reflects
15 the Company's operating risks.
16

17 Q. WHAT FACTORS SHOULD TYPICALLY BE CONSIDERED WHEN DETERMINING
18 WHETHER TO USE AN ACTUAL OR HYPOTHETICAL CAPITAL STRUCTURE FOR
19 RATEMAKING PURPOSES?

20 A. The factors typically considered relative to the use of a regulated
21 subsidiary's actual capital structure, or a hypothetical capital structure, are
22 provided by David C. Parcell in The Cost of Capital – A Practitioner's
23 Guide (CRRRA Guide) prepared for the Society of Utility and Regulatory
24 Financial Analysts (SURFA) and provided as the study guide to candidates

46 Griffing Direct Testimony, at 45.

47 Griffing Direct Testimony, at 46.

1 for SURFA's Certified Rate of Return Certification Examination. The
2 CRRA Guide notes that there are circumstances where a hypothetical
3 capital structure is used in favor of an actual capital structure. They are:

- 4 (i) The utility's capital structure is deemed to be substantially different
5 from the typical or "proper" capital structure; or
6 (ii) The utility's capital structure is funded as part of a diversified
7 organization whose overall capital structure reflects its diversified
8 nature rather than its utility operations only.⁴⁸

9 Phillips echoes the CRRA Guide when he states:

10 Debt ratios began to rise in the late 1960s and early 1970s, and the
11 financial condition of the public utility sector began to deteriorate.

12 It became the common practice to use actual or expected
13 capitalizations; actual where a historic test year is used, expected
14 when a projected or future test year is used.⁸³ (footnote omitted)

15 The objective, in short, shifted from minimization of the short-
16 term cost of capital to protection of a utility's ability "to raise
17 capital at all times." This objective requires that a public utility
18 make every effort to keep indebtedness at a prudent and
19 conservative level."⁸⁴ (footnote omitted)

20 *A hypothetical capital structure is used only where a utility's actual*
21 *capitalization is clearly out of line with those of other utilities in its industry or*
22 *where a utility is diversified.*⁸⁵ (footnote omitted) (italics added)⁴⁹

23 As discussed in my Direct Testimony, the Company's requested equity ratio
24 (which mirrors its actual equity ratio) is consistent with the range of
25 projected equity ratios from *Value Line* and historical holding company and

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

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

1 operating company equity ratios.⁵⁰ The Company's requested equity ratio
2 also falls within the range of equity ratios maintained by Dr. Griffing's
3 proxy group.⁵¹ Finally, the above literature supports the Company's use of
4 its actual capital structure. As such, the requested capital structure should
5 be approved by the Commission.

6

7 Q. IS THE COMPANY'S PROPOSED EQUITY RATIO OF 52.54% APPROPRIATE FOR
8 RATEMAKING PURPOSES?

9 A. Yes, it is. The Company's proposed equity ratio of 52.54% is appropriate
10 for ratemaking purposes in the current proceeding because it is well within
11 industry norms and reflects the financing of their rate base.

12

13 **H. Response to Dr. Griffing's Critique of Company Analysis**

14 Q. WHAT ARE DR. GRIFFING'S CONCERNS WITH YOUR ANALYSES?

15 A. Dr. Griffing does not agree with: (1) the calculation of one of the market
16 returns in my CAPM analysis; (2) my Non-Price Regulated Proxy Group;
17 and (3) the applicability of a size adjustment. I have already addressed the
18 calculation of the market return and the applicability of the size adjustment
19 in my response to Dr. Griffing above and will not repeat that discussion
20 here.

21

22 Q. WHAT IS YOUR RESPONSE TO DR. GRIFFING'S CONCERN WITH YOUR NON-
23 REGULATED PROXY GROUP?

24 A. As discussed in my Direct Testimony, the selection criteria for my non-

50 D'Ascendis Direct Testimony, at 25-26.

51 Griffing Direct Testimony, at Exhibit MFG-16, Schedule 2.

1 regulated proxy group were based on a range of unadjusted betas (a
2 measure of systematic risk) and a range of standard errors of the regression
3 (a measure of unsystematic risk), which gave rise to those betas, and
4 together measure total risk.⁵²

5
6 As to the comparability of my Non-Price Regulated and Utility Proxy
7 Groups, the selection criteria for my Non-Price Regulated Proxy Group
8 were based on ranges of two measures of risk, the unadjusted beta of the
9 proxy group, which measures systematic or market risk, and the standard
10 error of the regression, which gave rise to those betas, measuring non-
11 systematic or diversifiable risk. Systematic plus non-systematic risk is one
12 definition of total risk.⁵³

13
14 Business and financial risks may vary between companies and proxy
15 groups, but if the collective average betas and standard errors of the
16 regression of the group are similar, then the total, or aggregate, non-
17 diversifiable market risks and diversifiable risks are similar, as noted in
18 “Comparable Earnings: New Life for an Old Precept” provided in
19 Exhibit__(DWD-2), Schedule 6. Thus, because the non-price regulated
20 companies are selected based on analyses of market data, they are
21 comparable in total risk (even though individual risks may vary) to the
22 Utility Proxy Group. This is demonstrated clearly on page 273 of Jack C.
23 Francis’ *Investments: Analysis and Management* (page 3 of Exhibit__(DWD-2),
24 Schedule 7), which shows that total risk can be “partitioned into its

52 D’Ascendis Direct Testimony, at 60.

53 Business risk plus financial risk is a second definition of total risk.

1 systematic and unsystematic components.” Essentially, companies that
2 have similar betas and standard errors of regression have similar total
3 investment risk. Therefore, it is entirely appropriate to rely on the results
4 of the application of the DCF, Risk Premium Model and CAPM analyses to
5 the Non-Price Regulated Proxy Group.

6
7 Q. IS THERE A SPECIFIC ADVANTAGE TO USING YOUR SELECTION CRITERIA,
8 WHICH USES MEASURES OF SYSTEMATIC AND UNSYSTEMATIC RISK, INSTEAD
9 OF USING THE COMBINATION OF BUSINESS AND FINANCIAL RISK?

10 A. Yes. *Value Line* unadjusted betas, and the standard error of the regressions
11 giving rise to those betas, are measurable objective values, whereas total
12 business risk⁵⁴ and financial risk measures are more subjective. In view of
13 all of the above, Dr. Griffing’s concerns regarding my Non-Price Regulated
14 Proxy Group should be dismissed by the Commission.

15
16 **V. CONCLUSION**

17 Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

18 A. In this Rebuttal Testimony, I updated my ROE models with market data as
19 of February 28, 2022. The results of the ROE models produced indicated
20 ranges of ROEs from 10.06% to 12.72% (unadjusted) and from 10.70% to
21 13.36% (adjusted). Given these ranges, I maintain my initial
22 recommendation of 10.50%, which, in light of the updated results, is
23 reasonable, if not conservative.

24

54 Business risk in excess of size risk, which is measurable, as discussed previously.

1 Regarding the Company's capital structure, Dr. Griffing has not provided
2 sufficient evidence to support relying on a hypothetical capital structure
3 instead of NSP's requested test year capital structure. As such, I continue
4 to find the Company's capital structure, including 52.54% common equity,
5 47.03% long-term debt, and 0.43% short-term debt reasonable.

6

7 Q. SHOULD ANY OR ALL OF THE ARGUMENTS MADE BY DR. GRIFFING
8 PERSUADE THE COMMISSION TO LOWER THE RETURN ON COMMON EQUITY
9 APPROVED FOR NSP BELOW YOUR RECOMMENDATION?

10 A. No, they should not. My recommended cost of common equity of 10.50%,
11 is both reasonable and conservative. It will provide the Company with
12 sufficient earnings to enable it to attract necessary new capital efficiently
13 and at a reasonable cost, to the benefit of both customers and investors.

14

15 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

16 A. Yes, it does.

Northern States Power Company, a Minnesota Corporation
Recommended Capital Structure and Cost Rates
for Ratemaking Purposes

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

Notes:

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

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Brief Summary of Common Equity Cost Rate

<u>Line No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Six Natural Gas Distribution Companies</u>
1.	Discounted Cash Flow Model (DCF) (1)	10.06%
2.	Risk Premium Model (RPM) (2)	10.58%
3.	Capital Asset Pricing Model (CAPM) (3)	11.76%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>12.72%</u>
5.	Range of Common Equity Model Results	10.06% - 12.72%
6.	Business Risk Adjustment (5)	0.50%
7.	Credit Risk Adjustment (6)	0.00%
8.	Flotation Cost Adjustment (7)	<u>0.14%</u>
9.	Indicated Range of Common Equity Cost Rates after Adjustment	<u><u>10.70% - 13.36%</u></u>
10.	Recommended Common Equity Cost Rate	<u><u>10.50%</u></u>

- Notes: (1) From page 3 of this Schedule.
 (2) From page 10 of this Schedule.
 (3) From page 23 of this Schedule.
 (4) From page 28 of this Schedule.
 (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 reflects the Company has the same long-term issuer rating relative to the updated Utility Proxy Group.
 (7) From page 36 of this Schedule.

Northern States Power Company, a Minnesota Corporation
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
<u>Proxy Group of Six Natural Gas Distribution Companies</u>	<u>Average Dividend Yield (1)</u>	<u>Value Line Projected Five Year Growth in EPS (2)</u>	<u>Zack's Five Year Projected Growth Rate in EPS</u>	<u>Bloomberg's Five Year Projected Growth Rate in EPS</u>	<u>Yahoo! Finance Projected Five Year Growth in EPS</u>	<u>Average Projected Five Year Growth in EPS (3)</u>	<u>Adjusted Dividend Yield (4)</u>	<u>Indicated Common Equity Cost Rate (5)</u>
Atmos Energy Corporation	2.63 %	7.50 %	7.30 %	7.39 %	7.25 %	7.36 %	2.73 %	10.09 %
New Jersey Resources Corporation	3.63	4.50	6.00	10.17	6.00	6.67	3.75	10.42
NiSource, Inc.	3.39	10.50	6.70	6.69	3.52	6.85	3.51	10.36
Northwest Natural Holding Company	4.05	6.00	5.10	5.03	5.90	5.51	4.16	9.67
ONE Gas, Inc.	3.26	6.00	5.00	6.00	2.90	4.98	3.34	8.32
Spire Inc.	4.25	9.00	5.50	5.87	4.30	6.17	4.38	10.55
							Average	<u>9.90 %</u>
							Median	<u>10.22 %</u>
						Average of Mean and Median		<u>10.06 %</u>

NA= Not Available
NMF= Not Meaningful Figure

Notes:

- (1) Indicated dividend at 02/28/2022 divided by the average closing price of the last 60 trading days ending 02/28/2022 for each (2)
From pages 4 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

(5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey
www.zacks.com Downloaded on 02/28/2022
www.yahoo.com Downloaded on 02/28/2022
Bloomberg Professional Services

Northern States Power Company

ATMOS ENERGY CORP. NYSE-ATO										RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO		DIV'D YLD	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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<table border="1"> <thead> <tr> <th>2006</th><th>2007</th><th>2008</th><th>2009</th><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th><th>2021</th><th>2022</th><th>2023</th><th>© VALUE LINE PUB. LLC</th><th>25-27</th></tr> </thead> <tbody> <tr> <td>75.27</td><td>66.03</td><td>79.52</td><td>53.69</td><td>53.12</td><td>48.15</td><td>38.10</td><td>42.88</td><td>49.22</td><td>40.82</td><td>32.23</td><td>26.01</td><td>28.00</td><td>24.32</td><td>22.41</td><td>25.73</td><td>26.45</td><td>27.90</td><td>Revenues per sh^A</td><td>35.50</td></tr> <tr> <td>4.26</td><td>4.14</td><td>4.19</td><td>4.29</td><td>4.64</td><td>4.72</td><td>4.76</td><td>5.14</td><td>5.42</td><td>5.81</td><td>6.19</td><td>6.62</td><td>7.24</td><td>7.57</td><td>8.03</td><td>8.64</td><td>9.30</td><td>9.95</td><td>"Cash Flow" per sh</td><td>11.95</td></tr> <tr> <td>2.00</td><td>1.94</td><td>2.00</td><td>1.97</td><td>2.16</td><td>2.26</td><td>2.10</td><td>2.50</td><td>2.96</td><td>3.09</td><td>3.38</td><td>3.60</td><td>4.00</td><td>4.35</td><td>4.72</td><td>5.12</td><td>5.50</td><td>5.90</td><td>Earnings per sh^{AB}</td><td>7.30</td></tr> <tr> <td>1.26</td><td>1.28</td><td>1.30</td><td>1.32</td><td>1.34</td><td>1.36</td><td>1.38</td><td>1.40</td><td>1.48</td><td>1.56</td><td>1.68</td><td>1.80</td><td>1.94</td><td>2.10</td><td>2.30</td><td>2.50</td><td>2.72</td><td>2.92</td><td>Div'ds Decl'd per sh^C</td><td>3.50</td></tr> <tr> <td>5.20</td><td>4.39</td><td>5.20</td><td>5.51</td><td>6.02</td><td>6.90</td><td>8.12</td><td>9.32</td><td>8.32</td><td>9.61</td><td>10.46</td><td>10.72</td><td>13.19</td><td>14.19</td><td>15.38</td><td>14.87</td><td>17.75</td><td>17.60</td><td>Cap'l Spending per sh</td><td>18.00</td></tr> <tr> <td>20.16</td><td>22.01</td><td>22.60</td><td>23.52</td><td>24.16</td><td>24.98</td><td>26.14</td><td>28.47</td><td>30.74</td><td>31.48</td><td>33.32</td><td>36.74</td><td>42.87</td><td>48.18</td><td>53.95</td><td>59.71</td><td>64.35</td><td>68.45</td><td>Book Value per sh</td><td>82.85</td></tr> <tr> <td>81.74</td><td>89.33</td><td>90.81</td><td>92.55</td><td>90.16</td><td>90.30</td><td>90.24</td><td>90.64</td><td>100.39</td><td>101.48</td><td>103.93</td><td>106.10</td><td>111.27</td><td>119.34</td><td>125.88</td><td>132.42</td><td>138.00</td><td>142.00</td><td>Common Shs Outst'g^D</td><td>155.00</td></tr> <tr> <td>13.5</td><td>15.9</td><td>13.6</td><td>12.5</td><td>13.2</td><td>14.4</td><td>15.9</td><td>15.9</td><td>16.1</td><td>17.5</td><td>20.8</td><td>22.0</td><td>21.7</td><td>23.2</td><td>22.3</td><td>18.8</td><td>Bold figures are Value Line estimates</td><td>18.8</td><td>Avg Ann'l P/E Ratio</td><td>20.0</td></tr> <tr> <td>.73</td><td>.84</td><td>.82</td><td>.83</td><td>.84</td><td>.90</td><td>1.01</td><td>.89</td><td>.85</td><td>.88</td><td>1.09</td><td>1.11</td><td>1.17</td><td>1.24</td><td>1.15</td><td>1.00</td><td>1.00</td><td>1.00</td><td>Relative P/E Ratio</td><td>1.10</td></tr> <tr> <td>4.7%</td><td>4.2%</td><td>4.8%</td><td>5.3%</td><td>4.7%</td><td>4.2%</td><td>4.1%</td><td>3.5%</td><td>3.1%</td><td>2.9%</td><td>2.4%</td><td>2.3%</td><td>2.2%</td><td>2.1%</td><td>2.2%</td><td>2.6%</td><td>2.6%</td><td>2.6%</td><td>Avg Ann'l Div'd Yield</td><td>2.4%</td></tr> <tr> <td colspan="17">CAPITAL STRUCTURE as of 12/31/21</td> </tr> <tr> <td colspan="4">Total Debt \$7956.6 mill. Due in 5 Yrs \$2410.0 mill.</td> <td>3438.5</td><td>3886.3</td><td>4940.9</td><td>4142.1</td><td>3349.9</td><td>2759.7</td><td>3115.5</td><td>2901.8</td><td>2821.1</td><td>3650</td><td>3965</td><td>3650</td><td>3965</td><td>3650</td><td>3965</td><td>Revenues (\$mill)^A</td><td>6000</td> </tr> <tr> <td colspan="4">LT Debt \$5555.2 mill. LT Interest \$330.0 mill.</td> <td>192.2</td><td>230.7</td><td>289.8</td><td>315.1</td><td>350.1</td><td>382.7</td><td>444.3</td><td>511.4</td><td>580.5</td><td>665.6</td><td>760</td><td>840</td><td>760</td><td>840</td><td>760</td><td>840</td><td>Net Profit (\$mill)</td><td>1130</td> </tr> <tr> <td colspan="4">(LT interest earned: 10.8x; total interest coverage: 10.8x)</td> <td>33.8%</td><td>38.2%</td><td>39.2%</td><td>38.3%</td><td>36.4%</td><td>36.6%</td><td>27.0%</td><td>21.4%</td><td>19.5%</td><td>18.8%</td><td>8.0%</td><td>17.5%</td><td>8.0%</td><td>17.5%</td><td>8.0%</td><td>17.5%</td><td>Income Tax Rate</td><td>25.0%</td> </tr> <tr> <td colspan="4">Leases, Uncapitalized Annual rentals \$41.8 mill.</td> <td>5.6%</td><td>5.9%</td><td>5.9%</td><td>7.6%</td><td>10.5%</td><td>13.9%</td><td>14.3%</td><td>17.6%</td><td>20.6%</td><td>19.5%</td><td>20.8%</td><td>21.2%</td><td>20.8%</td><td>21.2%</td><td>20.8%</td><td>21.2%</td><td>Net Profit Margin</td><td>18.8%</td> </tr> <tr> <td colspan="4">Pfd Stock None</td> <td>45.3%</td><td>48.8%</td><td>44.3%</td><td>43.5%</td><td>38.7%</td><td>44.0%</td><td>34.3%</td><td>38.0%</td><td>40.0%</td><td>38.4%</td><td>40.0%</td><td>40.0%</td><td>40.0%</td><td>40.0%</td><td>40.0%</td><td>40.0%</td><td>Long-Term Debt Ratio</td><td>40.0%</td> </tr> <tr> <td colspan="4">Pension Assets-9/21 \$596.8 mill.</td> <td>54.7%</td><td>51.2%</td><td>55.7%</td><td>56.5%</td><td>61.3%</td><td>56.0%</td><td>65.7%</td><td>62.0%</td><td>60.0%</td><td>61.6%</td><td>60.0%</td><td>60.0%</td><td>60.0%</td><td>60.0%</td><td>60.0%</td><td>60.0%</td><td>Common Equity Ratio</td><td>60.0%</td> </tr> <tr> <td colspan="4">Oblig. \$596.0 mill.</td> <td>4315.5</td><td>5036.1</td><td>5542.2</td><td>5650.2</td><td>5651.8</td><td>6965.7</td><td>7263.6</td><td>9279.7</td><td>11323</td><td>12837</td><td>14800</td><td>16200</td><td>14800</td><td>16200</td><td>16200</td><td>16200</td><td>Total Capital (\$mill)</td><td>21400</td> </tr> <tr> <td colspan="4">Common Stock 135,432,277 shs. as of 2/4/22</td> <td>5475.6</td><td>6030.7</td><td>6725.9</td><td>7430.6</td><td>8280.5</td><td>9259.2</td><td>10371</td><td>11788</td><td>13355</td><td>15064</td><td>16500</td><td>18000</td><td>16500</td><td>18000</td><td>16500</td><td>18000</td><td>Net Plant (\$mill)</td><td>23000</td> </tr> <tr> <td colspan="4">MARKET CAP: \$14.4 billion (Large Cap)</td> <td>6.1%</td><td>5.9%</td><td>6.4%</td><td>6.6%</td><td>7.2%</td><td>6.4%</td><td>6.9%</td><td>6.1%</td><td>5.5%</td><td>5.5%</td><td>6.5%</td><td>6.5%</td><td>6.5%</td><td>6.5%</td><td>6.5%</td><td>6.5%</td><td>Return on Total Cap'l</td><td>6.5%</td> </tr> <tr> <td colspan="4">CURRENT POSITION</td> <td>8.1%</td><td>8.9%</td><td>9.4%</td><td>9.9%</td><td>10.1%</td><td>9.8%</td><td>9.3%</td><td>8.9%</td><td>8.5%</td><td>8.4%</td><td>8.5%</td><td>8.5%</td><td>8.5%</td><td>8.5%</td><td>8.5%</td><td>8.5%</td><td>Return on Shr. 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Gas sales breakdown for fiscal 2021: 67.9%, residential; 26.8%, commercial; 3.6%, industrial; and 1.7% other. The company sold Atmos Energy Marketing, 1/17. Officers and directors own approximately .9% of common stock (12/21 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. </td> </tr> <tr> <td colspan="17"> Atmos Energy started fiscal 2022 on a good note. (Years conclude September 30th.) First-quarter share net of \$1.86 was 9% above the fiscal 2021 total of \$1.71. One supporting factor was the distribution division, aided by favorable rate case outcomes and an expanded customer base. What's more, results of the pipeline and storage unit received a boost from a GRIP filing approved in May, 2021. A significantly reduced effective income tax rate also helped the company. Even though pandemic-related uncertainties linger, we look for full-year earnings to advance around 7%, to \$5.50 a share, compared to fiscal 2021's \$5.12 tally. Concerning the following year, share net may grow at a similar percentage rate, to \$5.90, as operating margins expand further. There's enough liquidity to satisfy various commitments for a while. When the first quarter ended, cash stood at \$264 million. Also, long-term debt was reasonable (40% of total capital) and short-term borrowings did not seem to be a big hurdle. Moreover, \$3.2 billion in common stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in June, 2024. Lastly, Atmos can access four revolving credit facilities aggregating \$2.5 billion plus a \$1.5 billion commercial paper program. Capital expenditures for this year are anticipated to lie between \$2.4 billion and \$2.5 billion. (That's 24% higher than the fiscal 2021 figure if the midpoint of this range is used.) Almost 90% of the funds are being utilized to enhance the safety and reliability of the company's natural gas distribution and transmission systems. Leadership adds that it projects total capital spending from fiscal 2022 through fiscal 2026 to be between \$13 billion and \$14 billion. A major portion of the investments will continue to be allocated to where they are presently. Assuming that finances stay healthy, Atmos ought to have little trouble achieving those goals. The stock possesses unspectacular long-term total return potential. Given recent price strength, upside possibilities don't impress. Too, the dividend yield is below the average of Value Line's Natural Gas Utility group. </td> </tr> <tr> <td colspan="17"> Frederick L. Harris, III February 25, 2022 </td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>Fiscal Year Ends</th> <th>Dec.31</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Full Fiscal Year</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>877.8</td> <td>1094.6</td> <td>485.7</td> <td>443.7</td> <td>2901.8</td> </tr> <tr> <td>2020</td> <td>875.6</td> <td>977.6</td> <td>493.0</td> <td>474.9</td> <td>2821.1</td> </tr> <tr> <td>2021</td> <td>914.5</td> <td>1319.1</td> <td>605.6</td> <td>568.3</td> <td>3407.5</td> </tr> <tr> <td>2022</td> <td>1012.8</td> <td>1400</td> <td>640</td> <td>597.2</td> <td>3650</td> </tr> <tr> <td>2023</td> <td>1060</td> <td>1485</td> <td>730</td> <td>690</td> <td>3965</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>Fiscal Year Ends</th> <th>Dec.31</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Full Fiscal Year</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>1.38</td> <td>1.82</td> <td>.68</td> <td>.49</td> <td>4.35</td> </tr> <tr> <td>2020</td> <td>1.47</td> <td>1.95</td> <td>.79</td> <td>.53</td> <td>4.72</td> </tr> <tr> <td>2021</td> <td>1.71</td> <td>2.30</td> <td>.78</td> <td>.37</td> <td>5.12</td> </tr> <tr> <td>2022</td> <td>1.86</td> <td>2.34</td> <td>.82</td> <td>.48</td> <td>5.50</td> </tr> <tr> <td>2023</td> <td>2.00</td> <td>2.42</td> <td>.91</td> <td>.57</td> <td>5.90</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>Calendar</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th>Full Year</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>.485</td> <td>.485</td> <td>.485</td> <td>.525</td> <td>1.98</td> </tr> <tr> <td>2019</td> <td>.525</td> <td>.525</td> <td>.525</td> <td>.575</td> <td>2.15</td> </tr> <tr> <td>2020</td> <td>.575</td> <td>.575</td> <td>.575</td> <td>.625</td> <td>2.35</td> </tr> <tr> <td>2021</td> <td>.625</td> <td>.625</td> <td>.625</td> <td>.68</td> <td>2.56</td> </tr> <tr> <td>2022</td> <td>.68</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> Company's Financial Strength A+ Stock's Price Stability 95 Price Growth Persistence 70 Earnings Predictability 100 </td> </tr> <tr> <td colspan="17"> To subscribe call 1-800-VALUELINE </td> </tr> </tbody> </table>																	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27	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	25.73	26.45	27.90	Revenues per sh ^A	35.50	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	8.64	9.30	9.95	"Cash Flow" per sh	11.95	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	5.12	5.50	5.90	Earnings per sh ^{AB}	7.30	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	2.72	2.92	Div'ds Decl'd per sh ^C	3.50	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	14.87	17.75	17.60	Cap'l Spending per sh	18.00	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	59.71	64.35	68.45	Book Value per sh	82.85	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	132.42	138.00	142.00	Common Shs Outst'g ^D	155.00	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	18.8	Bold figures are Value Line estimates	18.8	Avg Ann'l P/E Ratio	20.0	.73	.84	.82	.83	.84	.90	1.01	.89	.85	.88	1.09	1.11	1.17	1.24	1.15	1.00	1.00	1.00	Relative P/E Ratio	1.10	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%	2.6%	2.6%	2.6%	Avg Ann'l Div'd Yield	2.4%	CAPITAL STRUCTURE as of 12/31/21																	Total Debt \$7956.6 mill. Due in 5 Yrs \$2410.0 mill.				3438.5	3886.3	4940.9	4142.1	3349.9	2759.7	3115.5	2901.8	2821.1	3650	3965	3650	3965	3650	3965	Revenues (\$mill) ^A	6000	LT Debt \$5555.2 mill. LT Interest \$330.0 mill.				192.2	230.7	289.8	315.1	350.1	382.7	444.3	511.4	580.5	665.6	760	840	760	840	760	840	Net Profit (\$mill)	1130	(LT interest earned: 10.8x; total interest coverage: 10.8x)				33.8%	38.2%	39.2%	38.3%	36.4%	36.6%	27.0%	21.4%	19.5%	18.8%	8.0%	17.5%	8.0%	17.5%	8.0%	17.5%	Income Tax Rate	25.0%	Leases, Uncapitalized Annual rentals \$41.8 mill.				5.6%	5.9%	5.9%	7.6%	10.5%	13.9%	14.3%	17.6%	20.6%	19.5%	20.8%	21.2%	20.8%	21.2%	20.8%	21.2%	Net Profit Margin	18.8%	Pfd Stock None				45.3%	48.8%	44.3%	43.5%	38.7%	44.0%	34.3%	38.0%	40.0%	38.4%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	Long-Term Debt Ratio	40.0%	Pension Assets-9/21 \$596.8 mill.				54.7%	51.2%	55.7%	56.5%	61.3%	56.0%	65.7%	62.0%	60.0%	61.6%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	Common Equity Ratio	60.0%	Oblig. \$596.0 mill.				4315.5	5036.1	5542.2	5650.2	5651.8	6965.7	7263.6	9279.7	11323	12837	14800	16200	14800	16200	16200	16200	Total Capital (\$mill)	21400	Common Stock 135,432,277 shs. as of 2/4/22				5475.6	6030.7	6725.9	7430.6	8280.5	9259.2	10371	11788	13355	15064	16500	18000	16500	18000	16500	18000	Net Plant (\$mill)	23000	MARKET CAP: \$14.4 billion (Large Cap)				6.1%	5.9%	6.4%	6.6%	7.2%	6.4%	6.9%	6.1%	5.5%	5.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	Return on Total Cap'l	6.5%	CURRENT POSITION				8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	Return on Shr. Equity	9.0%	2020				8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	Return on Com Equity	9.0%	2021				2.8%	4.0%	4.7%	4.9%	5.1%	4.9%	4.8%	4.6%	4.4%	4.3%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	Retained to Com Eq	4.5%	12/31/21				65%	56%	50%	51%	50%	50%	48%	48%	49%	49%	49%	49%	49%	49%	49%	49%	All Div'ds to Net Prof	48%	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 2021: 67.9%, residential; 26.8%, commercial; 3.6%, industrial; and 1.7% other. The company sold Atmos Energy Marketing, 1/17. Officers and directors own approximately .9% of common stock (12/21 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.																	Atmos Energy started fiscal 2022 on a good note. (Years conclude September 30th.) First-quarter share net of \$1.86 was 9% above the fiscal 2021 total of \$1.71. One supporting factor was the distribution division, aided by favorable rate case outcomes and an expanded customer base. What's more, results of the pipeline and storage unit received a boost from a GRIP filing approved in May, 2021. A significantly reduced effective income tax rate also helped the company. Even though pandemic-related uncertainties linger, we look for full-year earnings to advance around 7%, to \$5.50 a share, compared to fiscal 2021's \$5.12 tally. Concerning the following year, share net may grow at a similar percentage rate, to \$5.90, as operating margins expand further. There's enough liquidity to satisfy various commitments for a while. When the first quarter ended, cash stood at \$264 million. Also, long-term debt was reasonable (40% of total capital) and short-term borrowings did not seem to be a big hurdle. Moreover, \$3.2 billion in common stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in June, 2024. Lastly, Atmos can access four revolving credit facilities aggregating \$2.5 billion plus a \$1.5 billion commercial paper program. Capital expenditures for this year are anticipated to lie between \$2.4 billion and \$2.5 billion. (That's 24% higher than the fiscal 2021 figure if the midpoint of this range is used.) Almost 90% of the funds are being utilized to enhance the safety and reliability of the company's natural gas distribution and transmission systems. Leadership adds that it projects total capital spending from fiscal 2022 through fiscal 2026 to be between \$13 billion and \$14 billion. A major portion of the investments will continue to be allocated to where they are presently. Assuming that finances stay healthy, Atmos ought to have little trouble achieving those goals. The stock possesses unspectacular long-term total return potential. Given recent price strength, upside possibilities don't impress. Too, the dividend yield is below the average of Value Line's Natural Gas Utility group.																	Frederick L. Harris, III February 25, 2022																	<table border="1"> <thead> <tr> <th>Fiscal Year Ends</th> <th>Dec.31</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Full Fiscal Year</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>877.8</td> <td>1094.6</td> <td>485.7</td> <td>443.7</td> <td>2901.8</td> </tr> <tr> <td>2020</td> <td>875.6</td> <td>977.6</td> <td>493.0</td> <td>474.9</td> <td>2821.1</td> </tr> <tr> <td>2021</td> <td>914.5</td> <td>1319.1</td> <td>605.6</td> <td>568.3</td> <td>3407.5</td> </tr> <tr> <td>2022</td> <td>1012.8</td> <td>1400</td> <td>640</td> <td>597.2</td> <td>3650</td> </tr> <tr> <td>2023</td> <td>1060</td> <td>1485</td> <td>730</td> <td>690</td> <td>3965</td> </tr> </tbody> </table>																	Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year	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	568.3	3407.5	2022	1012.8	1400	640	597.2	3650	2023	1060	1485	730	690	3965	<table border="1"> <thead> <tr> <th>Fiscal Year Ends</th> <th>Dec.31</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Full Fiscal Year</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>1.38</td> <td>1.82</td> <td>.68</td> <td>.49</td> <td>4.35</td> </tr> <tr> <td>2020</td> <td>1.47</td> <td>1.95</td> <td>.79</td> <td>.53</td> <td>4.72</td> </tr> <tr> <td>2021</td> <td>1.71</td> <td>2.30</td> <td>.78</td> <td>.37</td> <td>5.12</td> </tr> <tr> <td>2022</td> <td>1.86</td> <td>2.34</td> <td>.82</td> <td>.48</td> <td>5.50</td> </tr> <tr> <td>2023</td> <td>2.00</td> <td>2.42</td> <td>.91</td> <td>.57</td> <td>5.90</td> </tr> </tbody> </table>																	Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year	2019	1.38	1.82	.68	.49	4.35	2020	1.47	1.95	.79	.53	4.72	2021	1.71	2.30	.78	.37	5.12	2022	1.86	2.34	.82	.48	5.50	2023	2.00	2.42	.91	.57	5.90	<table border="1"> <thead> <tr> <th>Calendar</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th>Full Year</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>.485</td> <td>.485</td> <td>.485</td> <td>.525</td> <td>1.98</td> </tr> <tr> <td>2019</td> <td>.525</td> <td>.525</td> <td>.525</td> <td>.575</td> <td>2.15</td> </tr> <tr> <td>2020</td> <td>.575</td> <td>.575</td> <td>.575</td> <td>.625</td> <td>2.35</td> </tr> <tr> <td>2021</td> <td>.625</td> <td>.625</td> <td>.625</td> <td>.68</td> <td>2.56</td> </tr> <tr> <td>2022</td> <td>.68</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																	Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	2018	.485	.485	.485	.525	1.98	2019	.525	.525	.525	.575	2.15	2020	.575	.575	.575	.625	2.35	2021	.625	.625	.625	.68	2.56	2022	.68					Company's Financial Strength A+ Stock's Price Stability 95 Price Growth Persistence 70 Earnings Predictability 100																	To subscribe call 1-800-VALUELINE																
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	25.73	26.45	27.90	Revenues per sh ^A	35.50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	8.64	9.30	9.95	"Cash Flow" per sh	11.95																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	5.12	5.50	5.90	Earnings per sh ^{AB}	7.30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	2.72	2.92	Div'ds Decl'd per sh ^C	3.50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	14.87	17.75	17.60	Cap'l Spending per sh	18.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	59.71	64.35	68.45	Book Value per sh	82.85																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	132.42	138.00	142.00	Common Shs Outst'g ^D	155.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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	18.8	Bold figures are Value Line estimates	18.8	Avg Ann'l P/E Ratio	20.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
.73	.84	.82	.83	.84	.90	1.01	.89	.85	.88	1.09	1.11	1.17	1.24	1.15	1.00	1.00	1.00	Relative P/E Ratio	1.10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Total Debt \$7956.6 mill. Due in 5 Yrs \$2410.0 mill.				3438.5	3886.3	4940.9	4142.1	3349.9	2759.7	3115.5	2901.8	2821.1	3650	3965	3650	3965	3650	3965	Revenues (\$mill) ^A	6000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
LT Debt \$5555.2 mill. LT Interest \$330.0 mill.				192.2	230.7	289.8	315.1	350.1	382.7	444.3	511.4	580.5	665.6	760	840	760	840	760	840	Net Profit (\$mill)	1130																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
(LT interest earned: 10.8x; total interest coverage: 10.8x)				33.8%	38.2%	39.2%	38.3%	36.4%	36.6%	27.0%	21.4%	19.5%	18.8%	8.0%	17.5%	8.0%	17.5%	8.0%	17.5%	Income Tax Rate	25.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Leases, Uncapitalized Annual rentals \$41.8 mill.				5.6%	5.9%	5.9%	7.6%	10.5%	13.9%	14.3%	17.6%	20.6%	19.5%	20.8%	21.2%	20.8%	21.2%	20.8%	21.2%	Net Profit Margin	18.8%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Pfd Stock None				45.3%	48.8%	44.3%	43.5%	38.7%	44.0%	34.3%	38.0%	40.0%	38.4%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	Long-Term Debt Ratio	40.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Pension Assets-9/21 \$596.8 mill.				54.7%	51.2%	55.7%	56.5%	61.3%	56.0%	65.7%	62.0%	60.0%	61.6%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	Common Equity Ratio	60.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Oblig. \$596.0 mill.				4315.5	5036.1	5542.2	5650.2	5651.8	6965.7	7263.6	9279.7	11323	12837	14800	16200	14800	16200	16200	16200	Total Capital (\$mill)	21400																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Common Stock 135,432,277 shs. as of 2/4/22				5475.6	6030.7	6725.9	7430.6	8280.5	9259.2	10371	11788	13355	15064	16500	18000	16500	18000	16500	18000	Net Plant (\$mill)	23000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
MARKET CAP: \$14.4 billion (Large Cap)				6.1%	5.9%	6.4%	6.6%	7.2%	6.4%	6.9%	6.1%	5.5%	5.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	Return on Total Cap'l	6.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
CURRENT POSITION				8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	Return on Shr. Equity	9.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
2020				8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	Return on Com Equity	9.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
2021				2.8%	4.0%	4.7%	4.9%	5.1%	4.9%	4.8%	4.6%	4.4%	4.3%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	Retained to Com Eq	4.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
12/31/21				65%	56%	50%	51%	50%	50%	48%	48%	49%	49%	49%	49%	49%	49%	49%	49%	All Div'ds to Net Prof	48%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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 2021: 67.9%, residential; 26.8%, commercial; 3.6%, industrial; and 1.7% other. The company sold Atmos Energy Marketing, 1/17. Officers and directors own approximately .9% of common stock (12/21 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.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Atmos Energy started fiscal 2022 on a good note. (Years conclude September 30th.) First-quarter share net of \$1.86 was 9% above the fiscal 2021 total of \$1.71. One supporting factor was the distribution division, aided by favorable rate case outcomes and an expanded customer base. What's more, results of the pipeline and storage unit received a boost from a GRIP filing approved in May, 2021. A significantly reduced effective income tax rate also helped the company. Even though pandemic-related uncertainties linger, we look for full-year earnings to advance around 7%, to \$5.50 a share, compared to fiscal 2021's \$5.12 tally. Concerning the following year, share net may grow at a similar percentage rate, to \$5.90, as operating margins expand further. There's enough liquidity to satisfy various commitments for a while. When the first quarter ended, cash stood at \$264 million. Also, long-term debt was reasonable (40% of total capital) and short-term borrowings did not seem to be a big hurdle. Moreover, \$3.2 billion in common stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in June, 2024. Lastly, Atmos can access four revolving credit facilities aggregating \$2.5 billion plus a \$1.5 billion commercial paper program. Capital expenditures for this year are anticipated to lie between \$2.4 billion and \$2.5 billion. (That's 24% higher than the fiscal 2021 figure if the midpoint of this range is used.) Almost 90% of the funds are being utilized to enhance the safety and reliability of the company's natural gas distribution and transmission systems. Leadership adds that it projects total capital spending from fiscal 2022 through fiscal 2026 to be between \$13 billion and \$14 billion. A major portion of the investments will continue to be allocated to where they are presently. Assuming that finances stay healthy, Atmos ought to have little trouble achieving those goals. The stock possesses unspectacular long-term total return potential. Given recent price strength, upside possibilities don't impress. Too, the dividend yield is below the average of Value Line's Natural Gas Utility group.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. gains (loss): '10, 5c; '11, (1c); '18, \$1.43; '20, 17c. Excludes discontinued operations: '11, 10c; '12, 13c; '13, 14c; '17, 13c. Next exs. rpt. due early May. (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.

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Northern States Power Company

NISOURCE INC. NYSE-NI										RECENT PRICE	P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE					
TIMELINESS 5 Lowered 12/17/21 SAFETY 3 Lowered 3/19/21 TECHNICAL 3 Raised 2/4/22 BETA .85 (1.00 = Market)										28.41	19.5 (Trailing: 21.0 Median: 21.0)	1.10	3.3%						
18-Month Target Price Range Low-High Midpoint (% to Mid) \$20-\$31 \$26 (-10%)										LEGENDS 0.50 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession									
2025-27 PROJECTIONS High Price Gain Ann'l Total Return Low 35 (+25%) 9%										Percent shares traded 30 20									
Institutional Decisions 1Q2021 2Q2021 3Q2021 to Buy 252 256 230 to Sell 188 197 208 Hld's(000) 361696 367884 376481										% TOT. RETURN 1/22 THIS STOCK VL ARITH. INDEX 1 yr. 36.6 15.7 3 yr. 17.1 56.8 5 yr. 51.6 75.5									
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
27.37	28.96	32.36	24.02	22.99	21.33	16.31	18.04	20.47	14.58	13.90	14.46	13.74	13.63	11.95	12.65	13.50	14.30	Revenues per sh	17.05
3.18	3.20	3.32	2.96	3.19	2.98	3.13	3.41	3.60	2.27	2.71	2.07	2.86	3.17	3.15	3.10	3.30	3.55	"Cash Flow" per sh	4.45
1.14	1.14	1.34	.84	1.06	1.05	1.37	1.57	1.67	.63	1.00	.39	1.30	1.31	1.32	1.35	1.50	1.65	Earnings per sh ^A	2.40
.92	.92	.92	.92	.92	.92	.94	.98	1.02	.83	.64	.70	.78	.80	.84	.88	.94	.98	Div'd Decl'd per sh ^B	1.08
2.33	2.88	3.54	2.81	2.88	3.99	4.83	5.99	6.42	4.26	4.57	5.03	4.88	4.72	4.49	4.55	4.50	4.45	Cap'l Spending per sh	4.35
18.32	18.52	17.24	17.54	17.63	17.71	17.90	18.77	19.54	12.04	12.60	12.82	13.08	13.36	12.66	13.15	13.80	14.50	Book Value per sh ^C	17.70
273.65	274.18	274.26	276.79	279.30	282.18	310.28	313.68	316.04	319.11	323.16	337.02	372.36	382.14	391.76	395.00	400.00	405.00	Common Shs Outst'g ^D	415.00
19.2	18.8	17.1	14.3	15.3	19.4	17.9	18.9	22.7	37.3	23.2	64.4	19.3	21.3	18.7	18.2	18.2	18.2	Avg Ann'l P/E Ratio	19.0
1.04	1.00	.73	.95	.97	1.22	1.14	1.06	1.19	1.88	1.22	3.24	1.04	1.13	.96	.95	.95	.95	Relative P/E Ratio	1.05
4.2%	4.3%	5.7%	7.6%	5.7%	4.5%	3.8%	3.3%	2.7%	3.5%	2.8%	2.8%	3.1%	2.9%	3.4%	3.6%	3.4%	3.6%	Avg Ann'l Div'd Yield	2.5%
CAPITAL STRUCTURE as of 9/30/21					5061.2	5657.3	6470.6	4651.8	4492.5	4874.6	5114.5	5208.9	4681.7	5000	5400	5780	Revenues (\$mill)	7080	
Total Debt \$9623.9 mill. Due in 5 Yrs \$2651 mill.					410.6	490.9	530.7	198.6	328.1	128.6	478.3	549.8	562.6	525	595	660	Net Profit (\$mill)	990	
LT Debt \$9188.2 mill. LT Interest \$379 mill.					34.4%	34.8%	36.9%	41.6%	35.7%	71.0%	19.7%	17.0%	18.3%	19.0%	19.0%	19.0%	Income Tax Rate	19.0%	
(Interest cov. earned: 2.2x) (58% of Cap'l)					--	--	--	--	--	--	--	--	2.9%	2.0%	2.0%	AFUDC % to Net Profit	2.0%		
Leases, Uncapitalized Annual rentals \$32.7 mill.					55.1%	56.3%	56.9%	60.7%	59.8%	63.5%	55.3%	56.8%	61.2%	60.5%	59.5%	58.0%	Long-Term Debt Ratio	53.5%	
Pension Assets-12/20 \$2.1 bill. Oblig. \$2.1 bill.					44.9%	43.7%	43.1%	39.3%	40.2%	36.5%	37.9%	36.9%	32.9%	34.0%	35.0%	36.0%	Common Equity Ratio	41.5%	
Pfd Stock \$880 mill. Pfd Div'd \$28.5 mill.					12373	13480	14331	9792.0	10129	11832	12856	13843	15058	15315	15680	16085	Total Capital (\$mill)	17680	
Common Stock 392,704,679 shs. as of 10/25/21					12916	14365	16017	12112	13068	14360	15543	16912	16620	16750	17000	18000	Net Plant (\$mill)	20000	
MARKET CAP: \$11.2 billion (Large Cap)					5.0%	5.2%	5.3%	4.0%	5.0%	2.6%	5.1%	5.3%	5.0%	3.5%	4.0%	Return on Total Cap'l	5.5%		
CURRENT POSITION 2019 2020 9/30/21 (\$MILL.)					7.4%	8.3%	8.6%	5.2%	8.1%	3.0%	8.3%	9.2%	9.6%	8.5%	9.5%	10.0%	Return on Shr. Equity	12.0%	
Cash Assets 139.3 116.5 38.5					7.4%	8.3%	8.6%	5.2%	8.1%	3.0%	9.6%	9.7%	10.2%	8.5%	9.5%	10.0%	Return on Com Equity	12.0%	
Other 1714.6 1542.9 1432.9					2.5%	3.1%	3.4%	NMF	3.0%	NMF	4.0%	3.8%	3.7%	2.5%	3.0%	3.5%	Retained to Com Eq	6.5%	
Current Assets 1853.9 1659.4 1471.4					67%	62%	61%	NMF	63%	NMF	60%	64%	67%	71%	68%	65%	All Div'ds to Net Prof	48%	
Accts Payable 666.0 589.0 487.2					BUSINESS: NiSource Inc. is a holding company for Northern Indiana Public Service Company (NIPSCO), which supplies electricity and gas to the northern third of Indiana. Customers: 479,185 electric in Indiana, 3,200,000 million gas in Indiana, Ohio, Pennsylvania, Kentucky, Virginia, Maryland, through its Columbia subsidiaries. Revenue breakdown, 2020: electrical, 31%; gas, 69%; other, less than 1%. Generating sources, coal, 69.4%; purchased & other, 30.6%. 2020 reported depreciation rates: 2.9% electric, 2.2% gas. Has 7,304 employees. Chairman: Richard L. Thompson. President & Chief Executive Officer: Lloyd Yates. Incorporated: Indiana. Address: 801 East 86th Avenue, Merrillville, Indiana 46410. Telephone: 877-647-5990. Internet: www.nisource.com.														
Debt Due 1783.6 526.3 435.7					Since our November review, NiSource stock has climbed higher. In fact, over that time frame, the equity's price has advanced more than 11%.														
Other 1296.2 1164.1 1323.7					Meanwhile, the company likely registered modest gains last year. (Note: The utility provider was expected to issue its annual financials shortly after this report went to press.) Revenues probably advanced nearly 7%, to \$5.0 billion, reflecting continually increasing contributions from the Electricity and Gas Distribution divisions. The Northern Indiana Public Service Company (NIPSCO) electric utility has been performing well over the past 12 months, and logging steady volume gains. However, we think there was some margin compression last year, as the company continued to operate in a challenging business environment. On balance, these factors ought to have translated to a modest bottom-line advance of about 2.5%, to \$1.35 per share.														
Current Liab. 3745.8 2279.4 2246.6					Some changes have been made in the C-suite. Joe Hamrock has decided to retire after an accomplished 10-year career with NiSource. The succession plan, which had been in place for some time,														
Fix. Chg. Cov. 250% 250% 255%					named Lloyd Yates as the company's new President and CEO. This shift went into effect on February 14th.														
ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 of change (per sh)					We look for revenue and earnings growth momentum to improve this year. The NIPSCO utility recently filed for a \$115 million increase in its annual base rate. Once finalized, that hike will go toward infrastructure modernization and system reliability upgrades. Meanwhile, there are pending rate cases filed in Ohio, Pennsylvania, Kentucky, and Maryland, which should help the company to recoup prior capital growth initiatives, as well as forge the way for future expansion. NiSource has roughly \$10 billion in planned CAPEX spending through 2024. Too, we are introducing our 2023 top- and bottom-line estimates at \$5.8 billion and \$1.65 a share, respectively.														
Revenues -7.0% -6.0% 5.0%					Our Timeliness Ranking System suggests NiSource shares will lag the broader market averages in the year ahead. However, a near-term correction may afford an attractive entry point into these high-yielding shares that currently offer about average upside potential.														
"Cash Flow" -0.5% -- 6.0%					Bryan J. Fong February 25, 2022														
Earnings 2.0% 0.5% 10.5%																			
Dividends -1.5% -3.0% 4.5%																			
Book Value -3.0% -5.0% 5.0%																			
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year														
	Mar.31	Jun.30	Sep.30	Dec.31															
2019	1869.8	1010.4	931.5	1397.2	5208.9														
2020	1605.5	962.7	902.5	1211.0	4681.7														
2021	1545.6	986.0	959.4	1509	5000														
2022	1645	1085	1060	1610	5400														
2023	1740	1180	1155	1705	5780														
Cal-endar	EARNINGS PER SHARE ^A				Full Year														
	Mar.31	Jun.30	Sep.30	Dec.31															
2019	.82	.05	--	.45	1.31														
2020	.76	.13	.09	.34	1.32														
2021	.77	.13	.11	.34	1.35														
2022	.80	.17	.15	.38	1.50														
2023	.84	.21	.19	.41	1.65														
Cal-endar	QUARTERLY DIVIDENDS PAID ^B				Full Year														
	Mar.31	Jun.30	Sep.30	Dec.31															
2018	.195	.195	.195	.195	.78														
2019	.200	.200	.200	.200	.80														
2020	.21	.21	.21	.21	.84														
2021	.22	.22	.22	.22	.88														
2022	.235																		

(A) Dil. EPS. Excl. nonrec. gains (losses): '05, (4c); gains (losses) on disc. ops.: '05, 10c; '06, (11c); '07, 3c; '08, (\$1.14); '15, (30c); '18, (\$1.48). Next eps. report due late April. Qtrly

egs. may not sum to total due to rounding. (B) Div'ds historically paid in mid-Feb., May, Aug., Nov. ■ Div'd reinv. avail. (C) Incl. intang in '20: \$1485.9 million.

\$3.79/sh. (D) In mill. (E) Spun off Columbia Pipeline Group (7/15)

Company's Financial Strength	B+
Stock's Price Stability	100
Price Growth Persistence	20
Earnings Predictability	45

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Northern States Power Company

NEW JERSEY RES. NYSE-NJR					RECENT PRICE	40.30	P/E RATIO	17.5	(Trailing: 16.9 Median: 17.0)	RELATIVE P/E RATIO	0.99	DIV'D YLD	3.6%	VALUE LINE					
TIMELINESS 3	Raised 2/18/22	High:	25.2	25.1	23.8	32.1	34.1	38.9	45.4	51.8	51.2	44.7	44.4	41.3	Target Price	Range			
SAFETY 2	Lowered 4/17/20	Low:	19.8	19.3	19.5	21.9	26.8	30.5	33.7	35.6	40.3	21.1	33.3	37.8	2025	2026	2027		
TECHNICAL 3	Raised 1/21/22	LEGENDS 0.40 x Dividends p sh divided by Interest Rate --- Relative Price Strength ... 2-for-1 split 3/15 Options: Yes Shaded area indicates recession																	
BETA 1.00	(1.00 = Market)	18-Month Target Price Range Low-High Midpoint (% to Mid) \$27-\$49 \$38 (-5%)																	
2025-27 PROJECTIONS Price Gain Ann'l Total High Low 55 40 (+35%) (Nil) 11% 4%																			
Institutional Decisions 1Q2021 2Q2021 3Q2021 to Buy 105 102 109 to Sell 139 130 121 Hld's(000) 68468 68609 66131																			
2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023																			
© VALUE LINE PUB. LLC 25-27																			
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	22.71	24.65	25.10	Revenues per sh ^A	27.20
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	3.36	3.65	3.70	"Cash Flow" per sh	4.20
.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	2.16	2.30	2.35	Earnings per sh ^B	2.70
.48	.51	.56	.62	.68	.72	.77	.81	.86	.93	.98	1.04	1.11	1.19	1.27	1.36	1.45	1.49	Div'ds Decl'd per sh ^C	1.70
.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	5.42	5.35	5.30	Cap'l Spending per sh	5.50
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	17.18	18.70	19.80	Book Value per sh ^D	22.80
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	94.95	98.00	99.00	Common Shs Outst'g ^E	100.00
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	17.5	17.5	17.5	Cap'l P/E Ratio	17.0
.87	1.15	.74	.99	.95	1.05	1.07	.90	.62	.84	1.12	1.13	.84	1.29	.91	.94	.94	.94	Relative P/E Ratio	.95
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%	3.6%	3.6%	3.6%	Avg Ann'l Div'd Yield	4.0%
CAPITAL STRUCTURE as of 12/31/21 Total Debt \$2836.6 mill. Due in 5 Yrs \$442.8 mill. LT Debt \$2274.2 mill. LT Interest \$78.6 mill. Incl. \$6.0 mill. capitalized leases. (LT interest earned: 5.0x; total interest coverage: 5.0x) Pension Assets-9/21 \$469.5 mill. Oblig. \$640.2 mill.																			
MARKET CAP: \$3.9 billion (Mid Cap)																			
CURRENT POSITION																			
(\$MILL.)																			
Cash Assets 117.0 4.7 1.3 Other 505.3 629.6 759.0 Current Assets 622.3 634.3 760.3																			
Accts Payable 270.1 429.6 353.7 Debt Due 152.6 450.1 562.4 Other 111.0 171.7 181.7 Current Liab. 533.7 1051.4 1097.8 Fix. Chg. Cov. 545% 545% 550%																			
ANNUAL RATES																			
Past Past Est'd '19-'21 of change (per sh) 10 Yrs. 5 Yrs. to 25-27 Revenues -3.0% -6.0% 2.0% "Cash Flow" 7.0% 4.5% 4.5% Earnings 5.0% 2.5% 4.5% Dividends 6.5% 6.5% 5.0% Book Value 7.5% 7.0% 4.0%																			
QUARTERLY REVENUES (\$ mill.) ^A																			
Fiscal Year Ends Dec.31 Mar.31 Jun.30 Sep.30 Full Fiscal Year																			
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	532.5	2156.6														
2022	675.8	855	430	454.2	2415														
2023	690	875	445	475	2485														
EARNINGS PER SHARE ^{A B}																			
Fiscal Year Ends Dec.31 Mar.31 Jun.30 Sep.30 Full Fiscal Year																			
2019	.61	1.27	d.20	.29	1.96														
2020	.44	1.12	d.06	.57	2.07														
2021	.46	1.77	d.15	.07	2.16														
2022	.69	1.70	d.14	.05	2.30														
2023	.70	1.72	d.13	.06	2.35														
QUARTERLY DIVIDENDS PAID ^C																			
Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
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	.3625	1.36														
2022	.3625																		
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 564,000 cust. as of 9/30/21. Fiscal 2021 volume: 112 bill. cu. ft. (20% interruptible, 61% residential, commercial & firm transportation, 19% other). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2021 dep. rate: 2.4%. Has 1,251 empls. Off./dir. own less than 1% of common; BlackRock, 15.3%; Vanguard, 10.6% (12/21 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.																			
New Jersey Resources is off to a good start in fiscal 2022 (ends September 30th). The company's top line advanced 48.8%, to \$675.8 million, handily besting our call of \$510 million. This sharp rise reflected hefty volume increases at the Natural Gas Distribution and Energy Services units. In fact, operating revenues in those divisions climbed 40% and 60%, respectively. Moreover, the NJNG utility business added 1,730 new customers during the quarter. The Clean Energy Ventures arm was also nicely complementary to the overall business mix. Alternatively, the Transportation & Storage segment registered a year-over-year decline in volumes. On the profitability front, total expenses increased 30 basis points as a percentage of the top line. On balance, these factors drove the bottom line 50% higher, to \$0.69 a share. This was well above our outlook of \$0.48.																			
The better-than-expected first-quarter results have prompted us to raise our revenue outlook for this year. We have added \$165 million to our top-line estimate, bringing that figure to \$2.415 billion. Our revised figure would represent an annual increase of about 12%. This ought to stem from solid improvements in both the Utility and Nonutility operations. The modest rise in volumes should help to improve overall cost absorption. And we continue to look for NJR to post a roughly 6.5% earnings gain this year, to \$2.30 a share, which is near the top end of management's reiterated guidance range of \$2.20-\$2.30. Meanwhile, we have initiated our fiscal 2023 top- and bottom-line estimates at \$2.485 billion and \$2.35 a share, respectively.																			
At this juncture, shares of New Jersey Resources do not stand out for the short or long term. Our Timeliness Ranking System has the stock pegged to mirror the broader market averages in the coming year. What's more, the equity is trading near the low end of our 3- to 5-year Target Price Range, suggesting that it offers limited upside potential over that time frame. Alternatively, income-seeking accounts may want to keep an eye on NJR. A near-term correction in the stock's price could present an attractive entry point into these already high-yielding shares.																			
Bryan J. Fong February 25, 2022																			
Company's Financial Strength A+ Stock's Price Stability 85 Price Growth Persistence 50 Earnings Predictability 55																			

(A) Fiscal year ends Sept. 30th. (B) Diluted earnings. Qly. revenues and eqs. may not sum to total due to rounding and change in shares outstanding. Next earnings report due early May. (C) Dividends historically paid in early Jan., April, July, and October. Dividend reinvestment plan available. (D) Includes regulatory assets in 2021: \$522.1 million, \$5.49/share. (E) In millions, adjusted for splits.

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Northern States Power Company

N.W. NATURAL NYSE-NWN				RECENT PRICE	P/E RATIO	(Trailing: 17.0)	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE											
				46.63	17.6	(Median: 24.0)	0.99	4.1%												
TIMELINESS	5	Lowered 11/19/21	High: 49.0	50.8	46.6	52.6	52.3	66.2	69.5	71.8	74.1	77.3	56.8	50.1	Target Price Range 2025-2027					
SAFETY	3	Lowered 3/19/21	Low: 39.6	41.0	40.0	40.1	42.0	48.9	56.5	51.5	57.2	42.3	41.7	45.9						
TECHNICAL	3	Raised 2/18/22	LEGENDS 0.60 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession																	
BETA	.80	(1.00 = Market)																		
18-Month Target Price Range			Low-High Midpoint (% to Mid) \$41-\$65 \$53 (15%)																	
2025-27 PROJECTIONS			Ann'l Total Return High 95 (+105%) 22% Low 65 (+40%) 12%																	
Institutional Decisions			10Q2021 2Q2021 3Q2021 to Buy 103 114 95 to Sell 89 81 95 Hld's(000) 21451 21444 21597 Percent shares traded 15 10 5																	
			% TOT. RETURN 1/22 THIS STOCK VL ARITH. INDEX 1 yr. 5.3 15.7 3 yr. -16.7 56.8 5 yr. -6.0 75.5																	
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27	
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	29.05	Revenues per sh	32.65	
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	5.75	6.10	6.40	"Cash Flow" per sh	7.25	
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	2.50	2.70	2.85	Earnings per sh A	3.35	
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	1.94	Div's Decl'd per sh B	1.96	
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	9.05	Cap'l Spending per sh	9.40	
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	33.95	36.05	37.95	Book Value per sh D	42.75	
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	31.00	Common Shs Outst'g C	32.00	
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	20.0	Bold figures are Value Line estimates	24.0	Avg Ann'l P/E Ratio	24.0	
.86	.89	1.09	1.01	1.08	1.19	1.34	1.09	1.09	1.19	1.41	--	1.44	1.65	1.28	1.04	1.04	1.04	Relative P/E Ratio	1.35	
3.7%	3.1%	3.3%	3.7%	3.3%	3.9%	3.8%	4.2%	4.1%	4.0%	3.3%	3.0%	3.0%	2.8%	3.3%	3.8%	3.8%	3.8%	Avg Ann'l Div'd Yield	2.6%	
CAPITAL STRUCTURE as of 9/30/21						730.6	758.5	754.0	723.8	676.0	762.2	706.1	746.4	773.7	830	860	900	Revenues (\$mill)	1045	
Total Debt \$1315.8 mill. Due in 5 Yrs \$360.2 mill.						59.9	60.5	58.7	53.7	58.9	d55.6	67.3	65.3	70.3	75.0	85.0	90.0	Net Profit (\$mill)	105	
LT Debt \$916.0 mill. LT Interest \$43.1 mill.						42.4%	40.8%	41.5%	40.0%	40.9%	--	26.4%	16.2%	23.1%	21.0%	21.0%	21.0%	21.0%	Income Tax Rate	21.0%
(Total interest coverage: 3.1x)						8.2%	8.0%	7.8%	7.4%	8.7%	NMF	9.5%	8.8%	9.1%	9.0%	9.9%	10.0%	Net Profit Margin	10.0%	
Pension Assets-12/20 \$373.9 mill.						48.5%	47.6%	44.8%	42.5%	44.4%	47.9%	48.1%	48.2%	49.2%	49.0%	46.5%	44.5%	44.5%	Long-Term Debt Ratio	44.5%
Pfd Stock None Oblig. \$595.2 mill.						51.5%	52.4%	55.2%	57.5%	55.6%	52.1%	51.9%	51.8%	50.8%	51.0%	53.5%	55.5%	55.5%	Common Equity Ratio	55.5%
Common Stock 30,730,274 shares as of 10/27/21						1424.7	1433.6	1389.0	1357.7	1529.8	1426.0	1468.9	1672.0	1748.8	2065	2090	2120	2120	Total Capital (\$mill)	2465
MARKET CAP \$1.4 billion (Mid Cap)						1973.6	2062.9	2121.6	2182.7	2260.9	2255.0	2421.4	2438.9	2654.8	2640	2750	2865	2865	Net Plant (\$mill)	3235
CURRENT POSITION 2019 2020 9/30/21 (\$MILL.)						5.7%	5.8%	5.8%	5.5%	5.1%	NMF	5.8%	5.2%	5.2%	4.0%	4.0%	4.0%	4.0%	Return on Total Cap'l	4.5%
Cash Assets 9.6 30.2 19.5						8.2%	8.1%	7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	7.5%	7.5%	7.5%	8.0%	Return on Shr. Equity	8.0%
Other 284.1 293.0 338.7						8.2%	8.1%	7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	7.5%	7.5%	8.0%	Return on Com Equity	8.0%	
Current Assets 293.7 323.2 358.2						1.6%	1.5%	1.1%	.6%	.9%	NMF	2.1%	1.4%	1.7%	1.5%	2.0%	2.5%	2.5%	Retained to Com Eq	3.0%
Accts Payable 113.4 97.9 97.9						80%	81%	85%	92%	87%	NMF	76%	82%	79%	77%	72%	68%	68%	All Div's to Net Prof	59%
Debt Due 224.2 399.9 399.8						BUSINESS: Northwest Natural Holding Co. distributes natural gas to 1,000 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.														
Other 144.6 129.3 237.2						Since our November review, shares of Northwest Natural Holding Co. have held firm. In fact, over this time frame, the stock's price remained relatively unchanged. By comparison, the S&P 500 Index has declined roughly 4.5% in price over this same period.														
Current Liab. 482.2 627.1 734.9						Meanwhile, we look for the distributor of natural gas to post solid financial results for 2021. (Note: The company was expected to issue its fourth-quarter and annual earnings release shortly after this report went to press.) To that point, NWN appeared well positioned to register a top-line increase of approximately 7.5%, to \$830 million. This uptick in volumes ought to have stemmed from the more-than-12,000 new customer accounts added over the past year. The company's final tally should show even more natural gas meters added in the fourth quarter. At the same time, pending rate cases in Oregon and Washington have set graduated increases that augur well for prospects. The rate hikes should pave the way for reliability and growth projects. All told, NWN's earnings probably advanced about 8.5% last year, to \$2.50 a share.														
Fix. Chg. Cov. 336% 335% 312%						Meanwhile, we look for similar bottom-line growth to persist in 2022. Finally, we have introduced our 2023 revenue and share-net estimates at \$900 million and \$2.85, respectively.														
ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '18-'20 to '25-'27						The balance sheet is in good shape. At the end of the September-quarter, the last period for which financial data were available, cash reserves sat at \$19.5 million. And the long-term debt load sat at 51% of total capital, which is on the lower side for the industry.														
of change (per sh)						Short-term investors will probably want to steer clear of Northwest Natural Holdings. Indeed, our Timeliness Ranking System has the stock pegged to lag the broader market averages in the coming year, Timeliness: 5 (Lowest).														
Revenues -3.5% -2.0% 4.0%						However, these shares have appeal as an income vehicle. The recent increase in the quarterly dividend may have been modest, but Northwest Natural's yield is still well above the Value Line median. What's more, patient accounts with an eye on income generation may appreciate the substantial recovery potential out to 2025-2027.														
"Cash Flow" 0.5% 1.5% 4.5%						Bryan J. Fong February 25, 2022														
Earnings -1.5% 1.5% 6.0%																				
Dividends 1.5% 0.5% .5%																				
Book Value 1.0% -- 5.5%																				
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year															
	Mar.31	Jun.30	Sep.30	Dec.31																
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	101.4	263.8	830															
2022	320	150	110	280	860															
2023	330	160	120	290	900															
Cal-endar	EARNINGS PER SHARE A				Full Year															
	Mar.31	Jun.30	Sep.30	Dec.31																
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.67	1.25	2.50															
2022	1.96	.01	d.57	1.30	2.70															
2023	2.00	.05	d.55	1.35	2.85															
Cal-endar	QUARTERLY DIVIDENDS PAID B				Full Year															
	Mar.31	Jun.30	Sep.30	Dec.31																
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	.483	1.92															
2022	.483																			

(A) Diluted earnings per share. Excludes non-recurring items: '06, (\$0.06); '08, (\$0.03); '09, \$0.06; May not sum due to rounding. Next earnings report due in early May.
 (B) Dividends historically paid in mid-February, May, August, and November.
 (C) In millions.
 (D) Includes intangibles. In 2020: \$69.2 million, \$2.26/share.
 Company's Financial Strength A
 Stock's Price Stability 90
 Price Growth Persistence 35
 Earnings Predictability 10
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Northern States Power Company

SPIRE INC. NYSE-SR

RECENT PRICE **64.54** P/E RATIO **19.0** (Trailing: 14.9 Median: 19.0) RELATIVE P/E RATIO **1.07** DIV'D YLD **4.3%** VALUE LINE

TIMELINESS 4 Lowered 8/20/21	SAFETY 2 Raised 6/20/03	TECHNICAL 4 Raised 2/25/22	BETA .85 (1.00 = Market)	18-Month Target Price Range Low-High Midpoint (% to Mid) \$47-\$75 \$61 (-5%)	2025-27 PROJECTIONS High Price 130 (+100%) Low Price 95 (+45%) Ann'l Total Return 22% 13%	Institutional Decisions 1Q2021 2Q2021 3Q2021 to Buy 124 112 125 to Sell 139 126 113 Hld's(000) 42475 42992 42729	LEGENDS 0.35 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession	Target Price Range 2025 2026 2027 160 120 100 80 60 50 40 30 20 15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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LLC</th><th>25-27</th></tr> </thead> <tbody> <tr> <td>Price</td><td>93.51</td><td>93.40</td><td>100.44</td><td>85.49</td><td>77.83</td><td>71.48</td><td>49.90</td><td>31.10</td><td>37.68</td><td>45.59</td><td>33.68</td><td>36.07</td><td>38.78</td><td>38.30</td><td>35.96</td><td>43.24</td><td>38.95</td><td>40.75</td><td>Revenues per sh ^A</td><td>63.65</td></tr> <tr> <td>Div'd</td><td>3.81</td><td>3.87</td><td>4.22</td><td>4.56</td><td>4.11</td><td>4.62</td><td>4.58</td><td>3.12</td><td>3.87</td><td>6.15</td><td>6.16</td><td>6.54</td><td>7.55</td><td>7.12</td><td>5.25</td><td>9.09</td><td>7.75</td><td>8.55</td><td>"Cash Flow" per sh</td><td>10.90</td></tr> <tr> <td>Earnings</td><td>2.37</td><td>2.31</td><td>2.64</td><td>2.92</td><td>2.43</td><td>2.86</td><td>2.79</td><td>2.02</td><td>2.35</td><td>3.16</td><td>3.24</td><td>3.43</td><td>4.33</td><td>3.52</td><td>1.44</td><td>4.96</td><td>3.40</td><td>3.90</td><td>Earnings per sh ^{A,B}</td><td>5.50</td></tr> <tr> <td>Div'd Decl'd</td><td>1.40</td><td>1.45</td><td>1.49</td><td>1.53</td><td>1.57</td><td>1.61</td><td>1.66</td><td>1.70</td><td>1.76</td><td>1.84</td><td>1.96</td><td>2.10</td><td>2.25</td><td>2.37</td><td>2.49</td><td>2.60</td><td>2.74</td><td>2.86</td><td>Div'ds Decl'd per sh ^C</td><td>3.30</td></tr> <tr> <td>Cap'l Spending</td><td>2.97</td><td>2.72</td><td>2.57</td><td>2.36</td><td>2.56</td><td>3.02</td><td>4.83</td><td>4.00</td><td>3.96</td><td>6.68</td><td>6.42</td><td>9.08</td><td>9.86</td><td>16.15</td><td>12.37</td><td>12.09</td><td>10.95</td><td>11.15</td><td>Cap'l Spending per sh</td><td>11.50</td></tr> <tr> <td>Book Value</td><td>18.85</td><td>19.79</td><td>22.12</td><td>23.32</td><td>24.02</td><td>25.56</td><td>26.67</td><td>32.00</td><td>34.93</td><td>36.30</td><td>38.73</td><td>41.26</td><td>44.51</td><td>45.14</td><td>44.19</td><td>46.74</td><td>51.25</td><td>56.10</td><td>Book Value per sh ^D</td><td>67.10</td></tr> <tr> <td>Common Shs Outst'g</td><td>21.36</td><td>21.65</td><td>21.99</td><td>22.17</td><td>22.29</td><td>22.43</td><td>22.55</td><td>32.70</td><td>43.18</td><td>43.36</td><td>45.65</td><td>48.26</td><td>50.67</td><td>50.97</td><td>51.60</td><td>51.70</td><td>52.00</td><td>52.50</td><td>Common Shs Outst'g ^E</td><td>55.00</td></tr> <tr> <td>Avg Ann'l P/E Ratio</td><td>13.6</td><td>14.2</td><td>14.3</td><td>13.4</td><td>13.7</td><td>13.0</td><td>14.5</td><td>21.3</td><td>19.8</td><td>16.5</td><td>19.6</td><td>19.8</td><td>16.7</td><td>22.8</td><td>NMF</td><td>13.6</td><td>Bold figures are Value Line estimates</td><td>7.3</td><td>Avg Ann'l P/E Ratio</td><td>20.5</td></tr> <tr> <td>Relative P/E Ratio</td><td>.73</td><td>.75</td><td>.86</td><td>.89</td><td>.87</td><td>.82</td><td>.92</td><td>1.20</td><td>1.04</td><td>.83</td><td>1.03</td><td>1.00</td><td>.90</td><td>1.21</td><td>NMF</td><td>.73</td><td></td><td></td><td>Relative P/E Ratio</td><td>1.15</td></tr> <tr> <td>Avg Ann'l Div'd Yield</td><td>4.3%</td><td>4.4%</td><td>3.9%</td><td>3.9%</td><td>4.7%</td><td>4.3%</td><td>4.1%</td><td>4.0%</td><td>3.8%</td><td>3.5%</td><td>3.1%</td><td>3.1%</td><td>3.1%</td><td>3.0%</td><td>3.4%</td><td>3.8%</td><td></td><td></td><td>Avg Ann'l Div'd Yield</td><td>3.0%</td></tr> <tr> <td colspan="21"> <p>CAPITAL STRUCTURE as of 12/31/21 Total Debt \$4084.0 mill. Due in 5 Yrs \$1520.0 mill. LT Debt \$3206.8 mill. LT Interest \$145.0 mill. (Total interest coverage: 4.2x)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th><th>2006</th><th>2007</th><th>2008</th><th>2009</th><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th><th>2021</th><th>2022</th><th>2023</th><th>Revenues (\$mill) ^A</th><th>3500</th></tr> </thead> <tbody> <tr> <td>Total Debt</td><td>1125.5</td><td>1017.0</td><td>1627.2</td><td>1976.4</td><td>1537.3</td><td>1740.7</td><td>1965.0</td><td>1952.4</td><td>1855.4</td><td>2235.5</td><td>2025</td><td>2140</td><td>Revenues (\$mill) ^A</td><td>3500</td></tr> <tr> <td>LT Debt</td><td>62.6</td><td>52.8</td><td>84.6</td><td>136.9</td><td>144.2</td><td>161.6</td><td>214.2</td><td>184.6</td><td>88.6</td><td>271.7</td><td>175</td><td>205</td><td>Net Profit (\$mill)</td><td>300</td></tr> <tr> <td>Income Tax Rate</td><td>29.6%</td><td>25.0%</td><td>27.6%</td><td>31.2%</td><td>32.5%</td><td>32.4%</td><td>NMF</td><td>15.7%</td><td>12.3%</td><td>20.1%</td><td>25.0%</td><td>25.0%</td><td>Income Tax Rate</td><td>25.0%</td></tr> <tr> <td>Net Profit Margin</td><td>5.6%</td><td>5.2%</td><td>5.2%</td><td>6.9%</td><td>9.4%</td><td>9.3%</td><td>10.9%</td><td>9.5%</td><td>4.8%</td><td>12.2%</td><td>8.6%</td><td>9.6%</td><td>Net Profit Margin</td><td>8.6%</td></tr> <tr> <td>Long-Term Debt Ratio</td><td>36.1%</td><td>46.6%</td><td>55.1%</td><td>53.0%</td><td>50.9%</td><td>50.0%</td><td>45.7%</td><td>45.0%</td><td>49.0%</td><td>52.5%</td><td>53.0%</td><td>52.0%</td><td>Long-Term Debt Ratio</td><td>51.0%</td></tr> <tr> <td>Common Equity Ratio</td><td>63.9%</td><td>53.4%</td><td>44.9%</td><td>47.0%</td><td>49.1%</td><td>50.0%</td><td>54.3%</td><td>49.7%</td><td>46.1%</td><td>43.2%</td><td>43.0%</td><td>44.0%</td><td>Common Equity Ratio</td><td>45.0%</td></tr> <tr> <td>Total Capital (\$mill)</td><td>941.0</td><td>1959.0</td><td>3359.4</td><td>3345.1</td><td>3601.9</td><td>3986.3</td><td>4155.5</td><td>4625.6</td><td>4946.0</td><td>5597.3</td><td>6200</td><td>6700</td><td>Total Capital (\$mill)</td><td>8200</td></tr> <tr> <td>Net Plant (\$mill)</td><td>1019.3</td><td>1776.6</td><td>2759.7</td><td>2941.2</td><td>3300.9</td><td>3665.2</td><td>3970.5</td><td>4352.0</td><td>4680.1</td><td>5055.7</td><td>5360</td><td>5670</td><td>Net Plant (\$mill)</td><td>7100</td></tr> <tr> <td>Return on Total Cap'l</td><td>7.9%</td><td>3.3%</td><td>3.1%</td><td>5.1%</td><td>4.9%</td><td>5.0%</td><td>6.3%</td><td>5.1%</td><td>2.9%</td><td>5.8%</td><td>4.5%</td><td>4.5%</td><td>Return on Total Cap'l</td><td>5.0%</td></tr> <tr> <td>Return on Shr. 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Common Stock 51,750,217 shs. as of 1/28/22</p> </td> </tr> <tr> <td colspan="21"> <p>MARKET CAP: \$3.3 billion (Mid Cap)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th><th>2020</th><th>2021</th><th>12/31/21</th></tr> </thead> <tbody> <tr> <td>Cash Assets</td><td>4.1</td><td>4.3</td><td>8.2</td></tr> <tr> <td>Other</td><td>586.5</td><td>1312.2</td><td>1427.1</td></tr> <tr> <td>Current Assets</td><td>590.6</td><td>1316.5</td><td>1435.3</td></tr> <tr> <td>Accts Payable</td><td>243.3</td><td>409.9</td><td>427.5</td></tr> <tr> <td>Debt Due</td><td>708.4</td><td>727.8</td><td>877.2</td></tr> <tr> <td>Other</td><td>497.5</td><td>470.6</td><td>416.0</td></tr> <tr> <td>Current Liab.</td><td>1449.2</td><td>1608.3</td><td>1720.7</td></tr> <tr> <td>Fix. Chg. Cov.</td><td>373%</td><td>448%</td><td>430%</td></tr> </tbody> </table> </td> </tr> <tr> <td colspan="21"> <p>ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 of change (per sh)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Category</th><th>Past 10 Yrs.</th><th>Past 5 Yrs.</th><th>Est'd '19-'21</th></tr> </thead> <tbody> <tr> <td>Revenues</td><td>-6.5%</td><td>-</td><td>8.5%</td></tr> <tr> <td>"Cash Flow"</td><td>5.0%</td><td>6.0%</td><td>7.5%</td></tr> <tr> <td>Earnings</td><td>2.0%</td><td>2.5%</td><td>9.0%</td></tr> <tr> <td>Dividends</td><td>4.5%</td><td>6.0%</td><td>5.0%</td></tr> <tr> <td>Book Value</td><td>6.5%</td><td>4.5%</td><td>7.0%</td></tr> </tbody> </table> </td> </tr> <tr> <td colspan="21"> <p>QUARTERLY REVENUES (\$ mill.)^A</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fiscal Year Ends</th><th>Dec.31</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Full Fiscal Year</th></tr> </thead> <tbody> <tr> <td>2019</td><td>602.0</td><td>803.5</td><td>321.3</td><td>225.6</td><td>1952.4</td></tr> <tr> <td>2020</td><td>566.9</td><td>715.5</td><td>321.1</td><td>251.9</td><td>1855.4</td></tr> <tr> <td>2021</td><td>512.6</td><td>1104.9</td><td>327.8</td><td>290.2</td><td>2235.5</td></tr> <tr> <td>2022</td><td>555.4</td><td>892</td><td>325</td><td>252.6</td><td>2025</td></tr> <tr> <td>2023</td><td>570</td><td>942</td><td>340</td><td>288</td><td>2140</td></tr> </tbody> </table> </td> </tr> <tr> <td colspan="21"> <p>EARNINGS PER SHARE ^{A,B,F}</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fiscal Year Ends</th><th>Dec.31</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Full Fiscal Year</th></tr> </thead> <tbody> <tr> <td>2019</td><td>1.32</td><td>3.04</td><td>d.09</td><td>d.74</td><td>3.52</td></tr> <tr> <td>2020</td><td>1.24</td><td>2.54</td><td>d1.87</td><td>d.45</td><td>1.44</td></tr> <tr> <td>2021</td><td>1.65</td><td>3.55</td><td>.03</td><td>d.26</td><td>4.96</td></tr> <tr> <td>2022</td><td>1.01</td><td>2.78</td><td>.05</td><td>d.44</td><td>3.40</td></tr> <tr> <td>2023</td><td>1.49</td><td>2.85</td><td>.04</td><td>d.48</td><td>3.90</td></tr> </tbody> </table> </td> </tr> <tr> <td colspan="21"> <p>QUARTERLY DIVIDENDS PAID ^C</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Calendar</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Dec.31</th><th>Full Year</th></tr> </thead> <tbody> <tr> <td>2018</td><td>.5625</td><td>.5625</td><td>.5625</td><td>.5625</td><td>2.25</td></tr> <tr> <td>2019</td><td>.5925</td><td>.5925</td><td>.5925</td><td>.5925</td><td>2.37</td></tr> <tr> <td>2020</td><td>.6225</td><td>.6225</td><td>.6225</td><td>.6225</td><td>2.49</td></tr> <tr> <td>2021</td><td>.65</td><td>.65</td><td>.65</td><td>.65</td><td>2.60</td></tr> <tr> <td>2022</td><td>.685</td><td></td><td></td><td></td><td></td></tr> </tbody> </table> </td> </tr> <tr> <td colspan="21"> <p>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 terms sold and transported in fiscal 2021: 3.3 bill. Revenue mix for regulated operations: residential, 58%; commercial and industrial, 28%; transportation, 6%; other, 8%. Has about 3,710 employees. Officers and directors own 3.0% of common shares; BlackRock, 11.5% (1/22 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.</p> </td> </tr> <tr> <td colspan="21"> <p>Spire Inc. began fiscal 2022 (which concludes September 30th) on a sour note. Indeed, first-quarter share net of \$1.01 plunged nearly 40%, relative to the previous-year total of \$1.65. That was attributable primarily to the Gas Utility segment, squeezed by unseasonably warm temperatures across the service territories plus heightened depreciation & amortization expenses. To make matters worse, the performance of the Gas Marketing division was hurt by less favorable market conditions and diminished storage margins. It appears that profits will fall substantially for the year as a whole. There ought to be a challenging second-quarter share-net matchup. Moreover, the company was disappointed with a Missouri rate proceeding, particularly regarding recovery of overhead costs. So, the annual pre-tax impact on results is estimated to range between \$20 million and \$30 million. At the time of this report, there were plans to file a new rate case in that state that will, hopefully, remedy the situation. Lastly, the company is authorized by the Federal Energy Regulatory Commission to operate the important</p> </td> </tr> <tr> <td colspan="21"> <p>Spire STL Pipeline, temporarily, while it reviews whether permanent approval should be granted. (Management expects the process to continue into calendar 2023.) All told, full-year earnings may plummet over 30%, to \$3.40 a share, relative to fiscal 2021's \$4.96 tally. Please be aware that our fiscal 2023 target of \$3.90 a share is tentative, given the aforesaid uncertainties. This year's capital spending budget is anticipated to be roughly \$570 million. (That is about 9% lower than the fiscal 2021 figure of \$624.8 million.) Investments are being deployed to such segments as infrastructure upgrades at the utilities and new business development initiatives. Leadership adds that it expects total expenditures from fiscal 2022 through fiscal 2026 to be in the neighborhood of \$3 billion. If finances stay in good shape, Spire should have little trouble achieving those objectives. These shares, though unfavorably ranked for Timeliness, ought to draw the attention of total return-oriented investors with a long-term bent. Frederick L. Harris, III February 25, 2022</p> </td> </tr> </tbody></table>								Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27	Price	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	43.24	38.95	40.75	Revenues per sh ^A	63.65	Div'd	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	9.09	7.75	8.55	"Cash Flow" per sh	10.90	Earnings	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	4.96	3.40	3.90	Earnings per sh ^{A,B}	5.50	Div'd Decl'd	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	2.74	2.86	Div'ds Decl'd per sh ^C	3.30	Cap'l Spending	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	12.09	10.95	11.15	Cap'l Spending per sh	11.50	Book Value	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	46.74	51.25	56.10	Book Value per sh ^D	67.10	Common Shs Outst'g	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	51.70	52.00	52.50	Common Shs Outst'g ^E	55.00	Avg Ann'l P/E Ratio	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	13.6	Bold figures are Value Line estimates	7.3	Avg Ann'l P/E Ratio	20.5	Relative P/E Ratio	.73	.75	.86	.89	.87	.82	.92	1.20	1.04	.83	1.03	1.00	.90	1.21	NMF	.73			Relative P/E Ratio	1.15	Avg Ann'l Div'd Yield	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%	3.8%			Avg Ann'l Div'd Yield	3.0%	<p>CAPITAL STRUCTURE as of 12/31/21 Total Debt \$4084.0 mill. Due in 5 Yrs \$1520.0 mill. LT Debt \$3206.8 mill. LT Interest \$145.0 mill. (Total interest coverage: 4.2x)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th><th>2006</th><th>2007</th><th>2008</th><th>2009</th><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th><th>2021</th><th>2022</th><th>2023</th><th>Revenues (\$mill) ^A</th><th>3500</th></tr> </thead> <tbody> <tr> <td>Total Debt</td><td>1125.5</td><td>1017.0</td><td>1627.2</td><td>1976.4</td><td>1537.3</td><td>1740.7</td><td>1965.0</td><td>1952.4</td><td>1855.4</td><td>2235.5</td><td>2025</td><td>2140</td><td>Revenues (\$mill) ^A</td><td>3500</td></tr> <tr> <td>LT Debt</td><td>62.6</td><td>52.8</td><td>84.6</td><td>136.9</td><td>144.2</td><td>161.6</td><td>214.2</td><td>184.6</td><td>88.6</td><td>271.7</td><td>175</td><td>205</td><td>Net Profit (\$mill)</td><td>300</td></tr> <tr> <td>Income Tax Rate</td><td>29.6%</td><td>25.0%</td><td>27.6%</td><td>31.2%</td><td>32.5%</td><td>32.4%</td><td>NMF</td><td>15.7%</td><td>12.3%</td><td>20.1%</td><td>25.0%</td><td>25.0%</td><td>Income Tax Rate</td><td>25.0%</td></tr> <tr> <td>Net Profit Margin</td><td>5.6%</td><td>5.2%</td><td>5.2%</td><td>6.9%</td><td>9.4%</td><td>9.3%</td><td>10.9%</td><td>9.5%</td><td>4.8%</td><td>12.2%</td><td>8.6%</td><td>9.6%</td><td>Net Profit Margin</td><td>8.6%</td></tr> <tr> <td>Long-Term Debt Ratio</td><td>36.1%</td><td>46.6%</td><td>55.1%</td><td>53.0%</td><td>50.9%</td><td>50.0%</td><td>45.7%</td><td>45.0%</td><td>49.0%</td><td>52.5%</td><td>53.0%</td><td>52.0%</td><td>Long-Term Debt Ratio</td><td>51.0%</td></tr> <tr> <td>Common Equity Ratio</td><td>63.9%</td><td>53.4%</td><td>44.9%</td><td>47.0%</td><td>49.1%</td><td>50.0%</td><td>54.3%</td><td>49.7%</td><td>46.1%</td><td>43.2%</td><td>43.0%</td><td>44.0%</td><td>Common Equity Ratio</td><td>45.0%</td></tr> <tr> <td>Total Capital (\$mill)</td><td>941.0</td><td>1959.0</td><td>3359.4</td><td>3345.1</td><td>3601.9</td><td>3986.3</td><td>4155.5</td><td>4625.6</td><td>4946.0</td><td>5597.3</td><td>6200</td><td>6700</td><td>Total Capital (\$mill)</td><td>8200</td></tr> <tr> <td>Net Plant (\$mill)</td><td>1019.3</td><td>1776.6</td><td>2759.7</td><td>2941.2</td><td>3300.9</td><td>3665.2</td><td>3970.5</td><td>4352.0</td><td>4680.1</td><td>5055.7</td><td>5360</td><td>5670</td><td>Net Plant (\$mill)</td><td>7100</td></tr> <tr> <td>Return on Total Cap'l</td><td>7.9%</td><td>3.3%</td><td>3.1%</td><td>5.1%</td><td>4.9%</td><td>5.0%</td><td>6.3%</td><td>5.1%</td><td>2.9%</td><td>5.8%</td><td>4.5%</td><td>4.5%</td><td>Return on Total Cap'l</td><td>5.0%</td></tr> <tr> <td>Return on Shr. 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Equity	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.3%	3.5%	10.2%	6.5%	7.0%	Return on Shr. Equity	8.0%	Return on Com Equity	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.9%	3.2%	10.6%	6.5%	7.0%	Return on Com Equity	8.0%	Retained to Com Eq	4.3%	1.0%	1.5%	3.7%	3.3%	3.3%	4.7%	2.7%	NMF	5.1%	.5%	1.5%	Retained to Com Eq	3.0%	All Div'ds to Net Prof	59%	81%	73%	58%	59%	60%	51%	66%	NMF	54%	90%	80%	All Div'ds to Net Prof	65%	<p>Leases, Uncapitalized Annual rentals \$8.8 mill. Pension Assets-9/21 \$945.7 mill. Oblig. \$1318.0 mill. Pfd Div'd \$14.8 mill. Common Stock 51,750,217 shs. as of 1/28/22</p>																					<p>MARKET CAP: \$3.3 billion (Mid Cap)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th><th>2020</th><th>2021</th><th>12/31/21</th></tr> </thead> <tbody> <tr> <td>Cash Assets</td><td>4.1</td><td>4.3</td><td>8.2</td></tr> <tr> <td>Other</td><td>586.5</td><td>1312.2</td><td>1427.1</td></tr> <tr> <td>Current Assets</td><td>590.6</td><td>1316.5</td><td>1435.3</td></tr> <tr> <td>Accts Payable</td><td>243.3</td><td>409.9</td><td>427.5</td></tr> <tr> <td>Debt Due</td><td>708.4</td><td>727.8</td><td>877.2</td></tr> <tr> <td>Other</td><td>497.5</td><td>470.6</td><td>416.0</td></tr> <tr> <td>Current Liab.</td><td>1449.2</td><td>1608.3</td><td>1720.7</td></tr> <tr> <td>Fix. Chg. 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Est'd '19-'21 of change (per sh)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Category</th><th>Past 10 Yrs.</th><th>Past 5 Yrs.</th><th>Est'd '19-'21</th></tr> </thead> <tbody> <tr> <td>Revenues</td><td>-6.5%</td><td>-</td><td>8.5%</td></tr> <tr> <td>"Cash Flow"</td><td>5.0%</td><td>6.0%</td><td>7.5%</td></tr> <tr> <td>Earnings</td><td>2.0%</td><td>2.5%</td><td>9.0%</td></tr> <tr> <td>Dividends</td><td>4.5%</td><td>6.0%</td><td>5.0%</td></tr> <tr> <td>Book Value</td><td>6.5%</td><td>4.5%</td><td>7.0%</td></tr> </tbody> </table>																					Category	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21	Revenues	-6.5%	-	8.5%	"Cash Flow"	5.0%	6.0%	7.5%	Earnings	2.0%	2.5%	9.0%	Dividends	4.5%	6.0%	5.0%	Book Value	6.5%	4.5%	7.0%	<p>QUARTERLY REVENUES (\$ mill.)^A</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fiscal Year Ends</th><th>Dec.31</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Full Fiscal Year</th></tr> </thead> <tbody> <tr> <td>2019</td><td>602.0</td><td>803.5</td><td>321.3</td><td>225.6</td><td>1952.4</td></tr> <tr> <td>2020</td><td>566.9</td><td>715.5</td><td>321.1</td><td>251.9</td><td>1855.4</td></tr> <tr> <td>2021</td><td>512.6</td><td>1104.9</td><td>327.8</td><td>290.2</td><td>2235.5</td></tr> <tr> <td>2022</td><td>555.4</td><td>892</td><td>325</td><td>252.6</td><td>2025</td></tr> <tr> <td>2023</td><td>570</td><td>942</td><td>340</td><td>288</td><td>2140</td></tr> </tbody> </table>																					Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year	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	290.2	2235.5	2022	555.4	892	325	252.6	2025	2023	570	942	340	288	2140	<p>EARNINGS PER SHARE ^{A,B,F}</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fiscal Year Ends</th><th>Dec.31</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Full Fiscal Year</th></tr> </thead> <tbody> <tr> <td>2019</td><td>1.32</td><td>3.04</td><td>d.09</td><td>d.74</td><td>3.52</td></tr> <tr> <td>2020</td><td>1.24</td><td>2.54</td><td>d1.87</td><td>d.45</td><td>1.44</td></tr> <tr> <td>2021</td><td>1.65</td><td>3.55</td><td>.03</td><td>d.26</td><td>4.96</td></tr> <tr> <td>2022</td><td>1.01</td><td>2.78</td><td>.05</td><td>d.44</td><td>3.40</td></tr> <tr> <td>2023</td><td>1.49</td><td>2.85</td><td>.04</td><td>d.48</td><td>3.90</td></tr> </tbody> </table>																					Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year	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.26	4.96	2022	1.01	2.78	.05	d.44	3.40	2023	1.49	2.85	.04	d.48	3.90	<p>QUARTERLY DIVIDENDS PAID ^C</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Calendar</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Dec.31</th><th>Full Year</th></tr> </thead> <tbody> <tr> <td>2018</td><td>.5625</td><td>.5625</td><td>.5625</td><td>.5625</td><td>2.25</td></tr> <tr> <td>2019</td><td>.5925</td><td>.5925</td><td>.5925</td><td>.5925</td><td>2.37</td></tr> <tr> <td>2020</td><td>.6225</td><td>.6225</td><td>.6225</td><td>.6225</td><td>2.49</td></tr> <tr> <td>2021</td><td>.65</td><td>.65</td><td>.65</td><td>.65</td><td>2.60</td></tr> <tr> <td>2022</td><td>.685</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>																					Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	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	.65	2.60	2022	.685					<p>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 terms sold and transported in fiscal 2021: 3.3 bill. Revenue mix for regulated operations: residential, 58%; commercial and industrial, 28%; transportation, 6%; other, 8%. Has about 3,710 employees. Officers and directors own 3.0% of common shares; BlackRock, 11.5% (1/22 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.</p>																					<p>Spire Inc. began fiscal 2022 (which concludes September 30th) on a sour note. Indeed, first-quarter share net of \$1.01 plunged nearly 40%, relative to the previous-year total of \$1.65. That was attributable primarily to the Gas Utility segment, squeezed by unseasonably warm temperatures across the service territories plus heightened depreciation & amortization expenses. To make matters worse, the performance of the Gas Marketing division was hurt by less favorable market conditions and diminished storage margins. It appears that profits will fall substantially for the year as a whole. There ought to be a challenging second-quarter share-net matchup. Moreover, the company was disappointed with a Missouri rate proceeding, particularly regarding recovery of overhead costs. So, the annual pre-tax impact on results is estimated to range between \$20 million and \$30 million. At the time of this report, there were plans to file a new rate case in that state that will, hopefully, remedy the situation. Lastly, the company is authorized by the Federal Energy Regulatory Commission to operate the important</p>																					<p>Spire STL Pipeline, temporarily, while it reviews whether permanent approval should be granted. (Management expects the process to continue into calendar 2023.) All told, full-year earnings may plummet over 30%, to \$3.40 a share, relative to fiscal 2021's \$4.96 tally. Please be aware that our fiscal 2023 target of \$3.90 a share is tentative, given the aforesaid uncertainties. This year's capital spending budget is anticipated to be roughly \$570 million. (That is about 9% lower than the fiscal 2021 figure of \$624.8 million.) Investments are being deployed to such segments as infrastructure upgrades at the utilities and new business development initiatives. Leadership adds that it expects total expenditures from fiscal 2022 through fiscal 2026 to be in the neighborhood of \$3 billion. If finances stay in good shape, Spire should have little trouble achieving those objectives. These shares, though unfavorably ranked for Timeliness, ought to draw the attention of total return-oriented investors with a long-term bent. Frederick L. Harris, III February 25, 2022</p>																				
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Div'd	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	9.09	7.75	8.55	"Cash Flow" per sh	10.90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Earnings	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	4.96	3.40	3.90	Earnings per sh ^{A,B}	5.50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Div'd Decl'd	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	2.74	2.86	Div'ds Decl'd per sh ^C	3.30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Cap'l Spending	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	12.09	10.95	11.15	Cap'l Spending per sh	11.50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Book Value	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	46.74	51.25	56.10	Book Value per sh ^D	67.10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Common Shs Outst'g	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	51.70	52.00	52.50	Common Shs Outst'g ^E	55.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Avg Ann'l P/E Ratio	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	13.6	Bold figures are Value Line estimates	7.3	Avg Ann'l P/E Ratio	20.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Relative P/E Ratio	.73	.75	.86	.89	.87	.82	.92	1.20	1.04	.83	1.03	1.00	.90	1.21	NMF	.73			Relative P/E Ratio	1.15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Avg Ann'l Div'd Yield	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%	3.8%			Avg Ann'l Div'd Yield	3.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<p>CAPITAL STRUCTURE as of 12/31/21 Total Debt \$4084.0 mill. Due in 5 Yrs \$1520.0 mill. LT Debt \$3206.8 mill. LT Interest \$145.0 mill. (Total interest coverage: 4.2x)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th><th>2006</th><th>2007</th><th>2008</th><th>2009</th><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>2019</th><th>2020</th><th>2021</th><th>2022</th><th>2023</th><th>Revenues (\$mill) ^A</th><th>3500</th></tr> </thead> <tbody> <tr> <td>Total Debt</td><td>1125.5</td><td>1017.0</td><td>1627.2</td><td>1976.4</td><td>1537.3</td><td>1740.7</td><td>1965.0</td><td>1952.4</td><td>1855.4</td><td>2235.5</td><td>2025</td><td>2140</td><td>Revenues (\$mill) ^A</td><td>3500</td></tr> <tr> <td>LT Debt</td><td>62.6</td><td>52.8</td><td>84.6</td><td>136.9</td><td>144.2</td><td>161.6</td><td>214.2</td><td>184.6</td><td>88.6</td><td>271.7</td><td>175</td><td>205</td><td>Net Profit (\$mill)</td><td>300</td></tr> <tr> <td>Income Tax Rate</td><td>29.6%</td><td>25.0%</td><td>27.6%</td><td>31.2%</td><td>32.5%</td><td>32.4%</td><td>NMF</td><td>15.7%</td><td>12.3%</td><td>20.1%</td><td>25.0%</td><td>25.0%</td><td>Income Tax Rate</td><td>25.0%</td></tr> <tr> <td>Net Profit Margin</td><td>5.6%</td><td>5.2%</td><td>5.2%</td><td>6.9%</td><td>9.4%</td><td>9.3%</td><td>10.9%</td><td>9.5%</td><td>4.8%</td><td>12.2%</td><td>8.6%</td><td>9.6%</td><td>Net Profit Margin</td><td>8.6%</td></tr> <tr> <td>Long-Term Debt Ratio</td><td>36.1%</td><td>46.6%</td><td>55.1%</td><td>53.0%</td><td>50.9%</td><td>50.0%</td><td>45.7%</td><td>45.0%</td><td>49.0%</td><td>52.5%</td><td>53.0%</td><td>52.0%</td><td>Long-Term Debt Ratio</td><td>51.0%</td></tr> <tr> <td>Common Equity Ratio</td><td>63.9%</td><td>53.4%</td><td>44.9%</td><td>47.0%</td><td>49.1%</td><td>50.0%</td><td>54.3%</td><td>49.7%</td><td>46.1%</td><td>43.2%</td><td>43.0%</td><td>44.0%</td><td>Common Equity Ratio</td><td>45.0%</td></tr> <tr> <td>Total Capital (\$mill)</td><td>941.0</td><td>1959.0</td><td>3359.4</td><td>3345.1</td><td>3601.9</td><td>3986.3</td><td>4155.5</td><td>4625.6</td><td>4946.0</td><td>5597.3</td><td>6200</td><td>6700</td><td>Total Capital (\$mill)</td><td>8200</td></tr> <tr> <td>Net Plant (\$mill)</td><td>1019.3</td><td>1776.6</td><td>2759.7</td><td>2941.2</td><td>3300.9</td><td>3665.2</td><td>3970.5</td><td>4352.0</td><td>4680.1</td><td>5055.7</td><td>5360</td><td>5670</td><td>Net Plant (\$mill)</td><td>7100</td></tr> <tr> <td>Return on Total Cap'l</td><td>7.9%</td><td>3.3%</td><td>3.1%</td><td>5.1%</td><td>4.9%</td><td>5.0%</td><td>6.3%</td><td>5.1%</td><td>2.9%</td><td>5.8%</td><td>4.5%</td><td>4.5%</td><td>Return on Total Cap'l</td><td>5.0%</td></tr> <tr> <td>Return on Shr. Equity</td><td>10.4%</td><td>5.0%</td><td>5.6%</td><td>8.7%</td><td>8.2%</td><td>8.1%</td><td>9.5%</td><td>7.3%</td><td>3.5%</td><td>10.2%</td><td>6.5%</td><td>7.0%</td><td>Return on Shr. Equity</td><td>8.0%</td></tr> <tr> <td>Return on Com Equity</td><td>10.4%</td><td>5.0%</td><td>5.6%</td><td>8.7%</td><td>8.2%</td><td>8.1%</td><td>9.5%</td><td>7.9%</td><td>3.2%</td><td>10.6%</td><td>6.5%</td><td>7.0%</td><td>Return on Com Equity</td><td>8.0%</td></tr> <tr> <td>Retained to Com Eq</td><td>4.3%</td><td>1.0%</td><td>1.5%</td><td>3.7%</td><td>3.3%</td><td>3.3%</td><td>4.7%</td><td>2.7%</td><td>NMF</td><td>5.1%</td><td>.5%</td><td>1.5%</td><td>Retained to Com Eq</td><td>3.0%</td></tr> <tr> <td>All Div'ds to Net Prof</td><td>59%</td><td>81%</td><td>73%</td><td>58%</td><td>59%</td><td>60%</td><td>51%</td><td>66%</td><td>NMF</td><td>54%</td><td>90%</td><td>80%</td><td>All Div'ds to Net Prof</td><td>65%</td></tr> </tbody> </table>																					Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Revenues (\$mill) ^A	3500	Total Debt	1125.5	1017.0	1627.2	1976.4	1537.3	1740.7	1965.0	1952.4	1855.4	2235.5	2025	2140	Revenues (\$mill) ^A	3500	LT Debt	62.6	52.8	84.6	136.9	144.2	161.6	214.2	184.6	88.6	271.7	175	205	Net Profit (\$mill)	300	Income Tax Rate	29.6%	25.0%	27.6%	31.2%	32.5%	32.4%	NMF	15.7%	12.3%	20.1%	25.0%	25.0%	Income Tax Rate	25.0%	Net Profit Margin	5.6%	5.2%	5.2%	6.9%	9.4%	9.3%	10.9%	9.5%	4.8%	12.2%	8.6%	9.6%	Net Profit Margin	8.6%	Long-Term Debt Ratio	36.1%	46.6%	55.1%	53.0%	50.9%	50.0%	45.7%	45.0%	49.0%	52.5%	53.0%	52.0%	Long-Term Debt Ratio	51.0%	Common Equity Ratio	63.9%	53.4%	44.9%	47.0%	49.1%	50.0%	54.3%	49.7%	46.1%	43.2%	43.0%	44.0%	Common Equity Ratio	45.0%	Total Capital (\$mill)	941.0	1959.0	3359.4	3345.1	3601.9	3986.3	4155.5	4625.6	4946.0	5597.3	6200	6700	Total Capital (\$mill)	8200	Net Plant (\$mill)	1019.3	1776.6	2759.7	2941.2	3300.9	3665.2	3970.5	4352.0	4680.1	5055.7	5360	5670	Net Plant (\$mill)	7100	Return on Total Cap'l	7.9%	3.3%	3.1%	5.1%	4.9%	5.0%	6.3%	5.1%	2.9%	5.8%	4.5%	4.5%	Return on Total Cap'l	5.0%	Return on Shr. Equity	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.3%	3.5%	10.2%	6.5%	7.0%	Return on Shr. Equity	8.0%	Return on Com Equity	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.9%	3.2%	10.6%	6.5%	7.0%	Return on Com Equity	8.0%	Retained to Com Eq	4.3%	1.0%	1.5%	3.7%	3.3%	3.3%	4.7%	2.7%	NMF	5.1%	.5%	1.5%	Retained to Com Eq	3.0%	All Div'ds to Net Prof	59%	81%	73%	58%	59%	60%	51%	66%	NMF	54%	90%	80%	All Div'ds to Net Prof	65%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Long-Term Debt Ratio	36.1%	46.6%	55.1%	53.0%	50.9%	50.0%	45.7%	45.0%	49.0%	52.5%	53.0%	52.0%	Long-Term Debt Ratio	51.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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<p>Leases, Uncapitalized Annual rentals \$8.8 mill. Pension Assets-9/21 \$945.7 mill. Oblig. \$1318.0 mill. Pfd Div'd \$14.8 mill. Common Stock 51,750,217 shs. as of 1/28/22</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<p>MARKET CAP: \$3.3 billion (Mid Cap)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th><th>2020</th><th>2021</th><th>12/31/21</th></tr> </thead> <tbody> <tr> <td>Cash Assets</td><td>4.1</td><td>4.3</td><td>8.2</td></tr> <tr> <td>Other</td><td>586.5</td><td>1312.2</td><td>1427.1</td></tr> <tr> <td>Current Assets</td><td>590.6</td><td>1316.5</td><td>1435.3</td></tr> <tr> <td>Accts Payable</td><td>243.3</td><td>409.9</td><td>427.5</td></tr> <tr> <td>Debt Due</td><td>708.4</td><td>727.8</td><td>877.2</td></tr> <tr> <td>Other</td><td>497.5</td><td>470.6</td><td>416.0</td></tr> <tr> <td>Current Liab.</td><td>1449.2</td><td>1608.3</td><td>1720.7</td></tr> <tr> <td>Fix. Chg. Cov.</td><td>373%</td><td>448%</td><td>430%</td></tr> </tbody> </table>																					Year	2020	2021	12/31/21	Cash Assets	4.1	4.3	8.2	Other	586.5	1312.2	1427.1	Current Assets	590.6	1316.5	1435.3	Accts Payable	243.3	409.9	427.5	Debt Due	708.4	727.8	877.2	Other	497.5	470.6	416.0	Current Liab.	1449.2	1608.3	1720.7	Fix. Chg. Cov.	373%	448%	430%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<p>ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 of change (per sh)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Category</th><th>Past 10 Yrs.</th><th>Past 5 Yrs.</th><th>Est'd '19-'21</th></tr> </thead> <tbody> <tr> <td>Revenues</td><td>-6.5%</td><td>-</td><td>8.5%</td></tr> <tr> <td>"Cash Flow"</td><td>5.0%</td><td>6.0%</td><td>7.5%</td></tr> <tr> <td>Earnings</td><td>2.0%</td><td>2.5%</td><td>9.0%</td></tr> <tr> <td>Dividends</td><td>4.5%</td><td>6.0%</td><td>5.0%</td></tr> <tr> <td>Book Value</td><td>6.5%</td><td>4.5%</td><td>7.0%</td></tr> </tbody> </table>																					Category	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21	Revenues	-6.5%	-	8.5%	"Cash Flow"	5.0%	6.0%	7.5%	Earnings	2.0%	2.5%	9.0%	Dividends	4.5%	6.0%	5.0%	Book Value	6.5%	4.5%	7.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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<p>QUARTERLY REVENUES (\$ mill.)^A</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fiscal Year Ends</th><th>Dec.31</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Full Fiscal Year</th></tr> </thead> <tbody> <tr> <td>2019</td><td>602.0</td><td>803.5</td><td>321.3</td><td>225.6</td><td>1952.4</td></tr> <tr> <td>2020</td><td>566.9</td><td>715.5</td><td>321.1</td><td>251.9</td><td>1855.4</td></tr> <tr> <td>2021</td><td>512.6</td><td>1104.9</td><td>327.8</td><td>290.2</td><td>2235.5</td></tr> <tr> <td>2022</td><td>555.4</td><td>892</td><td>325</td><td>252.6</td><td>2025</td></tr> <tr> <td>2023</td><td>570</td><td>942</td><td>340</td><td>288</td><td>2140</td></tr> </tbody> </table>																					Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year	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	290.2	2235.5	2022	555.4	892	325	252.6	2025	2023	570	942	340	288	2140																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<p>EARNINGS PER SHARE ^{A,B,F}</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fiscal Year Ends</th><th>Dec.31</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Full Fiscal Year</th></tr> </thead> <tbody> <tr> <td>2019</td><td>1.32</td><td>3.04</td><td>d.09</td><td>d.74</td><td>3.52</td></tr> <tr> <td>2020</td><td>1.24</td><td>2.54</td><td>d1.87</td><td>d.45</td><td>1.44</td></tr> <tr> <td>2021</td><td>1.65</td><td>3.55</td><td>.03</td><td>d.26</td><td>4.96</td></tr> <tr> <td>2022</td><td>1.01</td><td>2.78</td><td>.05</td><td>d.44</td><td>3.40</td></tr> <tr> <td>2023</td><td>1.49</td><td>2.85</td><td>.04</td><td>d.48</td><td>3.90</td></tr> </tbody> </table>																					Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year	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.26	4.96	2022	1.01	2.78	.05	d.44	3.40	2023	1.49	2.85	.04	d.48	3.90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<p>QUARTERLY DIVIDENDS PAID ^C</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Calendar</th><th>Mar.31</th><th>Jun.30</th><th>Sep.30</th><th>Dec.31</th><th>Full Year</th></tr> </thead> <tbody> <tr> <td>2018</td><td>.5625</td><td>.5625</td><td>.5625</td><td>.5625</td><td>2.25</td></tr> <tr> <td>2019</td><td>.5925</td><td>.5925</td><td>.5925</td><td>.5925</td><td>2.37</td></tr> <tr> <td>2020</td><td>.6225</td><td>.6225</td><td>.6225</td><td>.6225</td><td>2.49</td></tr> <tr> <td>2021</td><td>.65</td><td>.65</td><td>.65</td><td>.65</td><td>2.60</td></tr> <tr> <td>2022</td><td>.685</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>																					Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	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	.65	2.60	2022	.685																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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<p>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 terms sold and transported in fiscal 2021: 3.3 bill. Revenue mix for regulated operations: residential, 58%; commercial and industrial, 28%; transportation, 6%; other, 8%. Has about 3,710 employees. Officers and directors own 3.0% of common shares; BlackRock, 11.5% (1/22 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.</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<p>Spire Inc. began fiscal 2022 (which concludes September 30th) on a sour note. Indeed, first-quarter share net of \$1.01 plunged nearly 40%, relative to the previous-year total of \$1.65. That was attributable primarily to the Gas Utility segment, squeezed by unseasonably warm temperatures across the service territories plus heightened depreciation & amortization expenses. To make matters worse, the performance of the Gas Marketing division was hurt by less favorable market conditions and diminished storage margins. It appears that profits will fall substantially for the year as a whole. There ought to be a challenging second-quarter share-net matchup. Moreover, the company was disappointed with a Missouri rate proceeding, particularly regarding recovery of overhead costs. So, the annual pre-tax impact on results is estimated to range between \$20 million and \$30 million. At the time of this report, there were plans to file a new rate case in that state that will, hopefully, remedy the situation. Lastly, the company is authorized by the Federal Energy Regulatory Commission to operate the important</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<p>Spire STL Pipeline, temporarily, while it reviews whether permanent approval should be granted. (Management expects the process to continue into calendar 2023.) All told, full-year earnings may plummet over 30%, to \$3.40 a share, relative to fiscal 2021's \$4.96 tally. Please be aware that our fiscal 2023 target of \$3.90 a share is tentative, given the aforesaid uncertainties. This year's capital spending budget is anticipated to be roughly \$570 million. (That is about 9% lower than the fiscal 2021 figure of \$624.8 million.) Investments are being deployed to such segments as infrastructure upgrades at the utilities and new business development initiatives. Leadership adds that it expects total expenditures from fiscal 2022 through fiscal 2026 to be in the neighborhood of \$3 billion. If finances stay in good shape, Spire should have little trouble achieving those objectives. These shares, though unfavorably ranked for Timeliness, ought to draw the attention of total return-oriented investors with a long-term bent. Frederick L. Harris, III February 25, 2022</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

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

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	50
Earnings Predictability	45

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Northern States Power Company, a Minnesota Corporation
Summary of Risk Premium Models for the
Proxy Group of Six Natural Gas Distribution Companies

	<u>Proxy Group of Six Natural Gas Distribution Companies</u>
Predictive Risk Premium Model (PRPM) (1)	10.52 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>10.64 %</u>
Average	<u><u>10.58 %</u></u>

Notes:

- (1) From page 11 of this Schedule.
- (2) From page 12 of this Schedule.

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

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
<u>Proxy Group of Six Natural Gas Distribution Companies</u>	<u>LT Average Predicted Variance</u>	<u>Spot Predicted Variance</u>	<u>Recommended Variance (2)</u>	<u>GARCH Coefficient</u>	<u>Predicted Risk Premium (3)</u>	<u>Risk-Free Rate (4)</u>	<u>Indicated ROE (5)</u>
Atmos Energy Corporation	0.34%	0.48%	0.41%	2.3073	11.95%	2.89%	14.84%
New Jersey Resources Corporation	0.38%	0.41%	0.40%	2.0666	10.29%	2.89%	13.18%
NiSource, Inc.	0.48%	0.54%	0.51%	0.8281	5.23%	2.89%	8.12%
Northwest Natural Holding Company	0.33%	0.41%	0.37%	1.5433	7.04%	2.89%	9.93%
ONE Gas, Inc.	0.34%	0.58%	0.46%	4.0503	NMF	2.89%	NMF
Spire Inc.	0.71%	0.41%	0.56%	0.9436	6.52%	2.89%	9.41%
						Average	<u>11.10%</u>
						Median	<u>9.93%</u>
					Average of Mean and Median		<u>10.52%</u>

Notes:

- (1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Service.
- (2) Average of Columns [1] and [2].
- (3) $(1 + (\text{Column [3]} * \text{Column [4]}^{12}) - 1)$.
- (4) From note 2 on page 24 of this Schedule.
- (5) Column [5] + Column [6].

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

<u>Line No.</u>		<u>Proxy Group of Six Natural Gas Distribution Companies</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	3.95 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds	<u>0.41 (2)</u>
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	4.36 %
4.	Equity Risk Premium	<u>6.28</u>
5.	Risk Premium Derived Common Equity Cost Rate	<u><u>10.64 %</u></u>

- Notes: (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 19 and 20 of this Schedule).
- (2) The average yield spread of A2 rated public utility bonds over Aaa rated corporate bonds of 0.41% from page 13 of this Schedule.

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

Selected Bond Yields - Moody's

	[1]	[2]	[3]	[4]
	<u>Aaa Rated Corporate Bond</u>	<u>Aa2 Rated Public Utility Bond</u>	<u>A2 Rated Public Utility Bond</u>	<u>Baa2 Rated Public Utility Bond</u>
Feb-2022	3.25 %	3.56 %	3.68 %	3.95 %
Jan-2022	2.93	3.19	3.33	3.57
Dec-2021	<u>2.65</u>	<u>2.92</u>	<u>3.04</u>	<u>3.28</u>
Average	<u>2.94 %</u>	<u>3.22 %</u>	<u>3.35 %</u>	<u>3.60 %</u>

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:	<u>0.41 %</u> (1)
Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds:	<u>0.25 %</u> (2)
A2 Rated Public Utility Bonds Over Aa2 Rated Public Utility Bonds:	<u>0.13 %</u> (3)

Notes:

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

Source of Information:

Bloomberg Professional Service

Northern States Power Company, a Minnesota Corporation
Comparison of Long-Term Issuer Ratings for
Proxy Group of Six Natural Gas Distribution Companies

	<u>Moody's</u>		<u>Standard & Poor's</u>	
	<u>Long-Term Issuer Rating</u>	<u>February 2022</u>	<u>Long-Term Issuer Rating</u>	<u>February 2022</u>
<u>Proxy Group of Six Natural Gas Distribution Companies</u>	<u>Long-Term Issuer Rating (1)</u>	<u>Numerical Weighting (2)</u>	<u>Long-Term Issuer Rating (1)</u>	<u>Numerical Weighting (2)</u>
Atmos Energy Corporation	A1	5.0	A-	7.0
New Jersey Resources Corporation	A1	5.0	NR	--
NiSource, Inc.	Baa1	8.0	BBB+	8.0
Northwest Natural Holding Company	Baa1	8.0	A+	5.0
ONE Gas, Inc.	A3	7.0	BBB+	8.0
Spire Inc.	A1/A2	5.5	A-	7.0
Average	<u>A2</u>	<u>6.4</u>	<u>A-</u>	<u>7.0</u>

Notes:

- (1) Ratings are that of the average of each company's utility operating subsidiaries.
(2) From page 15 of this Schedule.

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

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

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

Northern States Power Company, a Minnesota Corporation
Judgment of Equity Risk Premium for
Proxy Group of Six Natural Gas Distribution Companies

<u>Line No.</u>		<u>Proxy Group of Six Natural Gas Distribution Companies</u>
1.	Calculated equity risk premium based on the total market using the beta approach (1)	7.85 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	5.52
3.	Predicted Equity Risk Premium Based on Regression Analysis of 809 Fully-Litigated Natural Gas Utility Rate Cases	<u>5.46</u>
4.	Average equity risk premium	<u><u>6.28 %</u></u>

Notes: (1) From page 17 of this Schedule.
(2) From page 21 of this Schedule.
(3) From page 22 of this Schedule.

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

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Six Natural Gas Distribution Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.23
3.	Ibbotson Equity Risk Premium based on PRPM (3)	8.07
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	6.83
5.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	12.22
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>11.06</u>
7.	Conclusion of Equity Risk Premium	8.72 %
8.	Adjusted Beta (7)	<u>0.90</u>
9.	Forecasted Equity Risk Premium	<u><u>7.85 %</u></u>

Notes provided on page 9 of this Schedule.

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

Notes:

- (1) Based on the arithmetic mean historical monthly returns on large company common stocks from Duff & Phelps 2022 SBBI® Yearbook minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1928-2020.
- (2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa rated corporate bond yields from 1928-2020 referenced in Note 1 above.
- (3) The Predictive Risk Premium Model (PRPM) is discussed in the accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns and average Aaa and Aa corporate monthly bond yields, from January 1928 through February 2022.
- (4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 3.95% from the projected 3-5 year total annual market return of 10.78% .
- (5) Using data from Value Line for the S&P 500, an expected total return of 16.17% 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 3.95% results in an expected equity risk premium of 12.22%.
- (6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 15.01% 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 3.95% results in an expected equity risk premium of 11.06%.
- (7) Average of mean and median beta from Page 23 of this Schedule.

Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, March 1, 2022, December 1, 2021
Bloomberg Professional Service

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

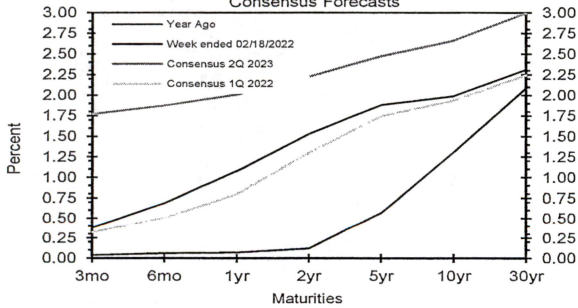
Interest Rates	History								Consensus Forecasts-Quarterly Avg.						
	Average For Week Ending				Average For Month				Latest Qtr	1Q	2Q	3Q	4Q	1Q	2Q
	Feb 18	Feb 11	Feb 4	Jan 28	Jan	Dec	Nov	4Q 2021	2022	2022	2022	2022	2023	2023	
Federal Funds Rate	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.2	0.6	1.0	1.3	1.6	1.8	
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.4	3.7	4.1	4.3	4.6	4.8	
SOFR	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.2	0.5	0.9	1.2	1.4	1.7	
Commercial Paper, 1-mo.	0.08	0.08	0.08	0.07	0.07	0.06	0.05	0.06	0.2	0.6	0.9	1.2	1.5	1.7	
Treasury bill, 3-mo.	0.38	0.31	0.21	0.19	0.06	0.05	0.05	0.05	0.3	0.7	1.0	1.3	1.5	1.8	
Treasury bill, 6-mo.	0.69	0.64	0.49	0.41	0.15	0.07	0.06	0.09	0.5	0.8	1.1	1.4	1.7	1.9	
Treasury bill, 1 yr.	1.08	0.98	0.80	0.69	0.30	0.18	0.11	0.20	0.8	1.1	1.4	1.6	1.8	2.0	
Treasury note, 2 yr.	1.53	1.42	1.20	1.09	0.68	0.51	0.39	0.53	1.3	1.6	1.8	2.0	2.1	2.2	
Treasury note, 5 yr.	1.88	1.84	1.66	1.60	1.23	1.20	1.11	1.18	1.7	2.0	2.1	2.3	2.4	2.5	
Treasury note, 10 yr.	1.99	1.95	1.83	1.79	1.47	1.56	1.58	1.54	1.9	2.1	2.3	2.4	2.6	2.7	
Treasury note, 30 yr.	2.31	2.25	2.14	2.11	1.85	1.94	2.06	1.95	2.2	2.5	2.6	2.7	2.9	3.0	
Corporate Aaa bond	3.43	3.31	3.19	3.14	2.79	2.79	2.85	2.81	3.2	3.4	3.7	3.9	4.0	4.1	
Corporate Baa bond	4.00	3.85	3.70	3.64	3.26	3.25	3.31	3.27	3.9	4.2	4.4	4.6	4.8	4.9	
State & Local bonds	3.08	2.97	2.92	2.85	2.57	2.57	2.59	2.58	2.6	2.9	3.0	3.2	3.3	3.4	
Home mortgage rate	3.92	3.69	3.55	3.55	3.10	3.07	3.07	3.08	3.7	3.9	4.1	4.2	4.4	4.5	

Key Assumptions	History								Consensus Forecasts-Quarterly					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
	2020	2020	2020	2020	2021	2021	2021	2021	2022	2022	2022	2022	2023	2023
Fed's AFE \$ Index	111.3	112.4	107.2	105.1	103.4	102.9	105.0	107.0	107.8	108.0	108.1	107.8	107.5	107.2
Real GDP	-5.1	-31.2	33.8	4.5	6.3	6.7	2.3	7.0	1.9	3.9	3.1	2.6	2.4	2.3
GDP Price Index	1.6	-1.5	3.6	2.2	4.3	6.1	6.0	7.1	4.8	3.8	3.1	2.8	2.6	2.5
Consumer Price Index	1.3	-3.4	4.8	2.2	4.1	8.2	6.7	7.9	5.8	3.9	3.1	2.7	2.5	2.4
PCE Price Index	1.3	-1.6	3.7	1.5	3.8	6.5	5.3	6.3	5.1	3.5	2.8	2.4	2.3	2.3

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Advanced Foreign Economies 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).

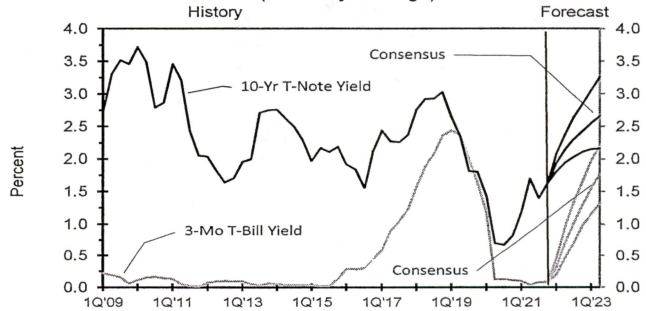
U.S. Treasury Yield Curve

Week ended February 18, 2022 & Year Ago vs. 1Q 2022 & 2Q 2023 Consensus Forecasts



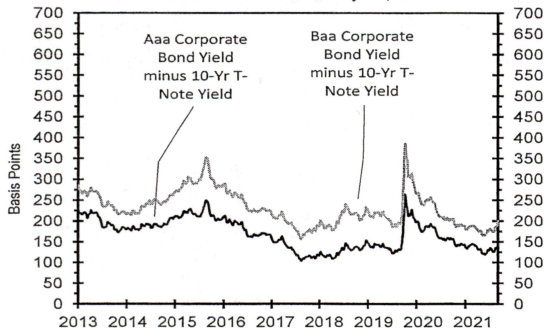
US 3-Mo T-Bills & 10-Yr T-Note Yield

(Quarterly Average)



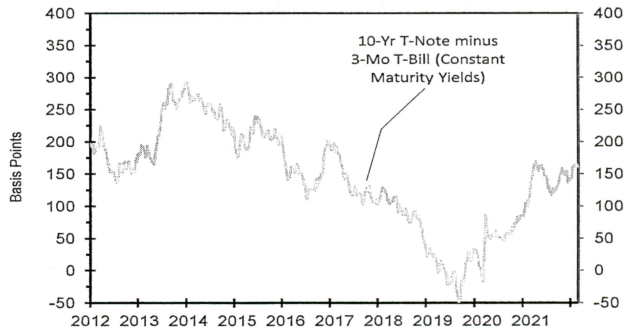
Corporate Bond Spreads

As of week ended February 18, 2022



U.S. Treasury Yield Curve

As of week ended February 18, 2022



Northern States Power Company

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Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2023 through 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	
		2023	2024	2025	2026	2027	2023-2027	2028-2032
1. Federal Funds Rate	CONSENSUS	0.8	1.6	2.0	2.2	2.3	1.8	2.2
	Top 10 Average	1.2	2.2	2.7	2.7	2.8	2.3	2.9
	Bottom 10 Average	0.4	1.0	1.4	1.7	1.8	1.2	1.5
2. Prime Rate	CONSENSUS	4.0	4.7	5.1	5.3	5.4	4.9	5.3
	Top 10 Average	4.3	5.3	5.8	5.8	5.9	5.4	6.0
	Bottom 10 Average	3.6	4.1	4.5	4.9	5.0	4.4	4.6
3. LIBOR, 3-Mo.	CONSENSUS	1.0	1.7	2.2	2.4	2.5	1.9	2.4
	Top 10 Average	1.3	2.1	2.7	2.9	3.0	2.4	3.1
	Bottom 10 Average	0.7	1.2	1.6	1.9	2.0	1.5	1.8
4. Commercial Paper, 1-Mo	CONSENSUS	0.9	1.6	2.1	2.3	2.4	1.9	2.4
	Top 10 Average	1.2	2.0	2.6	2.8	2.9	2.3	2.9
	Bottom 10 Average	0.6	1.2	1.6	1.9	2.0	1.5	1.8
5. Treasury Bill Yield, 3-Mo	CONSENSUS	0.8	1.4	1.8	2.0	2.3	1.7	2.2
	Top 10 Average	1.2	1.9	2.5	2.6	2.8	2.2	2.9
	Bottom 10 Average	0.4	0.8	1.2	1.5	1.8	1.1	1.6
6. Treasury Bill Yield, 6-Mo	CONSENSUS	0.8	1.4	1.9	2.1	2.4	1.7	2.3
	Top 10 Average	1.2	2.0	2.6	2.7	2.9	2.3	3.0
	Bottom 10 Average	0.4	0.9	1.2	1.6	1.9	1.2	1.7
7. Treasury Bill Yield, 1-Yr	CONSENSUS	1.0	1.6	2.1	2.4	2.5	1.9	2.4
	Top 10 Average	1.4	2.1	2.7	2.8	3.0	2.4	3.1
	Bottom 10 Average	0.6	1.2	1.5	1.9	2.0	1.4	1.8
8. Treasury Note Yield, 2-Yr	CONSENSUS	1.3	1.9	2.4	2.6	2.6	2.2	2.6
	Top 10 Average	1.7	2.5	3.0	3.1	3.2	2.7	3.4
	Bottom 10 Average	0.8	1.4	1.8	2.0	2.1	1.6	1.9
9. Treasury Note Yield, 5-Yr	CONSENSUS	1.9	2.4	2.8	2.9	2.9	2.6	3.0
	Top 10 Average	2.3	3.0	3.4	3.5	3.6	3.1	3.8
	Bottom 10 Average	1.5	1.9	2.1	2.3	2.3	2.0	2.2
10. Treasury Note Yield, 10-Yr	CONSENSUS	2.4	2.8	3.1	3.2	3.2	2.9	3.3
	Top 10 Average	2.8	3.3	3.7	3.8	3.9	3.5	4.2
	Bottom 10 Average	2.0	2.3	2.4	2.5	2.5	2.3	2.4
11. Treasury Bond Yield, 30-Yr	CONSENSUS	2.9	3.3	3.6	3.7	3.7	3.4	3.8
	Top 10 Average	3.4	3.9	4.3	4.4	4.4	4.1	4.6
	Bottom 10 Average	2.4	2.8	2.9	3.0	3.0	2.8	3.0
12. Corporate Aaa Bond Yield	CONSENSUS	3.7	4.2	4.5	4.6	4.8	4.4	4.9
	Top 10 Average	4.3	4.7	5.1	5.2	5.4	4.9	5.6
	Bottom 10 Average	3.2	3.7	3.9	4.1	4.2	3.8	4.2
13. Corporate Baa Bond Yield	CONSENSUS	4.6	5.0	5.3	5.5	5.6	5.2	5.7
	Top 10 Average	5.1	5.5	5.9	6.1	6.2	5.7	6.5
	Bottom 10 Average	4.0	4.5	4.8	4.9	5.0	4.7	5.0
14. State & Local Bonds Yield	CONSENSUS	3.2	3.7	3.9	4.1	4.2	3.8	4.3
	Top 10 Average	3.8	4.3	4.5	4.7	4.8	4.4	5.0
	Bottom 10 Average	2.7	3.2	3.4	3.5	3.6	3.3	3.6
15. Home Mortgage Rate	CONSENSUS	4.0	4.4	4.7	4.8	4.8	4.5	4.9
	Top 10 Average	4.5	5.0	5.3	5.4	5.4	5.1	5.7
	Bottom 10 Average	3.6	3.9	4.1	4.1	4.2	4.0	4.1
A. Fed's AFE Nominal \$ Index	CONSENSUS	106.2	106.0	106.1	106.2	106.4	106.2	106.5
	Top 10 Average	108.1	108.4	108.9	109.0	109.2	108.7	110.1
	Bottom 10 Average	104.4	104.0	103.7	103.7	103.9	103.9	103.1
		----- Year-Over-Year, % Change -----					Five-Year Averages	
		2023	2024	2025	2026	2027	2023-2027	2028-2032
B. Real GDP	CONSENSUS	2.6	2.2	2.1	2.0	2.0	2.2	2.0
	Top 10 Average	3.1	2.6	2.5	2.4	2.3	2.6	2.4
	Bottom 10 Average	2.2	1.7	1.7	1.7	1.7	1.8	1.7
C. GDP Chained Price Index	CONSENSUS	2.5	2.2	2.2	2.1	2.1	2.2	2.1
	Top 10 Average	3.0	2.7	2.5	2.4	2.4	2.6	2.4
	Bottom 10 Average	2.0	1.9	1.9	1.9	1.9	1.9	1.8
D. Consumer Price Index	CONSENSUS	2.6	2.3	2.3	2.2	2.2	2.3	2.2
	Top 10 Average	3.2	2.8	2.6	2.5	2.5	2.7	2.5
	Bottom 10 Average	2.1	2.0	2.0	2.0	2.0	2.0	1.9
E. PCE Price Index	CONSENSUS	2.5	2.2	2.1	2.1	2.1	2.2	2.1
	Top 10 Average	3.0	2.6	2.4	2.4	2.3	2.6	2.4
	Bottom 10 Average	2.0	1.9	1.9	1.9	1.9	1.9	1.9

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

<u>Line No.</u>		<u>Implied Equity Risk Premium</u>
	<u>Equity Risk Premium based on S&P Utility Index Holding Period Returns (1):</u>	
1.	Historical Equity Risk Premium	4.16 %
2.	Regression of Historical Equity Risk Premium (2)	6.04
3.	Forecasted Equity Risk Premium Based on PRPM (3)	5.27
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	6.59
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	<u>5.55</u>
6.	Average Equity Risk Premium (6)	<u><u>5.52 %</u></u>

Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2020. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A2 rated public utility bond yields from 1928 - 2020 referenced in note 1 above.

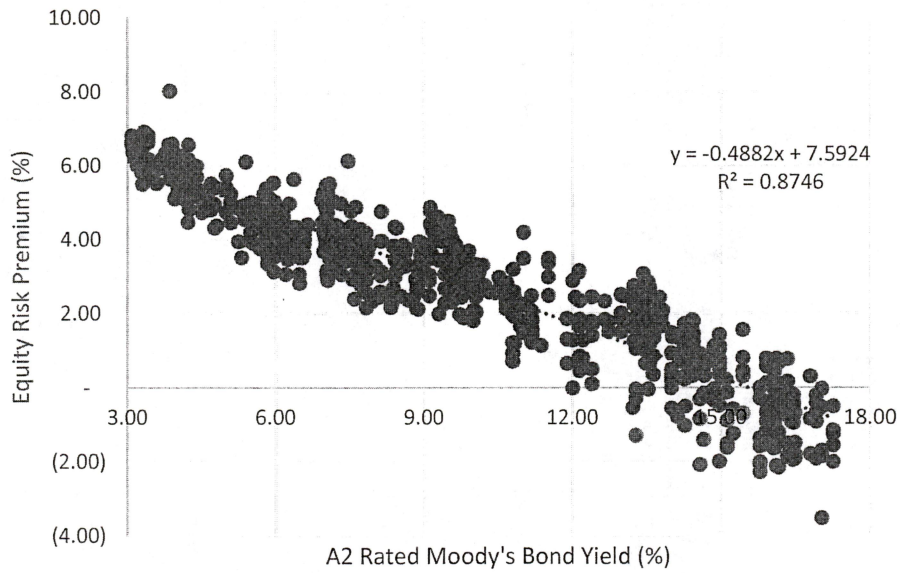
(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A2 rated public utility bonds from January 1928 - February 2022.

(4) Using data from Value Line for the S&P Utilities Index, an expected return of 11.40% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 3.95%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 6.59%. (10.95% - 4.36% = 6.59%)

(5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 9.77% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 3.95%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 5.55%. (9.91% - 4.36% = 5.55%)

(6) Average of lines 1 through 5.

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



Constant	Slope	Prospective A2 Rated Utility Bond (1)	Prospective Equity Risk Premium
7.592435 %	-0.48815	4.36 %	5.46 %

Notes:

(1) From line 3 of page 12 of this Schedule.

Source of Information:

Regulatory Research Associates
 Bloomberg Professional Services

Northern States Power Company, a Minnesota Corporation
 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]
<u>Proxy Group of Six Natural Gas Distribution Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Bloomberg Adjusted Beta</u>	<u>Average Beta</u>	<u>Market Risk Premium (1)</u>	<u>Risk-Free Rate (2)</u>	<u>Traditional CAPM Cost Rate</u>	<u>ECAPM Cost Rate</u>	<u>Indicated Common Equity Cost Rate (3)</u>
Atmos Energy Corporation	0.80	0.89	0.84	9.81 %	2.89 %	11.13 %	11.52 %	11.33 %
New Jersey Resources Corporation	1.00	0.89	0.94	9.81	2.89	12.11	12.26	12.18
NiSource, Inc.	0.85	1.00	0.93	9.81	2.89	12.01	12.18	12.10
Northwest Natural Holding Company	0.80	0.82	0.81	9.81	2.89	10.83	11.30	11.07
ONE Gas, Inc.	0.80	0.99	0.90	9.81	2.89	11.72	11.96	11.84
Spire Inc.	0.85	0.93	0.89	9.81	2.89	11.62	11.89	11.75
Mean			<u>0.89</u>			<u>11.57 %</u>	<u>11.85 %</u>	<u>11.71 %</u>
Median			<u>0.90</u>			<u>11.67 %</u>	<u>11.93 %</u>	<u>11.80 %</u>
Average of Mean and Median			<u>0.90</u>			<u>11.62 %</u>	<u>11.89 %</u>	<u>11.76 %</u>

Notes on page 24 of this Schedule.

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
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:	<u>7.15 %</u>

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

9.38 %

Measure 3: Application of the PRPM to Ibbotson Historical Data: (January 1926 - February 2022)

9.03 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending February 25, 2022)

Total projected return on the market 3-5 years hence*:	10.78 %
Projected Risk-Free Rate (see note 2):	2.89
MRP based on Value Line Summary & Index:	<u>7.89 %</u>

*Forecasted 3-5 year capital appreciation plus expected dividend yield

Measure 5: Value Line Projected Return on the Market based on the S&P 500

Total return on the Market based on the S&P 500:	16.17 %
Projected Risk-Free Rate (see note 2):	2.89
MRP based on Value Line data	<u>13.28 %</u>

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	15.01 %
Projected Risk-Free Rate (see note 2):	2.89
MRP based on Bloomberg data	<u>12.12 %</u>

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.81 %

- (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 19 and 20 of this schedule) The projection of the risk-free rate is illustrated below:

First Quarter 2022	2.20 %
Second Quarter 2022	2.50
Third Quarter 2022	2.60
Fourth Quarter 2022	2.70
First Quarter 2023	2.90
Second Quarter 2023	3.00
2023-2027	3.40
2028-2032	3.80
	<u>2.89 %</u>

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

Sources of Information:

Value Line Summary and Index
 Blue Chip Financial Forecasts, March 1, 2022, December 1, 2021
 Stocks, Bonds, Bills, and Inflation - 2021 SBBI Yearbook, John Wiley & Sons, Inc.
 Bloomberg Professional Services

Northern States Power Company, a Minnesota Corporation
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the Non-Price Regulated Proxy Group was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group companies were then selected based on the unadjusted beta range of 0.59 – 0.87 and residual standard error of the regression range of 2.5384 – 3.0276 of the Utility Proxy Group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the Gas Utility Proxy Group's residual standard error of the regression is 0.1223. 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

$$\text{Thus, } 0.1223 = \frac{2.7830}{\sqrt{518}} = \frac{2.7830}{22.7596}$$

Source of Information: Value Line, Inc., March 2022
Value Line Investment Survey (Standard Edition)

Northern States Power Company, a Minnesota Corporation
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
<u>Proxy Group of Six Natural Gas Distribution Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
Atmos Energy Corporation	0.80	0.69	2.6472	0.0666
New Jersey Resources Corporation	0.95	0.90	2.9292	0.0736
NiSource, Inc.	0.85	0.72	2.5803	0.0649
Northwest Natural Holding Company	0.80	0.69	3.0008	0.0754
ONE Gas, Inc.	0.80	0.68	2.7404	0.0689
Spire Inc.	0.85	0.71	2.7999	0.0704
Average	<u>0.84</u>	<u>0.73</u>	<u>2.7830</u>	<u>0.0700</u>
Beta Range (+/- 2 std. Devs. of Beta) 2 std. Devs. of Beta	0.59 0.14	0.87		
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.5384	3.0276		
Std. dev. of the Res. Std. Err.	0.1223			
2 std. devs. of the Res. Std. Err.	0.2446			

Source of Information: Valueline Proprietary Database, March 2022

Northern States Power Company, a Minnesota Corporation
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Forty-Six Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
<u>Proxy Group of Forty-Six Non-Price Regulated Companies</u>	<u>VL Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
Apple Inc.	0.90	0.82	3.1532	0.0793
Abbott Labs.	0.95	0.91	2.7460	0.0690
Analog Devices	0.95	0.86	2.6778	0.0673
Assurant Inc.	0.95	0.85	2.9139	0.0733
ANSYS, Inc.	0.85	0.76	2.8279	0.0711
Smith (A.O.)	0.90	0.83	2.7524	0.0692
Booz Allen Hamilton	0.90	0.82	3.0724	0.0772
Becton, Dickinson	0.80	0.67	2.8794	0.0724
Brown-Forman 'B'	0.85	0.76	2.6920	0.0677
Broadridge Fin'l	0.85	0.72	2.7392	0.0689
Brady Corp.	1.00	0.93	3.1533	0.0793
Cadence Design Sys.	0.90	0.82	2.9867	0.0751
Cerner Corp.	0.95	0.87	2.7913	0.0702
Cooper Cos.	0.95	0.92	2.7038	0.0680
CSW Industrials	0.85	0.76	2.7444	0.0690
Lauder (Estee)	0.90	0.83	2.7514	0.0692
Exponent, Inc.	0.85	0.76	2.9154	0.0733
FirstCash Holdings	0.85	0.72	3.1426	0.0790
Gentex Corp.	0.95	0.91	2.7484	0.0691
Hershey Co.	0.85	0.72	2.7087	0.0681
Int'l Flavors & Frag	0.90	0.81	3.1117	0.0782
Ingredion Inc.	0.90	0.78	2.9266	0.0736
Iron Mountain	0.95	0.87	3.0310	0.0762
Hunt (J.B.)	0.95	0.88	2.8114	0.0707
J&J Snack Foods	0.90	0.82	2.8400	0.0714
Henry (Jack) & Assoc	0.85	0.70	2.7540	0.0692
St. Joe Corp.	0.90	0.84	3.0735	0.0773
ManTech Int'l 'A'	0.85	0.72	3.0697	0.0772
McCormick & Co.	0.85	0.70	2.7595	0.0694
Altria Group	0.90	0.79	2.8916	0.0727
MSCI Inc.	0.95	0.86	2.9256	0.0735
Motorola Solutions	0.90	0.82	2.8041	0.0705
Vail Resorts	0.90	0.81	3.1566	0.0794
Northrop Grumman	0.85	0.71	2.8969	0.0728
PerkinElmer Inc.	0.95	0.92	2.6809	0.0674
Philip Morris Int'l	0.95	0.87	3.1795	0.0799
Pool Corp.	0.90	0.82	2.9389	0.0739
Post Holdings	0.95	0.88	2.9687	0.0746
Rollins, Inc.	0.85	0.76	2.8807	0.0724
Selective Ins. Group	0.85	0.74	2.9102	0.0732
Bio-Techne Corp.	0.80	0.63	3.1829	0.0800
Tetra Tech	0.90	0.83	2.9490	0.0741
AMERCO	0.95	0.87	2.6739	0.0672
United Parcel Serv.	0.80	0.64	2.9674	0.0746
Waters Corp.	0.95	0.87	2.7355	0.0688
Western Union	0.80	0.68	2.7006	0.0679
Average	<u>0.89</u>	<u>0.80</u>	<u>2.8896</u>	<u>0.0726</u>
Proxy Group of Forty-Six Non-Price Regulated Companies	<u>0.84</u>	<u>0.73</u>	<u>2.7830</u>	<u>0.0700</u>

Source of Information:

ValueLine Proprietary Database, March 2022

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Summary of Cost of Equity Models Applied to
Proxy Group of Forty-Six Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Forty-Six Non-Price Regulated Companies

<u>Principal Methods</u>	<u>Proxy Group of Forty-Six Non- Price Regulated Companies</u>
Discounted Cash Flow Model (DCF) (1)	13.38 %
Risk Premium Model (RPM) (2)	12.73
Capital Asset Pricing Model (CAPM) (3)	<u>12.00</u>
	<u>12.70 %</u>
	<u>12.73 %</u>
	<u>12.72 %</u>

Notes:

- (1) From page 29 of this Schedule.
- (2) From page 30 of this Schedule.
- (3) From page 33 of this Schedule.

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
 DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
 Proxy Group of Forty-Six Non-Price Regulated Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Forty-Six Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Bloomberg's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
Apple Inc.	0.51 %	13.00 %	12.50 %	9.40 %	14.85 %	12.44 %	0.54 %	12.98 %
Abbott Labs.	1.45	10.00	10.50	11.67	13.18	11.34	1.53	12.87
Analog Devices	1.80	11.00	12.30	11.18	15.30	12.44	1.91	14.35
Assurant Inc.	1.74	15.50	17.70	17.67	17.00	16.97	1.89	18.86
ANSYS, Inc.	-	8.50	12.60	11.65	11.42	11.04	-	NA
Smith (A.O.)	1.43	11.00	9.00	10.00	8.00	9.50	1.50	11.00
Booz Allen Hamilton	2.10	8.50	7.50	NA	10.05	8.68	2.19	10.87
Becton, Dickinson	1.35	6.00	6.50	10.45	9.10	8.01	1.40	9.41
Brown-Forman 'B'	1.10	13.00	NA	7.68	10.01	10.23	1.16	11.39
Broadridge Fin'l	1.57	9.00	NA	12.20	11.80	11.00	1.66	12.66
Brady Corp.	1.74	9.50	7.00	8.33	7.00	7.96	1.81	9.77
Cadence Design Sys.	-	12.00	15.40	13.72	15.40	14.13	-	NA
Cerner Corp.	1.21	11.00	12.80	11.00	13.52	12.08	1.28	13.36
Cooper Cos.	0.01	16.00	11.00	11.90	10.00	12.23	0.01	12.24
CSW Industrials	0.51	14.00	NA	5.00	12.00	10.33	0.54	10.87
Lauder (Estee)	0.73	11.50	11.00	12.21	15.09	12.45	0.78	13.23
Exponent, Inc.	0.93	12.00	NA	NA	15.00	13.50	0.99	14.49
FirstCash Holdings	1.70	10.00	NA	NA	23.00	16.50	1.84	18.34
Gentex Corp.	1.45	10.50	13.70	16.20	15.80	14.05	1.55	15.60
Hershey Co.	1.85	6.00	7.70	7.75	8.85	7.58	1.92	9.50
Int'l Flavors & Frag	2.26	6.00	8.20	6.62	4.49	6.33	2.33	8.66
Ingredion Inc.	2.76	7.50	NA	10.30	10.50	9.43	2.89	12.32
Iron Mountain	5.26	10.00	NA	4.00	6.44	6.81	5.44	12.25
Hunt (J.B.)	0.81	11.00	15.00	21.50	28.04	18.89	0.89	19.78
J&J Snack Foods	1.65	8.50	NA	NA	6.00	7.25	1.71	8.96
Henry (Jack) & Assoc	1.18	10.50	17.00	15.05	14.00	14.14	1.26	15.40
St. Joe Corp.	0.81	20.00	NA	NA	(28.10)	20.00	0.89	20.89
ManTech Int'l 'A'	2.20	9.00	2.20	1.61	5.38	4.55	2.25	6.80
McCormick & Co.	1.55	6.00	6.10	5.05	7.20	6.09	1.60	7.69
Altria Group	7.37	5.50	4.00	3.60	5.36	4.62	7.54	12.16
MSCI Inc.	0.74	16.00	NA	13.30	13.90	14.40	0.79	15.19
Motorola Solutions	1.29	7.00	9.00	11.20	14.27	10.37	1.36	11.73
Vail Resorts	1.18	17.50	NA	NA	69.15	43.33	1.44	44.77
Northrop Grumman	1.63	8.50	6.20	0.30	4.80	4.95	1.67	6.62
PerkinElmer Inc.	0.15	10.00	46.50	1.60	44.80	25.73	0.17	25.90
Philip Morris Int'l	5.03	7.00	7.10	7.86	10.42	8.10	5.23	13.33
Pool Corp.	0.64	19.00	NA	NA	17.00	18.00	0.70	18.70
Post Holdings	-	16.50	NA	22.90	26.40	21.93	-	NA
Rollins, Inc.	1.25	10.50	NA	11.10	8.20	9.93	1.31	11.24
Selective Ins. Group	1.41	12.00	NA	0.95	13.40	8.78	1.47	10.25
Bio-Techne Corp.	0.30	13.00	26.00	25.07	15.00	19.77	0.33	20.10
Tetra Tech	0.51	16.50	NA	16.00	4.90	12.47	0.54	13.01
AMERCO	0.30	11.50	NA	NA	15.00	13.25	0.32	13.57
United Parcel Serv.	2.89	11.50	12.00	8.90	14.03	11.61	3.06	14.67
Waters Corp.	-	6.00	8.50	10.35	10.00	8.71	-	NA
Western Union	5.10	8.00	NA	2.75	8.11	6.29	5.26	11.55
							Mean	13.98 %
							Median	12.77 %
							Average of Mean and Median	13.38 %

NA= Not Available

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the Utility Proxy Group.

Source of Information: Value Line Investment Survey
 www.zacks.com Downloaded on 02/28/2022
 www.yahoo.com Downloaded on 02/28/2022
 Bloomberg Professional Services

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

<u>Line No.</u>		<u>Proxy Group of Forty- Six Non-Price Regulated Companies</u>
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	4.71 %
2.	Equity Risk Premium (2)	<u>8.02</u>
3.	Risk Premium Derived Common Equity Cost Rate	<u><u>12.73 %</u></u>

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated March 1, 2022, December 1, 2021 (see pages 19 and 20 of this Schedule). The estimates are detailed below.

First Quarter 2022	3.90 %
Second Quarter 2022	4.20
Third Quarter 2022	4.40
Fourth Quarter 2022	4.60
First Quarter 2023	4.80
Second Quarter 2023	4.90
2023-2027	5.20
2028-2032	<u>5.70</u>
Average	<u><u>4.71 %</u></u>

(2) From page 32 of this Schedule.

Northern States Power Company, a Minnesota Corporation
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Forty-Six Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Forty-Six Non-Price Regulated Companies

Proxy Group of Forty-Six Non-Price Regulated Companies	Moody's Long-Term Issuer Rating February 2022	Numerical Weighting (1)	Standard & Poor's Long-Term Issuer Rating February 2022	Numerical Weighting (1)
	Long-Term Issuer Rating		Long-Term Issuer Rating	
Apple Inc.	Aaa	1.0	AA+	2.0
Abbott Labs.	A1	5.0	A+	5.0
Analog Devices	A3	7.0	A-	7.0
Assurant Inc.	Baa3	10.0	BBB	9.0
ANSYS, Inc.	NA	--	NA	--
Smith (A.O.)	NA	--	NA	--
Booz Allen Hamilton	NA	--	NA	--
Becton, Dickinson	Baa3	10.0	BBB	9.0
Brown-Forman 'B'	A1	5.0	A-	7.0
Broadridge Fin'l	Baa1	8.0	BBB+	8.0
Brady Corp.	NA	--	NA	--
Cadence Design Sys.	A3	7.0	BBB+	8.0
Cerner Corp.	NA	--	NA	--
Cooper Cos.	WR	--	NR	--
CSW Industrials	NA	--	NA	--
Lauder (Estee)	A1	5.0	A+	5.0
Exponent, Inc.	NA	--	NA	--
FirstCash Holdings	Ba2	12.0	BB	12.0
Gentex Corp.	NA	--	NA	--
Hershey Co.	A1	5.0	A	6.0
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	--
St. Joe Corp.	NA	--	NA	--
ManTech Int'l 'A'	WR	--	BB+	11.0
McCormick & Co.	Baa2	9.0	BBB	9.0
Altria Group	A3	7.0	BBB	9.0
MSCI Inc.	Ba1	11.0	BB+	11.0
Motorola Solutions	Baa3	10.0	BBB-	10.0
Vail Resorts	B2	15.0	BB	12.0
Northrop Grumman	Baa1	8.0	BBB+	8.0
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
Rollins, Inc.	NA	--	NA	--
Selective Ins. Group	Baa2	9.0	BBB	9.0
Bio-Techne Corp.	NA	--	NA	--
Tetra Tech	NA	--	NA	--
AMERCO	WR	--	NR	--
United Parcel Serv.	A2	6.0	A-	7.0
Waters Corp.	NA	--	NA	--
Western Union	Baa2	9.0	BBB	9.0
Average	Baa1/Baa2	8.5	BBB	8.6

Notes:

(1) From page 15 of this Schedule.

Source of Information:
Bloomberg Professional Services

Northern States Power Company, a Minnesota Corporation
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Forty-Six Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Forty-Six Non-Price Regulated Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Forty-Six Non-Price Regulated Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.92 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.23
3.	Ibbotson Equity Risk Premium based on PRPM (3)	8.07
4.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (4)	6.83
5.	Equity Risk Premium Based on <u>Value Line</u> S&P 500 Companies (5)	12.22
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>11.06</u>
7.	Conclusion of Equity Risk Premium	8.72 %
8.	Adjusted Beta (7)	<u>0.92</u>
9.	Forecasted Equity Risk Premium	<u><u>8.02 %</u></u>

Notes:

- (1) From note 1 of page 18 of this Schedule.
- (2) From note 2 of page 18 of this Schedule.
- (3) From note 3 of page 18 of this Schedule.
- (4) From note 4 of page 18 of this Schedule.
- (5) From note 5 of page 18 of this Schedule.
- (6) From note 6 of page 18 of this Schedule.
- (7) Average of mean and median beta from page 33 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, March 1, 2022, December 1, 2021
Bloomberg Professional Services

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
 Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Forty-Six Non-Price Regulated Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Forty-Six Non-Price Regulated Companies	Value Line Adjusted Beta	Bloomberg Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
Apple Inc.	0.95	1.00	0.98	9.81 %	2.89 %	12.50 %	12.55 %	12.53 %
Abbott Labs.	0.90	0.81	0.86	9.81	2.89	11.33	11.67	11.50
Analog Devices	0.95	1.03	0.99	9.81	2.89	12.60	12.62	12.61
Assurant Inc.	0.95	0.96	0.96	9.81	2.89	12.31	12.40	12.36
ANSYS, Inc.	0.85	0.97	0.91	9.81	2.89	11.82	12.04	11.93
Smith (A.O.)	0.85	1.02	0.93	9.81	2.89	12.01	12.18	12.10
Booz Allen Hamilton	0.90	0.94	0.92	9.81	2.89	11.91	12.11	12.01
Becton, Dickinson	0.75	0.53	0.64	9.81	2.89	9.17	10.05	9.61
Brown-Forman 'B'	0.90	0.92	0.91	9.81	2.89	11.82	12.04	11.93
Broadridge Fin'l	0.85	0.80	0.82	9.81	2.89	10.93	11.37	11.15
Brady Corp.	1.00	1.09	1.05	9.81	2.89	13.19	13.07	13.13
Cadence Design Sys.	0.90	1.02	0.96	9.81	2.89	12.31	12.40	12.36
Cerner Corp.	0.90	0.82	0.86	9.81	2.89	11.33	11.67	11.50
Cooper Cos.	1.00	0.96	0.98	9.81	2.89	12.50	12.55	12.53
CSW Industrials	0.90	1.03	0.96	9.81	2.89	12.31	12.40	12.36
Lauder (Estee)	0.95	1.04	0.99	9.81	2.89	12.60	12.62	12.61
Exponent, Inc.	0.90	0.99	0.95	9.81	2.89	12.21	12.33	12.27
FirstCash Holdings	0.90	0.95	0.92	9.81	2.89	11.91	12.11	12.01
Gentex Corp.	0.95	1.06	1.01	9.81	2.89	12.80	12.77	12.78
Hershey Co.	0.85	0.82	0.83	9.81	2.89	11.03	11.45	11.24
Int'l Flavors & Frag	0.95	1.04	1.00	9.81	2.89	12.70	12.70	12.70
Ingredion Inc.	0.90	0.85	0.87	9.81	2.89	11.42	11.74	11.58
Iron Mountain	0.90	1.07	0.98	9.81	2.89	12.50	12.55	12.53
Hunt (J.B.)	0.95	0.92	0.93	9.81	2.89	12.01	12.18	12.10
J&J Snack Foods	0.95	0.77	0.86	9.81	2.89	11.33	11.67	11.50
Henry (Jack) & Assoc	0.85	0.82	0.84	9.81	2.89	11.13	11.52	11.33
St. Joe Corp.	0.95	1.07	1.01	9.81	2.89	12.80	12.77	12.78
ManTech Int'l 'A'	0.85	1.07	0.96	9.81	2.89	12.31	12.40	12.36
McCormick & Co.	0.80	0.65	0.73	9.81	2.89	10.05	10.71	10.38
Altria Group	0.95	0.84	0.89	9.81	2.89	11.62	11.89	11.75
MSCI Inc.	0.95	1.01	0.98	9.81	2.89	12.50	12.55	12.53
Motorola Solutions	0.90	1.00	0.95	9.81	2.89	12.21	12.33	12.27
Vail Resorts	0.95	1.14	1.04	9.81	2.89	13.09	12.99	13.04
Northrop Grumman	0.85	0.74	0.80	9.81	2.89	10.74	11.23	10.98
PerkinElmer Inc.	0.90	0.80	0.85	9.81	2.89	11.23	11.60	11.41
Philip Morris Int'l	0.95	0.89	0.92	9.81	2.89	11.91	12.11	12.01
Pool Corp.	0.85	1.01	0.93	9.81	2.89	12.01	12.18	12.10
Post Holdings	0.95	0.90	0.92	9.81	2.89	11.91	12.11	12.01
Rollins, Inc.	0.85	0.69	0.77	9.81	2.89	10.44	11.01	10.72
Selective Ins. Group	0.90	0.95	0.92	9.81	2.89	11.91	12.11	12.01
Bio-Techne Corp.	0.85	0.99	0.92	9.81	2.89	11.91	12.11	12.01
Tetra Tech	0.95	1.01	0.98	9.81	2.89	12.50	12.55	12.53
AMERCO	0.95	1.15	1.05	9.81	2.89	13.19	13.07	13.13
United Parcel Serv.	0.80	0.80	0.80	9.81	2.89	10.74	11.23	10.98
Waters Corp.	0.95	0.86	0.91	9.81	2.89	11.82	12.04	11.93
Western Union	0.80	0.99	0.89	9.81	2.89	11.62	11.89	11.75
Mean			0.92			11.87 %	12.08 %	11.98 %
Median			0.92			11.91 %	12.11 %	12.01 %
Average of Mean and Median			0.92			11.89 %	12.10 %	12.00 %

Notes:

- (1) From note 1 of page 24 of this Schedule.
- (2) From note 2 of page 24 of this Schedule.
- (3) Average of CAPM and ECAPM cost rates.

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

Northern States Power Company

Line No.		[1]		[2]	[3]	[4]
		Market Capitalization on May 28, 2021 (1) (millions)	(times larger)	Applicable Decile of the NYSE/AMEX/NASDAQ (2)	Applicable Size Premium (3)	Spread from Applicable Size Premium (4)
1.	<u>Northern States Power Company, a Minnesota Corporation</u>	\$ 129.624		10	5.01%	
2.	<u>Proxy Group of Six Natural Gas Distribution Companies</u>	\$ 6,469.050	49.9 x	4	0.75%	4.26%
			[A]	[B]	[C]	[D]

Decile	Market Capitalization of Smallest Company (millions)	Market Capitalization of Largest Company (millions)	Size Premium
			(Return in Excess of CAPM)*
Largest	1	\$ 29,025.803	-0.22%
	2	13,178.743	0.49%
	3	6,743.361	0.71%
	4	3,861.858	0.75%
	5	2,445.693	1.09%
	6	1,591.865	1.37%
	7	911.586	1.54%
	8	451.955	1.46%
	9	190.019	2.29%
Smallest	10	2.194	5.01%

*From 2021 Duff & Phelps Cost of Capital Navigator

Notes:

- (1) From page 35 of this Schedule.
- (2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].
- (3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.
- (4) Line No. 1 Column [3] - Line No. 2 Column [3]. For example, the 4.26% in Column [4], Line No. 2 is derived as follows 4.26% = 5.01% - 0.75%.

Case No. PU-21-381
Exhibit (DWD-2), Schedule 1
Page 34 of 36

Northern States Power Company, a Minnesota Corporation
Market Capitalization of Northern States Power Company, a Minnesota Corporation and the
Proxy Group of Six 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 February 28, 2022	[5] Market-to- Book Ratio on February 28, 2022 (2)	[6] Market Capitalization on February 28, 2022 (3) (millions)
Northern States Power Company, a Minnesota Corporation		NA	NA	65.269 (4)	NA		
Based upon Proxy Group of Six Natural Gas Distribution Companies						198.6 (5)	\$ 129.624 (6)
Proxy Group of Six Natural Gas Distribution Companies							
Atmos Energy Corporation	NYSE	\$ 125.882	\$ 53.949	\$ 6,791.203	\$ 109.810	203.5 %	\$ 13,823.155
New Jersey Resources Corporation	NYSE	95.949	19.226	1,844.692	43.620	226.9	4,185.303
NiSource, Inc.	NYSE	391.760	12.437	4,872.200	28.930	232.6	11,333.618
Northwest Natural Holding Company	NYSE	30.589	29.054	888.733	52.010	179.0	1,590.934
ONE Gas, Inc.	NYSE	53.167	42.006	2,233.311	83.090	197.8	4,417.624
Spire Inc.	NYSE	51.612	44.182	2,280.300	67.110	151.9	3,463.667
Average		\$ 124.827	\$ 33.476	\$ 3,151.740	\$ 64.095	198.6 %	\$ 6,469.050

NA= Not Available

Notes: (1) Column 3 / Column 1.

(2) Column 4 / Column 2.

(3) Column 1 * Column 4.

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

(5) The market-to-book ratio of Northern States Power Company, a Minnesota Corporation on February 28, 2022 is assumed to be equal to the

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

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

Northern States Power Company, a Minnesota Corporation
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

<u>Equity Issuances</u>												
		[Column 1]	[Column 2]	[Column 3]	[Column 4]	[Column 5]	[Column 6]	[Column 7]	[Column 8]	[Column 9]	[Column 10]	
Date	Issuing Company	Shares Issued (1)	Market Price per Share (1)	Average Offering Price per Share (1)	Underwriting Discount (1)	Total Offering Expense per Share (1)	Net Proceeds per Share (2)	Total Flotation Costs (3)	Gross Equity Issue before Costs (4)	Net Proceeds (5)	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	Xcel Energy, Inc.	20,000,000	\$ 22.95	\$ 22.50	\$ 0.73	\$ 0.015	\$ 21.755	\$ 23,900,000	\$ 459,000,000	\$ 435,100,000	5.207%	
9/9/2008	Xcel Energy, Inc.	17,250,000	\$ 20.86	\$ 20.20	\$ 0.10	\$ 0.006	\$ 20.094	\$ 13,218,352	\$ 359,835,000	\$ 346,616,648	3.673%	
8/3/2010	Xcel Energy, Inc.	21,850,000	\$ 22.10	\$ 21.50	\$ 0.65	\$ 0.013	\$ 20.571	\$ 33,407,927	\$ 482,885,000	\$ 449,477,073	6.918%	
March 2013	Xcel Energy, Inc.	7,757,449	\$ 29.06	\$ 29.06	\$ 0.29	\$ 0.052	\$ 28.714	\$ 2,657,558	\$ 225,407,642	\$ 222,750,085	1.179%	
June 2014	Xcel Energy, Inc.	5,693,946	\$ 30.66	\$ 30.66	\$ 0.31	\$ 0.030	\$ 30.326	\$ 1,915,210	\$ 174,592,340	\$ 172,677,130	1.097%	
September 2018	Xcel Energy, Inc.	4,733,435	\$ 47.89	\$ 47.89	\$ 0.41	\$ 0.073	\$ 47.405	\$ 2,271,040	\$ 226,661,287	\$ 224,390,247	1.002%	
8/29/2019	Xcel Energy, Inc.	9,359,103	\$ 48.42	\$ 48.42	\$ 0.17	\$ 0.030	\$ 48.213	\$ 1,901,526	\$ 453,132,797	\$ 451,231,271	0.420%	
Total Public Issuances								\$ 119,189,213	\$ 3,171,079,321	\$ 3,051,890,108	3.759%	

Flotation Cost Adjustment

	[Column 11]	[Column 12]	[Column 13]	[Column 14]	[Column 15]	[Column 16]
	Average Dividend Yield (7)	Average Projected EPS Growth Rate (7)	Adjusted Dividend Yield (8)	Average DCF Cost Rate Unadjusted for Flotation (9)	DCF Cost Rate Adjusted for Flotation (10)	Flotation Cost Adjustment (11)
Proxy Group of Six Natural Gas Distribution Companies	3.54 %	6.26 %	3.65 %	9.91 %	10.05 %	0.14 %

- Notes: (1) Company provided
(2) Col. 3 - Col. 4 - Col. 5
(3) (Col. 2 - Col. 6) x Col. 1
(4) Col. 1 x Col. 2
(5) Col. 1 x Col. 6
(6) Col. 7 / Col. 8
(7) Page 3 of this Schedule.
(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

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected Constant Growth DCF Analysis

Company Name	Zacks EPS	Yahoo! Finance	Value Line	Zacks-Yahoo!	Average of	Annualized
	Growth Rate	EPS Growth	Growth Rates	Finance-Value		
	(%)	Rates (%)	(%)	Line Mean	Closing Prices	Dividend
Atmos Energy Corporation	7.28%	7.25%	7.50%	7.34%	\$ 105.06	\$ 2.72
Chesapeake Utilities						
New Jersey Resources Corporation	6.00%	6.00%	4.50%	5.50%	\$ 39.27	\$ 1.45
NiSource, Inc.	6.66%	3.52%	10.50%	6.89%	\$ 27.83	\$ 0.94
Northwest Natural Holding Company	5.14%	5.90%	6.00%	5.68%	\$ 48.45	\$ 1.93
ONE Gas, Inc.	5.00%	2.90%	6.00%	4.63%	\$ 78.11	\$ 2.48
South Jersey Industries	3.86%	5.20%	10.00%	6.35%	\$ 25.32	\$ 1.22
Southwest Gas	5.50%	4.00%	8.00%	5.83%	\$ 66.59	\$ 2.38
Spire Inc.	5.30%	4.30%	9.00%	6.20%	\$ 65.35	\$ 2.74

Company Name	Dividend Yield	Expected	Adjusted	Required Rate	Exceeds 5.53%
	(Rate/Price)	Dividend Yield	Dividend Yield	of Return on	Mean of Value
				Equity	Line and IBES
					Low-End Tests
Atmos Energy Corporation	2.59%	2.78%	2.89%	10.23%	Yes
Chesapeake Utilities					
New Jersey Resources Corporation	3.69%	3.90%	4.05%	9.55%	Yes
NiSource, Inc.	3.38%	3.61%	3.75%	10.64%	Yes
Northwest Natural Holding Company	3.99%	4.21%	4.38%	10.06%	Yes
ONE Gas, Inc.	3.18%	3.32%	3.45%	8.09%	Yes
South Jersey Industries	4.83%	5.14%	5.34%	11.69%	Yes
Southwest Gas	3.57%	3.78%	3.93%	9.76%	Yes
Spire Inc.	4.19%	4.45%	4.63%	10.83%	Yes

Average	3.68%	3.90%	4.05%	10.11%
Median				10.14%
Average (without SJI)				9.88%
Median (without SJI)				10.06%
Flotation Percentage	3.759%			
Average Flotation Cost Adjustment	0.15%			

Source of information:
 Exhibit MFG-13, Schedule 1
 From page 36 of Schedule 1.

Northern States Power Company

Gross Domestic Product by Industry

Industry	1947	2020	CAGR
Agriculture, forestry, fishing, and hunting	19.9	174.5	3.02%
Mining	5.8	182.1	4.83%
Utilities	3.5	341.7	6.48%
Construction	8.9	895.9	6.52%
Manufacturing	63.4	2,272.0	5.02%
Wholesale trade	15.6	1,243.3	6.18%
Retail trade	23.2	1,202.2	5.56%
Transportation and warehousing	14.1	572.0	5.20%
Information	7.7	1,167.9	7.12%
Finance, insurance, real estate, rental, and leasing	25.8	4,592.1	7.36%
Professional and business services	8.2	2,689.8	8.26%
Educational services, health care, and social assistance	4.6	1,798.6	8.52%
Arts, entertainment, recreation, accommodation, and food services	8.0	672.1	6.26%
Other services, except government	7.5	419.0	5.67%
Government	33.5	2,670.6	6.18%
Total Gross domestic product	249.7	20,893.8	6.25%

Industry	Gross Domestic Product	1947-2020 CAGR	Beginning Year	Ending Year	Gross Domestic Product	
					In Ending Year	% of Total
Agriculture, forestry, fishing, and hunting	174.5	3.02%	1	258	4.E+05	
Mining	182.1	4.83%	1	258	4.E+07	
Utilities	341.7	6.48%	1	258	4.E+09	
Construction	895.9	6.52%	1	258	1.E+10	
Manufacturing	2,272.0	5.02%	1	258	7.E+08	
Wholesale trade	1,243.3	6.18%	1	258	7.E+09	
Retail trade	1,202.2	5.56%	1	258	1.E+09	
Transportation and warehousing	572.0	5.20%	1	258	3.E+08	
Information	1,167.9	7.12%	1	258	6.E+10	
Finance, insurance, real estate, rental, and leasing	4,592.1	7.36%	1	258	4.E+11	
Professional and business services	2,689.8	8.26%	1	258	2.E+12	
Educational services, health care, and social assistance	1,798.6	8.52%	1	258	3.E+12	50.00%
Arts, entertainment, recreation, accommodation, and food services	672.1	6.26%	1	258	4.E+09	
Other services, except government	419.0	5.67%	1	258	6.E+08	
Government	2,670.6	6.18%	1	258	1.E+10	
Total Gross domestic product	20,893.8			258	5.E+12	

Industry	Gross Domestic Product	1947-2020 CAGR	Beginning Year	Ending Year	Gross Domestic Product	
					In Ending Year	% of Total
Agriculture, forestry, fishing, and hunting	174.5	3.02%	1	3984	5.E+53	
Mining	182.1	4.83%	1	3984	9.E+83	
Utilities	341.7	6.48%	1	3984	1.E+111	
Construction	895.9	6.52%	1	3984	2.E+112	
Manufacturing	2,272.0	5.02%	1	3984	2.E+88	
Wholesale trade	1,243.3	6.18%	1	3984	7.E+106	
Retail trade	1,202.2	5.56%	1	3984	4.E+96	
Transportation and warehousing	572.0	5.20%	1	3984	3.E+90	
Information	1,167.9	7.12%	1	3984	1.E+122	
Finance, insurance, real estate, rental, and leasing	4,592.1	7.36%	1	3984	3.E+126	
Professional and business services	2,689.8	8.26%	1	3984	5.E+140	
Educational services, health care, and social assistance	1,798.6	8.52%	1	3984	5.E+144	99.99%
Arts, entertainment, recreation, accommodation, and food services	672.1	6.26%	1	3984	7.E+107	
Other services, except government	419.0	5.67%	1	3984	9.E+97	
Government	2,670.6	6.18%	1	3984	2.E+107	
Total Gross domestic product	20,893.8			3984	5.E+144	

Source: Bureau of Economic Analysis

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (IBES MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		Weighted Rate of Return on Equity (%)
					Market Cap \$ (Mil)	Market Cap Weight Factor	
ABIOMED Inc.	10.48	0.00	0.00	10.48	14,975.65	0.00037	0.0038
Adobe Inc.	15.35	0.00	0.00	15.35	298,969.31	0.00732	0.1124
Advanced Micro Dev.	35.32	0.00	0.00	35.32	125,472.73	0.00307	0.1086
Akamai Technologies	12.00	0.00	0.00	12.00	18,293.99	0.00045	0.0054
Alaska Air Group	-23.40	0.00	0.00	-23.40	6,873.82	0.00017	-0.0039
Align Techn.	43.25	0.00	0.00	43.25	53,310.43	0.00131	0.0565
Alphabet Inc.	21.00	0.00	0.00	21.00	1,988,216.00	0.04871	1.0229
Alphabet Inc. 'A'	21.00	0.00	0.00	21.00	1,817,980.25	0.04454	0.9353
Amazon.com	36.00	0.00	0.00	36.00	1,613,415.00	0.03953	1.4230
Amer. Airlines	-105.1	0.00	0.00	-105.10	12,392.12	0.00030	-0.0319
ANSYS, Inc.	11.18	0.00	0.00	11.18	30,812.87	0.00075	0.0084
Aptiv PLC	46.26	0.00	0.00	46.26	42,356.14	0.00104	0.0480
Arista Networks	18.27	0.00	0.00	18.27	27,758.10	0.00068	0.0124
Autodesk, Inc.	28.83	0.00	0.00	28.83	71,174.41	0.00174	0.0503
AutoZone Inc.	14.00	0.00	0.00	14.00	34,890.36	0.00085	0.0120
Bio-Rad Labs. 'A'	17.80	0.00	0.00	17.80	22,939.83	0.00056	0.0100
Biogen	-6.50	0.00	0.00	-6.50	50,972.82	0.00125	-0.0081
Boeing	20.17	0.00	0.00	20.17	128,306.84	0.00314	0.0634
Booking Holdings	211.41	0.00	0.00	211.41	85,663.89	0.00210	0.4437
Boston Scientific	23.00	0.00	0.00	23.00	62,632.97	0.00153	0.0353
Cadence Design Sys.	18.20	0.00	0.00	18.20	40,968.97	0.00100	0.0183
CarMax, Inc.	16.40	0.00	0.00	16.40	20,288.51	0.00050	0.0082
Carnival Corp.	9.95	0.00	0.00	9.95	21,891.56	0.00054	0.0053
Catalent, Inc.	16.17	0.00	0.00	16.17	20,439.41	0.00050	0.0081
CBRE Group	11.00	0.00	0.00	11.00	30,831.33	0.00076	0.0083
Centene Corp.	10.80	0.00	0.00	10.80	37,207.19	0.00091	0.0098
Charles River	15.56	0.00	0.00	15.56	20,966.69	0.00051	0.0080
Charter Commun.	36.94	0.00	0.00	36.94	144,386.66	0.00354	0.1307
Chipotle Mex. Grill	44.64	0.00	0.00	44.64	52,022.88	0.00127	0.0569
Copart, Inc.	22.30	0.00	0.00	22.30	32,591.97	0.00080	0.0178
DaVita Inc.	14.44	0.00	0.00	14.44	13,828.43	0.00034	0.0049
Delta Air Lines	-23.70	0.00	0.00	-23.70	24,732.72	0.00061	-0.0144
DexCom Inc.	18.50	0.00	0.00	18.50	49,272.52	0.00121	0.0223
Discovery Commun. 'C'	20	0.00	0.00	20.00	14,180.25	0.00035	0.0069
Discovery, Inc.	3.54	0.00	0.00	3.54	14,395.70	0.00035	0.0012
Dish Network 'A'	-25.56	0.00	0.00	-25.56	22,540.26	0.00055	-0.0141
Disney (Walt)	37.88	0.00	0.00	37.88	311,211.94	0.00762	0.2888
Dollar Tree, Inc.	14.90	0.00	0.00	14.90	23,511.47	0.00058	0.0086
DXC Technology	28.40	0.00	0.00	28.40	9,227.24	0.00023	0.0064
Edwards Lifesciences	15.31	0.00	0.00	15.31	72,290.47	0.00177	0.0271
Enphase Energy	28.50	0.00	0.00	28.50	21,863.75	0.00054	0.0153
Etsy, Inc.	40.30	0.00	0.00	40.30	24,140.59	0.00059	0.0238
Expedia Group	22.8	0.00	0.00	22.80	20,612.50	0.00050	0.0115
F5 Networks	12.80	0.00	0.00	12.80	11,946.44	0.00029	0.0037
Facebook Inc.	21.35	0.00	0.00	21.35	1,004,501.75	0.02461	0.5254
Fiserv Inc.	18.73	0.00	0.00	18.73	75,525.86	0.00185	0.0347
FleetCor Technologies	16.35	0.00	0.00	16.35	21,347.51	0.00052	0.0086
Ford Motor	77.67	0.00	0.00	77.67	53,456.00	0.00131	0.1017
Fortinet Inc.	16.83	0.00	0.00	16.83	47,801.17	0.00117	0.0197
Gartner Inc.	21.60	0.00	0.00	21.60	26,316.18	0.00064	0.0139
Gen'l Motors	15.20	0.00	0.00	15.20	73,805.64	0.00181	0.0275
Generac Holdings	8.00	0.00	0.00	8.00	28,182.28	0.00069	0.0055
Hilton Worldwide Hldgs.	272.65	0.00	0.00	272.65	33,163.52	0.00081	0.2215
Hologic, Inc.	4.10	0.00	0.00	4.10	19,321.11	0.00047	0.0019
Host Hotels & Resorts	28.40	0.00	0.00	28.40	10,813.78	0.00026	0.0075
IDEXX Labs.	24.30	0.00	0.00	24.30	57,604.88	0.00141	0.0343
Illumina Inc.	5.50	0.00	0.00	5.50	75,059.67	0.00184	0.0101
Incyte Corp.	15.00	0.00	0.00	15.00	16,430.48	0.00040	0.0060
Ingersoll Rand Inc.	21.77	0.00	0.00	21.77	21,204.98	0.00052	0.0113
Intuitive Surgical	17.21	0.00	0.00	17.21	123,374.39	0.00302	0.0520

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		22.50
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
IPG Photonics	31.50	0.00	0.00	31.50	8,844.90	0.00022	0.0068
IQVIA Holdings	22.13	0.00	0.00	22.13	48,858.00	0.00120	0.0265
Keysight Technologies	12.00	0.00	0.00	12.00	30,195.27	0.00074	0.0089
Laboratory Corp.	-9.00	0.00	0.00	-9.00	29,052.55	0.00071	-0.0064
Las Vegas Sands	265.70	0.00	0.00	265.70	29,276.48	0.00072	0.1906
Live Nation Entertain.	80.3	0.00	0.00	80.30	17,709.72	0.00043	0.0348
LKQ Corp.	33.50	0.00	0.00	33.50	14,989.21	0.00037	0.0123
Marriott Int'l	232.23	0.00	0.00	232.23	42,328.00	0.00104	0.2408
Match Group	29.60	0.00	0.00	29.60	36,996.81	0.00091	0.0268
Mettler-Toledo Int'l	17.80	0.00	0.00	17.80	35,136.22	0.00086	0.0153
Moderna, Inc.	16.8	0.00	0.00	16.80	160,716.39	0.00394	0.0661
Mohawk Inds.	23.60	0.00	0.00	23.60	13,658.08	0.00033	0.0079
Monster Beverage	14.21	0.00	0.00	14.21	50,656.16	0.00124	0.0176
Netflix, Inc.	42.61	0.00	0.00	42.61	230,977.58	0.00566	0.2411
Norwegian Cruise Line	-24.13	0.00	0.00	-24.13	8,841.47	0.00022	-0.0052
NVR, Inc.	4.80	0.00	0.00	4.80	18,568.99	0.00045	0.0022
O'Reilly Automotive	12.30	0.00	0.00	12.30	41,399.60	0.00101	0.0125
Organon & Co.	-5.50	0.00	0.00	-5.50	8,515.60	0.00021	-0.0011
Paycom Software	26.45	0.00	0.00	26.45	26,597.68	0.00065	0.0172
PayPal Holdings	20.43	0.00	0.00	20.43	315,887.03	0.00774	0.1581
Penn Nat'l Gaming	239.50	0.00	0.00	239.50	10,426.34	0.00026	0.0612
PTC Inc.	16.45	0.00	0.00	16.45	14,844.13	0.00036	0.0060
PVH Corp.	-6.04	0.00	0.00	-6.04	7,569.72	0.00019	-0.0011
Qorvo Inc.	14.50	0.00	0.00	14.50	19,997.78	0.00049	0.0071
Regeneron Pharmac.	13.00	0.00	0.00	13.00	67,779.72	0.00166	0.0216
Royal Caribbean	58.7	0.00	0.00	58.70	19,664.77	0.00048	0.0283
salesforce.com	10.02	0.00	0.00	10.02	232,378.50	0.00569	0.0570
Schein (Henry)	16.57	0.00	0.00	16.57	10,592.60	0.00026	0.0043
ServiceNow, Inc.	26.29	0.00	0.00	26.29	115,304.66	0.00282	0.0743
Southwest Airlines	-21.00	0.00	0.00	-21.00	28,659.29	0.00070	-0.0147
SVB Fin'l Group	8.00	0.00	0.00	8.00	30,336.13	0.00074	0.0059
Synopsys, Inc.	14.90	0.00	0.00	14.90	44,336.77	0.00109	0.0162
T-Mobile US	42.60	0.00	0.00	42.60	174,496.78	0.00427	0.1821
Take-Two Interactive	13.61	0.00	0.00	13.61	18,816.61	0.00046	0.0063
Tapestry Inc.	8.80	0.00	0.00	8.80	11,559.05	0.00028	0.0025
Teledyne Technologies	23.27	0.00	0.00	23.27	21,062.66	0.00052	0.0120
Tesla, Inc.	72.95	0.00	0.00	72.95	677,966.12	0.01661	1.2116
TransDigm Group	25.90	0.00	0.00	25.90	33,090.57	0.00081	0.0210
Trimble Inc.	10.00	0.00	0.00	10.00	22,339.56	0.00055	0.0055
Twitter Inc.	80.00	0.00	0.00	80.00	49,568.10	0.00121	0.0971
Tyler Technologies	10.00	0.00	0.00	10.00	22,405.19	0.00055	0.0055
Ulta Beauty	62.03	0.00	0.00	62.03	19,927.15	0.00049	0.0303
Under Armour 'A'	27.80	0.00	0.00	27.80	10,914.19	0.00027	0.0074
Under Armour 'C'	21.8	0.00	0.00	21.80	9,228.60	0.00023	0.0049
United Airlines Hldgs.	-129.1	0.00	0.00	-129.10	14,575.44	0.00036	-0.0461
United Rentals	21.23	0.00	0.00	21.23	24,623.16	0.00060	0.0128
VeriSign Inc.	8.00	0.00	0.00	8.00	23,375.73	0.00057	0.0046
Vertex Pharmac.	10.25	0.00	0.00	10.25	50,467.63	0.00124	0.0127
Waters Corp.	10.60	0.00	0.00	10.60	24,637.89	0.00060	0.0064
Western Digital	20.00	0.00	0.00	20.00	18,669.06	0.00046	0.0091
Wynn Resorts	-116.2	0.00	0.00	-116.20	10,683.42	0.00026	-0.0304
Xilinx Inc.	18.83	0.00	0.00	18.83	34,749.40	0.00085	0.0160
Zebra Techn. 'A'	10.00	0.00	0.00	10.00	29,755.09	0.00073	0.0073
MGM Resorts Int'l	-383.00	0.03	-0.08	-383.08	18,799.52	0.00046	-0.1764
UDR, Inc.	-34.21	2.79	1.84	-32.37	15,607.72	0.00038	-0.0124
Zions Bancorp.	-32.40	2.83	1.91	-30.49	8,702.98	0.00021	-0.0065
APA Corp.	-24.00	0.60	0.46	-23.54	6,274.35	0.00015	-0.0036
Hess Corp.	-23.4	1.54	1.18	-22.22	20,048.23	0.00049	-0.0109
Ventas, Inc.	-19.70	3.25	2.61	-17.09	20,723.37	0.00051	-0.0087
PPL Corp.	-16.20	5.69	4.77	-11.43	22,455.88	0.00055	-0.0063

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		Weighted Rate of Return on Equity (%)
					Market Cap \$ (Mil)	Market Cap Weight Factor	
Valero Energy	-13.80	6.30	5.43	-8.37	25,445.27	0.00062	-0.0052
Lumen Technologies	-11.70	8.61	7.60	-4.10	12,831.21	0.00031	-0.0013
Phillips 66	-11.15	5.36	4.76	-6.39	29,848.95	0.00073	-0.0047
Comerica Inc.	-10.70	3.79	3.38	-7.32	9,624.61	0.00024	-0.0017
Progressive Corp.	-10.10	0.42	0.38	-9.72	55,927.57	0.00137	-0.0133
Quest Diagnostics	-7.78	1.66	1.53	-6.25	19,536.03	0.00048	-0.0030
FirstEnergy Corp.	-6.60	4.16	3.89	-2.71	20,787.86	0.00051	-0.0014
ViacomCBS Inc.	-6.27	2.37	2.22	-4.05	26,143.62	0.00064	-0.0026
Prologis	-6.05	1.98	1.86	-4.19	97,967.98	0.00240	-0.0101
Allstate Corp.	-5.00	2.41	2.29	-2.71	40,293.00	0.00099	-0.0027
Chevron Corp.	-4.90	5.54	5.27	0.37	186,442.62	0.00457	0.0017
PNC Financial Serv.	-4.26	2.69	2.58	-1.68	78,863.00	0.00193	-0.0033
Fifth Third Bancorp	-2.98	2.88	2.79	-0.19	26,397.29	0.00065	-0.0001
Citizens Fin'l Group	-2.76	3.73	3.63	0.87	18,274.70	0.00045	0.0004
Kraft Heinz Co.	-2.44	4.33	4.22	1.78	45,189.85	0.00111	0.0020
Marathon Oil Corp.	-2.40	1.79	1.75	-0.65	8,778.32	0.00022	-0.0001
Huntington Bancshs.	-2.15	4.08	3.99	1.84	21,720.15	0.00053	0.0010
ConocoPhillips	-1.80	3.21	3.15	1.35	71,681.05	0.00176	0.0024
Clorox Co.	-1.74	2.76	2.71	0.97	20,947.20	0.00051	0.0005
AMETEK, Inc.	-1.20	0.59	0.58	-0.62	31,212.81	0.00076	-0.0005
Kimberly-Clark	-0.96	3.34	3.31	2.35	46,027.28	0.00113	0.0026
Exelon Corp.	-0.47	3.17	3.16	2.69	47,151.11	0.00116	0.0031
Fortune Brands Home	20.00	1.06	1.27	21.27	13,525.93	0.00033	0.0070
Martin Marietta	20.05	0.62	0.74	20.79	23,416.22	0.00057	0.0119
Global Payments	20.26	0.60	0.72	20.98	48,854.55	0.00120	0.0251
Eastman Chemical	20.40	2.48	2.99	23.39	15,161.73	0.00037	0.0087
WestRock Co.	20.62	1.93	2.33	22.95	13,259.59	0.00032	0.0075
Eaton Corp. plc	21.24	1.83	2.22	23.46	66,342.98	0.00163	0.0381
Invesco Ltd.	21.30	3.07	3.72	25.02	11,125.58	0.00027	0.0068
McDonald's Corp.	21.60	2.24	2.72	24.32	177,797.89	0.00436	0.1059
NXP Semi. NV	21.74	1.10	1.34	23.08	57,166.41	0.00140	0.0323
Seagate Technology plc	21.87	3.01	3.67	25.54	20,243.82	0.00050	0.0127
Corning Inc.	22.14	2.37	2.89	25.03	34,014.42	0.00083	0.0209
Trane Technologies plc	22.29	1.23	1.50	23.79	45,805.86	0.00112	0.0267
Danaher Corp.	22.30	0.27	0.33	22.63	224,825.56	0.00551	0.1246
Schwab (Charles)	22.70	1.04	1.28	23.98	130,028.76	0.00319	0.0764
Raytheon Technologies	22.80	2.39	2.93	25.73	128,893.41	0.00316	0.0813
Hunt (J.B.)	23.00	0.70	0.86	23.86	18,225.21	0.00045	0.0107
ResMed Inc.	23.30	0.60	0.74	24.04	40,682.19	0.00100	0.0240
Textron, Inc.	23.57	0.11	0.14	23.71	16,026.79	0.00039	0.0093
Lennar Corp.	23.70	1.00	1.24	24.94	32,483.98	0.00080	0.0198
PulteGroup, Inc.	23.70	1.11	1.37	25.07	13,614.51	0.00033	0.0084
Micron Technology	23.80	0.57	0.71	24.51	79,094.40	0.00194	0.0475
Digital Realty Trust	24.30	2.98	3.70	28.00	44,748.29	0.00110	0.0307
Bank of America	24.32	2.06	2.56	26.88	350,375.12	0.00858	0.2307
Corteva, Inc.	24.87	1.27	1.59	26.46	32,270.46	0.00079	0.0209
Dentsply Sirona	24.97	0.73	0.91	25.88	13,160.26	0.00032	0.0083
Monolithic Power Sys.	25.00	0.52	0.65	25.65	21,025.85	0.00052	0.0132
Devon Energy	25.00	1.68	2.10	27.10	17,696.78	0.00043	0.0117
Ameriprise Fin'l	25.18	1.71	2.14	27.32	30,176.70	0.00074	0.0202
Regions Financial	25.20	3.43	4.29	29.49	18,908.92	0.00046	0.0137
Qualcomm Inc.	25.62	1.91	2.40	28.02	160,379.03	0.00393	0.1101
MasterCard Inc.	26.18	0.49	0.62	26.80	356,618.62	0.00874	0.2341
Electronic Arts	27.01	0.51	0.65	27.66	39,950.62	0.00098	0.0271
West Pharm. Svcs.	27.60	0.15	0.19	27.79	32,724.28	0.00080	0.0223
BorgWarner	27.80	1.54	1.97	29.77	10,613.11	0.00026	0.0077
PACCAR Inc.	28.25	2.55	3.27	31.52	27,739.68	0.00068	0.0214
Chubb Ltd.	28.83	1.74	2.24	31.07	82,951.91	0.00203	0.0631
Freep't-McMoRan Inc.	28.90	0.88	1.13	30.03	48,821.07	0.00120	0.0359
Old Dominion Freight	29.29	0.30	0.39	29.68	32,017.99	0.00078	0.0233

Northern States Power Company

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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	5-Year EPS Market Return %	22.50
								Weighted Rate of Return on Equity (%)
Celanese Corp.	29.42	1.76	2.28	31.70	17,203.93	0.00042		0.0134
Albemarle Corp.	29.83	0.72	0.93	30.76	25,413.01	0.00062		0.0192
Darden Restaurants	30.10	3.21	4.18	34.28	17,915.84	0.00044		0.0150
Amer. Int'l Group	30.69	2.38	3.11	33.80	46,200.43	0.00113		0.0383
Robert Half Int'l	31.00	1.55	2.03	33.03	11,399.67	0.00028		0.0092
Caterpillar Inc.	32.24	2.12	2.80	35.04	114,864.89	0.00281		0.0986
Howmet Aerospace	33.55	0.25	0.33	33.88	13,823.83	0.00034		0.0115
Nucor Corp.	34.99	1.34	1.81	36.80	35,469.55	0.00087		0.0320
Schlumberger Ltd.	36.40	1.87	2.55	38.95	37,491.99	0.00092		0.0358
Equinix, Inc.	37.00	1.48	2.03	39.03	73,080.73	0.00179		0.0699
Occidental Petroleum	37.40	0.68	0.93	38.33	21,896.09	0.00054		0.0206
PerkinElmer Inc.	37.90	0.16	0.22	38.12	20,284.37	0.00050		0.0189
Synchrony Financial	38.40	1.76	2.44	40.84	28,642.13	0.00070		0.0287
Fortive Corp.	39.23	0.38	0.53	39.76	26,492.93	0.00065		0.0258
NVIDIA Corp.	39.37	0.08	0.11	39.48	481,331.19	0.01179		0.4656
L3Harris Technologies	41.8	1.76	2.50	44.30	47,533.03	0.00116		0.0516
NRG Energy	43.10	3.02	4.32	47.42	10,532.67	0.00026		0.0122
Amer. Express	43.30	1.14	1.63	44.93	130,190.39	0.00319		0.1433
Marathon Petroleum	43.80	4.12	5.92	49.72	35,906.64	0.00088		0.0437
Lincoln Nat'l Corp.	43.93	2.61	3.76	47.69	12,764.93	0.00031		0.0149
Capital One Fin'l	45.20	1.39	2.02	47.22	76,740.52	0.00188		0.0888
V.F. Corp.	45.74	2.57	3.75	49.49	29,846.30	0.00073		0.0362
LyondellBasell Inds.	47.01	4.51	6.63	53.64	33,534.03	0.00082		0.0441
Sysco Corp.	53.09	2.44	3.74	56.83	39,343.89	0.00096		0.0548
Discover Fin'l Svcs.	55.60	1.55	2.41	58.01	38,901.23	0.00095		0.0553
Dow Inc.	56.01	4.69	7.32	63.33	46,148.37	0.00113		0.0716
Diamondback Energy	56.96	2.58	4.05	61.01	12,634.49	0.00031		0.0189
Halliburton Co.	60.10	0.95	1.52	61.62	16,802.10	0.00041		0.0254
Everest Re Group Ltd.	62.29	2.34	3.80	66.09	10,885.74	0.00027		0.0176
CF Industries	62.70	2.73	4.44	67.14	9,844.58	0.00024		0.0162
EOG Resources	71.10	2.63	4.50	75.60	38,144.82	0.00093		0.0706
Ralph Lauren	74.89	2.37	4.14	79.03	8,558.94	0.00021		0.0166
Pioneer Natural Res.	77.75	1.57	2.79	80.54	34,725.12	0.00085		0.0685
Ross Stores	93.74	0.94	1.82	95.56	44,300.36	0.00109		0.1037
Pfizer, Inc.	100.10	3.16	6.32	106.42	276,022.28	0.00676		0.7197
Wells Fargo	115.86	1.67	3.60	119.46	197,060.67	0.00483		0.5767
TJX Companies	134.40	1.42	3.33	137.73	88,066.25	0.00216		0.2971
Morgan Stanley	145.20	2.77	6.79	151.99	189,247.33	0.00464		0.7047
SBA Communications	189.32	0.71	2.05	191.37	38,664.91	0.00095		0.1813
Baker Hughes	348.1	3.40	15.24	363.34	16,372.14	0.00040		0.1457
3M Company	7.47	3.01	3.23	10.70	113,708.16	0.00279		0.0298
Abbott Labs.	13.12	1.45	1.64	14.76	219,705.20	0.00538		0.0794
AbbVie Inc.	4.48	4.43	4.63	9.11	207,094.59	0.00507		0.0462
Accenture Plc	11.36	1.20	1.34	12.70	206,073.34	0.00505		0.0641
Activision Blizzard	13.26	0.63	0.71	13.97	64,416.15	0.00158		0.0221
Advance Auto Parts	16.70	1.93	2.25	18.95	13,586.45	0.00033		0.0063
AES Corp.	8.60	2.53	2.75	11.35	15,830.26	0.00039		0.0044
Aflac Inc.	3.90	2.41	2.50	6.40	38,371.45	0.00094		0.0060
Agilent Technologies	12.39	0.48	0.54	12.93	49,460.75	0.00121		0.0157
Air Products & Chem.	12.96	2.20	2.49	15.45	60,244.49	0.00148		0.0228
Alexandria Real Estate	0.10	2.19	2.19	2.29	27,942.17	0.00068		0.0016
Allegion plc	7.77	1.03	1.11	8.88	12,563.51	0.00031		0.0027
Alliant Energy	6.10	2.62	2.78	8.88	15,348.00	0.00038		0.0033
Altria Group	5.17	7.13	7.50	12.67	88,979.74	0.00218		0.0276
Amcor plc	6.28	3.87	4.11	10.39	18,717.40	0.00046		0.0048
Amer. Elec. Power	5.50	3.43	3.62	9.12	44,894.57	0.00110		0.0100
Amer. Tower 'A'	16.58	1.91	2.23	18.81	128,946.69	0.00316		0.0594
Amer. Water Works	8.20	1.37	1.48	9.68	32,647.32	0.00080		0.0077
Ameren Corp.	7.90	2.54	2.74	10.64	22,953.89	0.00056		0.0060
AmerisourceBergen	11.57	1.53	1.71	13.28	24,347.56	0.00060		0.0079

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	22.50
							Weighted Rate of Return on Equity (%)
Amgen	5.92	3.19	3.38	9.30	129,208.06	0.00317	0.0294
Amphenol Corp.	14.40	0.79	0.90	15.30	44,161.23	0.00108	0.0166
Analog Devices	14.78	1.66	1.91	16.69	61,042.52	0.00150	0.0250
Anthem, Inc.	13.38	1.26	1.43	14.81	90,592.64	0.00222	0.0329
Aon plc	14.21	0.74	0.85	15.06	62,416.75	0.00153	0.0230
Apple Inc.	15.68	0.62	0.72	16.40	2,423,273.75	0.05937	0.9735
Applied Materials	16.54	0.75	0.87	17.41	116,416.18	0.00285	0.0497
Archer Daniels Midl'd	10.00	2.50	2.75	12.75	34,043.10	0.00083	0.0106
Assurant Inc.	17.20	1.60	1.88	19.08	10,009.23	0.00025	0.0047
AT&T Inc.	3.53	7.47	7.73	11.26	198,702.23	0.00487	0.0548
Atmos Energy	7.20	2.73	2.93	10.13	12,934.73	0.00032	0.0032
Automatic Data Proc.	14.03	1.93	2.20	16.23	88,328.74	0.00216	0.0351
AvalonBay Communities	2.54	2.92	2.99	5.53	31,096.38	0.00076	0.0042
Avery Dennison	9.16	1.30	1.42	10.58	17,886.11	0.00044	0.0046
Ball Corp.	15.64	0.88	1.02	16.66	29,641.40	0.00073	0.0121
Bank of New York Mellon	13.56	2.54	2.88	16.44	46,205.70	0.00113	0.0186
Bath & Body Works	13.63	1.01	1.15	14.78	16,464.88	0.00040	0.0060
Baxter Int'l Inc.	11.17	1.49	1.66	12.83	37,624.09	0.00092	0.0118
Becton, Dickinson	9.10	1.38	1.51	10.61	72,213.27	0.00177	0.0188
Berkley (W.R.)	9.00	0.70	0.76	9.76	13,139.79	0.00032	0.0031
Best Buy Co.	9.40	2.54	2.78	12.18	27,569.04	0.00068	0.0082
Bio-Techne	15.00	0.28	0.32	15.32	18,293.24	0.00045	0.0069
BlackRock, Inc.	13.15	1.83	2.07	15.22	137,360.00	0.00337	0.0512
Boston Properties	7.00	3.59	3.84	10.84	17,636.73	0.00043	0.0047
Bristol-Myers Squibb	5.97	2.88	3.05	9.02	150,948.19	0.00370	0.0334
Broadcom Inc.	14.74	3.07	3.52	18.26	192,277.69	0.00471	0.0860
Broadridge Fin'l	11.80	1.47	1.64	13.44	20,128.36	0.00049	0.0066
Brown & Brown	13.22	0.65	0.74	13.96	15,973.54	0.00039	0.0055
Brown-Forman 'B'	10.59	1.10	1.22	11.81	32,797.72	0.00080	0.0095
C.H. Robinson	12.39	2.30	2.58	14.97	11,729.62	0.00029	0.0043
Campbell Soup	2.36	3.46	3.54	5.90	13,817.94	0.00034	0.0020
Cardinal Health	7.10	3.80	4.07	11.17	14,995.23	0.00037	0.0041
Carrier Global	14.46	0.87	1.00	15.46	48,039.50	0.00118	0.0182
Choe Global Markets	7.47	1.37	1.47	8.94	13,075.06	0.00032	0.0029
CDW Corp.	13.10	0.82	0.93	14.03	27,005.84	0.00066	0.0093
CenterPoint Energy	1.80	2.46	2.50	4.30	14,569.24	0.00036	0.0015
Cerner Corp.	13.52	1.11	1.26	14.78	23,766.73	0.00058	0.0086
Church & Dwight	7.75	1.19	1.28	9.03	20,793.58	0.00051	0.0046
Cigna Corp.	11.02	1.95	2.16	13.18	70,550.62	0.00173	0.0228
Cincinnati Financial	14.39	2.08	2.38	16.77	19,501.93	0.00048	0.0080
Cintas Corp.	11.90	0.98	1.10	13.00	40,401.68	0.00099	0.0129
Cisco Systems	6.55	2.68	2.86	9.41	232,457.25	0.00569	0.0536
Citigroup Inc.	19.00	2.87	3.42	22.42	147,008.44	0.00360	0.0807
Citrix Sys.	6.50	1.48	1.58	8.08	12,725.83	0.00031	0.0025
CME Group	5.14	1.82	1.91	7.05	70,794.49	0.00173	0.0122
CMS Energy Corp.	5.62	2.73	2.88	8.50	18,488.65	0.00045	0.0039
Coca-Cola	9.68	2.97	3.26	12.94	243,797.50	0.00597	0.0773
Cognizant Technology	13.98	1.25	1.42	15.40	40,251.75	0.00099	0.0152
Colgate-Palmolive	6.12	2.30	2.44	8.56	65,928.98	0.00162	0.0138
Comcast Corp.	18.10	1.69	2.00	20.10	271,184.75	0.00664	0.1335
Conagra Brands	2.24	3.40	3.48	5.72	15,963.04	0.00039	0.0022
Consol. Edison	2.00	4.11	4.19	6.19	27,039.80	0.00066	0.0041
Constellation Brands	9.45	1.42	1.55	11.00	41,147.40	0.00101	0.0111
Cooper Cos.	10.00	0.01	0.01	10.01	21,284.41	0.00052	0.0052
Costco Wholesale	9.98	0.71	0.78	10.76	197,287.75	0.00483	0.0520
Crown Castle Int'l	17.90	2.91	3.43	21.33	83,833.92	0.00205	0.0438
CSX Corp.	17.55	1.10	1.29	18.84	76,709.48	0.00188	0.0354
Cummins Inc.	18.52	2.48	2.94	21.46	33,565.45	0.00082	0.0176
CVS Health	5.71	2.36	2.49	8.20	111,489.62	0.00273	0.0224
Deere & Co.	12.44	0.97	1.09	13.53	115,920.77	0.00284	0.0384

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		22.50
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Dollar General	6.62	0.73	0.78	7.40	54,714.53	0.00134	0.0099
Dominion Energy	6.90	3.32	3.55	10.45	63,045.81	0.00154	0.0161
Domino's Pizza	12.00	0.74	0.83	12.83	19,371.20	0.00047	0.0061
Dover Corp.	14.73	1.17	1.34	16.07	24,690.75	0.00060	0.0097
DTE Energy	6.72	2.75	2.93	9.65	23,277.37	0.00057	0.0055
Duke Energy	2.50	3.70	3.79	6.29	82,321.45	0.00202	0.0127
Duke Realty Corp.	6.00	2.14	2.27	8.27	18,845.79	0.00046	0.0038
DuPont de Nemours	13.73	1.68	1.91	15.64	38,776.44	0.00095	0.0149
eBay Inc.	12.49	1.04	1.17	13.66	48,140.63	0.00118	0.0161
Ecolab Inc.	18.39	0.88	1.04	19.43	62,750.31	0.00154	0.0299
Edison Int'l	5.80	4.61	4.88	10.68	22,238.74	0.00054	0.0058
Emerson Electric	10.69	2.01	2.22	12.91	60,774.74	0.00149	0.0192
Entergy Corp.	6.00	3.56	3.77	9.77	22,132.96	0.00054	0.0053
Equifax, Inc.	13.60	0.61	0.69	14.29	30,994.45	0.00076	0.0109
Equity Residential	6.5	2.95	3.14	9.64	30,428.24	0.00075	0.0072
Essex Property Trust	7.90	2.69	2.90	10.80	20,544.23	0.00050	0.0054
Evergy, Inc.	5.12	3.24	3.41	8.53	15,791.61	0.00039	0.0033
Eversource Energy	6.70	2.76	2.94	9.64	30,999.68	0.00076	0.0073
Expeditors Int'l	7.80	0.95	1.02	8.82	20,557.42	0.00050	0.0044
Extra Space Storage	6.00	2.35	2.49	8.49	22,918.03	0.00056	0.0048
Exxon Mobil Corp.	1.00	6.43	6.49	7.49	230,287.25	0.00564	0.0423
Fastenal Co.	6.33	2.07	2.20	8.53	31,154.76	0.00076	0.0065
Federal Rlty. Inv. Trust	6.70	3.71	3.96	10.66	8,889.59	0.00022	0.0023
FedEx Corp.	17.56	1.10	1.29	18.85	72,374.69	0.00177	0.0334
Fidelity Nat'l Info.	15.04	1.16	1.33	16.37	83,083.92	0.00204	0.0333
First Republic Bank	15.98	0.47	0.55	16.53	34,363.62	0.00084	0.0139
FMC Corp.	7.36	2.15	2.31	9.67	11,756.65	0.00029	0.0028
Franklin Resources	9.49	3.61	3.95	13.44	15,594.03	0.00038	0.0051
Gallagher (Arthur J.)	12.20	1.36	1.53	13.73	29,185.69	0.00072	0.0098
Gap (The), Inc.	4.90	1.80	1.89	6.79	10,054.59	0.00025	0.0017
Garmin Ltd.	10.78	1.75	1.94	12.72	31,663.73	0.00078	0.0099
Gen'l Dynamics	8.55	2.42	2.63	11.18	55,013.66	0.00135	0.0151
Gen'l Electric	7.00	0.32	0.34	7.34	111,280.24	0.00273	0.0200
Gen'l Mills	4.63	3.51	3.67	8.30	36,024.45	0.00088	0.0073
Genuine Parts	4.60	2.64	2.76	7.36	17,694.93	0.00043	0.0032
Gilead Sciences	1.32	3.95	4.00	5.32	90,237.85	0.00221	0.0118
Globe Life Inc.	10.31	0.83	0.92	11.23	9,866.28	0.00024	0.0027
Goldman Sachs	17.28	1.25	1.47	18.75	135,599.17	0.00332	0.0623
Grainger (W.W.)	15.38	1.51	1.74	17.12	22,306.42	0.00055	0.0094
Hanesbrands, Inc.	16.13	3.14	3.65	19.78	6,678.57	0.00016	0.0032
Hartford Fin'l Svcs.	11.58	2.10	2.34	13.92	23,849.89	0.00058	0.0081
Hasbro, Inc.	17.70	2.84	3.34	21.04	13,209.34	0.00032	0.0068
HCA Healthcare	15.71	0.80	0.93	16.64	78,275.38	0.00192	0.0319
Healthpeak Properties	2.90	3.40	3.50	6.40	19,011.08	0.00047	0.0030
Henry (Jack) & Assoc.	14.00	1.07	1.22	15.22	12,803.18	0.00031	0.0048
Hershey Co.	9.13	2.01	2.19	11.32	36,983.37	0.00091	0.0103
Hewlett Packard Ent.	17.76	3.26	3.84	21.60	19,183.87	0.00047	0.0102
Home Depot	13.70	2.15	2.44	16.14	342,450.75	0.00839	0.1354
Honeywell Int'l	11.44	1.63	1.82	13.26	157,701.17	0.00386	0.0512
Hormel Foods	7.10	2.19	2.35	9.45	24,948.18	0.00061	0.0058
Horton D.R.	10.60	0.89	0.98	11.58	33,463.20	0.00082	0.0095
HP Inc.	17.29	2.76	3.24	20.53	33,892.22	0.00083	0.0170
Humana Inc.	13.00	0.69	0.78	13.78	52,658.35	0.00129	0.0178
Huntington Ingalls	0.70	2.27	2.29	2.99	8,087.04	0.00020	0.0006
IDEX Corp.	12.00	0.98	1.10	13.10	16,708.63	0.00041	0.0054
IHS Markit	11.12	0.69	0.77	11.89	46,066.20	0.00113	0.0134
Illinois Tool Works	13.92	2.12	2.42	16.34	72,412.20	0.00177	0.0290
Intel Corp.	3.16	2.66	2.74	5.90	211,734.84	0.00519	0.0306
Intercontinental Exch.	11.42	1.14	1.27	12.69	64,964.57	0.00159	0.0202
Interpublic Group	17.40	3.04	3.57	20.97	14,508.35	0.00036	0.0075

Northern States Power Company, a Minnesota Corporation
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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		22.50
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Int'l Business Mach.	6.90	4.71	5.03	11.93	124,619.66	0.00305	0.0364
Int'l Flavors & Frag.	4.49	2.12	2.22	6.71	37,733.72	0.00092	0.0062
Int'l Paper	19.20	3.50	4.17	23.37	22,881.34	0.00056	0.0131
Intuit Inc.	17.40	0.47	0.55	17.95	145,732.72	0.00357	0.0641
Iron Mountain	6.44	5.48	5.83	12.27	13,067.83	0.00032	0.0039
Jacobs Engineering	13.03	0.63	0.71	13.74	17,431.33	0.00043	0.0059
Johnson & Johnson	8.19	2.39	2.59	10.78	466,362.12	0.01143	0.1231
Johnson Ctrls. Int'l plc	19.33	1.49	1.78	21.11	51,593.51	0.00126	0.0267
JPMorgan Chase	10.57	2.57	2.84	13.41	470,960.53	0.01154	0.1547
Juniper Networks	9.35	2.84	3.11	12.46	9,340.92	0.00023	0.0029
Kansas City South'n	16.50	0.74	0.86	17.36	26,536.62	0.00065	0.0113
Kellogg	3.15	3.56	3.67	6.82	22,335.50	0.00055	0.0037
KeyCorp	14.60	3.80	4.35	18.95	19,224.73	0.00047	0.0089
Kimco Realty	4.60	3.50	3.66	8.26	9,134.80	0.00022	0.0018
Kinder Morgan Inc.	7.39	6.63	7.12	14.51	36,888.23	0.00090	0.0131
KLA Corp.	19.63	1.32	1.58	21.21	48,514.02	0.00119	0.0252
Kroger Co.	6.58	1.82	1.94	8.52	34,648.74	0.00085	0.0072
Lam Research	16.06	0.91	1.06	17.12	81,216.12	0.00199	0.0341
Lamb Weston Holdings	11.30	1.44	1.60	12.90	9,660.48	0.00024	0.0031
Lauder (Estee)	14.71	0.71	0.81	15.52	115,687.88	0.00283	0.0440
Leggett & Platt	5.20	3.52	3.70	8.90	6,370.36	0.00016	0.0014
Leidos Hldgs.	9.60	1.49	1.63	11.23	13,721.46	0.00034	0.0038
Lilly (Eli)	7.08	1.27	1.36	8.44	256,983.86	0.00630	0.0531
Lockheed Martin	4.80	3.09	3.24	8.04	98,748.24	0.00242	0.0194
Loews Corp.	14.03	0.46	0.52	14.55	14,427.83	0.00035	0.0051
Lowe's Cos.	16.70	1.60	1.87	18.57	142,806.95	0.00350	0.0650
M&T Bank Corp.	14.20	3.22	3.68	17.88	17,597.84	0.00043	0.0077
MarketAxess Holdings	4.72	0.57	0.60	5.32	17,543.46	0.00043	0.0023
Marsh & McLennan	12.90	1.40	1.58	14.48	77,535.23	0.00190	0.0275
Masco Corp.	15.40	1.57	1.81	17.21	14,767.82	0.00036	0.0062
McCormick & Co.	6.80	1.60	1.71	8.51	23,076.09	0.00057	0.0048
McKesson Corp.	11.73	0.94	1.05	12.78	31,592.91	0.00077	0.0099
Medtronic plc	11.46	2.00	2.23	13.69	174,000.69	0.00426	0.0584
Merck & Co.	15.33	3.34	3.85	19.18	196,910.12	0.00482	0.0925
MetLife Inc.	8.35	3.15	3.41	11.76	53,550.68	0.00131	0.0154
Microchip Technology	18.30	1.15	1.36	19.66	39,371.33	0.00096	0.0190
Microsoft Corp.	16.53	0.77	0.90	17.43	2,185,998.75	0.05355	0.9333
Mid-America Apartment	7.00	2.20	2.35	9.35	21,353.63	0.00052	0.0049
Molson Coors Beverage	3.48	2.78	2.88	6.36	10,939.34	0.00027	0.0017
Mondelez Int'l	8.80	2.19	2.38	11.18	89,365.39	0.00219	0.0245
Moody's Corp.	12.52	0.66	0.74	13.26	69,616.05	0.00171	0.0226
Mosaic Company	7.00	1.03	1.10	8.10	11,742.52	0.00029	0.0023
Motorola Solutions	14.14	1.21	1.38	15.52	39,600.96	0.00097	0.0151
MSCI Inc.	19.50	0.69	0.82	20.32	50,304.49	0.00123	0.0250
Nasdaq, Inc.	13.20	1.16	1.31	14.51	32,873.39	0.00081	0.0117
NetApp, Inc.	8.80	2.51	2.73	11.53	17,766.41	0.00044	0.0050
Newell Brands	4.22	3.75	3.91	8.13	10,443.57	0.00026	0.0021
NextEra Energy	9.95	1.92	2.11	12.06	165,632.03	0.00406	0.0489
NIKE, Inc. 'B'	15.64	0.65	0.75	16.39	266,551.00	0.00653	0.1070
NiSource Inc.	3.52	3.45	3.57	7.09	9,992.59	0.00024	0.0017
Norfolk Southern	17.64	1.64	1.93	19.57	65,519.20	0.00161	0.0314
Northern Trust Corp.	18.66	2.45	2.91	21.57	23,842.47	0.00058	0.0126
Northrop Grumman	6.00	1.73	1.83	7.83	58,245.05	0.00143	0.0112
NortonLifeLock Inc.	12.70	1.95	2.20	14.90	14,937.51	0.00037	0.0055
Omnicom Group	9.50	3.97	4.35	13.85	15,643.14	0.00038	0.0053
ONEOK Inc.	9.86	7.63	8.38	18.24	22,540.56	0.00055	0.0101
Oracle Corp.	9.64	1.44	1.58	11.22	250,277.17	0.00613	0.0688
Otis Worldwide	11.98	1.06	1.19	13.17	38,625.40	0.00095	0.0125
Packaging Corp.	16.40	2.76	3.21	19.61	13,776.70	0.00034	0.0066
Parker-Hannifin	11.16	1.41	1.57	12.73	37,821.15	0.00093	0.0118

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (IBES MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		22.50
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Paychex, Inc.	12.37	2.37	2.66	15.03	41,330.02	0.00101	0.0152
Pentair plc	17.60	1.03	1.21	18.81	12,919.07	0.00032	0.0060
People's United Fin'l	10.74	4.60	5.09	15.83	6,783.94	0.00017	0.0026
PepsiCo, Inc.	9.75	2.75	3.02	12.77	215,978.95	0.00529	0.0676
Perrigo Co. plc	4.00	2.41	2.51	6.51	5,420.10	0.00013	0.0009
Philip Morris Int'l	11.03	4.76	5.29	16.32	157,338.64	0.00385	0.0629
Pinnacle West Capital	0.10	4.33	4.33	4.43	9,044.15	0.00022	0.0010
Pool Corp.	17.00	0.67	0.78	17.78	19,128.52	0.00047	0.0083
PPG Inds.	16.60	1.43	1.67	18.27	39,047.60	0.00096	0.0175
Price (T. Rowe) Group	12.20	2.06	2.31	14.51	47,701.90	0.00117	0.0170
Principal Fin'l Group	16.47	3.72	4.33	20.80	17,851.47	0.00044	0.0091
Procter & Gamble	6.93	2.43	2.60	9.53	350,831.75	0.00859	0.0819
Prudential Fin'l	8.46	4.38	4.75	13.21	41,422.53	0.00101	0.0134
Public Serv. Enterprise	3.27	3.25	3.36	6.63	32,256.00	0.00079	0.0052
Public Storage	17.00	2.53	2.96	19.96	55,904.64	0.00137	0.0273
Quanta Services	15.43	0.25	0.29	15.72	13,396.42	0.00033	0.0052
Raymond James Fin'l	8.54	1.16	1.26	9.80	18,479.76	0.00045	0.0044
Realty Income Corp.	5.45	3.99	4.21	9.66	25,909.04	0.00063	0.0061
Regency Centers Corp.	9.10	3.69	4.03	13.13	10,940.96	0.00027	0.0035
Republic Services	10.60	1.54	1.70	12.30	38,133.16	0.00093	0.0115

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (IBES MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		22.50
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Rockwell Automation	12.41	1.38	1.55	13.96	36,268.57	0.00089	0.0124
Rollins, Inc.	8.20	0.85	0.92	9.12	18,615.35	0.00046	0.0042
Roper Tech.	11.90	0.47	0.53	12.43	50,420.08	0.00124	0.0153
S&P Global	9.34	0.76	0.83	10.17	103,630.00	0.00254	0.0258
Sealed Air	11.30	1.35	1.50	12.80	8,880.92	0.00022	0.0028
Semptra Energy	4.30	3.40	3.55	7.85	41,765.85	0.00102	0.0080
Sherwin-Williams	12.87	0.76	0.86	13.73	79,282.86	0.00194	0.0267
Simon Property Group	8.60	4.38	4.76	13.36	42,047.10	0.00103	0.0138
Skyworks Solutions	12.55	1.28	1.44	13.99	28,933.78	0.00071	0.0099
Smith (A.O.)	8.00	1.48	1.60	9.60	11,191.80	0.00027	0.0026
Smucker (J.M.)	1.61	3.01	3.06	4.67	14,267.16	0.00035	0.0016
Snap-on Inc.	10.10	2.40	2.64	12.74	11,892.51	0.00029	0.0037
Southern Co.	6.20	4.03	4.28	10.48	69,880.16	0.00171	0.0179
Stanley Black & Decker	11.64	1.64	1.83	13.47	34,087.44	0.00084	0.0112
Starbucks Corp.	11.40	1.73	1.93	13.33	136,386.72	0.00334	0.0445
State Street Corp.	13.82	2.61	2.97	16.79	30,004.99	0.00074	0.0123
STERIS plc	10.00	0.80	0.88	10.88	21,573.06	0.00053	0.0058
Stryker Corp.	13.33	0.96	1.09	14.42	99,394.97	0.00244	0.0351
Target Corp.	14.80	1.45	1.66	16.46	122,822.70	0.00301	0.0495
TE Connectivity	10.36	1.34	1.48	11.84	49,070.29	0.00120	0.0142
Teleflex Inc.	11.00	0.37	0.41	11.41	17,401.41	0.00043	0.0049
Teradyne Inc.	16.76	0.35	0.41	17.17	18,862.27	0.00046	0.0079
Texas Instruments	10.00	2.22	2.44	12.44	169,663.38	0.00416	0.0517
Thermo Fisher Sci.	11.80	0.19	0.21	12.01	214,279.61	0.00525	0.0631
Tractor Supply	11.65	1.10	1.23	12.88	22,309.45	0.00055	0.0070
Travelers Cos.	8.55	2.22	2.41	10.96	39,918.08	0.00098	0.0107
Truist Fin'l	4.60	3.46	3.62	8.22	74,719.59	0.00183	0.0150
Tyson Foods 'A'	7.50	2.22	2.39	9.89	29,254.75	0.00072	0.0071
U.S. Bancorp	13.06	3.00	3.39	16.45	83,099.91	0.00204	0.0335
Union Pacific	16.68	1.90	2.22	18.90	146,797.34	0.00360	0.0680
United Parcel Serv.	17.48	2.11	2.48	19.96	169,807.16	0.00416	0.0830
UnitedHealth Group	14.17	1.39	1.59	15.76	393,532.78	0.00964	0.1519
Universal Health 'B'	8.21	0.54	0.58	8.79	12,671.00	0.00031	0.0027
Unum Group	6.51	4.61	4.91	11.42	5,321.17	0.00013	0.0015
Verisk Analytics	9.95	0.61	0.67	10.62	30,889.01	0.00076	0.0080
Verizon Communic.	3.79	4.58	4.75	8.54	229,652.23	0.00563	0.0481
Visa Inc.	18.37	0.59	0.70	19.07	451,678.50	0.01107	0.2110
Vornado R'lty Trust	17.33	5.16	6.05	23.38	7,869.21	0.00019	0.0045
Vulcan Materials	19.15	0.80	0.95	20.10	24,448.57	0.00060	0.0120
Wabtec Corp.	7.30	0.55	0.59	7.89	16,618.77	0.00041	0.0032
Walgreens Boots	2.93	3.90	4.01	6.94	42,396.51	0.00104	0.0072
Walmart Inc.	8.10	1.48	1.60	9.70	418,225.53	0.01025	0.0994
Waste Management	15.37	1.54	1.78	17.15	62,937.09	0.00154	0.0264
WEC Energy Group	6.60	2.90	3.09	9.69	30,426.86	0.00075	0.0072
Welltower Inc.	13.00	2.99	3.38	16.38	35,186.91	0.00086	0.0141
Western Union	8.16	4.29	4.64	12.80	8,917.37	0.00022	0.0028
Weyerhaeuser Co.	5.00	2.01	2.11	7.11	25,342.63	0.00062	0.0044
Whirlpool Corp.	8.50	2.54	2.76	11.26	13,877.64	0.00034	0.0038
Williams Cos.	2.00	6.82	6.96	8.96	29,184.56	0.00071	0.0064
Willis Towers Wat. plc	6.36	1.49	1.58	7.94	27,615.91	0.00068	0.0054
Xcel Energy Inc.	6.90	2.73	2.92	9.82	37,320.76	0.00091	0.0090
Xylem Inc.	18.76	0.86	1.02	19.78	23,461.62	0.00057	0.0114
Yum! Brands	15.21	1.53	1.76	16.97	40,048.22	0.00098	0.0167
Zimmer Biomet Hldgs.	9.75	0.67	0.74	10.49	30,132.11	0.00074	0.0077
Zoetis Inc.	13.57	0.49	0.56	14.13	96,421.31	0.00236	0.0334
				Totals	40,818,616	1.00	22.50

Source of Information:
 Exhibit MFG-14, Schedule 3

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (Value Line MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		15.21
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
ABIOMED Inc.	9.50	0.00	0.00	9.50	14,975.65	0.00038	0.0036
Adobe Inc.	15.50	0.00	0.00	15.50	298,969.31	0.00753	0.1168
Advanced Micro Dev.	26.50	0.00	0.00	26.50	125,472.73	0.00316	0.0838
Akamai Technologies	9.50	0.00	0.00	9.50	18,293.99	0.00046	0.0044
Alaska Air Group	80.00	0.00	0.00	80.00	6,873.82	0.00017	0.0139
Align Techn.	24.50	0.00	0.00	24.50	53,310.43	0.00134	0.0329
Alphabet Inc.	21.00	0.00	0.00	21.00	1,988,216.00	0.05011	1.0522
Alphabet Inc. 'A'	15.10	0.00	0.00	15.10	1,817,980.25	0.04582	0.6918
Amazon.com	30.00	0.00	0.00	30.00	1,613,415.00	0.04066	1.2198
Amer. Airlines		0.00	0.00	0.00	12,392.12	0.00000	0.0000
ANSYS, Inc.	8.00	0.00	0.00	8.00	30,812.87	0.00078	0.0062
Aptiv PLC	15.50	0.00	0.00	15.50	42,356.14	0.00107	0.0165
Arista Networks	4.50	0.00	0.00	4.50	27,758.10	0.00070	0.0031
Autodesk, Inc.	18.00	0.00	0.00	18.00	71,174.41	0.00179	0.0323
AutoZone Inc.	14.50	0.00	0.00	14.50	34,890.36	0.00088	0.0127
Bio-Rad Labs. 'A'	9.00	0.00	0.00	9.00	22,939.83	0.00058	0.0052
Biogen	3.00	0.00	0.00	3.00	50,972.82	0.00128	0.0039
Boeing		0.00	0.00	0.00	128,306.84	0.00000	0.0000
Booking Holdings	14.00	0.00	0.00	14.00	85,663.89	0.00216	0.0302
Boston Scientific	17.50	0.00	0.00	17.50	62,632.97	0.00158	0.0276
Cadence Design Sys.	11.00	0.00	0.00	11.00	40,968.97	0.00103	0.0114
CarMax, Inc.	12.50	0.00	0.00	12.50	20,288.51	0.00051	0.0064
Carnival Corp.		0.00	0.00	0.00	21,891.56	0.00000	0.0000
Catalent, Inc.	28.00	0.00	0.00	28.00	20,439.41	0.00052	0.0144
CBRE Group	10.50	0.00	0.00	10.50	30,831.33	0.00078	0.0082
Centene Corp.	9.50	0.00	0.00	9.50	37,207.19	0.00094	0.0089
Charles River	7.00	0.00	0.00	7.00	20,966.69	0.00053	0.0037
Charter Communic.	26.50	0.00	0.00	26.50	144,386.66	0.00364	0.0964
Chipotle Mex. Grill	22.00	0.00	0.00	22.00	52,022.88	0.00131	0.0288
Copart, Inc.	15.00	0.00	0.00	15.00	32,591.97	0.00082	0.0123
DaVita Inc.	15.50	0.00	0.00	15.50	13,828.43	0.00035	0.0054
Delta Air Lines	49.00	0.00	0.00	49.00	24,732.72	0.00062	0.0305
DexCom Inc.	34.00	0.00	0.00	34.00	49,272.52	0.00124	0.0422
Discovery Communic. 'C'		0.00	0.00	0.00	14,180.25	0.00000	0.0000
Discovery, Inc.	13.50	0.00	0.00	13.50	14,395.70	0.00036	0.0049
Dish Network 'A'	2.50	0.00	0.00	2.50	22,540.26	0.00057	0.0014
Disney (Walt)	14.00	0.00	0.00	14.00	311,211.94	0.00784	0.1098
Dollar Tree, Inc.	9.50	0.00	0.00	9.50	23,511.47	0.00059	0.0056
DXC Technology	6.50	0.00	0.00	6.50	9,227.24	0.00023	0.0015
Edwards Lifesciences	13.00	0.00	0.00	13.00	72,290.47	0.00182	0.0237
Enphase Energy	36.00	0.00	0.00	36.00	21,863.75	0.00055	0.0198
Etsy, Inc.	30.00	0.00	0.00	30.00	24,140.59	0.00061	0.0183
Expedia Group		0.00	0.00	0.00	20,612.50	0.00000	0.0000
F5 Networks	8.00	0.00	0.00	8.00	11,946.44	0.00030	0.0024
Facebook Inc.	18.50	0.00	0.00	18.50	1,004,501.75	0.02531	0.4683
Fiserv Inc.	13.00	0.00	0.00	13.00	75,525.86	0.00190	0.0247
FleetCor Technologies	11.00	0.00	0.00	11.00	21,347.51	0.00054	0.0059
Ford Motor	47.50	0.00	0.00	47.50	53,456.00	0.00135	0.0640
Fortinet Inc.	20.00	0.00	0.00	20.00	47,801.17	0.00120	0.0241
Gartner Inc.	18.50	0.00	0.00	18.50	26,316.18	0.00066	0.0123
Gen'l Motors	11.00	0.00	0.00	11.00	73,805.64	0.00186	0.0205
Generac Holdings	23.50	0.00	0.00	23.50	28,182.28	0.00071	0.0167
Hilton Worldwide Hldgs.	26.50	0.00	0.00	26.50	33,163.52	0.00084	0.0221
Hologic, Inc.	14.50	0.00	0.00	14.50	19,321.11	0.00049	0.0071
Host Hotels & Resorts	10.00	0.00	0.00	10.00	10,813.78	0.00027	0.0027
IDEXX Labs.	14.50	0.00	0.00	14.50	57,604.88	0.00145	0.0210
Illumina Inc.	10.50	0.00	0.00	10.50	75,059.67	0.00189	0.0199
Incyte Corp.	59.00	0.00	0.00	59.00	16,430.48	0.00041	0.0244
Ingersoll Rand Inc.		0.00	0.00	0.00	21,204.98	0.00000	0.0000
Intuitive Surgical	15.00	0.00	0.00	15.00	123,374.39	0.00311	0.0466

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (Value Line MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		Weighted Rate of Return on Equity (%)
					Market Cap \$ (Mil)	Market Cap Weight Factor	
IPG Photonics	17.00	0.00	0.00	17.00	8,844.90	0.00022	0.0038
IQVIA Holdings	14.00	0.00	0.00	14.00	48,858.00	0.00123	0.0172
Keysight Technologies	12.00	0.00	0.00	12.00	30,195.27	0.00076	0.0091
Laboratory Corp.	5.50	0.00	0.00	5.50	29,052.55	0.00073	0.0040
Las Vegas Sands	17.50	0.00	0.00	17.50	29,276.48	0.00074	0.0129
Live Nation Entertain.		0.00	0.00	0.00	17,709.72	0.00000	0.0000
LKQ Corp.	12.00	0.00	0.00	12.00	14,989.21	0.00038	0.0045
Marriott Int'l	16.00	0.00	0.00	16.00	42,328.00	0.00107	0.0171
Match Group	15.00	0.00	0.00	15.00	36,996.81	0.00093	0.0140
Mettler-Toledo Int'l	12.00	0.00	0.00	12.00	35,136.22	0.00089	0.0106
Moderna, Inc.		0.00	0.00	0.00	160,716.39	0.00000	0.0000
Mohawk Inds.	8.50	0.00	0.00	8.50	13,658.08	0.00034	0.0029
Monster Beverage	11.50	0.00	0.00	11.50	50,656.16	0.00128	0.0147
Netflix, Inc.	23.50	0.00	0.00	23.50	230,977.58	0.00582	0.1368
Norwegian Cruise Line		0.00	0.00	0.00	8,841.47	0.00000	0.0000
NVR, Inc.	7.50	0.00	0.00	7.50	18,568.99	0.00047	0.0035
O'Reilly Automotive	13.50	0.00	0.00	13.50	41,399.60	0.00104	0.0141
Organon & Co.	5.00	0.00	0.00	5.00	8,515.60	0.00021	0.0011
Paycom Software	19.50	0.00	0.00	19.50	26,597.68	0.00067	0.0131
PayPal Holdings	16.00	0.00	0.00	16.00	315,887.03	0.00796	0.1274
Penn Nat'l Gaming	30.00	0.00	0.00	30.00	10,426.34	0.00026	0.0079
PTC Inc.	33.50	0.00	0.00	33.50	14,844.13	0.00037	0.0125
PVH Corp.	13.50	0.00	0.00	13.50	7,569.72	0.00019	0.0026
Qorvo Inc.	37.00	0.00	0.00	37.00	19,997.78	0.00050	0.0186
Regeneron Pharmac.	12.50	0.00	0.00	12.50	67,779.72	0.00171	0.0214
Royal Caribbean		0.00	0.00	0.00	19,664.77	0.00000	0.0000
salesforce.com	20.00	0.00	0.00	20.00	232,378.50	0.00586	0.1171
Schein (Henry)	6.50	0.00	0.00	6.50	10,592.60	0.00027	0.0017
ServiceNow, Inc.	44.50	0.00	0.00	44.50	115,304.66	0.00291	0.1293
Southwest Airlines	34.50	0.00	0.00	34.50	28,659.29	0.00072	0.0249
SVB Fin'l Group	5.00	0.00	0.00	5.00	30,336.13	0.00076	0.0038
Synopsys, Inc.	13.00	0.00	0.00	13.00	44,336.77	0.00112	0.0145
T-Mobile US	8.50	0.00	0.00	8.50	174,496.78	0.00440	0.0374
Take-Two Interactive	12.00	0.00	0.00	12.00	18,816.61	0.00047	0.0057
Tapestry Inc.	10.00	0.00	0.00	10.00	11,559.05	0.00029	0.0029
Teledyne Technologies	7.50	0.00	0.00	7.50	21,062.66	0.00053	0.0040
Tesla, Inc.		0.00	0.00	0.00	677,966.12	0.00000	0.0000
TransDigm Group	11.00	0.00	0.00	11.00	33,090.57	0.00083	0.0092
Trimble Inc.	14.00	0.00	0.00	14.00	22,339.56	0.00056	0.0079
Twitter Inc.	39.00	0.00	0.00	39.00	49,568.10	0.00125	0.0487
Tyler Technologies	12.50	0.00	0.00	12.50	22,405.19	0.00056	0.0071
Ulta Beauty	12.50	0.00	0.00	12.50	19,927.15	0.00050	0.0063
Under Armour 'A'	33.00	0.00	0.00	33.00	10,914.19	0.00028	0.0091
Under Armour 'C'		0.00	0.00	0.00	9,228.60	0.00000	0.0000
United Airlines Hldgs.		0.00	0.00	0.00	14,575.44	0.00000	0.0000
United Rentals	10.50	0.00	0.00	10.50	24,623.16	0.00062	0.0065
VeriSign Inc.	8.50	0.00	0.00	8.50	23,375.73	0.00059	0.0050
Vertex Pharmac.	17.00	0.00	0.00	17.00	50,467.63	0.00127	0.0216
Waters Corp.	11.00	0.00	0.00	11.00	24,637.89	0.00062	0.0068
Western Digital	5.50	0.00	0.00	5.50	18,669.06	0.00047	0.0026
Wynn Resorts		0.00	0.00	0.00	10,683.42	0.00000	0.0000
Xilinx Inc.	7.50	0.00	0.00	7.50	34,749.40	0.00088	0.0066
Zebra Techn. 'A'	12.50	0.00	0.00	12.50	29,755.09	0.00075	0.0094
Amcor plc	0.00	3.87	3.87	3.87	18,717.40	0.00047	0.0018
Baker Hughes	0.00	3.40	3.40	3.40	16,372.14	0.00041	0.0014
Boston Properties	-2.00	3.59	3.52	1.52	17,636.73	0.00044	0.0007
Carrier Global	0.00	0.87	0.87	0.87	48,039.50	0.00121	0.0011
Corteva, Inc.	0.00	1.27	1.27	1.27	32,270.46	0.00081	0.0010
Diamondback Energy	0.00	2.58	2.58	2.58	12,634.49	0.00032	0.0008
Dow Inc.	0.00	4.69	4.69	4.69	46,148.37	0.00116	0.0055

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (Value Line MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	5-Year EPS Market Return %	15.21
								Weighted Rate of Return on Equity (%)
Duke Realty Corp.	-1.00	2.14	2.12	1.12	18,845.79	0.00047		0.0005
DuPont de Nemours	0.00	1.68	1.68	1.68	38,776.44	0.00098		0.0016
Equity Residential	0.00	2.95	2.95	2.95	30,428.24	0.00077		0.0023
Essex Property Trust	-0.50	2.69	2.68	2.18	20,544.23	0.00052		0.0011
Federal Rlty. Inv. Trust	-2.00	3.71	3.64	1.64	8,889.59	0.00022		0.0004
Healthpeak Properties	-12.00	3.40	2.99	-9.01	19,011.08	0.00048		-0.0043
Hess Corp.	0.00	1.54	1.54	1.54	20,048.23	0.00051		0.0008
Kimco Realty	-2.00	3.50	3.43	1.43	9,134.80	0.00023		0.0003
L3Harris Technologies	0.00	1.76	1.76	1.76	47,533.03	0.00120		0.0021
Marathon Petroleum	0.00	4.12	4.12	4.12	35,906.64	0.00090		0.0037
MGM Resorts Int'l	0.00	0.03	0.03	0.03	18,799.52	0.00047		0.0000
Newell Brands	0.00	3.75	3.75	3.75	10,443.57	0.00026		0.0010
NRG Energy	-6.50	3.02	2.82	-3.68	10,532.67	0.00027		-0.0010
Otis Worldwide	0.00	1.06	1.06	1.06	38,625.40	0.00097		0.0010
Perrigo Co. plc	-2.00	2.41	2.36	0.36	5,420.10	0.00014		0.0000
PPL Corp.	-7.00	5.69	5.29	-1.71	22,455.88	0.00057		-0.0010
Trane Technologies plc	0.00	1.23	1.23	1.23	45,805.86	0.00115		0.0014
Welltower Inc.	-1.50	2.99	2.95	1.45	35,186.91	0.00089		0.0013
Vornado R'lty Trust	-19.00	5.16	4.18	-14.82	7,869.21	0.00020		-0.0029
Amer. Int'l Group	31.50	2.38	3.13	34.63	46,200.43	0.00116		0.0403
APA Corp.	72.50	0.60	1.04	73.54	6,274.35	0.00016		0.0116
Ball Corp.	22.00	0.88	1.07	23.07	29,641.40	0.00075		0.0172
Bath & Body Works	30.50	1.01	1.32	31.82	16,464.88	0.00041		0.0132
Bristol-Myers Squibb	56.00	2.88	4.49	60.49	150,948.19	0.00380		0.2301
Broadcom Inc.	27.00	3.07	3.90	30.90	192,277.69	0.00485		0.1497
Chevron Corp.	24.00	5.54	6.87	30.87	186,442.62	0.00470		0.1450
Corning Inc.	20.00	2.37	2.84	22.84	34,014.42	0.00086		0.0196
Danaher Corp.	20.50	0.27	0.33	20.83	224,825.56	0.00567		0.1180
Devon Energy	20.00	1.68	2.02	22.02	17,696.78	0.00045		0.0098
Edison Int'l	23.50	4.61	5.69	29.19	22,238.74	0.00056		0.0164
Exxon Mobil Corp.	32.00	6.43	8.49	40.49	230,287.25	0.00580		0.2350
Fidelity Nat'l Info.	34.50	1.16	1.56	36.06	83,083.92	0.00209		0.0755
Freep't-McMoRan Inc.	36.50	0.88	1.20	37.70	48,821.07	0.00123		0.0464
Gap (The), Inc.	27.00	1.80	2.29	29.29	10,054.59	0.00025		0.0074
Loews Corp.	22.00	0.46	0.56	22.56	14,427.83	0.00036		0.0082
Marathon Oil Corp.	69.00	1.79	3.03	72.03	8,778.32	0.00022		0.0159
Molson Coors Beverage	41.00	2.78	3.92	44.92	10,939.34	0.00028		0.0124
Mosaic Company	33.50	1.03	1.38	34.88	11,742.52	0.00030		0.0103
NIKE, Inc. 'B'	25.00	0.65	0.81	25.81	266,551.00	0.00672		0.1734
Occidental Petroleum	36.50	0.68	0.93	37.43	21,896.09	0.00055		0.0207
Pioneer Natural Res.	20.00	1.57	1.88	21.88	34,725.12	0.00088		0.0192
Phillips 66	20.50	5.36	6.46	26.96	29,848.95	0.00075		0.0203
SBA Communications	45.00	0.71	1.03	46.03	38,664.91	0.00097		0.0449
Weyerhaeuser Co.	21.00	2.01	2.43	23.43	25,342.63	0.00064		0.0150
3M Company	6.00	3.01	3.19	9.19	113,708.16	0.00287		0.0263
Abbott Labs.	11.50	1.45	1.62	13.12	219,705.20	0.00554		0.0726
AbbVie Inc.	6.50	4.43	4.72	11.22	207,094.59	0.00522		0.0585
Accenture Plc	10.00	1.20	1.32	11.32	206,073.34	0.00519		0.0588
Activision Blizzard	13.00	0.63	0.71	13.71	64,416.15	0.00162		0.0223
Advance Auto Parts	11.00	1.93	2.14	13.14	13,586.45	0.00034		0.0045
AES Corp.	17.50	2.53	2.97	20.47	15,830.26	0.00040		0.0082
Aflac Inc.	8.50	2.41	2.61	11.11	38,371.45	0.00097		0.0107
Agilent Technologies	11.50	0.48	0.54	12.04	49,460.75	0.00125		0.0150
Air Products & Chem.	12.00	2.20	2.46	14.46	60,244.49	0.00152		0.0220
Albemarle Corp.	6.50	0.72	0.77	7.27	25,413.01	0.00064		0.0047
Alexandria Real Estate	13.00	2.19	2.47	15.47	27,942.17	0.00070		0.0109
Allegion plc	8.50	1.03	1.12	9.62	12,563.51	0.00032		0.0030
Alliant Energy	5.50	2.62	2.76	8.26	15,348.00	0.00039		0.0032
Allstate Corp.	5.00	2.41	2.53	7.53	40,293.00	0.00102		0.0076
Altria Group	6.00	7.13	7.56	13.56	88,979.74	0.00224		0.0304

Northern States Power Company

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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		Weighted Rate of Return on Equity (%)
					Market Cap \$ (Mil)	Market Cap Weight Factor	
Amer. Elec. Power	6.50	3.43	3.65	10.15	44,894.57	0.00113	0.0115
Amer. Express	9.50	1.14	1.25	10.75	130,190.39	0.00328	0.0353
Amer. Tower 'A'	9.50	1.91	2.09	11.59	128,946.69	0.00325	0.0377
Amer. Water Works	8.00	1.37	1.48	9.48	32,647.32	0.00082	0.0078
Ameren Corp.	6.50	2.54	2.71	9.21	22,953.89	0.00058	0.0053
Ameriprise Fin'l	13.50	1.71	1.94	15.44	30,176.70	0.00076	0.0117
AmerisourceBergen	7.00	1.53	1.64	8.64	24,347.56	0.00061	0.0053
AMETEK, Inc.	14.00	0.59	0.67	14.67	31,212.81	0.00079	0.0115
Amgen	5.50	3.19	3.37	8.87	129,208.06	0.00326	0.0289
Amphenol Corp.	10.50	0.79	0.87	11.37	44,161.23	0.00111	0.0127
Analog Devices	8.50	1.66	1.80	10.30	61,042.52	0.00154	0.0158
Anthem, Inc.	10.50	1.26	1.39	11.89	90,592.64	0.00228	0.0272
Aon plc	7.00	0.74	0.79	7.79	62,416.75	0.00157	0.0123
Apple Inc.	14.50	0.62	0.71	15.21	2,423,273.75	0.06107	0.9289
Applied Materials	16.00	0.75	0.87	16.87	116,416.18	0.00293	0.0495
Archer Daniels Mid'l'd	8.50	2.50	2.71	11.21	34,043.10	0.00086	0.0096
Assurant Inc.	15.00	1.60	1.84	16.84	10,009.23	0.00025	0.0042
AT&T Inc.	2.50	7.47	7.66	10.16	198,702.23	0.00501	0.0509
Atmos Energy	7.00	2.73	2.92	9.92	12,934.73	0.00033	0.0032
Automatic Data Proc.	9.00	1.93	2.10	11.10	88,328.74	0.00223	0.0247
AvalonBay Communities	1.00	2.92	2.95	3.95	31,096.38	0.00078	0.0031
Avery Dennison	9.00	1.30	1.42	10.42	17,886.11	0.00045	0.0047
Bank of America	6.50	2.06	2.19	8.69	350,375.12	0.00883	0.0768
Bank of New York Mellon	5.00	2.54	2.67	7.67	46,205.70	0.00116	0.0089
Baxter Int'l Inc.	8.50	1.49	1.62	10.12	37,624.09	0.00095	0.0096
Becton, Dickinson	7.50	1.38	1.48	8.98	72,213.27	0.00182	0.0163
Berkley (W.R.)	14.50	0.70	0.80	15.30	13,139.79	0.00033	0.0051
Best Buy Co.	7.50	2.54	2.73	10.23	27,569.04	0.00069	0.0071
Bio-Techne	15.50	0.28	0.32	15.82	18,293.24	0.00046	0.0073
BlackRock, Inc.	9.00	1.83	1.99	10.99	137,360.00	0.00346	0.0381
BorgWarner	9.00	1.54	1.68	10.68	10,613.11	0.00027	0.0029
Broadridge Fin'l	9.50	1.47	1.61	11.11	20,128.36	0.00051	0.0056
Brown & Brown	10.50	0.65	0.72	11.22	15,973.54	0.00040	0.0045
Brown-Forman 'B'	13.00	1.10	1.24	14.24	32,797.72	0.00083	0.0118
C.H. Robinson	8.00	2.30	2.48	10.48	11,729.62	0.00030	0.0031
Campbell Soup	5.00	3.46	3.63	8.63	13,817.94	0.00035	0.0030
Capital One Fin'l	4.00	1.39	1.45	5.45	76,740.52	0.00193	0.0105
Cardinal Health	11.50	3.80	4.24	15.74	14,995.23	0.00038	0.0059
Caterpillar Inc.	9.00	2.12	2.31	11.31	114,864.89	0.00289	0.0327
Choe Global Markets	12.00	1.37	1.53	13.53	13,075.06	0.00033	0.0045
CDW Corp.	10.50	0.82	0.91	11.41	27,005.84	0.00068	0.0078
Celanese Corp.	6.50	1.76	1.87	8.37	17,203.93	0.00043	0.0036
CenterPoint Energy	8.00	2.46	2.66	10.66	14,569.24	0.00037	0.0039
Cerner Corp.	9.00	1.11	1.21	10.21	23,766.73	0.00060	0.0061
CF Industries	19.50	2.73	3.26	22.76	9,844.58	0.00025	0.0056
Chubb Ltd.	12.50	1.74	1.96	14.46	82,951.91	0.00209	0.0302
Church & Dwight	8.00	1.19	1.29	9.29	20,793.58	0.00052	0.0049
Cigna Corp.	10.00	1.95	2.15	12.15	70,550.62	0.00178	0.0216
Cincinnati Financial	13.50	2.08	2.36	15.86	19,501.93	0.00049	0.0078
Cintas Corp.	12.50	0.98	1.10	13.60	40,401.68	0.00102	0.0138
Cisco Systems	6.00	2.68	2.84	8.84	232,457.25	0.00586	0.0518
Citigroup Inc.	7.00	2.87	3.07	10.07	147,008.44	0.00370	0.0373
Citizens Fin'l Group	8.50	3.73	4.05	12.55	18,274.70	0.00046	0.0058
Citrix Sys.	8.50	1.48	1.61	10.11	12,725.83	0.00032	0.0032
Clorox Co.	6.00	2.76	2.93	8.93	20,947.20	0.00053	0.0047
CME Group	8.50	1.82	1.97	10.47	70,794.49	0.00178	0.0187
CMS Energy Corp.	7.50	2.73	2.93	10.43	18,488.65	0.00047	0.0049
Coca-Cola	7.00	2.97	3.18	10.18	243,797.50	0.00614	0.0625
Cognizant Technology	6.50	1.25	1.33	7.83	40,251.75	0.00101	0.0079
Colgate-Palmolive	4.50	2.30	2.40	6.90	65,928.98	0.00166	0.0115

Northern States Power Company

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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	15.21
							Weighted Rate of Return on Equity (%)
Comcast Corp.	11.00	1.69	1.88	12.88	271,184.75	0.00683	0.0880
Comerica Inc.	2.50	3.79	3.88	6.38	9,624.61	0.00024	0.0015
Conagra Brands	5.00	3.40	3.57	8.57	15,963.04	0.00040	0.0034
ConocoPhillips	13.50	3.21	3.64	17.14	71,681.05	0.00181	0.0310
Consol. Edison	4.00	4.11	4.27	8.27	27,039.80	0.00068	0.0056
Constellation Brands	7.00	1.42	1.52	8.52	41,147.40	0.00104	0.0088
Cooper Cos.	13.50	0.01	0.01	13.51	21,284.41	0.00054	0.0072
Costco Wholesale	10.50	0.71	0.78	11.28	197,287.75	0.00497	0.0561
Crown Castle Int'l	8.50	2.91	3.16	11.66	83,833.92	0.00211	0.0246
CSX Corp.	11.50	1.10	1.23	12.73	76,709.48	0.00193	0.0246
Cummins Inc.	7.00	2.48	2.65	9.65	33,565.45	0.00085	0.0082
CVS Health	6.00	2.36	2.50	8.50	111,489.62	0.00281	0.0239
Darden Restaurants	19.00	3.21	3.82	22.82	17,915.84	0.00045	0.0103
Deere & Co.	17.00	0.97	1.13	18.13	115,920.77	0.00292	0.0530
Dentsply Sirona	11.50	0.73	0.81	12.31	13,160.26	0.00033	0.0041
Digital Realty Trust	7.00	2.98	3.19	10.19	44,748.29	0.00113	0.0115
Discover Fin'l Svcs.	16.00	1.55	1.80	17.80	38,901.23	0.00098	0.0174
Dollar General	10.50	0.73	0.81	11.31	54,714.53	0.00138	0.0156
Dominion Energy	12.00	3.32	3.72	15.72	63,045.81	0.00159	0.0250
Domino's Pizza	15.00	0.74	0.85	15.85	19,371.20	0.00049	0.0077
Dover Corp.	7.00	1.17	1.25	8.25	24,690.75	0.00062	0.0051
DTE Energy	6.00	2.75	2.92	8.92	23,277.37	0.00059	0.0052
Duke Energy	7.00	3.70	3.96	10.96	82,321.45	0.00207	0.0227
Eastman Chemical	10.50	2.48	2.74	13.24	15,161.73	0.00038	0.0051
Eaton Corp. plc	9.00	1.83	1.99	10.99	66,342.98	0.00167	0.0184
eBay Inc.	16.50	1.04	1.21	17.71	48,140.63	0.00121	0.0215
Ecolab Inc.	9.00	0.88	0.96	9.96	62,750.31	0.00158	0.0157
Electronic Arts	12.50	0.51	0.57	13.07	39,950.62	0.00101	0.0132
Emerson Electric	10.50	2.01	2.22	12.72	60,774.74	0.00153	0.0195
Entergy Corp.	3.00	3.56	3.67	6.67	22,132.96	0.00056	0.0037
EOG Resources	16.00	2.63	3.05	19.05	38,144.82	0.00096	0.0183
Equifax, Inc.	10.50	0.61	0.67	11.17	30,994.45	0.00078	0.0087
Equinix, Inc.	17.00	1.48	1.73	18.73	73,080.73	0.00184	0.0345
Everest Re Group Ltd.	11.00	2.34	2.60	13.60	10,885.74	0.00027	0.0037
Evergy, Inc.	8.00	3.24	3.50	11.50	15,791.61	0.00040	0.0046
Eversource Energy	6.50	2.76	2.94	9.44	30,999.68	0.00078	0.0074
Exelon Corp.	5.50	3.17	3.34	8.84	47,151.11	0.00119	0.0105
Expeditors Int'l	10.00	0.95	1.05	11.05	20,557.42	0.00052	0.0057
Extra Space Storage	5.00	2.35	2.47	7.47	22,918.03	0.00058	0.0043
Fastenal Co.	9.50	2.07	2.27	11.77	31,154.76	0.00079	0.0092
FedEx Corp.	12.00	1.10	1.23	13.23	72,374.69	0.00182	0.0241
Fifth Third Bancorp	7.00	2.88	3.08	10.08	26,397.29	0.00067	0.0067
First Republic Bank	13.50	0.47	0.53	14.03	34,363.62	0.00087	0.0122
FirstEnergy Corp.	11.50	4.16	4.64	16.14	20,787.86	0.00052	0.0085
FMC Corp.	9.50	2.15	2.35	11.85	11,756.65	0.00030	0.0035
Fortive Corp.	13.50	0.38	0.43	13.93	26,492.93	0.00067	0.0093
Fortune Brands Home	10.00	1.06	1.17	11.17	13,525.93	0.00034	0.0038
Franklin Resources	10.50	3.61	3.99	14.49	15,594.03	0.00039	0.0057
Gallagher (Arthur J.)	12.50	1.36	1.53	14.03	29,185.69	0.00074	0.0103
Garmin Ltd.	9.00	1.75	1.91	10.91	31,663.73	0.00080	0.0087
Gen'l Dynamics	5.00	2.42	2.54	7.54	55,013.66	0.00139	0.0105
Gen'l Electric	14.50	0.32	0.37	14.87	111,280.24	0.00280	0.0417
Gen'l Mills	3.00	3.51	3.62	6.62	36,024.45	0.00091	0.0060
Genuine Parts	7.50	2.64	2.84	10.34	17,694.93	0.00045	0.0046
Gilead Sciences	15.50	3.95	4.56	20.06	90,237.85	0.00227	0.0456
Global Payments	16.50	0.60	0.70	17.20	48,854.55	0.00123	0.0212
Globe Life Inc.	7.00	0.83	0.89	7.89	9,866.28	0.00025	0.0020
Goldman Sachs	8.50	1.25	1.36	9.86	135,599.17	0.00342	0.0337
Grainger (W.W.)	5.50	1.51	1.59	7.09	22,306.42	0.00056	0.0040
Halliburton Co.	7.00	0.95	1.02	8.02	16,802.10	0.00042	0.0034

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (Value Line MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		15.21
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Hanesbrands, Inc.	6.50	3.14	3.34	9.84	6,678.57	0.00017	0.0017
Hartford Fin'l Svcs.	6.50	2.10	2.24	8.74	23,849.89	0.00060	0.0053
Hasbro, Inc.	12.50	2.84	3.20	15.70	13,209.34	0.00033	0.0052
HCA Healthcare	10.50	0.80	0.88	11.38	78,275.38	0.00197	0.0225
Henry (Jack) & Assoc.	9.50	1.07	1.17	10.67	12,803.18	0.00032	0.0034
Hershey Co.	5.50	2.01	2.12	7.62	36,983.37	0.00093	0.0071
Hewlett Packard Ent.	6.50	3.26	3.47	9.97	19,183.87	0.00048	0.0048
Home Depot	8.00	2.15	2.32	10.32	342,450.75	0.00863	0.0891
Honeywell Int'l	10.00	1.63	1.79	11.79	157,701.17	0.00397	0.0469
Hormel Foods	9.00	2.19	2.39	11.39	24,948.18	0.00063	0.0072
Horton D.R.	14.50	0.89	1.02	15.52	33,463.20	0.00084	0.0131
Howmet Aerospace	9.00	0.25	0.27	9.27	13,823.83	0.00035	0.0032
HP Inc.	11.50	2.76	3.08	14.58	33,892.22	0.00085	0.0125
Humana Inc.	11.50	0.69	0.77	12.27	52,658.35	0.00133	0.0163
Hunt (J.B.)	8.00	0.70	0.76	8.76	18,225.21	0.00046	0.0040
Huntington Bancshs.	6.00	4.08	4.32	10.32	21,720.15	0.00055	0.0057
Huntington Ingalls	1.50	2.27	2.30	3.80	8,087.04	0.00020	0.0008
IDEX Corp.	8.00	0.98	1.06	9.06	16,708.63	0.00042	0.0038
IHS Markit	10.50	0.69	0.76	11.26	46,066.20	0.00116	0.0131
Illinois Tool Works	11.00	2.12	2.35	13.35	72,412.20	0.00182	0.0244
Int'l Business Mach.	1.50	4.71	4.78	6.28	124,619.66	0.00314	0.0197
Int'l Flavors & Frag.	7.50	2.12	2.28	9.78	37,733.72	0.00095	0.0093
Int'l Paper	12.00	3.50	3.92	15.92	22,881.34	0.00058	0.0092
Intel Corp.	7.00	2.66	2.85	9.85	211,734.84	0.00534	0.0525
Intercontinental Exch.	8.00	1.14	1.23	9.23	64,964.57	0.00164	0.0151
Interpublic Group	12.00	3.04	3.40	15.40	14,508.35	0.00037	0.0056
Intuit Inc.	16.00	0.47	0.55	16.55	145,732.72	0.00367	0.0608
Invesco Ltd.	15.00	3.07	3.53	18.53	11,125.58	0.00028	0.0052
Iron Mountain	8.00	5.48	5.92	13.92	13,067.83	0.00033	0.0046
Jacobs Engineering	15.00	0.63	0.72	15.72	17,431.33	0.00044	0.0069
Johnson & Johnson	8.50	2.39	2.59	11.09	466,362.12	0.01175	0.1304
Johnson Ctrl's. Int'l plc	8.50	1.49	1.62	10.12	51,593.51	0.00130	0.0132
JPMorgan Chase	6.50	2.57	2.74	9.24	470,960.53	0.01187	0.1096
Juniper Networks	7.00	2.84	3.04	10.04	9,340.92	0.00024	0.0024
Kansas City South'n	10.50	0.74	0.82	11.32	26,536.62	0.00067	0.0076
Kellogg	3.50	3.56	3.68	7.18	22,335.50	0.00056	0.0040
KeyCorp	9.50	3.80	4.16	13.66	19,224.73	0.00048	0.0066
Kimberly-Clark	5.50	3.34	3.52	9.02	46,027.28	0.00116	0.0105
Kinder Morgan Inc.	19.00	6.63	7.89	26.89	36,888.23	0.00093	0.0250
KLA Corp.	18.00	1.32	1.56	19.56	48,514.02	0.00122	0.0239
Kraft Heinz Co.	1.50	4.33	4.39	5.89	45,189.85	0.00114	0.0067
Kroger Co.	5.50	1.82	1.92	7.42	34,648.74	0.00087	0.0065
Lam Research	17.50	0.91	1.07	18.57	81,216.12	0.00205	0.0380
Lamb Weston Holdings	2.50	1.44	1.48	3.98	9,660.48	0.00024	0.0010
Lauder (Estee)	11.50	0.71	0.79	12.29	115,687.88	0.00292	0.0358
Leggett & Platt	10.00	3.52	3.87	13.87	6,370.36	0.00016	0.0022
Leidos Hldgs.	9.00	1.49	1.62	10.62	13,721.46	0.00035	0.0037
Lennar Corp.	9.00	1.00	1.09	10.09	32,483.98	0.00082	0.0083
Lilly (Eli)	11.00	1.27	1.41	12.41	256,983.86	0.00648	0.0804
Lincoln Nat'l Corp.	9.00	2.61	2.84	11.84	12,764.93	0.00032	0.0038
Lockheed Martin	7.50	3.09	3.32	10.82	98,748.24	0.00249	0.0269
Lowe's Cos.	14.00	1.60	1.82	15.82	142,806.95	0.00360	0.0569
Lumen Technologies	2.50	8.61	8.83	11.33	12,831.21	0.00032	0.0037
LyondellBasell Inds.	6.50	4.51	4.80	11.30	33,534.03	0.00085	0.0096
M&T Bank Corp.	8.00	3.22	3.48	11.48	17,597.84	0.00044	0.0051
MarketAxess Holdings	14.00	0.57	0.65	14.65	17,543.46	0.00044	0.0065
Marsh & McLennan	11.00	1.40	1.55	12.55	77,535.23	0.00195	0.0245
Martin Marietta	6.00	0.62	0.66	6.66	23,416.22	0.00059	0.0039
Masco Corp.	9.00	1.57	1.71	10.71	14,767.82	0.00037	0.0040
MasterCard Inc.	12.50	0.49	0.55	13.05	356,618.62	0.00899	0.1173

Northern States Power Company

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (Value Line MRP)

Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	5-Year EPS Market Return %	15.21
								Weighted Rate of Return on Equity (%)
McCormick & Co.	6.00	1.60	1.70	7.70	23,076.09	0.00058		0.0045
McDonald's Corp.	10.50	2.24	2.48	12.98	177,797.89	0.00448		0.0581
McKesson Corp.	8.50	0.94	1.02	9.52	31,592.91	0.00080		0.0076
Medtronic plc	9.00	2.00	2.18	11.18	174,000.69	0.00439		0.0490
Merck & Co.	7.50	3.34	3.59	11.09	196,910.12	0.00496		0.0550
MetLife Inc.	6.50	3.15	3.35	9.85	53,550.68	0.00135		0.0133
Microchip Technology	9.00	1.15	1.25	10.25	39,371.33	0.00099		0.0102
Micron Technology	11.50	0.57	0.64	12.14	79,094.40	0.00199		0.0242
Microsoft Corp.	17.00	0.77	0.90	17.90	2,185,998.75	0.05509		0.9862
Mid-America Apartment	0.50	2.20	2.21	2.71	21,353.63	0.00054		0.0015
Mondelez Int'l	8.00	2.19	2.37	10.37	89,365.39	0.00225		0.0233
Monolithic Power Sys.	17.50	0.52	0.61	18.11	21,025.85	0.00053		0.0096
Moody's Corp.	8.50	0.66	0.72	9.22	69,616.05	0.00175		0.0162
Morgan Stanley	10.50	2.77	3.06	13.56	189,247.33	0.00477		0.0647
Motorola Solutions	7.00	1.21	1.29	8.29	39,600.96	0.00100		0.0083
MSCI Inc.	16.00	0.69	0.80	16.80	50,304.49	0.00127		0.0213
Nasdaq, Inc.	6.50	1.16	1.24	7.74	32,873.39	0.00083		0.0064
NetApp, Inc.	6.50	2.51	2.67	9.17	17,766.41	0.00045		0.0041
NextEra Energy	10.50	1.92	2.12	12.62	165,632.03	0.00417		0.0527
NiSource Inc.	9.50	3.45	3.78	13.28	9,992.59	0.00025		0.0033
Norfolk Southern	10.00	1.64	1.80	11.80	65,519.20	0.00165		0.0195
Northern Trust Corp.	7.00	2.45	2.62	9.62	23,842.47	0.00060		0.0058
Northrop Grumman	7.00	1.73	1.85	8.85	58,245.05	0.00147		0.0130
NortonLifeLock Inc.	11.00	1.95	2.16	13.16	14,937.51	0.00038		0.0050
Nucor Corp.	8.00	1.34	1.45	9.45	35,469.55	0.00089		0.0084
NVIDIA Corp.	15.50	0.08	0.09	15.59	481,331.19	0.01213		0.1891
NXP Semi. NV	11.00	1.10	1.22	12.22	57,166.41	0.00144		0.0176
Old Dominion Freight	9.50	0.30	0.33	9.83	32,017.99	0.00081		0.0079
Omnicom Group	6.00	3.97	4.21	10.21	15,643.14	0.00039		0.0040
ONEOK Inc.	10.00	7.63	8.39	18.39	22,540.56	0.00057		0.0104
Oracle Corp.	10.00	1.44	1.58	11.58	250,277.17	0.00631		0.0731
PACCAR Inc.	6.00	2.55	2.70	8.70	27,739.68	0.00070		0.0061
Packaging Corp.	5.00	2.76	2.90	7.90	13,776.70	0.00035		0.0027
Parker-Hannifin	14.00	1.41	1.61	15.61	37,821.15	0.00095		0.0149
Paychex, Inc.	7.00	2.37	2.54	9.54	41,330.02	0.00104		0.0099
Pentair plc	12.00	1.03	1.15	13.15	12,919.07	0.00033		0.0043
People's United Fin'l	2.50	4.60	4.72	7.22	6,783.94	0.00017		0.0012
PepsiCo, Inc.	6.50	2.75	2.93	9.43	215,978.95	0.00544		0.0513
PerkinElmer Inc.	11.00	0.16	0.18	11.18	20,284.37	0.00051		0.0057
Pfizer, Inc.	8.00	3.16	3.41	11.41	276,022.28	0.00696		0.0794
Philip Morris Int'l	7.00	4.76	5.09	12.09	157,338.64	0.00397		0.0480
Pinnacle West Capital	5.50	4.33	4.57	10.07	9,044.15	0.00023		0.0023
PNC Financial Serv.	10.00	2.69	2.96	12.96	78,863.00	0.00199		0.0258
Pool Corp.	17.00	0.67	0.78	17.78	19,128.52	0.00048		0.0086
PPG Inds.	10.00	1.43	1.57	11.57	39,047.60	0.00098		0.0114
Price (T. Rowe) Group	9.00	2.06	2.25	11.25	47,701.90	0.00120		0.0135
Principal Fin'l Group	6.00	3.72	3.94	9.94	17,851.47	0.00045		0.0045
Procter & Gamble	7.00	2.43	2.60	9.60	350,831.75	0.00884		0.0849
Progressive Corp.	5.00	0.42	0.44	5.44	55,927.57	0.00141		0.0077
Prologis	8.50	1.98	2.15	10.65	97,967.98	0.00247		0.0263
Prudential Fin'l	5.50	4.38	4.62	10.12	41,422.53	0.00104		0.0106
Public Serv. Enterprise	3.50	3.25	3.36	6.86	32,256.00	0.00081		0.0056
Public Storage	4.00	2.53	2.63	6.63	55,904.64	0.00141		0.0093
PulteGroup, Inc.	11.00	1.11	1.23	12.23	13,614.51	0.00034		0.0042
Qualcomm Inc.	16.50	1.91	2.23	18.73	160,379.03	0.00404		0.0757
Quanta Services	12.50	0.25	0.28	12.78	13,396.42	0.00034		0.0043
Quest Diagnostics	7.00	1.66	1.78	8.78	19,536.03	0.00049		0.0043
Ralph Lauren	11.50	2.37	2.64	14.14	8,558.94	0.00022		0.0031
Raymond James Fin'l	10.50	1.16	1.28	11.78	18,479.76	0.00047		0.0055
Raytheon Technologies	1.00	2.39	2.41	3.41	128,893.41	0.00325		0.0111

Northern States Power Company

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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	15.21
							Weighted Rate of Return on Equity (%)
Realty Income Corp.	6.50	3.99	4.25	10.75	25,909.04	0.00065	0.0070
Regency Centers Corp.	10.00	3.69	4.06	14.06	10,940.96	0.00028	0.0039
Regions Financial	9.50	3.43	3.76	13.26	18,908.92	0.00048	0.0063
Republic Services	7.50	1.54	1.66	9.16	38,133.16	0.00096	0.0088
ResMed Inc.	13.50	0.60	0.68	14.18	40,682.19	0.00103	0.0145
Robert Half Int'l	7.50	1.55	1.67	9.17	11,399.67	0.00029	0.0026
Rockwell Automation	7.00	1.38	1.48	8.48	36,268.57	0.00091	0.0077
Rollins, Inc.	11.50	0.85	0.95	12.45	18,615.35	0.00047	0.0058
Roper Tech.	8.00	0.47	0.51	8.51	50,420.08	0.00127	0.0108
Ross Stores	14.00	0.94	1.07	15.07	44,300.36	0.00112	0.0168
S&P Global	10.50	0.76	0.84	11.34	103,630.00	0.00261	0.0296
Schlumberger Ltd.	8.50	1.87	2.03	10.53	37,491.99	0.00094	0.0099
Schwab (Charles)	8.50	1.04	1.13	9.63	130,028.76	0.00328	0.0316
Seagate Technology plc	5.50	3.01	3.18	8.68	20,243.82	0.00051	0.0044
Sealed Air	13.50	1.35	1.53	15.03	8,880.92	0.00022	0.0034
Sempra Energy	10.00	3.40	3.74	13.74	41,765.85	0.00105	0.0145
Sherwin-Williams	10.50	0.76	0.84	11.34	79,282.86	0.00200	0.0227
Simon Property Group	1.50	4.38	4.45	5.95	42,047.10	0.00106	0.0063
Skyworks Solutions	13.50	1.28	1.45	14.95	28,933.78	0.00073	0.0109
Smith (A.O.)	9.50	1.48	1.62	11.12	11,191.80	0.00028	0.0031
Smucker (J.M.)	4.00	3.01	3.13	7.13	14,267.16	0.00036	0.0026
Snap-on Inc.	5.00	2.40	2.52	7.52	11,892.51	0.00030	0.0023
Southern Co.	6.00	4.03	4.27	10.27	69,880.16	0.00176	0.0181
Stanley Black & Decker	9.00	1.64	1.79	10.79	34,087.44	0.00086	0.0093
Starbucks Corp.	16.00	1.73	2.01	18.01	136,386.72	0.00344	0.0619
State Street Corp.	7.00	2.61	2.79	9.79	30,004.99	0.00076	0.0074
STERIS plc	10.00	0.80	0.88	10.88	21,573.06	0.00054	0.0059
Stryker Corp.	9.00	0.96	1.05	10.05	99,394.97	0.00250	0.0252
Synchrony Financial	9.50	1.76	1.93	11.43	28,642.13	0.00072	0.0082
Sysco Corp.	10.50	2.44	2.70	13.20	39,343.89	0.00099	0.0131
Target Corp.	14.00	1.45	1.65	15.65	122,822.70	0.00310	0.0485
TE Connectivity	9.00	1.34	1.46	10.46	49,070.29	0.00124	0.0129
Teleflex Inc.	14.50	0.37	0.42	14.92	17,401.41	0.00044	0.0065
Teradyne Inc.	13.50	0.35	0.40	13.90	18,862.27	0.00048	0.0066
Texas Instruments	8.50	2.22	2.41	10.91	169,663.38	0.00428	0.0466
Textron, Inc.	8.00	0.11	0.12	8.12	16,026.79	0.00040	0.0033
Thermo Fisher Sci.	14.50	0.19	0.22	14.72	214,279.61	0.00540	0.0795
TJX Companies	19.50	1.42	1.70	21.20	88,066.25	0.00222	0.0470
Tractor Supply	10.00	1.10	1.21	11.21	22,309.45	0.00056	0.0063
Travelers Cos.	8.00	2.22	2.40	10.40	39,918.08	0.00101	0.0105
Truist Fin'l	7.00	3.46	3.70	10.70	74,719.59	0.00188	0.0202
Tyson Foods 'A'	6.00	2.22	2.35	8.35	29,254.75	0.00074	0.0062
U.S. Bancorp	4.50	3.00	3.14	7.64	83,099.91	0.00209	0.0160
UDR, Inc.	6.00	2.79	2.96	8.96	15,607.72	0.00039	0.0035
Union Pacific	10.00	1.90	2.09	12.09	146,797.34	0.00370	0.0447
United Parcel Serv.	11.00	2.11	2.34	13.34	169,807.16	0.00428	0.0571
UnitedHealth Group	11.50	1.39	1.55	13.05	393,532.78	0.00992	0.1294
Universal Health 'B'	10.50	0.54	0.60	11.10	12,671.00	0.00032	0.0035
Unum Group	3.00	4.61	4.75	7.75	5,321.17	0.00013	0.0010
V.F. Corp.	9.50	2.57	2.81	12.31	29,846.30	0.00075	0.0093
Valero Energy	13.00	6.30	7.12	20.12	25,445.27	0.00064	0.0129
Ventas, Inc.	4.50	3.25	3.40	7.90	20,723.37	0.00052	0.0041
Verisk Analytics	8.00	0.61	0.66	8.66	30,889.01	0.00078	0.0067
Verizon Communic.	2.50	4.58	4.69	7.19	229,652.23	0.00579	0.0416
ViacomCBS Inc.	7.00	2.37	2.54	9.54	26,143.62	0.00066	0.0063
Visa Inc.	12.00	0.59	0.66	12.66	451,678.50	0.01138	0.1441
Vulcan Materials	10.00	0.80	0.88	10.88	24,448.57	0.00062	0.0067
Wabtec Corp.	9.50	0.55	0.60	10.10	16,618.77	0.00042	0.0042
Walgreens Boots	7.50	3.90	4.19	11.69	42,396.51	0.00107	0.0125
Walmart Inc.	7.50	1.48	1.59	9.09	418,225.53	0.01054	0.0958

Northern States Power Company

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Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	5-Year EPS Market Return %		15.21
					Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Waste Management	7.50	1.54	1.66	9.16	62,937.09	0.00159	0.0145
WEC Energy Group	6.50	2.90	3.09	9.59	30,426.86	0.00077	0.0074
Wells Fargo	5.50	1.67	1.76	7.26	197,060.67	0.00497	0.0361
West Pharm. Svcs.	16.50	0.15	0.17	16.67	32,724.28	0.00082	0.0138
Western Union	7.00	4.29	4.59	11.59	8,917.37	0.00022	0.0026
WestRock Co.	8.00	1.93	2.08	10.08	13,259.59	0.00033	0.0034
Whirlpool Corp.	7.00	2.54	2.72	9.72	13,877.64	0.00035	0.0034
Williams Cos.	10.50	6.82	7.54	18.04	29,184.56	0.00074	0.0133
Willis Towers Wat. plc	8.00	1.49	1.61	9.61	27,615.91	0.00070	0.0067
Xcel Energy Inc.	6.00	2.73	2.89	8.89	37,320.76	0.00094	0.0084
Xylem Inc.	6.50	0.86	0.92	7.42	23,461.62	0.00059	0.0044
Yum! Brands	10.50	1.53	1.69	12.19	40,048.22	0.00101	0.0123
Zimmer Biomet Hldgs.	8.50	0.67	0.73	9.23	30,132.11	0.00076	0.0070
Zions Bancorp.	8.50	2.83	3.07	11.57	8,702.98	0.00022	0.0025
Zoetis Inc.	10.50	0.49	0.54	11.04	96,421.31	0.00243	0.0268
			Totals		39,680,642	1.00	15.21

Source of Information:
 Exhibit MFG-14, Schedule 4

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (IBES MRP)

	Market Return	Rf	MRP	Beta	RP	CAPM ROE	CAPM Flotation Adjusted	Filtered Results	ECAPM	ECAPM Flotation Adjusted
Atmos Energy Corporation	22.50%	2.52%	19.99%	0.80	15.99%	18.51%	18.66%	18.66%	19.50%	19.66%
Chesapeake Utilities										
New Jersey Resources Corporation	22.50%	2.52%	19.99%	1.00	19.99%	22.50%	22.65%	22.65%	22.50%	22.65%
NiSource, Inc.	22.50%	2.52%	19.99%	0.85	16.99%	19.50%	19.66%	19.66%	20.25%	20.41%
Northwest Natural Holding Company	22.50%	2.52%	19.99%	0.80	15.99%	18.51%	18.66%	18.66%	19.50%	19.66%
ONE Gas, Inc.	22.50%	2.52%	19.99%	0.80	15.99%	18.51%	18.66%	18.66%	19.50%	19.66%
South Jersey Industries	22.50%	2.52%	19.99%	1.00	19.99%	22.50%	22.65%	22.65%	22.50%	22.65%
Southwest Gas	22.50%	2.52%	19.99%	0.95	18.99%	21.50%	21.66%	21.66%	21.75%	21.91%
Spire Inc.	22.50%	2.52%	19.99%	0.85	16.99%	19.50%	19.66%	19.66%	20.25%	20.41%
Average						20.13%	20.28%	20.28%	20.72%	20.87%
Median						19.50%	19.66%	19.66%	20.25%	20.41%
Average (without SJI)						19.79%	19.94%	19.94%	20.47%	20.62%
Median (without SJI)						19.50%	19.66%	19.66%	20.25%	20.41%
Corrected Flotation Cost Adjustment		0.15%								

Low-End Test:	Moody's 10-Year Baa Corporate Bond Index, S&P Global Market Intelligence)	3.58%
	CAPM Risk Premium	19.99%
	20 percent of CAPM risk premium	4.00%
	Moody's 10-Year Baa Public Corporate Bond Index + 20 percent of CAPM risk premium	7.58%
High-End Test:	Proxy Group median	19.50%
	150 percent of Proxy Group median	29.26%
	200 percent of Proxy Group median	39.01%

Source of Information:
Exhibit MFG-14, Schedule 6
Blue Chip Financial Forecast, February 1, 2022

Northern States Power Company, a Minnesota Corporation
Dr. Griffing Corrected CAPM Analysis (Value Line MRP)

	Market Return	Rf	MRP	Beta	RP	CAPM ROE	CAPM Flotation Adjusted	Filtered Results	ECAPM	ECAPM Flotation Adjusted
Atmos Energy Corporation	15.21%	2.52%	12.69%	0.80	10.15%	12.67%	12.82%	12.82%	13.30%	13.46%
Chesapeake Utilities										
New Jersey Resources Corporation	15.21%	2.52%	12.69%	1.00	12.69%	15.21%	15.36%	15.36%	15.21%	15.36%
NiSource, Inc.	15.21%	2.52%	12.69%	0.85	10.79%	13.30%	13.46%	13.46%	13.78%	13.93%
Northwest Natural Holding Company	15.21%	2.52%	12.69%	0.80	10.15%	12.67%	12.82%	12.82%	13.30%	13.46%
ONE Gas, Inc.	15.21%	2.52%	12.69%	0.80	10.15%	12.67%	12.82%	12.82%	13.30%	13.46%
South Jersey Industries	15.21%	2.52%	12.69%	1.00	12.69%	15.21%	15.36%	15.36%	15.21%	15.36%
Southwest Gas	15.21%	2.52%	12.69%	0.95	12.06%	14.57%	14.73%	14.73%	14.73%	14.88%
Spire Inc.	15.21%	2.52%	12.69%	0.85	10.79%	13.30%	13.46%	13.46%	13.78%	13.93%
Average						13.70%	13.85%	13.85%	14.08%	14.23%
Median						13.30%	13.46%	13.46%	13.78%	13.93%
Average (without SJI)						13.49%	13.64%	13.64%	13.92%	14.07%
Median (without SJI)						13.30%	13.46%	13.46%	13.78%	13.93%
Corrected Flotation Cost Adjustment	0.15%									

Low-End Test:

Moody's 10-Year Baa Corporate Bond Index, S&P Global Market Intelligence)	3.58%
CAPM Risk Premium	12.69%
20 percent of CAPM risk premium	2.54%
Moody's 10-Year Baa Public Corporate Bond Index + 20 percent of CAPM risk premium	6.12%

High-End Test:

Proxy Group median	13.30%
150 percent of Proxy Group median	19.96%
200 percent of Proxy Group median	26.61%

Source of Information:
Exhibit MFG-14, Schedule 7
Blue Chip Financial Forecast, February 1, 2022

Northern States Power Company, a Minnesota Corporation
Portfolio Ranks by Size and Risk Premiums over CAPM Results
as Compiled by Duff and Phelps Guide to Cost of Capital

Northern States Power Company

Portfolio Rank by Size	B-1		B-2		B-3		B-4		B-5		B-6		B-7	
	Market Val. of Equity (in \$millions)	RP	Average Book Val. (in \$millions)	RP	5-yr Net Income (in \$millions)	RP	Market Value of Invested Capital (in \$millions)	RP	Total Assets (in \$millions)	RP	5-yr EBITDA (in \$millions)	RP	Sales (in \$millions)	RP
1	\$222,261 and Up	-0.78%	\$44,861 and Up	1.22%	\$7,190 and Up	0.85%	\$258,435 and Up	-0.32%	\$121,632 and Up	0.84%	\$14,837 and Up	0.95%	\$95,905 and Up	1.02%
2	\$67,607 - \$222,261	0.50%	\$15,985 - \$44,861	1.88%	\$2,418 - \$7,190	1.69%	\$85,545 - \$258,435	0.77%	\$52,712 - \$121,632	1.52%	\$5,561 - \$14,837	1.74%	\$33,447 - \$95,905	1.85%
3	\$42,245 - \$67,607	0.96%	\$10,286 - \$15,985	2.16%	\$1,515 - \$2,418	1.98%	\$54,459 - \$85,545	1.19%	\$34,307 - \$52,712	1.79%	\$3,740 - \$5,561	2.03%	\$20,941 - \$33,447	2.25%
4	\$29,591 - \$42,245	1.30%	\$7,504 - \$10,286	2.32%	\$1,013 - \$1,515	2.28%	\$39,733 - \$54,459	1.47%	\$23,000 - \$34,307	2.08%	\$2,748 - \$3,740	2.24%	\$16,179 - \$20,941	2.43%
5	\$21,930 - \$29,591	1.57%	\$5,725 - \$7,504	2.49%	\$772 - \$1,013	2.47%	\$29,472 - \$39,733	1.69%	\$17,517 - \$23,000	2.29%	\$2,103 - \$2,748	2.43%	\$12,750 - \$16,179	2.60%
6	\$16,592 - \$21,930	1.83%	\$4,594 - \$5,725	2.60%	\$613 - \$772	2.62%	\$21,901 - \$29,472	1.97%	\$14,200 - \$17,517	2.43%	\$1,650 - \$2,103	2.59%	\$10,380 - \$12,750	2.75%
7	\$12,962 - \$16,592	2.06%	\$3,718 - \$4,594	2.72%	\$502 - \$613	2.76%	\$17,501 - \$21,901	2.16%	\$11,581 - \$14,200	2.57%	\$1,315 - \$1,650	2.75%	\$8,805 - \$10,380	2.87%
8	\$10,730 - \$12,962	2.26%	\$3,164 - \$3,718	2.82%	\$422 - \$502	2.87%	\$14,263 - \$17,501	2.33%	\$9,608 - \$11,581	2.69%	\$1,094 - \$1,315	2.88%	\$7,598 - \$8,805	2.97%
9	\$9,185 - \$10,730	2.39%	\$2,750 - \$3,164	2.89%	\$355 - \$422	2.98%	\$11,972 - \$14,263	2.49%	\$8,067 - \$9,608	2.81%	\$924 - \$1,094	2.98%	\$6,502 - \$7,598	3.07%
10	\$7,763 - \$9,185	2.53%	\$2,388 - \$2,750	2.96%	\$305 - \$355	3.08%	\$10,234 - \$11,972	2.61%	\$6,901 - \$8,067	2.92%	\$784 - \$924	3.10%	\$5,381 - \$6,502	3.18%
11	\$6,515 - \$7,763	2.68%	\$2,059 - \$2,388	3.04%	\$259 - \$305	3.17%	\$8,619 - \$10,234	2.74%	\$6,025 - \$6,901	3.01%	\$675 - \$784	3.20%	\$4,454 - \$5,381	3.32%
12	\$5,542 - \$6,515	2.84%	\$1,769 - \$2,059	3.12%	\$221 - \$259	3.29%	\$7,384 - \$8,619	2.89%	\$5,275 - \$6,025	3.09%	\$582 - \$675	3.30%	\$3,801 - \$4,454	3.43%
13	\$4,806 - \$5,542	2.97%	\$1,542 - \$1,769	3.20%	\$189 - \$221	3.37%	\$6,601 - \$7,384	2.99%	\$4,495 - \$5,275	3.19%	\$509 - \$582	3.39%	\$3,318 - \$3,801	3.53%
14	\$4,160 - \$4,806	3.09%	\$1,358 - \$1,542	3.27%	\$159 - \$189	3.49%	\$5,895 - \$6,601	3.07%	\$3,807 - \$4,495	3.30%	\$450 - \$509	3.47%	\$2,935 - \$3,318	3.62%
15	\$3,572 - \$4,160	3.22%	\$1,204 - \$1,358	3.33%	\$138 - \$159	3.58%	\$5,125 - \$5,895	3.18%	\$3,263 - \$3,807	3.40%	\$402 - \$450	3.55%	\$2,571 - \$2,935	3.70%
16	\$3,052 - \$3,572	3.36%	\$1,049 - \$1,204	3.39%	\$120 - \$138	3.67%	\$4,340 - \$5,125	3.30%	\$2,788 - \$3,263	3.50%	\$349 - \$402	3.62%	\$2,252 - \$2,571	3.80%
17	\$2,627 - \$3,052	3.50%	\$899 - \$1,049	3.48%	\$103 - \$120	3.76%	\$3,663 - \$4,340	3.45%	\$2,358 - \$2,788	3.61%	\$293 - \$349	3.73%	\$2,005 - \$2,252	3.88%
18	\$2,238 - \$2,627	3.62%	\$778 - \$899	3.55%	\$87 - \$103	3.85%	\$3,084 - \$3,663	3.58%	\$2,011 - \$2,358	3.72%	\$241 - \$293	3.85%	\$1,786 - \$2,005	3.95%
19	\$1,859 - \$2,238	3.79%	\$670 - \$778	3.63%	\$71 - \$87	3.98%	\$2,511 - \$3,084	3.73%	\$1,712 - \$2,011	3.82%	\$195 - \$241	3.99%	\$1,554 - \$1,786	4.03%
20	\$1,527 - \$1,859	3.95%	\$574 - \$670	3.71%	\$57 - \$71	4.12%	\$2,016 - \$2,511	3.91%	\$1,429 - \$1,712	3.93%	\$161 - \$195	4.12%	\$1,296 - \$1,554	4.14%
21	\$1,243 - \$1,527	4.13%	\$488 - \$574	3.79%	\$47 - \$57	4.24%	\$1,633 - \$2,016	4.08%	\$1,171 - \$1,429	4.05%	\$135 - \$161	4.24%	\$1,046 - \$1,296	4.28%
22	\$964 - \$1,243	4.31%	\$401 - \$488	3.89%	\$36 - \$47	4.38%	\$1,281 - \$1,633	4.25%	\$913 - \$1,171	4.19%	\$106 - \$135	4.36%	\$853 - \$1,046	4.43%
23	\$658 - \$964	4.59%	\$319 - \$401	3.99%	\$25 - \$36	4.56%	\$899 - \$1,281	4.48%	\$646 - \$913	4.38%	\$76 - \$106	4.56%	\$648 - \$853	4.55%
24	\$329 - \$658	5.02%	\$190 - \$319	4.13%	\$13 - \$25	4.86%	\$457 - \$899	4.86%	\$352 - \$646	4.65%	\$42 - \$76	4.80%	\$349 - \$648	4.81%
25	Up To \$329	6.05%	Up To \$190	4.66%	Up To \$13	5.55%	Up To \$457	5.79%	Up To \$352	5.30%	Up To \$42	5.50%	Up To \$349	5.56%

	B-1 Value	Portfolio Ranking	B-2 Value	Portfolio Ranking	B-3 Value	Portfolio Ranking	B-4 Value	Portfolio Ranking	B-5 Value	Portfolio Ranking	B-6 Value	Portfolio Ranking	B-7 Value	Portfolio Ranking
Dr. Griffing's Proxy Group	\$ 5,136	13	\$ 2,809	9	\$ 177	14	\$ 8,799	11	\$ 8,958	9	\$ 573	13	\$ 1,983	18
Mr. D'Ascendis's Proxy Group	\$ 5,954	12	\$ 3,152	9	\$ 194	13	\$ 10,221	11	\$ 10,166	8	\$ 633	12	\$ 2,012	17
Northern States Power Company, a Minnesota Corporation	\$ 11	25	\$ 6	25	\$ 4	25	\$ 17	25	\$ 144	25	\$ 11	25	\$ 234	25
Indicated Risk Premium for Dr. Griffing	3.08%		1.77%		2.06%		3.05%		2.49%		2.11%		1.61%	
Indicated Risk Premium for Mr. D'Ascendis	3.21%		1.77%		2.18%		3.05%		2.61%		2.20%		1.68%	

Sources of Information:

Duff & Phelps Risk Premium Size Study Premia as of December 31, 2020.
 Bloomberg Professional
 SEC Form 10-K
 Company financial statements
 Exhibit__(BCH-1), Schedule 3A

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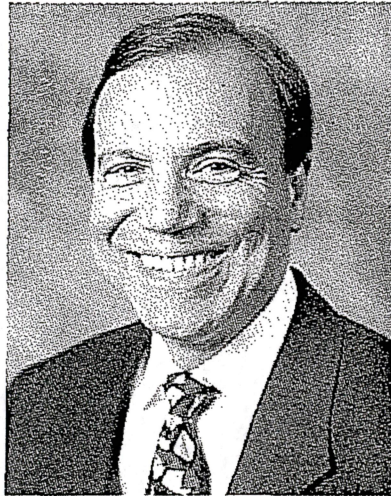
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Comparable Earnings: New Life for an Old Precept

by
Frank J. Hanley
Pauline M. Ahern

Comparable Earnings: New Life for an Old Precept

Accelerating deregulation has greatly increased the investment risk of natural gas utilities. As a result, the authors believe it more appropriate than ever to employ the comparable earnings model. We believe our application of the model overcomes the greatest traditional objection to it — lack of comparability of the selected non-utility proxy firms. Our illustration focuses on a target gas pipeline company with a beta of 0.96 — almost equal to the market's beta of 1.00.



Introduction

The comparable earnings model used to determine a common equity cost rate is deeply rooted in the standard of "corresponding risk" enunciated in the landmark *Bluefield* and *Hope* decisions of the U.S. Supreme Court.¹ With such solid grounding in the foundations of rate of return regulation, comparable earnings should be accepted as a principal model, along with the currently popular market-based models, provided that its most common criticism, non-comparability of the proxy companies, is overcome.

Our comparable earnings model overcomes the non-comparability issue of the non-utility firms selected as a proxy for the target utility, in this example, a gas pipeline company. We should note that in the absence of common stock prices for the target utility (as with a wholly-owned subsidiary), it is appropriate to use the average of a proxy group of similar risk gas pipeline companies whose common stocks are actively traded. As we will demonstrate, our selection process results in a group of domestic, non-utility firms that is comparable in total risk, the sum of business and financial risk, which reflects both non-diversifiable systematic, or market, risk as well as diversifiable unsystematic, or firm-specific, risk.

Frank J. Hanley is president of AUS Consultants — Utility Services Group. He has testified in several hundred rate proceedings on the subject of cost of capital before the Federal Energy Regulatory Commission and 27 state regulatory commissions. Before joining AUS in 1971, he was an assistant treasurer of a number of operating companies in the American Water Works System, as well as a financial planning officer with the Philadelphia National Bank. He is a Certified Rate of Return Analyst.

Pauline M. Ahern is a senior financial analyst with AUS Consultants — Utility Services Group. She has participated in many cost-of-capital studies. A former employee of the U.S. Department of the Treasury and the Federal Reserve Bank of Boston, she holds an MBA degree from Rutgers University and is a Certified Rate of Return Analyst.

Embedded in the Landmark Decisions

As stated in *Bluefield* in 1922: "A public utility is entitled to such rates as will permit it to earn a return ... on investments in other business undertakings which are attended by corresponding risks and uncertainties ..."

In addition, the court stated in *Hope* in 1944: "By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."

Thus, the "corresponding risk" pre-

cept of *Bluefield* and *Hope* predates the use of such market-based cost-of-equity models as the Discounted Cash Flow (DCF) and Capital Asset Pricing (CAPM), which were developed later and are currently popular in rate-base/rate-of-return regulation. Consequently, the comparable earnings model has a longer regulatory and judicial history. However, it has far greater relevance now than ever before in its history because significant deregulation has substantially increased natural gas utilities' investment risk to a level similar to that of non-utility firms. As a result, it is

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more important than ever to look to similar-risk non-utility firms for insight into common equity cost rate, especially in view of the deficiencies inherent in the currently popular market-based cost of common equity models, particularly the DCF model.

Despite the fact that the landmark decisions are still regarded as having set the standards for determining a fair rate of return, the comparable earnings model has experienced decreased usage by expert witnesses, as well as less regulatory acceptance over the years. We believe the decline in the popularity of the comparable earnings model, in large measure, is attributable to the difficulty of selecting non-utility proxy firms that regulators will accept as comparable to the target utility. Regulatory acceptance is difficult to gain when the selection process is arbitrary. Our application of the model is objective and consistent with fundamental financial tenets.

Principles of Comparable Earnings

Regulation is a substitute for the competition of the marketplace. Moreover, regulated public utilities compete in the capital markets with all firms, including unregulated non-utilities. The comparable earnings model is based upon the opportunity cost principle; i.e., that the true cost of an investment is the return that could have been earned on the next best available alternative investment of similar risk. Consequently, the comparable earnings model is consistent with regulatory and financial principles, as it is a surrogate for the competition of the marketplace, and investors seek the greatest available rate of return for bearing similar risk.

The selection of comparable firms is the most difficult step in applying the comparable earnings model, as noted by Phillips² as well as by Bonbright, Daniels and Kamerschen.³ The selection of non-utility proxy firms should result in a sufficiently broad-based group in order to minimize the effect of company-specific aberrations. How-

ever, if the selection process is arbitrary, it likely would result in a proxy group that is too broad-based, such as the Standard & Poor's 500 Composite Index or the Value Line Industrial Composite. The use of such groups would require subjective adjustments to the comparable earnings results to reflect risk differences between the group(s) and the target utility, a gas pipeline company in this example.

Authors' Selection Criteria

We base the selection of comparable non-utility firms on market-based, objective, quantitative measures of risk resulting from market prices that subsume investors' assessments of all elements of risk. Thus, our approach is based upon the principle of risk and return; namely, that firms of comparable risk should be expected to earn comparable returns. It is also consistent with the "corresponding risk" standard established in *Bluefield* and *Hope*. We measure total investment risk as the sum of non-diversifiable systematic and diversifiable unsystematic risk. We use the unadjusted beta as a measure of systematic risk and the standard error of the estimate (residual standard error) as a measure of unsystematic risk. Both the unadjusted beta and the residual standard error are derived from a regression of the target utility's security returns relative to the market's returns, which takes the general form:

$$r_{it} = a_i + b_i r_{mt} + e_{it}$$

where:

- r_{it} = i th observation of the i th utility's rate of return
- r_{mt} = i th observation of the market's rate of return
- e_{it} = i th random error term
- a_i = constant least-squares regression coefficient
- b_i = least-squares regression slope coefficient, the unadjusted beta.

As shown by Francis,⁴ the total variation or risk of a firm's return, $\text{Var}(r_i)$, comes from two sources:

$$\text{Var}(r_i) = \text{total risk of } i\text{th asset}$$

$$\begin{aligned} &= \text{var}(a_i + b_i r_m + e) \\ &\quad \text{substituting } (a_i + b_i r_m + e) \\ &\quad \text{for } r_i \\ &= \text{var}(b_i r_m) + \text{var}(e) \text{ since} \\ &\quad \text{var}(a_i) = 0 \\ &= b_i^2 \text{var}(r_m) + \text{var}(e) \\ &\quad \text{since } \text{var}(b_i r_m) = b_i^2 \\ &\quad \text{var}(r_m) \\ &= \text{systematic} + \\ &\quad \text{unsystematic risk} \end{aligned}$$

Francis⁵ also notes: "The term $\sigma^2(r_i|r_m)$ is called the *residual variance around the regression line* in statistical terms or *unsystematic risk* in capital market theory language. $\sigma^2(r_i|r_m) = \dots = \text{var}(e)$. The residual variance is the squared standard error in regression language, a measure of unsystematic risk." Application of these criteria results in a group of non-utility firms whose average total investment risk is indeed comparable to that of the target gas pipeline.

As a measure of systematic risk, we use the Value Line unadjusted beta. Beta measures the extent to which market-wide or macro-economic events affect a firm's stock price. We use the unadjusted beta of the target utility as a starting point because it results from the regression of the target utility's security returns relative to the market's returns. Thus, the resulting standard deviation of beta relates to the unadjusted beta. We use the standard deviation of the unadjusted beta to determine the range around it as the selection criterion based on systematic risk.

We use the residual standard error of the regression as a measure of unsystematic risk. The residual standard error reflects the extent to which events specific to the firm's operations affect a firm's stock price. Thus, it is a measure of diversifiable, unsystematic, firm-specific risk.

An Illustration of Authors' Approach

Step One: We begin our approach by establishing the selection criteria as a range of both unadjusted beta and residual standard error of the target gas

continued on page 6

Comparable Earnings *from page 5*

pipeline company.

As shown in table 1, our target gas pipeline company has a Value Line unadjusted beta of 0.90, whose standard deviation is 0.1250. The selection criterion range of unadjusted beta is the unadjusted beta plus (+) and minus (-) three of its standard deviations. By using three standard deviations, 99.73 percent of the comparable unadjusted betas is captured.

Three standard deviations of the target utility's unadjusted beta equals 0.38 ($0.1250 \times 3 = 0.3750$, rounded to 0.38). Consequently, the range of unadjusted betas to be used as a selection criteria is $0.52 - 1.28$ ($0.52 = 0.90 - 0.38$) and $(1.28 = 0.90 + 0.38)$.

Likewise, the selection criterion range of residual standard error equals the residual standard error plus (+) and

minus (-) three of its standard deviations. The standard deviation of the residual standard error is defined as: $\sigma/\sqrt{2N}$.

As also shown in table 1, the target gas pipeline company has a residual standard error of 3.7867. According to the above formula, the standard deviation of the residual standard error would be 0.1664 ($0.1664 = 3.7867/\sqrt{2(259)} = 3.7867/22.7596$, where $259 = N$, the number of weekly price change observations over a period of five years). Three standard deviations of the target utility's residual standard error would be 0.4992 ($0.1664 \times 3 = .4992$). Consequently, the range of residual standard errors to be used as a selection criterion is $3.2875 - 4.2859$ ($3.2875 = 3.7867 - 0.4992$) and $(4.2859 = 3.7867 + 0.4992)$.

Step Two: The step one criteria are applied to Value Line's data base of nearly 4,000 firms for which Value Line derives unadjusted betas and residual standard errors on a weekly basis. All firms with unadjusted betas and residual standard errors within the criteria ranges are then selected.

Step Three: In the regulatory ratemaking environment, authorized common equity return rates are applied to a book-value rate base. Thus, the earnings rates on book common equity, or net worth, of competitive, non-utility firms are highly relevant provided those firms are indeed comparable in total risk to the target gas pipeline. The use of the return rates of other utilities has no relevance because their allowed, and hence subsequently achieved, earnings rates are dependent upon the regulatory

table 1

Summary of the Comparable Earnings Analysis for the Proxy Group of 248 Non-Utility Companies Comparable in Total Risk to the Target Gas Pipeline Company¹

	1	2	3	4	5	6	7	8
	adj. beta	unadj. beta	residual standard error	rate of return on net worth				
				3-year average ²	4-year average ²	5-year average ²	5-year projected ³	
average for the proxy group of 248 non-utility companies comparable in total risk to the target gas pipeline company	0.97	0.92	3.7705					
target gas pipeline company	0.96	0.90 ⁴	3.7867					
median				11.7%	12.0%	12.6%	15.5%	
average of the median historical returns					12.1%			
conclusion ⁵								13.8%

¹The criteria for selection of the non-utility group was that the non-utility companies be domestic and included in Value Line Investment Survey. The non-utility group was selected based on an unadjusted beta range of 0.52 to 1.28 and a residual standard error range of 3.2875 to 4.2859.

²Ending 1992.

³1996-1998/1997-1999.

⁴The average standard deviation of the target gas pipeline company's unadjusted beta is 0.1250.

⁵Equal weight given to both the average of the 3-, 4- and 5-year historical medians (12.1%) and 5-year projected median rate of return on net worth (15.5%). Thus, 13.8% = $(12.1\% + 15.5\% / 2)$.

Source: Value Line Inc., March 15, 1994

Value Line Investment Survey

Comparable Earnings *from page 6*

process. Consequently, we believe all utilities must be eliminated to avoid circularity. Moreover, we believe non-domestic firms must be eliminated because their reporting methods differ significantly from U.S. firms.

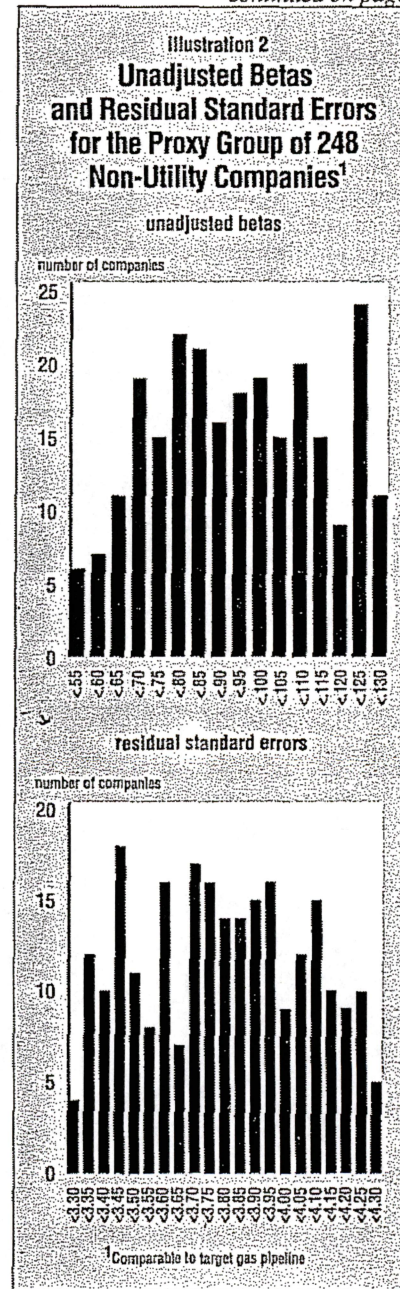
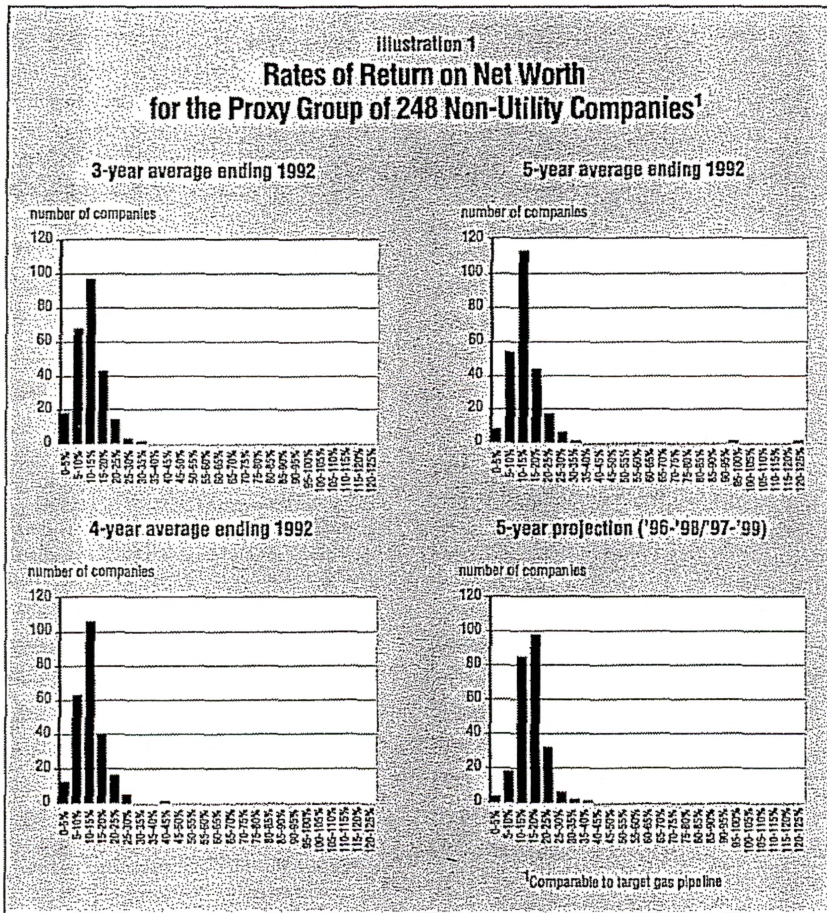
Step Four: We then eliminated those firms for which Value Line does not publish a "Ratings & Report" in *Value Line Investment Survey* so that the historical and projected returns on net worth⁶ are from a consistent source. We use historical returns on net worth for the most recent five years, as well as those projected three to five years into the future. We believe it is logical to evaluate both historical and projected return rates because it is reasonable to assume that investors avail themselves of both when they are available from widely disseminated information ser-

vices, such as Value Line Inc. The use of Value Line's return rates on net worth understates the common equity return rates for two reasons. First, preferred stock is included in net worth. Second, the net worth return rates are as of the end of each period. Thus, the use of average common equity return rates would yield higher results.

Step Five: Median returns based on the historical average three, four and five years ending 1992 and projected 1996-1998 or 1997-1999 rates of return on net worth are then determined as shown in columns 4 through 7 of table 1. The median is used due to the wide variations and skewness in rates of return on net worth for the non-utility firms as evidenced by the frequency distributions of those returns as shown in illustration 1.

However, we show the average unadjusted beta, 0.92, and residual standard error, 3.7705, for the proxy group in columns 2 and 3 of table 1 because their frequency distributions are not significantly skewed, as shown in illustration 2.

Step Six: Our conclusion of a com-
continued on page 8



Comparable Earnings from page 7

comparable earnings cost rate is based upon the mid-point of the average of the median three-, four- and five-year historical rates of return on net worth of 12.1 percent as shown in column 5 and the median projected 1996-1998/1997-1999 rate of return on net worth of 15.5 percent as shown in column 7 of table 1. As shown in column 8, it is 13.8 percent.

Summary

Our comparable earnings approach demonstrates that it is possible to select a proxy group of non-utility firms that is comparable in total risk to a target utility. In our example, the 13.8 percent comparable earnings cost rate is very conservative as it is an expected achieved rate on book common equity (a regulatory allowed rate should be

greater) and because it is based on end-of-period net worth. A similar rate on average net worth would be about 20 to 40 basis points higher (i.e., 14.0 to 14.2 percent) and still understate the appropriate regulatory allowed rate of return on book common equity.

Our selection criteria are based upon measures of systematic and unsystematic risk, specifically unadjusted beta and residual standard error. They provide the basis for the objective selection of comparable non-utility firms. Our selection criteria rely on changes in market prices over approximately five years. We compare the aggregate total risk, or the sum of systematic and unsystematic risk, which reflects investors' aggregate assessment of both business and financial risk. Thus, no adjustments are necessary to the proxy group results to

compensate for the differences in business risk and financial risk, such as accounting practices and debt/equity ratios. Moreover, it is inappropriate to attempt a comparison of the target utility with any individual firm, or subset of firms, in the proxy group because only the average firm of the group is relevant.

Because the comparable earnings model is firmly anchored in the "corresponding risk" precept established in the landmark court decisions, it is worthy of consideration as a principal model for use in estimating the cost rate of common equity capital of a regulated utility. Our approach to the comparable earnings model produces a proxy group that is indeed comparable in total risk because the selection process is objective and quantitative. It therefore overcomes criticism linked to arbitrary selection processes.

All cost-of-common-equity models, including the DCF and CAPM, are fraught with deficiencies, usually stemming from the many necessary but unrealistic assumptions that underlie them. The effects of the deficiencies of individual models can be mitigated by using more than one model when estimating a utility's common equity cost rate. Therefore, when the non-comparability issue is overcome, the comparable earnings model deserves to receive the same consideration as a primary model, as do the currently popular market-based models. ■

Report Lists Pipeline, Storage Projects

More than \$9 billion worth of projects to expand the nation's natural gas pipeline network are in various stages of development, according to an A.G.A. report. These projects involve nearly 8,000 miles of new pipelines and capacity additions to existing lines and represent 15.3 billion cubic feet (Bcf) per day of new pipeline capacity.

During 1993 and early 1994, construction on 3,100 miles of pipeline was completed or under way, at a cost of nearly \$4 billion, says A.G.A. These projects are adding 5.4 Bcf in daily delivery capacity nationwide.

Among the projects completed in 1993 were Pacific Gas Transmission Co.'s 805 miles of looping that allows increased deliveries of Canadian gas to the West Coast; Northwest Pipeline Corp.'s addition of 433 million cubic feet of daily capacity for customers in the Pacific Northwest and Rocky Mountain areas; and the 156-mile Empire State Pipeline in New York.

In addition, major construction projects were started on the systems of Texas Eastern Transmission Corp. and Algonquin Gas Transmission Co. — both subsidiaries of Panhandle Eastern Corp. — and along Florida Gas Transmission Co.'s pipeline.

The report goes on to discuss another \$5 billion in proposed projects, which, if completed, will add nearly 5,000 miles of pipeline and 9.8 Bcf per day in capacity, much of it serving Florida and West Coast markets.

A.G.A. also identifies 47 storage projects and says that if all of them are built, existing storage capacity will increase by more than 500 Bcf, or 15 percent.

For a copy of *New Pipeline Construction: Status Report 1993-94* (#F00103), call A.G.A. at (703) 841-8490. Price per copy is \$6 for employees of member companies and associates and \$12 for other customers.

¹*Bluefield Water Works Improvement Co. v. Public Service Commission*. 262 U.S. 679 (1922) and *Federal Power Commission v. Hope Natural Gas Co.* 320 U.S. 519 (1944).

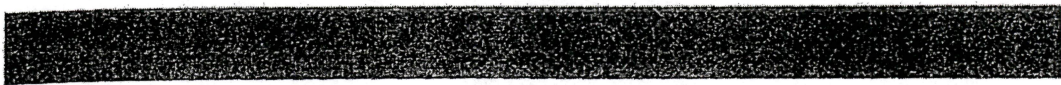
²Charles F. Phillips Jr., *The Regulation of Public Utilities: Theory and Practice*, Public Utilities Reports Inc., 1988, p. 379.

³James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, *Principles of Public Utilities Rates*, 2nd edition, Public Utilities Reports Inc. 1988, p. 329.

⁴Jack Clark Francis, *Investments: Analysis and Management*, 3rd edition, McGraw-Hill Book Co., 1980, p. 363.

⁵*Id.*, p. 548.

⁶Returns on net worth must be used when relying on Value Line data because returns on book common equity for non-utility firms are not available from Value Line.



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Analysis and
Management

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Jack Clark Francis

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Investments: Analysis and Management

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Beta Measurements The beta coefficient is an *index of systematic risk*. Beta coefficients may be used for ranking the systematic risk of different assets. If the beta is larger than 1, $b > 1.0$, then the asset is more volatile than the market and is called an **aggressive asset**. If the beta is less than 1, $b < 1.0$, the asset is a **defensive asset**; its price fluctuations are less volatile than the market's. Figure 10-1 illustrates the characteristic lines for three different assets that have low, medium, and high levels of beta (or undiversifiable risk).

Figure 10-2 shows that IBM is a stock with an average amount of systematic risk. IBM's beta of 1.02 indicates that its return tends to increase 2 percent more than the return on the market average when the market is rising. When the market falls, IBM's return tends to fall 2 percent more than the market's. The characteristic line for IBM has an above average correlation coefficient of $\rho = .7495$, indicating that the returns on this security follow its particular characteristic line slightly more closely than those of the average stock.

Partitioning Risk

Total risk can be measured by the variance of returns, denoted $\text{Var}(r)$. This measure of *total risk is partitioned into its systematic and unsystematic components in Equation (10-8).*⁷

$$\begin{aligned}\text{Var}(r_i) &= \text{total risk of } i\text{th asset} \\ &= \text{Var}(a_i + b_i r_{m,t} + e_{i,t}) \\ &\quad \text{by substituting } (a_i + b_i r_{m,t} + e_{i,t}) \text{ for } r_{i,t} \\ &= 0 + \text{Var}(b_i r_{m,t}) + \text{Var}(e_{i,t}) \\ &\quad \text{since } \text{Var}(a_i) = 0\end{aligned}\tag{10-8}$$

$$\begin{aligned}\text{Var}(r_i) &= b_i^2 \text{Var}(r_m) + \text{Var}(e) \quad \text{since } \text{Var}(b_i r_m) = b_i^2 \text{Var}(r_m) \\ &= \text{systematic} + \text{unsystematic risk}\end{aligned}\tag{10-8a}$$

$$.01389 = .00780 + .00609 \quad \text{for IBM}$$

The unsystematic risk measure $\text{Var}(e)$ is called in regression language the *residual variance* or, synonymously, the *standard error squared*.

Undiversifiable Proportion The percentage of total risk that is systematic can be measured by the coefficient of determination ρ^2 (that is, the characteristic line's squared correlation coefficient).

⁷In this context, **partition** is a technical statistical term that means to divide the total variance into *mutually exclusive* and *exhaustive* pieces. This partition is only possible if the returns from the market are statistically independent from the residual error terms that occur simultaneously, $\text{Cov}(r_{m,t}, e_{i,t}) = 0$. The mathematics of regression analysis will orthogonalize the residuals and thus ensure that the needed statistical independence exists.

$$\frac{\text{Systematic risk}}{\text{Total risk}} = \frac{b_i^2 \text{Var}(r_m)}{\text{Var}(r_i)} = \rho^2 \quad (10-9)$$

$$\frac{.007802}{.01389} = \frac{(1.021)^2 (.00749)}{.00749} = .5617 \times 100 = 56.17\% \quad \text{for IBM}$$

Diversifiable Proportion The percentage of unsystematic risk equals $(1.0 - \rho^2)$.

$$\frac{\text{Unsystematic risk}}{\text{Total risk}} = \frac{\text{Var}(e)}{\text{Var}(r_i)} = (1.0 - \rho^2)$$

$$\frac{.00609}{.01389} = (1.0 - .5617) = .438 \times 100 \quad (10-10)$$

$$= 43.8\% \text{ unsystematic} \quad \text{for IBM}$$

Studies of the characteristic lines of hundreds of stocks listed on the NYSE indicate that the average correlation coefficient is approximately $\rho = .5$.⁸ This means that about $\rho^2 = 25$ percent of the total variability of return in most NYSE securities is explained by movements in the market.

	NYSE average	IBM
Systematic risk: ρ^2	.25	.5617
Unsystematic risk: $(1.0 - \rho^2)$.75	.4383
Total risk: 100%	1.00	1.0000

As explained above, systematic changes are common to all stocks and are therefore undiversifiable.

A primary use of the characteristic line (or *market model*, or the *single-index model*, as it is also called) is to assess the risk characteristics of one asset.⁹ The statistics in Table 10-2, for instance, indicate that IBM's common stock is slightly more risky than the average common stock in terms of total risk and

⁸The average ρ was found to be about .5, as reported in Marshall Blume, "On the Assessment of Risk," *Journal of Finance*, March 1971, p. 4. For similar estimates, see J. C. Francis, "Statistical Analysis of Risk Surrogates for NYSE Stocks," *Journal of Financial and Quantitative Analysis*, Dec. 1979.

⁹Professor Jensen reformulated the characteristic line in a risk-premium form. See M. C. Jensen, "The Performance of Mutual Funds in the Period 1945 through 1964," *Journal of Finance*, May 1968, pp. 389-416. See also M. C. Jensen, "Risk, the Pricing of Capital Assets, and the Evaluation of Investment Portfolios," *Journal of Business*, vol. XLII, 1969. Jensen interprets the alpha intercept term of the characteristic line, as he formulates it, as an investment performance measure. It has been suggested that Jensen's performance measure is biased. See Keith V. Smith and Dennis A. Tito, "Risk-Return Measures of Ex-Post Portfolio Performance," *Journal of Financial and Quantitative Analysis*, Dec. 1969, vol. IV, no. 4, p. 466.

systematic risk.¹⁰ New risk measurements must be made periodically, however, because the risk and return of an asset may change with the passage of time.¹¹

10-3

CAPITAL ASSET PRICING MODEL (CAPM)

An old axiom states “there is no such thing as a free lunch.” This means that you cannot expect to get something for nothing—a rule that certainly applies to investment returns. Investors who want to earn high average rates of return must take high risks and endure the associated loss of sleep, the possibility of ulcers, and the chance of bankruptcy. The question to which we now turn is: Should investors worry about total risk, undiversifiable risk, diversifiable risk, or all three?

In Chapter 1 it was suggested that *investors should seek investments that have the maximum expected return in their risk class*. Their happiness from investing is presumed to be derived as indicated in the expected utility $E(U)$ function below.

$$E(U) = f[E(r), \sigma]$$

The investment preferences of wealth-seeking risk-averse investors represented by the function above cause them to maximize their expected utility (or, equivalently, happiness) by (1) maximizing their expected return in any given risk class, $\partial E(U)/\partial E(r) > 0$, or, conversely, (2) minimizing their total risk at any given rate of expected return, $\partial E(U)/\partial \sigma < 0$. However, in selecting individual assets, investors will not be particularly concerned with the asset's total risk σ . Figure 9-1 showed that the unsystematic portion of total risk can be easily diversified by holding a portfolio of different securities. But, systematic risk affects all stocks in the market because it is undiversifiable. Portfolio theory therefore suggests that only the undiversifiable (or systematic) risk is worth avoiding.¹²

¹⁰Statements about the relative degree of total risk are made in the context of a long-run horizon—that is, over at least one *complete business cycle*. Obviously, an accurate short-run forecast which says that some particular company will go bankrupt next quarter makes it more risky than IBM, although IBM may have had more historical variability of return.

¹¹Empirical studies documenting the intertemporal instability of betas have been published. Marshall Blume, “Betas and Their Regression Tendencies,” *Journal of Finance*, June 1975, pp. 785–795. See also J. C. Francis, “Statistical Analysis of Risk Coefficients for NYSE Stocks,” *Journal of Financial and Quantitative Analysis*, Dec. 1979, vol. XIV, no. 5, pp. 981–997. An appendix at the end of this chapter reviews some evidence about shifting betas, standard deviations, and correlations.

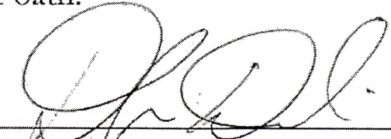
¹²Both the systematic and unsystematic portions of total risk must be considered by **undiversified investors**. Entrepreneurs who have their entire net worth invested in one business, for example, can be bankrupted by a piece of bad luck that could be easily averaged away to zero in a diversified portfolio. Poorly diversified investors should not treat diversifiable risk lightly. Only well-diversified investors can afford to ignore diversifiable risk.

1 STATE OF NORTH DAKOTA
2 BEFORE THE
3 PUBLIC SERVICE COMMISSION
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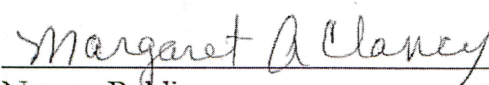
6 In the Matter of the Application of)
7 Northern States Power Company for Authority)
8 To Increase Rates for Natural Gas Service) Case No. PU-21-381
9 In North Dakota)
10
11

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13 **AFFIDAVIT OF**
14 **Dylan D'Ascendis**
15

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

23 
24 _____
25 Dylan D'Ascendis
26
27

28
29
30 Subscribed and sworn to before me, this 29 day of March, 2022.
31

32 
33 _____
34 Notary Public

35 My Commission Expires:
36

Margaret A Clancy
Notary Public of New Jersey
My Commission Expires 6/3/2024