

BEFORE THE NORTH DAKOTA PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION
OF NORTHERN STATES POWER CO.
FOR AN FOR AN ELECTRIC RATE INCREASE

DOCKET NO. PU-20-441

DIRECT TESTIMONY OF
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ON BEHALF OF
NORTH DAKOTA PUBLIC SERVICE COMMISSION ADVOCACY STAFF

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1 **I. INTRODUCTION**

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

3 A. My name is Dr. Marlon F. Griffing. I am a Senior Consultant with the economic consulting
4 firm of PCMG & Associates Inc. (“PCMG”). My business address is 22 Brookes Drive,
5 Gaithersburg, MD 20785.

6 **Q. PLEASE DESCRIBE PCMG.**

7 A. PCMG was founded in 2015 to conduct research on a consulting basis into the rates,
8 revenues, costs, and economic performance of regulated firms and industries. The firm has
9 a professional staff of four with expertise in economics, accounting, and cost analysis. Most
10 of its work involves the development, preparation, and presentation of expert witness
11 testimony before federal and state regulatory agencies.

12 **Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND**
13 **EXPERIENCE, INCLUDING COST-OF-CAPITAL TESTIMONY IN**
14 **REGULATORY PROCEEDINGS?**

15 A. Yes. Attachment ____ (MFG-1) is a summary of my qualifications, experience, and
16 testimony given before state and federal regulatory agencies regarding cost of capital.

17 **Q. FOR WHOM ARE YOU APPEARING IN THIS PROCEEDING?**

18 A. I am appearing on behalf of the North Dakota Public Service Commission (“Commission”)
19 Advocacy Staff in this proceeding.

20 **Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS COMMISSION**
21 **PROCEEDING?**

22 A. My responsibility is to determine a fair rate of return on common equity capital and a fair
23 overall rate of return for Northern States Power, a Minnesota corporation (“NSPM” or the

1 “Company”). NSPM is a vertically integrated electric and natural gas utility. It is an
2 operating subsidiary of Xcel Energy Inc (“XEL”). Among its operations, NSPM provides
3 electric generation, transmission, and distribution service in North Dakota. NSPM is
4 seeking an increase in its North Dakota electric rates in this docket. NSPM witness Dylan
5 W. D’Ascendis testifies regarding cost of capital on behalf of the Company. I respond to
6 the cost of capital testimony of Mr. D’Ascendis.

7 **Q. HOW DO YOU DEVELOP A RECOMMENDED RATE OF RETURN FOR THE**
8 **COMPANY?**

9 A. To arrive at a recommended overall rate of return (“ROR”), I analyze the Company’s
10 requested capital structure and costs for each component of that structure.

11 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

12 A. My testimony is organized as follows:

- 13 • First, I discuss economic considerations and legal precedents underlying the cost
14 of equity in regulatory proceedings.
- 15 • Second, I explain how I selected the members of the Comparison Group of
16 companies used in my analysis.
- 17 • Third, I provide overviews of the Discounted Cash Flow (“DCF”) model and the
18 Capital Asset Pricing Model (“CAPM”) analyses.
- 19 • Fourth, I perform DCF model and CAPM analyses for the Comparison Group,
20 check them for reasonableness, and recommend a return on equity (“ROE”) for
21 the Company.
- 22 • Fifth, I recommend a return on equity (“ROE”) for the Company and check it for
23 reasonableness.
- 24 • Sixth, I recommend a capital structure and ROR for the Company.
- 25 • Seventh, I review the Company’s rate of return analysis.
- 26 • Eighth, I summarize my testimony and recommendations

1 **Q. PLEASE STATE YOUR CONCLUSIONS REGARDING THE COMPANY'S ROE**
2 **AND ROR.**

3 A. My ROE analysis for NSPM produces a value of 9.50 percent. For NSPM's capital
4 structure, my analysis shows ratios of 50.00 percent long-term debt, 0.50 percent short-
5 term debt, and 49.50 percent common equity are appropriate. When the ROE of 9.50
6 percent is included in the recommended capital structure with the Company's costs of long-
7 term debt and short-term debt,¹ the result is an ROR of 6.818 percent.²

8 **II. THE COST OF EQUITY IN THE REGULATORY ENVIRONMENT**

9 **1. The Role of Economic Theory**

10 **Q. WHAT IS THE BASIS IN ECONOMIC THEORY FOR REGULATING CERTAIN**
11 **INDUSTRIES?**

12 A. According to economic theory, the forces of supply and demand interacting in a
13 competitive environment produce an allocation of resources that yields an optimal mix of
14 goods and services. Firms and individuals maximize profits and satisfaction given the
15 prices and incomes that the interplay of market forces generates. This outcome is described
16 as economically efficient. Put simply, there is no better output of goods and services that
17 can be produced with the available resources.

18 **Q. DOES THE ECONOMICALLY EFFICIENT OUTCOME OCCUR IN ALL**
19 **INDUSTRIES?**

20 A. No, several conditions must be present, including many buyers and sellers, identical
21 products, perfect information about prices, and so forth. If these conditions exist, then price
22 is the only way for providers of goods and services to compete in markets. If the conditions

¹ NSPM Revised A32. Change in Cost of Capital, Page 1 of 1.

² Attachment ____ (MFG-20) Schedule 3.

1 for competition do not exist, however, then letting supply and demand work unfettered will
2 not produce the socially desired efficient outcome.

3 **Q. ARE THERE LEGAL OBSTACLES TO COMPETITION IN PUBLIC UTILITY**
4 **MARKETS?**

5 A. Yes. Even if a firm is willing and able to raise the capital needed to be a viable electric
6 distribution company, state and local governments typically have permitting processes that
7 govern where and when utilities can build facilities. Thus, high start-up costs are not the
8 only barrier that must be overcome.

9 **Q. ARE THERE OTHER ASPECTS OF AN ELECTRIC DISTRIBUTION UTILITY'S**
10 **COSTS THAT RESULT IN FEW SELLERS?**

11 A. Yes. The electric utility industry is what is typically known as a declining-cost industry.

12 **Q. WHAT IS A DECLINING-COST INDUSTRY?**

13 A. A declining-cost industry is one where the average cost of service declines over the range
14 of effective demand.

15 **Q. IS A DECLINING AVERAGE COST OF SERVICE SUFFICIENT FOR AN**
16 **INDUSTRY TO BE TERMED "DECLINING COST?"**

17 A. No. In fact, average costs decline in most industries as production and sales increase.
18 However, in these industries, average cost eventually rises and does so at a sales level that
19 is smaller than the total demand for the product in a given industry. As a consequence, a
20 few too many firms share the market because, beyond the sales volume at which average
21 costs rise, firms lose, rather than gain, cost advantage.

1 **Q. ARE PUBLIC UTILITIES DECLINING-COST INDUSTRIES?**

2 A. Yes. With their high fixed costs, public utilities have high initial average costs, but as their
3 sales increase, the average cost drops. What qualifies public utilities as a declining-cost
4 industry is that their average costs continue to decline over very high volumes of sales, up
5 to and beyond total, or effective, market demand for the product. This condition creates
6 market failure (when the market produces an outcome that is inefficient). As an electric
7 distribution firm increases its sales and market share, its average costs decline, and continue
8 to do so. Thus, the firm with the largest market share has an increasing cost advantage over
9 competitors. In effect, there is not enough room in the market for another distributor. The
10 logical result is a market with one distributor—often referred to as a natural monopoly—
11 not the many firms envisioned in the theory of competition.

12 **Q. HOW HAS SOCIETY RESPONDED TO THE ABSENCE OF COMPETITION IN**
13 **PUBLIC UTILITY MARKETS?**

14 A. Since sufficient competition does not exist in the markets for public utilities to ensure low
15 prices and adequate service, society has typically turned to regulation to achieve these
16 goals. Firms are granted exclusive franchises to serve areas in return for accepting
17 government regulation of their prices. The government regulators generally are charged
18 with pursuing an outcome that approximates the efficient outcome of the competitive
19 model. Regulation is viewed as a way to decrease prices and increase services provided by
20 a natural monopoly. A challenge for regulators is to set policies that ensure that the
21 regulated firm provides an appropriate supply of services at reasonable rates. A reasonable
22 rate enables a public utility not only to recover its operating expenses, depreciation, and
23 taxes, but also to compete for funds in capital markets.

1 **2. Standards for Finding a Fair Rate of Return**

2 **Q. DO STANDARDS EXIST FOR DETERMINING A FAIR RATE OF RETURN?**

3 A. Yes. Two United States Supreme Court (“Court”) cases are the basis for rate of return
4 regulation in the United States. They are the *Bluefield Water Works*³ and the *Hope Natural*
5 *Gas*⁴ cases. In *Hope*, the Court established the following standards for the return on equity
6 that must be allowed a regulated public utility to provide for a “reasonable return”:

7 [T]he return to the equity owner should be commensurate with the
8 returns on investments in other enterprises having corresponding
9 risks. That return, moreover, should be sufficient to assure
10 confidence in the financial integrity of the enterprise, so as to
11 maintain its credit and to attract capital.⁵

12 It can be seen from this excerpt that there are essentially three standards for determining
13 an appropriate return on equity from the standpoint of the equity owners of a regulated
14 utility. The first is the “comparable earnings” standard—the earnings must be
15 “commensurate with the returns on investments in other enterprises having corresponding
16 risks.” The second is that earnings must be sufficient to assure “confidence in the financial
17 integrity of the enterprise.” The third is that earnings must allow the utility to “attract
18 capital.”

19 **Q. CAN THE COMPARABLE EARNINGS STANDARD BE APPLIED IN**
20 **ESTIMATING THE RATE OF RETURN ON EQUITY CAPITAL?**

21 A. No. There is circularity to the comparable earnings standard because the competitive nature
22 of the capital markets virtually ensures that the returns to all enterprises are comparable
23 with each other. Investors establish the price of each traded stock in capital markets based

³ *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

⁴ *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

⁵ *Id.* at 603.

1 on prospective earnings and perceived risk. The prices for common equity for companies
2 with high earnings are bid up, while the prices for companies with low earnings are bid
3 down. If earnings were the only concern, the ratio of earnings to share prices, the return for
4 investors, would become equal for all companies. However, investors recognize relative
5 risk as they buy and sell common equity shares. For companies with high risk, share prices
6 will be lower; for companies with low risk, share prices will be higher. Thus, the
7 comparable earnings test becomes a nullity: All returns, because they are adjusted for risk,
8 are comparable with all other returns.

9 **Q. HOW IS THIS CIRCULARITY TYPICALLY RESOLVED IN PUBLIC UTILITY**
10 **REGULATION?**

11 A. In public utility regulation, the conventional procedure for resolving this circularity is to
12 identify the required equity return based on the market value of a utility's stock. That return
13 is combined with the cost of debt, and the blended return to total capital is then applied to
14 a rate base reflective of the book value of the utility's investment. The book value is the
15 accountant's quantification of the depreciated original cost of the utility's assets adjusted
16 for ratepayer contributions such as deposits and deferred taxes. Under this procedure, the
17 market price of a stock is used only to determine the return that investors expect from that
18 stock. That expectation is then applied to the book value of the utility's investment to
19 identify the level of earnings that regulation will allow the utility's common shareholders
20 to recover.

1 **Q. HOW CAN THE FINANCIAL INTEGRITY AND CAPITAL ATTRACTION**
2 **STANDARDS ENUNCIATED IN *HOPE* BE APPLIED IN ESTIMATING THE**
3 **RATE OF RETURN ON EQUITY CAPITAL?**

4 A. If a utility can earn a return on its investment comparable to that required by enterprises of
5 comparable risk, then it should have no difficulty in attracting capital and maintaining
6 credit. Investors would have no reason to pass on purchasing the common equity of such a
7 utility in favor of other investment opportunities. Thus, if the comparable earnings test is
8 met, then the financial integrity and capital attraction standards are met as well.

9 **Q. WHAT IS RISK?**

10 A. Risk is the chance that an investment will lose value. A business, for example, may
11 introduce a new product, supporting it with investment in plant and equipment. There is,
12 of course, no guarantee that consumers will purchase the product, putting the investment
13 in the plant and equipment at risk. The risk investors attach to the company varies inversely
14 with their view as to the probability of the product doing well. In general, the greater the
15 risk of an investment, the greater the return required to attract investors, and vice versa.

16 **Q. DOES SETTING AN ALLOWED RATE OF RETURN MEAN THAT THE**
17 **UTILITY WILL EARN THAT RETURN?**

18 A. No. There is no guarantee that the utility will earn the allowed rate of return. The utility
19 has the reasonable *opportunity* to earn the allowed rate of return; in practice, the utility may
20 earn more or less than this return, depending on whether and how its management responds
21 to technological and market developments, among other matters.

1 **Q. WHAT SHOULD THE COMMISSION CONSIDER IN SETTING AN**
2 **APPROPRIATE RATE OF RETURN?**

3 A. The Commission should look to current market conditions as it balances investor and
4 consumer interests. In this case, the rate of return should reflect the condition of the capital
5 markets in which NSPM will have to compete with other firms for funding. Historically
6 allowed rates and historical performances are not appropriate inputs in this forward-looking
7 approach. This statement, however, does not mean that historical rates and performance
8 are irrelevant. They are factors because they affect investors' views of a company's
9 prospects and, therefore, the investors' willingness to purchase its common equity shares.

10 **Q. PLEASE EXPLAIN HOW THE METHODS YOU HAVE USED TO DETERMINE**
11 **THE COST OF COMMON EQUITY CAPITAL FOR THE COMPANY REFLECT**
12 **CURRENT MARKET CONDITIONS.**

13 A. I used a market-oriented approach to determine the common equity cost for the Company.
14 I analyzed the equity return that investors currently expect to receive from investing in
15 companies with risks similar to the risk of the Company. Many factors influence these
16 investor expectations, among them: past performance of the companies, estimates of how
17 the companies will perform in the future, possible technological change, tax rates, and
18 predicted general economic conditions. As investors decide where to place their funds
19 among the investment options available to them, they weigh the information they have.
20 Then they decide how much to pay to acquire common equity shares, or to turn to the other
21 side of the question, what price will lead them to sell the shares. Either way, the factors are
22 reflected in current prices in capital markets. Thus, my analysis is forward-looking because
23 it relies on investors' current assessment of what is likely to happen with their investments.

1 **Q. WHAT IS THE ROLE OF OPPORTUNITY COSTS IN YOUR ANALYSIS?**

2 A. An opportunity cost is the value of the next best choice forgone as the result of making a
3 decision. Opportunity costs are central to my analysis. As investors decide where to place
4 their assets, they have many opportunities from which to choose in the financial markets.
5 Economic theory says they will choose the opportunity they think will provide them the
6 best return, taking into account the level of risk with which they are comfortable. Thus, for
7 a company to attract capital, its forward-looking fair rate of return must at least equal the
8 expected rate of return for the best alternative opportunity with similar risk.

9 **III. OVERVIEW OF THE RETURN ON EQUITY ANALYSIS**

10 **Q. HOW DO YOU KNOW WHAT EQUITY RATE OF RETURN THE COMPANY**
11 **MUST OFFER TO INVESTORS TO BE AN ATTRACTIVE OPPORTUNITY?**

12 A. No one knows with certainty what specific rate of return the Company must offer to
13 investors that is just sufficient to make the Company an attractive opportunity. However,
14 various methods based on finance theory have been derived for reliably estimating what
15 investors currently think that rate is.

16 **Q. PLEASE IDENTIFY THE METHODS YOU HAVE ADOPTED IN YOUR ROE**
17 **ANALYSIS.**

18 A. I use the Discounted Cash Flow (DCF) method, which is widely used in utility general rate
19 cases, and is a method relied on by the MPUC in determining rate of return. I also include
20 the results of the Capital Asset Pricing Model (CAPM), combining them with the DCF
21 results for my recommended ROE. I use recently authorized returns for electric utility
22 operating companies in U.S. jurisdictions as a check on the reasonableness of the ROE
23 outcome.

1 **Q. PLEASE SUMMARIZE THE DCF METHOD.**

2 A. The DCF model uses the current dividend yield and the expected growth rate of this yield
3 to determine a required rate of return on an investment opportunity. The required rate of
4 return from a DCF analysis is derived from a formula for determining the net present value,
5 or price, of a share of stock. There are several variations of the DCF, but the constant-
6 growth form I have selected assumes that dividends (D) are received at the end of each
7 year, the annual growth rate of dividends (g) is constant forever, and the discount rate for
8 dividends (k) is constant forever. The equation form of this constant-growth DCF model is
9 the following:

10

11
$$k = \frac{D_1}{P_0} + g$$

12

13

Where:

14

k is the discount rate, which also is the fair rate of return for equity;

15

D₁ is the annual dividend one year from the present;

16

P₀ is the current price of a stock share; and

17

g is the expected growth rate of the dividend.

18

19 **Q. HOW IS THE ANNUAL DIVIDEND ONE YEAR FROM THE PRESENT**
20 **CALCULATED?**

21 A. The annual dividend one year from now is derived by applying the growth-rate estimate
22 (g) to the actual current annual dividend (D₀).

1 **Q. PLEASE DESCRIBE THE ELEMENTS OF THE DCF MODEL.**

2 A. The first element of the DCF model is the dividend-yield component, while the second
3 element is the dividend growth-rate component. The sum of these two components
4 produces the required ROE for a company.

5 **Q. PLEASE DISCUSS THE CAPM METHOD.**

6 A. The premise of the CAPM method is that any risk which is company-specific can be
7 diversified away by investors. Therefore, the only risk that matters is the systematic risk of
8 the stock. This systematic risk is measured by beta (β). Expressed simply, the CAPM
9 assumes the following form:

10

11 $k = r + \beta (k_m - r)$
12

13 Where:

14 k is the required rate of return for the subject stock;

15 β is beta, the measure of systematic risk;

16 r is the rate of return on a riskless asset; and

17 k_m is the required rate of return on the broad market.

18 $[(k_m - r)]$ is known as the "market risk premium"

19

20 **Q. PLEASE CHARACTERIZE THE CAPM METHOD.**

21 A. In the CAPM the required ROE for a company also is the sum of two components. The
22 first of these is the return on a riskless asset. To this base value, a return is added that
23 reflects the additional rate of return earned by other companies in the broad equity market

1 adjusted for the risk of the subject company relative to the risk of an average company in
2 the market. The subsequent amount thus reflects the risk of the subject company.

3 **Q. DOES YOUR EQUITY RATE OF RETURN ANALYSIS USE FINANCIAL**
4 **INFORMATION FOR NSPM?**

5 A. No. As noted, NSPM is an operating subsidiary of XEL. NSPM is not publicly traded, so
6 common equity share price information is unavailable. Therefore, a direct DCF analysis
7 cannot be performed on the Company.

8 **Q. DOES YOUR EQUITY RATE OF RETURN ANALYSIS USE OTHER NSPM**
9 **INFORMATION?**

10 A. Yes. NSPM has a Standard & Poor's ("S&P") credit rating of A-.⁶ This credit rating
11 reflects S&P's evaluation of the risk for the company. It is identical to the S&P credit rating
12 for XEL, but is determined separately. The Company credit rating is one criterion that was
13 applied in selecting electric utilities that are similar in risk to NSPM.

14 **Q. HOW DO YOU USE THE ROE ANALYSIS TO ESTIMATE THE COMPANY'S**
15 **REQUIRED RATE OF RETURN?**

16 A. I performed an ROE analysis on a group of electric utilities comparable to NSPM that are
17 publicly traded and have similar investment risk, as discussed below. The estimated rates
18 of return for members of this group form the basis for my estimate of a fair rate of return
19 for the Company.

⁶ Attachment ____ (MFG-2)

1 **IV. SELECTING THE COMPARISON GROUP**

2 **Q. PLEASE DISCUSS YOUR PROCEDURE FOR SELECTING THE COMPARISON**
3 **GROUP.**

4 A. I set out to find a group of companies that are, from the perspective of investors, similar to
5 NSPM. Thus, I wanted firms that are electric utility companies that represent
6 approximately the same investment risk as the Company.

7 **Q. PLEASE DESCRIBE HOW YOU FOUND SUITABLE CANDIDATE COMPANIES**
8 **FOR THE COMPARISON GROUP.**

9 A. I looked at Value Line, a widely used investor service, for companies that Value Line
10 classifies as members of the Electric Utility Industry. The January 22, 2021 (West);
11 February 12, 2021 (East); and March 12, 2021 (Central) editions of the *Value Line*
12 *Investment Survey* available at the Value Line website on April 13, 2021 included 40
13 companies in this category.⁷

14 **Q. WAS XCEL ENERGY INC. ONE OF THE 40 COMPANIES IN THE VALUE LINE**
15 **ELECTRIC INDUSTRY?**

16 A. Yes. I removed XEL from consideration for the Comparison Group. I prefer not to include
17 a subject company or its parent or subsidiary in the Comparison Group because doing so
18 creates circularity in calculating a return. A concern in selecting a proxy group is that there
19 be enough members that no one company's results strongly affect the ROE analysis
20 outcome. There are enough electric utilities available that the Comparison Group can be
21 formed without including XEL.⁸

⁷ Attachment ____ (MFG-3).

⁸ Attachment ____ (MFG-4).

1 **Q. WHAT WAS THE NEXT STEP IN YOUR SELECTION PROCESS?**

2 A. I applied screens to the initial set of Value Line Electric Utility companies to ensure that
3 the companies included in my Comparison Group were similar in risk to the risk of the
4 Company.⁹

5 **Q. PLEASE LIST THE CRITERIA YOU APPLIED IN THE SELECTION OF THE**
6 **COMPARISON GROUP.**

7 A. I applied the following screens to the initial set of Electric Utility companies:

- 8 1. U.S. firm based in the continental 48 states;
- 9 2. shares publicly traded on a stock exchange;
- 10 3. a stable record of paying dividends;
- 11 4. not be expected to sell, merge into or be acquired by another company, or
12 be engaged in an unusual regulatory proceeding;
- 13 5. have a Standard & Poor's ("S&P") credit rating of BBB+ to A-;
- 14 6. have positive growth-rate projections from expert analysts; and
- 15 7. have 65 percent or more of the three-year average of net operating income,
16 net income, or operating revenue be derived from regulated electric
17 operations.

18 **Q. WHAT IS THE PURPOSE OF APPLYING THE CRITERION THAT THE**
19 **COMPANIES BE BASED IN THE CONTINENTAL UNITED STATES?**

20 A. I sought companies that face a business environment similar to that in which NSPM
21 operates. The Company's operating utility in this case is in North Dakota and subject to
22 state regulation, statutes, and rules that are similar to those found in the rest of the United

⁹ Attachment ____ (MFG-4).

1 States. No companies were excluded for not being U.S.-based. There were two Canada-
2 based utilities with U.S. operations in the initial set, Emera Incorporated and Fortis Inc. I
3 applied the other screens to the U.S.-based operations of these two utilities.

4 **Q. WHAT PURPOSE IS SERVED BY REQUIRING THAT THE COMPANIES BE**
5 **PUBLICLY TRADED?**

6 A. One analytical tool that I used for finding a company's ROE, the DCF model,¹⁰ requires
7 information about common equity share prices, dividends, and growth-rate projections.
8 The requirement that companies be publicly traded ensures that their common equity share
9 prices are available. All of the Value Line Electric Utility companies are publicly traded.¹¹

10 **Q. WHAT PURPOSE IS SERVED BY REQUIRING THAT THE COMPANIES HAVE**
11 **A STABLE RECORD OF PAYING DIVIDENDS?**

12 A. The DCF model requires dividends as an input. If a company is not paying dividends or
13 has a record of cutting dividends, then its DCF analysis is not reliable. CenterPoint Energy
14 reduced its dividend in the second quarter of 2020.¹² PG&E Corporation has been in
15 bankruptcy and has not paid dividends since December 2017.¹³ The dividend record of
16 another electric utility, Summer Energy Holdings, is not available from S&P. All of these
17 electric utilities are excluded.¹⁴ Dominion Energy reduced its dividend the fourth quarter
18 of 2020. However, the company also sold most of its midstream gas operations about the

¹⁰ As will be seen in a later section, the forward-looking CAPM as I have applied it incorporates a DCF analysis and, thus, also relies on publicly traded companies.

¹¹ Attachment ____ (MFG-3).

¹² Attachment ____ (MFG-5).

¹³ Attachment ____ (MFG-6).

¹⁴ Attachment ____ (MFG-4).

1 same time in a nearly \$10 billion transaction (cash and debt assumed total).¹⁵ The lower
2 dividend reflects the smaller company. Therefore, I kept Dominion under consideration.

3 **Q. WHY IS IT IMPORTANT THAT COMPANIES INVOLVED IN SALES,**
4 **MERGERS, OR ACQUISITIONS, USUALLY BE EXCLUDED FROM YOUR**
5 **ANALYSIS?**

6 A. The share prices of companies involved in sales, mergers or acquisitions can be volatile.
7 Extreme increases in the share prices of companies that are part of sales, mergers, or
8 acquisitions drive down the ROE results in DCF analysis, while extreme decreases in the
9 share prices drive up the ROE results. Neither outcome yields meaningful DCF results.
10 Therefore, it is usually appropriate to exclude such companies from the analysis.

11 **Q. WERE ANY COMPANIES IN THE INITIAL SET INVOLVED IN SALES,**
12 **MERGERS, OR ACQUISITIONS?**

13 A. Yes. Further, Exelon announced February 21, 2021 it will spin off its generation facilities
14 with a target completion date of first quarter 2022.¹⁶ PNM Resources is being acquired by
15 Avangrid.¹⁷ All of those companies are excluded.

16 **Q. WERE ANY COMPANIES IN THE INITIAL SET INVOLVED IN UNUSUAL**
17 **CIRCUMSTANCES?**

18 A. Yes. Avangrid is a controlled company. It is 81.5 percent owned by its Spanish parent
19 company, Iberdrola, S.A. Owners of its New York Stock Exchange-traded shares do not
20 control corporate decision making. The effect of this relationship may be adverse for these
21 shareholders if the interests of Iberdrola and these shareholders diverge. Consequently,

¹⁵ Attachment ____ (MFG-7).

¹⁶ Attachment ____ (MFG-8).

¹⁷ Attachment ____ (MFG-9), Schedule 1.

1 because of the added risk for these investors of owning Avangrid shares, its share prices
2 tend to be lower than those of similar companies that are not controlled, and its ROE is
3 therefore higher.¹⁸ This ownership situation is another reason to exclude Avangrid from
4 the Comparison Group.

5 **Q. IS THERE ANOTHER COMPANY INVOLVED IN AN UNUSUAL SITUATION?**

6 A. Yes. FirstEnergy was implicated in a bribery scheme in Ohio. It faces possible
7 racketeering charges.¹⁹

8 **Q. WHAT IS THE PURPOSE OF USING THE S&P CREDIT RATING AS A**
9 **SCREEN?**

10 A. S&P's experts incorporate financial risk and business risk into a firm's credit rating. Within
11 these risk categories, S&P assesses such factors for public utilities as competitive
12 advantage, operating efficiency, and scale, scope, and diversity. This last set of factors
13 includes the effects of a utility's markets, service territories, and customer diversity on the
14 company's cash-flow stability, and in turn on its risk level. After considering all the factors,
15 S&P assigns a credit rating to a company. If companies have identical or similar credit
16 ratings as determined by expert analysts, then their relative risks are similar. As S&P states:

17 Creditworthiness is a multi-faceted phenomenon. Although there is
18 no "formula" for combining the various facets, our credit ratings
19 attempt to condense their combined effects into rating symbols
20 along a simple, one-dimensional scale. Indeed, as discussed below,
21 the relative importance of the various factors may change in
22 different situations.²⁰

¹⁸ Attachment ____ (MFG-9), Schedule 2.

¹⁹ Attachment ____ (MFG-10).

²⁰ Attachment ____ (MFG-11).

1 **Q. PLEASE DESCRIBE YOUR APPLICATION OF THE S&P CREDIT RATING**
2 **SCREEN.**

3 A. Regardless of the utility type, I start with the credit rating of the subject company and work
4 out a step at a time from that rating until I found enough companies that meet the other
5 screens to make a group large enough that the results for one company do not dominate the
6 ROE analysis. Please note that the credit rating screen does not require that companies
7 have exactly the same credit rating as the subject company. The credit rating need only be
8 similar to that of the subject company. The narrower the range of the credit rating, the
9 more like the subject company's risk are the risk profiles of the companies within the range.
10 However, the goal of having companies with risk similar to that of the operating company
11 has to be balanced with the goal of having a reasonable number of companies in the
12 Comparison Group so that no one company's result strongly influences the outcome.

13 **Q. WHAT WAS THE RESULT OF YOUR APPLICATION OF THE CREDIT**
14 **RATING SCREEN IN THIS DOCKET?**

15 A. There were 32 companies remaining from the original group of 40 after the previous
16 screens were applied. Of these utilities, MGE Energy does not have an S&P credit rating
17 and is excluded.²¹ When I moved one step above to an A rating there were no companies
18 with that rating. When I moved one step below to a BBB+ rating, I found that eight of the
19 31 remaining companies were outside that range.^{22 23} Those eight electric utilities were
20 Allete, Inc., Avista Corporation, Edison International, Emera Incorporated, IDACORP,

²¹ Summer Energy Holdings, eliminated for not having a record of paying dividends, also does not have an S&P credit rating.

²² Attachment ____ (MFG-12).

²³ FirstEnergy and PG&E have credit ratings of BB, but they were already eliminated by other screens.

1 Inc., NorthWestern Corporation, Otter Tail Corporation, and Hawaiian Electric Industries,
2 Inc.

3 **Q. YOU REQUIRED THAT ELECTRIC UTILITIES HAVE POSITIVE EARNINGS**
4 **PER SHARE (“EPS”) GROWTH-RATE FORECASTS TO BE INCLUDED IN THE**
5 **COMPARISON GROUP. WHAT PURPOSE DOES THIS SCREEN SERVE?**

6 A. If the growth-rate projections are negative or missing, then any DCF analysis performed
7 on them is not meaningful. All of the 23 companies still under consideration for the
8 Comparison Group have at least two positive EPS growth-rate forecasts.²⁴

9 **Q. FINALLY YOU REQUIRED THAT MORE THAN 65 PERCENT OF A**
10 **COMPANY’S THREE-YEAR AVERAGE OF AN INCOME OR REVENUE**
11 **INDICATOR BE DERIVED FROM REGULATED ELECTRIC UTILITY**
12 **OPERATIONS TO BE INCLUDED IN THE COMPARISON GROUP. PLEASE**
13 **EXPLAIN THE PURPOSE OF THIS CRITERION.**

14 A. For the firms to have similar risks, they must operate in similar business environments. The
15 Company is predominantly a regulated electric utility operation, so the firms considered
16 for the Comparison Group also must have predominantly regulated operations. This
17 criterion ensures that most of the Comparison Group firms’ operations are in the same
18 environment as that of the Company.

19 **Q. WHAT WAS THE OUTCOME OF YOUR APPLICATION OF THIS SCREEN?**

20 A. I included 16 of the 23 companies in the Comparison Group after applying the operating
21 income/net income/operating revenue screen. One utility, Ameren Corporation (64.9
22 percent), did not strictly meet the 65 percent standard. However, I chose to include it in

²⁴ Attachment ____ (MFG-4).

1 the Comparison Group because it fell just short of the cutoff. Moreover, it was closer in
2 percentage to the next higher company, Dominion Energy (65.2 percent), than it was to the
3 next lowest company, DTE Energy Company (59.1 percent).²⁵

4 **Q. PLEASE DESCRIBE THE COMPARISON GROUP AFTER YOUR SCREENING.**

5 A. The Comparison Group is composed of Alliant Energy, Ameren Corporation, American
6 Electric Power, Avista Inc., CMS Energy, Consolidated Edison, Dominion, Duke Energy,
7 Entergy Corporation, Evergy, Inc., Eversource Energy, NextEra Energy, OGE Energy,
8 Pinnacle West Capital, Portland General Electric, Southern Co., and WEC Energy Group.
9 Seven of the 16 companies were rated BBB+, and nine were rated A-.²⁶

10 **Q. PLEASE COMPARE THE MEMBERSHIP OF MR. D'ASCENDIS'S PROXY**
11 **GROUP WITH THE MEMBERSHIP OF YOUR COMPARISON GROUP.**

12 A. Mr. D'Ascendis's Proxy Group was composed of 15 electric utilities. Eight of those
13 companies were members of the Comparison Group. The seven that were not are
14 ALLETE, Inc., Edison International, IDACORP, Inc., NorthWestern Corporation, Otter
15 Tail Corporation, PNM Resources, and Xcel Energy. On the other hand, there were eight
16 companies in the Comparison Group that Mr. Coyne does not include in the Proxy Group.
17 They were American Electric Power, CMS Energy, Consolidated Edison, Dominion
18 Energy, Eversource Energy, NextEra Energy, Southern Company, and WEC Energy
19 Group. I stand by the screens I applied in selecting the Comparison Group and the electric
20 utilities included.

21

²⁵ Attachment ____ (MFG-13).

²⁶ Attachment ____ (MFG-14).

1 **V. DCF MODEL OVERVIEW**

2 **Q. WHAT IS THE PURPOSE OF A DCF ANALYSIS?**

3 A. The goal of this analysis was to estimate an appropriate, forward-looking rate of return on
4 equity. A DCF analysis requires a determination of expected growth rates and dividend
5 yields in order to estimate this return.

6 **Q. PLEASE DISCUSS EXPECTED GROWTH RATES.**

7 A. Because a DCF analysis is forward-looking, I want to estimate the expected growth rate of
8 dividends. Historical growth rates would be good indicators of the expected growth rate if
9 both of the following are true:

- 10 • the dividend payout ratio and the realized rate of return on equity capital
11 were constant in the past and could be assumed to remain constant in the
12 future; and
- 13 • any growth in book equity was attributable solely to retained earnings.

14 If, in practice, these conditions held, then earnings per share (“EPS”), dividends per share
15 (“DPS”), and book value per share (“BPS”) would all grow at the same rate, and the past
16 growth rates for these factors would be the rate at which they would grow in the future.

17 **Q. DID YOU USE HISTORICAL GROWTH RATES IN YOUR ANALYSIS?**

18 A. No. The conditions necessary for historical growth rates to be good indicators of future
19 growth rates are rarely satisfied. Most utilities’ returns on equity and payout ratios have
20 not remained constant over time. Further, growth in book value has occurred not only due
21 to retained earnings, but also due to the issuance of new shares of common stock.
22 Consequently, past growth rates of earnings, dividends, and book equity are frequently
23 unequal. Moreover, an industry may face a changed business environment, thereby making
24 the past a poor basis for projecting the future. Historical growth rates can differ
25 significantly from forward-looking projected growth rates due to such factors as inflation

1 rates, tax rates, the role of an industry in the economy, and the regulatory environment. In
2 view of these limitations of using historical growth rates, I based my estimated growth rates
3 on projected growth rates as publicly provided by “Zacks Investment Research,” a
4 respected investor services company, Thomson Financial Network estimates provided on
5 Yahoo! Finance, and “The Value Line Investment Survey.”

6 **Q. PLEASE DISCUSS THE DIVIDEND YIELDS USED IN YOUR DCF ANALYSIS.**

7 A. To estimate the required rate of return on equity capital today, I estimated the expected
8 dividend yield, D_1/P_0 where P_0 is the price of a share of common equity today and D_1 is
9 the dividend in the next period. To find the dividends expected a year from now, I
10 multiplied the current annual dividends paid by 1 plus the EPS growth rates for each
11 company. The use of this dividend yield assumes that dividends are distributed at the end
12 of each period (year). Since the current equity share price incorporates all market
13 information considered relevant by investors, generally speaking, non-recent historical
14 prices should be avoided in calculating the dividend yield. However, since share prices are
15 volatile in the short run, it is desirable to use a period long enough to avoid short-term
16 aberrations in the capital market.

17 **Q. WHAT COMMON EQUITY SHARE PRICES DID YOU USE IN YOUR DCF**
18 **ANALYSIS?**

19 A. I used the average of four weeks of share prices for each electric utility. This period
20 achieves the goals of using current information and avoiding cases where short-run
21 volatility causes common-equity share prices to be unrepresentative of the value investors
22 place on a company.

23

1 **VI. DCF ANALYSIS FOR THE COMPARISON GROUP**

2 **1. Constant-Growth DCF Analysis**

3 **Q. PLEASE DISCUSS THE REQUIRED RATE OF RETURN FOR THE**
4 **COMPARISON GROUP.**

5 A. To estimate the required rate of return for the group, I found the expected growth rate, g ,
6 and the expected dividend yield, D_1/P_0 for each Comparison Group company. I also
7 incorporated flotation costs into the dividend yield. I applied the DCF model to the inputs
8 to find an ROE for each electric utility. Finally, I averaged the ROEs to find my DCF ROE
9 for NSPM.

10 **Q. WHAT PERIOD DID YOU USE TO ESTABLISH AVERAGE COMMON EQUITY**
11 **SHARE PRICES FOR THE COMPANIES IN THE COMPARISON GROUP?**

12 A. I used the trading period of March 15-April 9, 2021 to find average common equity share
13 prices. This four-week period is long enough to dampen any short-term aberrations in the
14 capital market. It was also close to the April 23, 2021, date of this Testimony, thus making
15 the results timely. I used closing prices for the Comparison Group member companies
16 obtained at Yahoo! Finance.²⁷

17 **Q. HOW DID YOU DETERMINE THE DIVIDENDS FOR THE COMPARISON**
18 **GROUP COMPANIES?**

19 A. I used the dividends that each Comparison Group member company is currently paying as
20 reported by Value Line on April 13, 2021 and by Zacks on April 15, 2021. I used the
21 greater of these two options in my DCF analysis. The Value Line dividends were equal or
22 greater than the Zacks dividends for all companies.²⁸

²⁷ Attachment ____ (MFG-15), Pages 1–6.

²⁸ Attachment ____ (MFG-16).

1 **Q. WHAT ASSUMPTION IS MADE ABOUT THE EXPECTED GROWTH RATE IN**
2 **THE CONSTANT-GROWTH DCF MODEL?**

3 A. In the constant-growth DCF model, it is assumed that current EPS growth rates continue
4 to infinity. I used, as is commonly done, forecasts of EPS growth rates for five years and
5 assumed those growth rates will continue.

6 **Q. PLEASE DISCUSS THE EXPECTED GROWTH RATE FOR THE COMPARISON**
7 **GROUP.**

8 A. As noted above, it is appropriate in this proceeding to use only the forecasted growth rates
9 to estimate the expected growth rate to be used in the DCF analysis. Zacks and Yahoo!
10 Finance provide five-year growth-rate projections for EPS and Value Line provides five-
11 year growth rate projections for EPS, DPS, and BPS. To maintain consistency across the
12 sources, I used only the EPS estimates from Value Line.

13 **Q. WHAT INFORMATION DID YOU USE FROM VALUE LINE?**

14 A. I used the Value Line EPS five-year growth projections for the individual firms in the
15 Comparison Group as reported by Value Line at its website on April 13, 2021.²⁹ Some of
16 these values were different from the forecasted values reported in the most recent editions
17 of Value Line's *Investment Surveys*.

18 **Q. WHAT INFORMATION DID YOU USE FROM ZACKS?**

19 A. I used the Zacks EPS five-year growth projections available April 15, 2021 for the
20 individual firms in the Comparison Group.³⁰

²⁹ Attachment ____ (MFG-17), Schedule 1.

³⁰ *Id.*

1 **Q. WHAT INFORMATION DID YOU USE FROM YAHOO! FINANCE?**

2 A. I used the Yahoo! Finance EPS five-year growth projections available April 13, 2021 for
3 the individual firms in the Comparison Group.³¹

4 **Q. HOW DID YOU COMBINE THE ZACKS, YAHOO! FINANCE, AND VALUE**
5 **LINE ESTIMATES?**

6 A. I weighted the Zacks, Yahoo! Finance, and Value Line EPS values equally to find my best
7 estimate of the expected growth rate for each company in the Comparison Group.

8 **Q. PLEASE DISCUSS YOUR CALCULATION OF THE EXPECTED DIVIDEND**
9 **YIELD FOR THE COMPARISON GROUP.**

10 A. The appropriate dividend to use in the constant-growth DCF model is the annual dividend
11 rate at the beginning of the next period (year). I began my estimation of the expected
12 dividend yield by finding the dividends that each Comparison Group member company
13 was currently paying, as noted above.

14 **Q. PLEASE CONTINUE.**

15 A. Next, I adjusted the annualized dividends for expected growth. The dividends of all the
16 companies in the Comparison Group are expected to increase over the next year. I applied
17 a full year's growth rate for a firm to the annualized dividend and added the product to the
18 annualized dividend yield to transform it into the expected dividend yield.³² The equation
19 for this operation is:

20
$$\frac{D_1}{P_0} = \frac{D_0}{P_0} (1 + g)$$

³¹ *Id.*

³² I followed this rule of applying a full year's growth to the current dividend in my CAPM analysis as well as in this DCF model analysis. My adjustment is larger than that of Mr. Coyne.

1 Applying this equation to the dividend yield for each company yielded the D_1 values that I
2 use in my estimates.³³

3 **2. Flotation Costs Adjustment**

4 **Q. PLEASE DEFINE FLOTATION COSTS.**

5 A. When companies issue equity, the price paid by investors for the new shares is higher than
6 the revenues per share received by the company. The difference is issuance, or flotation,
7 costs. These costs are the fees and expenses the company must pay as part of the issuance.
8 The return on equity must be adjusted to recognize this difference, or a company will be
9 denied the reasonable opportunity to earn its required rate of return.

10 **Q. DID YOU MAKE A FLOTATION COST ADJUSTMENT FOR THE COMPANY?**

11 A. Yes. My recommended flotation cost adjustment is 3.759 percent. I adopted this value
12 from the analysis of Mr. D'Ascendis.³⁴ He has assembled flotation cost information for
13 NSPM and XEL issuances. I inspected his work and found the flotation allowance
14 reasonable.

15 **Q. HOW WAS THE FLOTATION-COST ADJUSTMENT INCORPORATED INTO**
16 **YOUR DCF ANALYSIS?**

17 A. The DCF return on equity was modified in the following way to incorporate the adjustment
18 for flotation cost.³⁵

33 Attachment ____ (MFG-17), Schedule 1.

34 Exhibit ____ (DWD-1), Schedule 11, Page 1 of 1.

35 Attachment ____ (MFG-17), Schedule 2. Morin, Roger, *New Regulatory Finance (2006)*, Public Utilities Reports, Inc., Vienna, Virginia, page 328.

1
$$k = \frac{D_1}{P_0} \left(\frac{1}{1-f} \right) + g$$

2
3 Where:

4 f is the flotation-cost percentage;

5 and all the other elements of the equation retain their previous meanings.

6
7 With the flotation cost of 3.759 percent incorporated, the expected dividend yield becomes
8 the flotation adjusted dividend yield. The adjustment increases the expected dividend yield
9 by about 15 basis points.³⁶

10 **Q. DID YOU INCLUDE A FLOTATION COST ADJUSTMENT IN ALL OF YOUR**
11 **ROE ANALYSES?**

12 A. Yes. All subsequent ROE analyses presented in this testimony included a flotation cost
13 adjustment.

14 **Q. IS IT APPROPRIATE TO APPLY A MINIMUM STANDARD TO ROE RESULTS**
15 **PRODUCED BY THE ROE MODELS?**

16 A. Yes. Investors demand a higher return from common equity than from debt to compensate
17 for the greater risk of common equity. The Federal Energy Regulatory Commission
18 (“FERC”) uses a minimum standard of the yield for Moody’s 10-Year Baa Corporate
19 Bonds plus 20 percent of the CAPM risk premium as a minimum ROE threshold. Investors
20 faced with an ROE for a company below that threshold would choose the less-risky debt
21 over common equity investment in the company. Thus, NSPM would not be competing
22 with these companies for capital.

³⁶ Attachment ____ MFG-17, Schedule 1.

1 **Q. DID YOU REMOVE ANY COMPANIES FROM THE DCF ANALYSIS BECAUSE**
2 **THEY HAD ROE RESULTS THAT WERE UNREASONABLY LOW?**

3 A. No. The average yield for the Moody's 10-year Baa Corporate Bond Yield Index was 3.75
4 percent over March 15-April 9, 2021,³⁷ while 20 percent of the CAPM risk premium was
5 2.05 percent.³⁸ The sum of the two components of the minimum threshold was 5.80
6 percent. All the ROEs in the analysis exceeded that value.

7 **Q. WHAT ROE DID YOU FIND FOR YOUR CONSTANT-GROWTH DCF**
8 **ANALYSIS?**

9 A. For the 16 companies, the mean growth rate was 5.94 percent and the mean flotation
10 adjusted dividend yield was 3.89 percent. The combination of these two components
11 yielded an ROE of 9.83 percent. The median ROE was 9.60 percent.³⁹

12 **2. Multistage DCF Analysis**

13 **Q. WHAT ASSUMPTION IS MADE ABOUT THE EXPECTED GROWTH RATE IN**
14 **THE MULTISTAGE DCF MODEL?**

15 A. In the multistage DCF model it is assumed that the current growth rates are replaced by
16 other growth rates in intervals subsequent to the present period. There are several possible
17 approaches to a multistage analysis, but in many of the variations a long-run gross domestic
18 product ("GDP") growth rate is adopted after the first stage.

³⁷ Attachment ____ (MFG-18) Schedule 8.

³⁸ Attachment ____ (MFG-18), Schedule 9.

³⁹ Attachment ____ (MFG-17), Schedule 1.

1 **Q. WHAT LOGIC SUPPORTS ADOPTING GDP GROWTH RATES AFTER THE**
2 **FIRST STAGE OF A MULTISTAGE DCF ANALYSIS?**

3 A. The logic for adopting a long-run GDP growth rate after the first stage of a multistage
4 analysis is that a company cannot sustain growth faster than the growth rate of the economy
5 as a whole over the long run.

6 **Q. WHAT WAS YOUR BASIS FOR ASSUMING THAT CURRENT FORECASTED**
7 **EPS GROWTH RATES WILL NOT CONTINUE AFTER FIVE YEARS?**

8 A. The current five-year EPS growth-rate forecasts reflect growth expected as the U.S.
9 economy rebounds from the recession caused by the COVID-19 pandemic. These growth
10 rates are unsustainable because the economy is making use of productive capacity that was
11 idled by the recession. Once the slack is restored to use, the potential growth level returns
12 to long-run capacity growth rates.

13 **Q. IS THERE ECONOMIC DATA THAT SUPPORT THIS HYPOTHESIS?**

14 A. Yes. The U.S. economy turned sharply downward from long-term trends in the first quarter
15 of 2020 as the pandemic took hold. In 2018 and 2019, Bureau of Economic Analysis year-
16 over-year quarterly growth rates for U.S. GDP ranged between 2.0 percent and 3.3
17 percent.⁴⁰ In the first quarter of 2020, the GDP growth rate dropped to 0.3 percent, then to
18 -9.0 percent, -2.8 percent, and -2.4 percent in the next three quarters.⁴¹

19 **Q. PLEASE CONTINUE.**

20 A. Federal Reserve Board projections of annual GDP growth are 6.5 percent for 2021, 3.3
21 percent for 2022, and 2.2 percent for 2023.⁴² These data are consistent with growth rates

⁴⁰ The BEA and Federal Reserve Board GDP growth rates are “real,” inflation-adjusted rates.

⁴¹ Attachment ___ (MFG-17), Schedule 2.

⁴² Attachment ___ (MFG-17), Schedule 3.

1 returning to long-term norms as the U.S. economy climbs out of the pandemic-induced
2 trough. It is reasonable, therefore, to assume that current five-year EPS growth-rate
3 forecasts are pushed above sustainable levels by the burst in economic activity associated
4 with the recovery. Long-term GDP growth rates better reflect the long-term trend in EPS
5 growth rates.

6 **Q. PLEASE IDENTIFY YOUR LONG-RUN GDP GROWTH RATES.**

7 A. It was my opinion that the second-stage EPS growth rates will be similar to the long-run
8 GDP growth rate forecasts of the Social Security Administration (“SSA”) and the Energy
9 Information Administration (“EIA”). I calculated long run GDP growth rates from 2026-
10 2050 from information published by these two agencies.⁴³ The SSA rate is 4.09 percent,⁴⁴
11 while the EIA rate is 4.36 percent.⁴⁵ The weighted rate of the two growth rates is 4.23
12 percent.⁴⁶

13 **Q. PLEASE DISCUSS THE USE OF REAL GDP GROWTH RATES AND NOMINAL**
14 **GDP GROWTH RATES.**

15 A. I used real and nominal GDP growth rates because that is how the agencies report them.
16 The real rates could be converted to nominal rates by adding inflation rates to them. Doing
17 so would not change the range of change in the rates, which is the important point about
18 the rates. For example, there would still be a nearly 9 percent decrease in GDP from the
19 first quarter of 2020 to the second quarter of 2020 as the inflation rates added would be
20 similar, if not identical. Moreover, the difference between the actual GDP contraction rate
21 in second quarter of 2020 and the projected growth rate for 2021 would also be about the

⁴³ The SSA and EIA GDP growth rates are “nominal.” They reflect current prices and include inflation.

⁴⁴ Attachment ____ (MFG-17), Schedule 4.

⁴⁵ Attachment ____ (MFG-17), Schedule 5.

⁴⁶ Attachment ____ (MFG-17), Schedule 6.

1 same as inflation would be added to both sets of numbers. It is the large difference between
2 these rates that indicate the room for short-run growth in the U.S. economy, a spurt that is
3 not sustainable in the long run. Further, the long-term GDP growth rates that I used in my
4 multistage ROE analysis are nominal rates, as are the forecasted EPS growth rates with
5 which they are blended.

6 **Q. PLEASE DESCRIBE YOUR MULTISTAGE DCF ANALYSIS.**

7 A. I applied what is sometimes called a blended approach as my multistage DCF analysis. In
8 this approach, all inputs other than the EPS growth rates are the same as in the constant-
9 growth DCF analysis. I continued to use the five-year EPS forecasts in the first stage but
10 used the weighted long-run GDP growth rate as my second-stage EPS input. At that point
11 I blended the two growth rates by weighting the average of the five-year EPS forecasts
12 two-thirds and the long-run weighted GDP growth rate one-third. This approach is set
13 forth in a widely used regulatory handbook.⁴⁷

14 **Q. WHAT IS THE RESULT OF YOUR MULTISTAGE DCF ANALYSIS?**

15 A. The mean flotation adjusted dividend yield was 3.89 percent, the same as in the constant-
16 growth DCF analysis. The mean growth rate was 5.37 percent. The combination of these
17 two components yielded an ROE of 9.26 percent. The median ROE was 9.19 percent.⁴⁸

18 **Q. HAVE YOU ADJUSTED YOUR DCF ROE TO ACCOMMODATE FACTORS**
19 **OTHER THAN EPS GROWTH RATE CHANGES?**

20 A. No. The DCF model incorporates factors that affect investors' view of the world. The
21 share price of common equity is the mechanism through which these influences are

⁴⁷ Attachment ____ (MFG-17), Schedule 7; Morin, Roger, *New Regulatory Finance (2006)*, Public Utilities Reports, Inc., Vienna, Virginia, page 309.

⁴⁸ Attachment ____ (MFG-17), Schedule 8.

1 translated. For example, investors' beliefs about the effect of a pandemic on the economy
2 are translated into common equity share prices. The same is true of the effect on those
3 prices of changes in federal income tax and depreciation rates, such as those implemented
4 in the United States under the 2017 Tax Cut and Jobs Act. Either case affects the ROE of
5 the company. Other factors that are incorporated into share prices are environmental
6 regulations, interest-rate expectations, market volatility, and leverage of companies.
7 Investors will ask for common equity prices that compensate them for the degree of risk
8 that they believe these factors create.

9 **VII. CAPM ANALYSIS FOR THE COMPARISON GROUP**

10 **Q. WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE CAPM?**

11 A. The CAPM is theoretically sound, but its application raises some issues. The analysis using
12 CAPM selects a riskless asset, beta, and market risk premium. The ROE analysis can vary
13 considerably depending on the analyst's choices for these variables. Thus, what at first may
14 seem like a model that is straightforward depends heavily on the particular input values
15 used by an analyst.

16 **1. S&P 500 Constant-Growth DCF Analysis**

17 **Q. PLEASE DESCRIBE THE CAPM VERSION THAT YOU EMPLOY IN YOUR** 18 **ROE ANALYSIS.**

19 A. I base my CAPM analysis on the version that the Federal Energy Regulatory Commission
20 ("FERC") first adopted in Opinion 569.⁴⁹ This approach addresses potential flaws in the
21 CAPM. The FERC model is forward-looking, using EPS forecasts and current dividend
22 yields for S&P 500 companies to conduct a DCF ROE analysis in developing the market

⁴⁹ *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 (2019). Issued November 21, 2019, pages 134, 138, 184-185.

1 risk premium. It requires that companies included in the market return analysis be paying
2 dividends, an essential part of any DCF analysis. Companies with EPS estimates less than
3 0 percent and greater than 20 percent are excluded thereby handling the problem of outliers
4 at either end of the spectrum. It also specifies that the EPS forecasts for S&P 500 companies
5 be from Yahoo! Finance, thus bringing consistency from one CAPM analysis to the next.
6 For the risk-free rate, FERC uses a six-month average of 30-year Treasury bond yields, not
7 forecasts of those bond yields.⁵⁰ FERC also sets forth a specific method for making size
8 adjustments to CAPM ROEs. This list of rules and methods is not comprehensive, but it
9 does indicate that the FERC approach to CAPM removes much of the analyst judgment
10 that can cause CAPM analyses conducted at the same time to vary widely.

11 **Q. PLEASE EXPLAIN THE CALCULATION OF A CAPM ROE.**

12 A. First, the analyst must select the rate of return for a riskless asset. Short-term assets such
13 as 90-day Treasury Bills are considered to be virtually riskless; the default risk is next to
14 nothing and the inflation risk is negligible. Equity investors, however, typically have a
15 longer planning horizon than the 90-day maturity of these instruments, so the return on
16 these bills is not suitable for this CAPM process. Long-Term Treasury bonds, on the other
17 hand, match the planning horizon and have yields that are closer to common equity returns.
18 But these instruments are subject to substantial inflation risk and, therefore, are not riskless.
19 Nevertheless, I adopted the 30-year U.S. Treasury yield as my risk-free rate. Its favorable
20 characteristics outweigh its unfavorable characteristics.

⁵⁰ I depart from this aspect of the FERC analysis in one regard. I use an average of 30-year Treasury bond yields like FERC, but for a four-week period, not six months. This treatment of average yields is consistent with how I find average equity prices within the DCF model.

1 **Q. WHAT PERIOD DID YOU USE FOR THE 30-YEAR TREASURY YIELD IN**
2 **YOUR CAPM ANALYSIS?**

3 A. I used the average yield on a 30-year Treasury bond for March 15-April 9, 2021 as my
4 riskless asset rate. This average yield was 2.37 percent.⁵¹ As noted above, I departed from
5 the FERC approach by using a four-week average of recent yields. The six-month period
6 FERC uses includes data that is stale and, therefore, does not reflect investors' current
7 views regarding the future of the economy.

8 **Q. WHY DID YOU USE THE RECENT 30-YEAR TREASURY YIELD IN YOUR**
9 **CAPM ANALYSIS?**

10 A. Current yields on the 30-year Treasury bond are the best risk-free rate for the CAPM
11 analysis. Much like current common equity share prices reflect all information about
12 factors affecting the value of the shares, so too do current bond yields capture the beliefs
13 of investors as to where yields on the instruments are headed.

14 **Q. WHAT VALUES DID YOU USE FOR BETA (β)?**

15 A. I used the betas for each company in the Comparison Group taken from the Value Line
16 website on April 13, 2021.⁵² These beta values are Value Line's latest assessment for each
17 company. These betas can be different from those reported in the *Investment Surveys*.

18 **Q. HOW IS BETA (β) INTERPRETED?**

19 A. A beta of 1 indicates that a company's share price will move with the market, while a beta
20 higher than 1 indicates that a stock will be more volatile than the market, and a beta lower
21 than 1 indicates that a stock will be less volatile than the market.

⁵¹ Attachment _____ MFG-18, Schedule 1.

⁵² Attachment _____ MFG-18, Schedule 2.

1 **Q. WHAT ELSE WAS INVOLVED IN YOUR CALCULATION?**

2 A. The term within parentheses in the CAPM equation is called the “market risk premium
3 (MRP).” It is the difference between the return on a broad market measure and the risk-
4 free rate of return. In other words, the premium that investors require in order to take on
5 risk. As noted above, I already had the risk-free rate. Therefore, I needed to calculate a
6 market rate of return.

7 **Q. WHAT METHOD DID YOU USE TO FIND THE MARKET RETURN?**

8 A. As stated, I use the S&P 500 inputs in finding my market risk premium. FERC prescribes
9 the I/B/E/S EPS forecasts published by Yahoo! Finance. I downloaded these values on
10 April 13, 2021. I downloaded the dividend yields for the S&P 500 companies from Value
11 Line, also on April 13, 2021. I applied the I/B/E/S EPS growth rates to find the expected
12 dividend yield, adding a full year’s growth.⁵³

13 **Q. WHAT WERE THE NEXT STEPS IN FINDING THE CAPM RETURN ON**
14 **EQUITY?**

15 A. I applied the dividend-paying rule, and the minimum and maximum threshold rules of less
16 than 0 percent and greater than 20 percent to the set of S&P 500 companies.

17 **Q. WHAT WAS THE FOLLOWING STEP?**

18 A. I weighted the remaining ROEs by the market capitalization for each company. The sum
19 of those individual ROEs is the market return. In my analysis, the value was 12.63
20 percent.⁵⁴ The market risk premium is calculated by subtracting the 2.37 percent rate of
21 return on the 30-year Treasury from the market return. The result of this operation was

⁵³ Attachment ____ MFG-18, Schedule 3.

⁵⁴ Attachment ____ MFG-18, Schedule 4.

1 10.26 percent.⁵⁵ This amount is multiplied by the beta for each Comparison Group
2 company to find that company's unadjusted CAPM ROE.

3 **Q. PLEASE DESCRIBE THE SIZE ADJUSTMENT?**

4 A. The CAPM size adjustment is made to incorporate findings that smaller companies have
5 higher actual ROEs than the CAPM predicts. FERC prescribes using size adjustments
6 calculated each year for ten deciles of firms based on their market capitalizations. Duff &
7 Phelps publishes these adjustments,⁵⁶ which I have added to the unadjusted ROE for each
8 company as appropriate for their market capitalizations.⁵⁷

9 **Q. DOES FERC HAVE SCREENS FOR OUTLIER CAPM ROES?**

10 A. Yes. FERC applies Low-End and High-End Test to the CAPM adjusted ROEs. My Low-
11 End Test is the same as the minimum threshold for the DCF ROEs, the four-week average
12 of the Moody's 10-year Baa Corporate Bond Yield Index value of 3.75 percent⁵⁸ plus 20
13 percent of the CAPM risk premium, or 5.80 percent. The High-End Test is 150 percent of
14 the median value of all companies included in the analysis. That value is 17.19 percent in
15 the current analysis. FERC recently proposed changing the High-End Test to 200 percent
16 of the median value, which would be 22.92 percent.⁵⁹ It does not matter in my analysis as
17 all the utilities have ROEs of 13.93 percent or less. Thus, no company CAPM ROEs were
18 removed due to the Low-End or High-End Tests.

⁵⁵ Attachment _____ MFG-18, Schedule 9.

⁵⁶ Attachment _____ MFG-18, Schedule 7.

⁵⁷ Attachment _____ MFG-18, Schedule 9.

⁵⁸ Attachment _____ MFG-18, Schedule 8.

⁵⁹ *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569-A, 171 FERC ¶ 61,154 (2020).

1 **Q. WHAT WAS THE RESULT OF YOUR CAPM ANALYSIS?**

2 A. The mean ROE for my CAPM analysis was 11.56 percent. The median ROE was 11.46
3 percent. I have added a flotation-cost adjustment of 15 basis points to both values, so the
4 adjusted ROE mean is 11.71 percent and the adjusted ROE median is 11.61 percent.⁶⁰

5 **2. S&P 500 Multistage DCF Analysis**

6 **Q. DID YOU PERFORM ANOTHER CAPM ANALYSIS?**

7 A. Yes. The forecasted five-year EPS growth rates for the companies in the S&P 500 are
8 subject to being unsustainably high in the short run, just like the five-year forecasted EPS
9 growth rate values for electric utilities because they reflect anticipated rebounds in activity
10 for the companies as they come out of the pandemic recession. My response was to
11 perform a multistage DCF analysis on the S&P 500 companies and incorporate that blended
12 market return into a CAPM analysis.

13 **Q. ARE THERE THE ELEMENTS OF THE CAPM ANALYSIS THAT WERE NOT**
14 **AFFECTED BY THE MULTISTAGE ANALYSIS?**

15 A. The initial EPS estimates, dividend yields, and market capitalizations for the multistage
16 analysis of the S&P 500 companies are unchanged. Further, the dividend-paying screen,
17 and the minimum and maximum threshold rules of less than 0 percent and greater than 20
18 percent EPS growth rates screens were applied as before.

⁶⁰ Attachment ____ MFG-18, Schedule 9.

1 **Q. DID YOU ADJUST THE COMPANIES INCLUDED IN THE FINAL ANALYSIS**
2 **DUE TO THE MULTISTAGE ANALYSIS?**

3 A. Yes. The blended ROE for certain companies with initial EPS growth rates greater than
4 20 percent fell below that threshold after the blending. I identified these companies and
5 restored them to the market return analysis step of the CAPM analysis.⁶¹

6 **Q. WHAT WERE THE RESULTS OF THIS ADJUSTED ANALYSIS?**

7 A. The market return for the five-year EPS growth rate return became 13.17 percent. When
8 this value was weighted two-thirds and the weighted long-run GDP growth rate of 4.23
9 percent weighted one-third, the result was a blended market return of 10.19 percent.⁶²
10 Carrying this value through to the next steps in the CAPM analysis, the mean ROE for the
11 Comparison Group after the size adjustment was added became 9.45 percent, while the
12 median ROE became 9.32 percent. Adding the 15-basis point flotation-cost adjustment
13 increases these values to 9.60 percent for the mean and 9.47 percent for the median.⁶³

14 **VIII. RECOMMENDED ROE**

15 **Q. PLEASE SUMMARIZE YOUR ROE RESULTS.**

16 A. I performed four ROE analyses, constant-growth and multistage DCF, and S&P 500 market
17 return constant-growth and multistage CAPM. Those ROE values are:

18 **ROE Mean Results**

	Constant growth	Multistage
DCF	9.83%	9.26%
CAPM	11.71%	9.60%

⁶¹ Attachment _____ MFG-18, Schedule 5.

⁶² Attachment _____ MFG-18, Schedule 6.

⁶³ Attachment _____ MFG-18, Schedule 10.

1

2

ROE Median Results

	Constant growth	Multistage
DCF	9.60%	9.19%
CAPM	11.61%	9.47%

3

4 **Q. PLEASE COMMENT ON THESE ROE RESULTS.**

5 A. The constant-growth results are higher than their multistage counterparts. This outcome is
6 to be expected given the recent history of sharply negative GDP growth rates, followed by
7 further negative rates, though not as severe. The constant-growth model reflects only the
8 short-lived sharp upward bursts in the growth rates as the economy recovers from the
9 contraction. The multistage approach, on the other hand, moderates the influence of these
10 recent negative growth rates by incorporating the lower, steadier long-run rates.

11 **Q. HOW DID YOU ARRIVE AT A RECOMMENDED ROE FOR NSPM?**

12 A. In the present circumstances, recent U.S. economic performance and short-run forecasts
13 support the narrative that EPS forecasts for the next five years are temporarily high and can
14 be expected to decline as growth in the domestic economy returns to typical levels. This
15 scenario does not mean that the U.S. economy is headed for a period of poor performance.
16 Rather, it means that the opportunities for large growth rates due to the presence of unused
17 resources caused by the economic downturn will taper off as the economy returns to greater
18 use of its economic potential. Therefore, I based my recommended ROE for NSPM mostly
19 on the multistage analyses as they better reflect the underlying forces in the economy. My
20 analysis results in a NSPM ROE of 9.50 percent. This value reflects the means and medians

1 of the multistage DCF and CAPM approaches, plus the constant-growth DCF results,
2 which cluster around this number.⁶⁴ I excluded the constant-growth CAPM result because
3 it was considerably out of step with recent ROE awards in the U.S. I discuss this issue in
4 the next section.

5 **IX. REASONABLENESS CHECK OF THE ROES**

6 **Q. HAVE YOU CHECKED THE REASONABLENESS OF YOUR ROE RESULTS?**

7 A. Yes. I checked the reasonableness of my analyses' outcomes by comparing the ROEs with
8 recent ROEs authorized in electric rate cases across the United States.

9 **Q. PLEASE EXPLAIN WHICH AUTHORIZED ROES YOU USED TO CHECK THE**
10 **REASONABLENESS OF YOUR DCF AND CAPM ROES.**

11 A. I collected a set of fully litigated 2019-2021 authorized ROEs from U.S. electric rate cases
12 from S&P Global Market Intelligence's Regulatory Research Associates (RRA).⁶⁵

13 **Q. HOW DO YOU USE THIS SET OF AUTHORIZED ROES?**

14 A. I use the recent authorized ROEs as a basis for evaluating the reasonableness of my ROE
15 results. I did not use it as a substitute for those analyses.

16 **Q. WHY ARE AUTHORIZED ROES NOT A GOOD SUBSTITUTE FOR CURRENT,**
17 **FORWARD-LOOKING ROE ANALYSES?**

18 A. Recently authorized ROEs reflect the results of rate cases conducted in a variety of
19 environments and at different times. Test years, conditions in capital markets, general
20 economic indicators such as inflation rates, and so forth for previous rate cases can be
21 different and become outdated when compared with these factors for a current rate case.

22 Therefore, recently authorized ROEs should serve only to establish whether a current ROE

⁶⁴ Attachment ____ MFG-20, Schedule 1.

⁶⁵ Attachment ____ MFG-19.

1 result is reasonably close to what has happened, not be a substitute for forward-looking
2 analysis based on current conditions.

3 **Q. PLEASE DESCRIBE THE SET OF AUTHORIZED ROES YOU COLLECTED.**

4 A. For fully litigated cases, RRA listed 18 for 2019 and 22 for 2020. However, the ROEs for
5 three of the 2019 cases and two of the 2020 cases were not available. There has been only
6 one fully litigated rate case in 2021. The mean and median values for 2021, almost needless
7 to say, are not important factors in considering the reasonableness of my ROE results.

8 **Q. PLEASE DISCUSS THE ROE AWARDS MADE IN 2019, 2020, AND 2021.**

9 A. The following table summarizes the authorized ROE results for all fully litigated cases in
10 2019, 2020, and 2021.

11 **Summary of Fully Litigated ROE Awards for 2019-2021**

Year	No. of Cases	Mean ROE	Median ROE	ROE Range
2021	1	9.30	9.30	9.30
2020	20	9.41	9.50	8.25-10.00
2019	15	9.61	9.60	8.75-10.50

12 Three of my ROE results, constant-growth DCF (9.83%), multistage DCF (9.26%), and
13 S&P 500 multistage CAPM (9.60) lie within the ROE ranges for 2019 and 2020. My
14 estimated ROE of 9.50 percent is in line with the mean and median values for 2019 and
15 2020. Therefore, I conclude that this ROE is reasonable.

16 **Q. IS THE CONSTANT-GROWTH CAPM RESULT REASONABLE?**

17 A. No. I did not reject the constant-growth CAPM mean of 11.71 percent out of hand. ROEs
18 can be acceptable if they are outside the range of recent awards, but the CAPM constant-
19 growth mean result represents a large upward leap. This mean ROE was 1.21 percent
20 greater than the highest electric utility ROE awarded in any U.S. jurisdiction in 2019-2020.
21

1 It was also about 2 percent greater than the means and medians of awards in those years.

2 It was not reasonable; therefore, I excluded it from consideration in finding my ROE.

3 **X. RECOMMENDED CAPITAL STRUCTURE AND OVERALL RATE OF**
4 **RETURN**

5 **Q. WHAT DID YOU INCLUDE IN YOUR OVERALL RETURN ANALYSIS AS THE**
6 **COSTS OF CAPITAL FOR NSPM?**

7 A. I accepted the Company's proposed cost of long-term debt of 4.22 percent and short-term
8 debt cost of 1.00 percent as presented in NSPM Exhibit Revised A32. Cost of Capital, Page
9 1 of 1.

10 **Q. WHAT WAS THE CAPITAL STRUCTURE YOU RECOMMENDED FOR THE**
11 **NSPM?**

12 A. I recommended a capital structure of 50.00 percent long-term debt, 0.50 percent short-term
13 debt, and 49.50 percent common equity.

14 **Q. HOW DID YOU DETERMINE YOUR RECOMMENDED CAPITAL**
15 **STRUCTURE?**

16 A. To find my recommended capital structure, I calculated the average long-term debt, short-
17 term debt, preferred equity, and common equity ratios for the 16 electric utilities in the
18 Comparison Group. These average ratios reflected the dollar amount by company for each
19 of the eight quarters from the first quarter of 2019 to the fourth quarter of 2020. The source
20 of the amounts upon which the company ratios were based is S&P Global Market
21 Intelligence.⁶⁶

⁶⁶ Attachment ____ (MFG-20), Schedule 2.

1 **Q. WHY DID YOU SELECT THESE EIGHT QUARTERS FOR YOUR CAPITAL-**
2 **STRUCTURE ANALYSIS?**

3 A. I used two years of data to smooth the effects of any quarter that was an outlier. Using two
4 years of data also mitigated any seasonal effects on the capital structures. The fourth
5 quarter of 2020 is the most recent quarter for which data were available. Therefore, I began
6 my analysis with data from the first quarter of 2019.

7 **Q. DID YOU MAKE ANY ADJUSTMENTS IN YOUR CAPITAL-STRUCTURE**
8 **ANALYSIS?**

9 A. Yes. I first excluded the results for CMS Energy, Entergy, and Southern Co. These
10 companies have long-term debt ratios that exceed 55 percent. Commissions rarely have
11 approved capital structures with such lopsided, high ratios, so I chose to exclude the
12 companies' capital structures from my analysis.

13 **Q. PLEASE STATE THE AVERAGE CAPITAL-STRUCTURE RATIOS FOUND AT**
14 **THIS POINT IN YOUR ANALYSIS.**

15 A. My calculations produced average ratios of 49.78 percent long-term debt, 6.48 percent
16 short-term debt, 0.29 percent preferred equity, and 43.44 percent common equity.

17 **Q. DID YOU STOP THERE?**

18 A. No. I continued my analysis, removing American Electric Power and Dominion Energy
19 from the calculations. These companies had common-equity ratios less than 40 percent,
20 which are unreasonably low. This adjustment produced average ratios of 49.67 percent
21 long-term debt, 6.47 percent short-term debt, 0.12 percent preferred equity, and 43.73
22 percent common equity.

1 **Q. WHAT WAS YOUR RECOMMENDED CAPITAL-STRUCTURE RATIOS FOR**
2 **NSPM?**

3 A. My recommended capital-structure ratios were 50.00 percent long-term debt, 0.50 percent
4 short-term debt, and 49.50 percent common equity.⁶⁷ These recommended ratios reflect
5 the ratios I found in my analysis for the Comparison Group and the Company's requested
6 ratios. I adopted 0.50 percent for short-term debt as it is close to NSPM's requested ratio.
7 I increased the long-term debt ratio to 50 percent because that value is close to both the
8 Company's request and the average for the proxy group companies. Those assumptions
9 left 49.50 percent for common equity. The Company's requested 52.50 percent common
10 equity was significantly greater than the less-than-44 percent ratio I found for the
11 Comparison Group. Therefore, I recommended reducing the ratio from 52.50 percent to
12 fit better with the mean ratio for the peer companies.

13 **Q. WHAT IS THE OVERALL ROR THAT YOU RECOMMENDED FOR THE**
14 **COMPANY?**

15 A. When my estimated ROE of 9.50 percent was included with the proposed capital structure
16 and the Company's costs for the other capital-structure elements, the ROR is 6.818
17 percent.⁶⁸

⁶⁷ NSPM does not have preferred equity, so I removed it from my recommendation. The average ratio for the Comparison Group companies in the analysis is quite small. Further, the great majority of the electric utilities did not have preferred equity in their capital structures.

⁶⁸ Attachment ____ (MFG-20), Schedule 3.

1 **XI. REVIEW OF THE COMPANY'S ROE ANALYSIS**

2 **1. Comparison Group vs. Proxy Group**

3 **Q. PLEASE COMPARE THE MEMBERSHIP OF YOUR COMPARISON GROUP**
4 **WITH THE MEMBERSHIP OF MR. D'ASCENDIS'S PROXY GROUP.**

5 A. As noted previously, Mr. D'Ascendis's Proxy Group had 15 members to my Comparison
6 Group's 16 members. There was an overlap of eight electric utilities.

7 **Q. WHAT EXPLAINS THE DIFFERENCES IN THE MEMBERSHIP OF THE TWO**
8 **GROUPS?**

9 A. Our screens varied somewhat. Mr. D'Ascendis required companies to be vertically
10 integrated. I required the electric utilities to have an S&P credit rating close to NSPM's
11 S&P rating of A-. Mr. D'Ascendis used regulated electric operating income percentage as
12 a screen, as did I, but he also required companies to have a 70 percent minimum percentage
13 of operating assets employed in regulated electric activities. Another source of differences
14 could have been the timing of our analyses. For example, perhaps the October 21, 2020
15 date of the announcement of the anticipated merger of PNM Resources and AVANGRID
16 explained why I excluded the company and Mr. D'Ascendis did not.

17 **Q. WHAT FACTORS ACCOUNT FOR THE DIFFERENCES IN THE ROE**
18 **ANALYSES VALUES?**

19 A. The different dates of the analyses account for some of the difference. EPS growth rates,
20 share prices, dividend amounts, beta values, and risk-free rates can change substantially in
21 a few months. These changes cause ROEs for individual proxy group member companies
22 to be different from what they were a few months before. Thus, even when group
23 memberships overlap, differences occur.

1 **2. CAPM Analysis**

2 **Q. WHAT SOURCES DID MR. D'ASCENDIS USE TO CALCULATE MARKET**
3 **RETURNS FOR HIS CAPM ANALYSES?**

4 A. Mr. D'Ascendis used estimates provided by Value Line, S&P, and Bloomberg as proxies
5 for the market index.

6 **Q. DID MR. D'ASCENDIS'S SOURCES PROVIDE A DIVIDEND-YIELD**
7 **COMPONENT AND A GROWTH-RATE COMPONENT?**

8 A. Yes. Both of these components were present in Mr. D'Ascendis's three market return
9 estimates.⁶⁹ Therefore, as Mr. D'Ascendis stated, his broad market returns were based on
10 a DCF analysis.⁷⁰

11 **Q. DID MR. D'ASCENDIS EXCLUDE COMPANIES NOT PAYING DIVIDENDS**
12 **FROM HIS BROAD MARKET RETURN ANALYSES?**

13 A. No. Mr. D'Ascendis stated that he did not exclude companies not paying dividends from
14 his three broad market return analyses.⁷¹

15 **Q. PLEASE EXPLAIN WHY MR. D'ASCENDIS' BROAD MARKET RETURN**
16 **RESULTS WERE FLAWED IF THEY INCLUDED COMPANIES NOT PAYING**
17 **DIVIDENDS.**

18 A. The constant-growth rate DCF model calculates the price of a dividend-paying stock
19 growing at a constant rate per the following expression:⁷²

⁶⁹ Attachment ____ (MFG-21), pages 1-3. Responses to NDPSC Advocacy Staff Data Requests 7-11, 7-12, and 7-13.

⁷⁰ D'Ascendis Direct Testimony, page 39, line 18-page 41, line 2.

⁷¹ Attachment ____ (MFG-21), pages 1-3.

⁷² Roger A. Morin, *New Regulatory Finance*, Public Utilities Reports, Inc., Vienna, Virginia (2006), page 273.

1
$$P = \frac{D_1}{1 + K} / \left(1 - \frac{1 + g}{1 + K}\right)$$

2 If the stock pays no dividends, D_1 is zero, and the price of the stock is zero, according to
3 the model. Investors cannot purchase equities for this price. Therefore, the DCF model
4 results are not reliable for non-dividend paying companies.

5 **Q. IS THERE SUPPORT FOR THE PROPOSITION THAT THE DCF MODEL**
6 **CANNOT BE APPLIED TO COMPANIES NOT PAYING DIVIDENDS?**

7 A. Yes. The following passage is from FERC Opinion No. 569, cited earlier.

8 **f. Commission Determination**

9 “260. We continue to find reasonable the MISO TOs’
10 proposal to estimate the CAPM expected market return using
11 a forward-looking approach, based on applying the DCF
12 model to the dividend-paying members of the S&P 500. Using
13 a DCF analysis of the dividend-paying members of the S&P
14 500 is a well-recognized method of estimating the expected
15 market return for purposes of the CAPM model.⁷³ *The DCF*
16 *analysis must be limited to the dividend-paying members of*
17 *the S&P 500, rather than using all companies in the S&P 500,*
18 *because a DCF analysis can only be performed on companies*
19 *that pay dividends.”⁷³ [Emphasis added]*

20
21 **Q. WHAT IS THE CONSEQUENCE OF INCLUDING NON-DIVIDEND PAYING**
22 **COMPANIES IN A DCF ANALYSIS?**

23 A. The consequence of including non-dividend paying companies in a DCF analysis is that
24 the market return value is tainted.⁷⁴ As shown, the application of the DCF model to such
25 companies yields ROE results that cannot be defended. Therefore, Mr. D’Ascendis’s three
26 broad market returns were flawed, as were the ROE approaches in which they are applied.

⁷³ *Ass’n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569, 169 FERC ¶ 61,129 (2019), page 134.

⁷⁴ Dr. Griffing’s calculation of the S&P 500 market return shows that 118 of the initial set of companies were not paying dividends. (See Attachment ____ (MFG-18, Schedule 4). Thus, the inclusion of these companies in calculating the S&P market return is not a minor matter.

1 These included his CAPM analysis as applied to his proxy group and to the set of
2 unregulated companies Mr. D'Ascendis asserts have the same risk level as NPSM.

3 **3. Non-Price Regulated Companies Analysis**

4 **Q. PLEASE DESCRIBE MR. D'ASCENDIS'S COMPARABLE RISK ANALYSIS.**

5 A. Mr. D'Ascendis asserted that the comparable risk standard for determining an ROE for a
6 regulated utility such as NPSM can be applied to non-price regulated companies if they are
7 comparable in risk to the subject utility. He formed a proxy group for such companies
8 using Value Line betas and standard errors as screening criteria. The betas and standard
9 errors had to fall within two standard deviations of the values of the same parameters for
10 the electric utility Proxy Group companies. He then applied the DCF model, risk premium
11 model, and CAPM to the resulting proxy group of 47 companies. He argued that the ROEs
12 derived were indicators of the level of return required by NSPM because the risks were
13 similar.⁷⁵

14 **Q. WHAT ROLE DOES VOLATILITY OF CASH FLOW PLAY IN THE CREDIT**
15 **RATINGS THAT COMPANIES RECEIVE?**

16 A. Price regulated companies such as the electric utilities used by Mr. D'Ascendis and me in
17 our proxy groups tend to have cash flow that is less volatile than the cash flow of non-price
18 regulated companies. S&P considers both level and volatility of profits as it assigns
19 leverage ratings to companies. Firms with lower leverage ratings receive better credit
20 ratings. Therefore, companies with less volatile cash flow receive better credit ratings.

⁷⁵ D'Ascendis Direct Testimony, page 52, line 1-page 53, line 27.

1 **Q. PLEASE ELABORATE.**

2 A. S&P explains in an excerpt from its publication “Key Credit Factors for the Regulated
3 Public Utilities Industry” that in assessing the adequacy of cash flow of a regulated utility
4 that S&P analysts take into account volatility of cash flow, just as they do for other
5 corporate issuers. One measure of volatility is the percentage of cash flow from regulated
6 activities. Utilities, with a higher percentage of their cash flow coming from regulated
7 activities, typically are regarded as less volatile.⁷⁶

8 **Q. PLEASE EXPLAIN HOW S&P COMBINES VOLATILITY RATINGS WITH**
9 **CASH FLOW IN RATING COMPANIES.**

10 A. S&P includes three tables of different volatility ratings in its credit rating discussion
11 publication “General: Corporate Methodology.” The tables show that for a company,
12 regulated or not, to receive a certain leverage rating, it must demonstrate that it meets
13 certain thresholds for core ratios, coverage ratios, and payback ratios. Companies rated
14 low in volatility do not have to meet levels as stringent as companies rated medial or
15 standard in volatility do to receive the same leverage rating.⁷⁷

16 **Q. PLEASE PROVIDE AN EXAMPLE.**

17 A. The standard for a company with a low volatility rating to receive a “minimal leverage”
18 rating for the funds from operations (“FFO”)-to-debt ratio is 35 percent or better. In
19 contrast, a company with a standard volatility rating has to have an FFO-to-debt ratio of 60
20 percent or better to receive the same “minimal leverage” rating.⁷⁸ Recall that lower
21 volatility is associated with better credit ratings.

⁷⁶ Attachment ____ (MFG-22), Schedule 1, Pages 1-2.

⁷⁷ See paragraphs 76-77 of Attachment ____ (MFG-22), Schedule 2, Pages 1-2.

⁷⁸ See the shaded areas in the FFO/Debt columns of Table 17 and Table 19 in Attachment ____ (MFG-22), Schedule 2, pages 1-2.

1 **Q. PLEASE DESCRIBE HOW HAVING TO MEET A LOWER RATIO TO RECEIVE**
2 **THE SAME LEVERAGE RATING ADDRESSES RISK LEVELS OF PRICE**
3 **REGULATED.**

4 A. The FFO-to-debt ratio is one of seven indicators that S&P considers in assigning an overall
5 leverage rating in its credit rating process. A “minimal leverage” rating is associated with
6 higher credit ratings. Thus, a price regulated public utility with its tendency to receive a
7 low volatility rating because a “vast majority”⁷⁹ of its cash flow comes from regulated
8 activities will, all other things equal, receive a better leverage rating and better credit rating
9 than will a non-price regulated company. A non-price regulated company by definition
10 does not have a substantial percentage of cash flow coming from regulated activities.

11 **Q. HOW CAN NON-PRICE REGULATED FIRMS RECEIVE A CREDIT RATING**
12 **IDENTICAL TO THAT OF PRICE REGULATED UTILITIES?**

13 A. Firms with less desirable volatility ratings, such as the volatility rating a typical non-price
14 regulated firm is likely to receive, can make up for their greater cash flow uncertainty with
15 higher FFO-to-debt ratios, to name one compensating factor. These firms can achieve
16 higher ratios if they have greater cash flow than price regulated firms. Higher rates of
17 return to equity can produce greater cash flow. Hence, higher return to equity enables the
18 non-price regulated firms to receive credit ratings equal to the credit ratings of their price
19 regulated counterparts.

⁷⁹ See paragraph 78 of Attachment ____ (MFG-22), Schedule 1, page 2.

1 **Q. DOES IT FOLLOW THAT A NON-PRICE REGULATED COMPANY WITH THE**
2 **SAME CREDIT RATING AS A PRICE REGULATED UTILITY IS A GOOD**
3 **PROXY FOR THE PRICE REGULATED UTILITY?**

4 A. No. Non-price regulated companies with greater cash flow volatility tend to require greater
5 return on equities than their price-regulated counterparts. As shown above, greater return
6 on equity is a way non-price regulated firms can attain equality in S&P volatility ratings
7 with price regulated utilities and take a step toward the same credit rating. Hence, the non-
8 price regulated firms do not make good proxies for price regulated utilities because of their
9 tendency toward higher rates of return.

10 **Q. DO THESE OBSERVATIONS ABOUT CREDIT RATINGS AND RETURN ON**
11 **EQUITY ALSO APPLY TO BETA VALUES?**

12 A. Yes. Mr. D'Ascendis states that beta coefficients reflect the market's assessment of
13 market/systematic risk. Further, he says that beta coefficients are derived from regression
14 analyses of market prices. If a non-price regulated firm and a price regulated firm with the
15 same beta value are alike in all operational aspects other than volatility of earnings, logic
16 indicates that the non-price regulated firm must be equally appealing to investors due to a
17 higher rate of return. Therefore, the ROEs for the companies in Mr. D'Ascendis's proxy
18 group of 47 non-price regulated companies are biased upward relative to the ROEs for
19 electric utilities in proxy groups. It is not surprising that they are higher.

20

1 **4. Adequacy of North Dakota Return to Equity for NSPM**

2 **Q. WHAT DOES MR. D'ASCENDIS STATE ABOUT THE ROR NEEDED ON A**
3 **STANDALONE BASIS FOR AN OPERATING SUBSIDIARY LIKE NSPM?**

4 A. The rate of return for an operating subsidiary like NSPM must be sufficient, according to
5 Mr. D'Ascendis, to make the operations in its jurisdiction attractive to investors. If the
6 return does not reach this level, then the operating subsidiary will see capital flow to other
7 units of its parent company operating in jurisdictions with better returns, or to competing
8 utilities with risk levels similar to NSPM's and better returns.⁸⁰

9 **Q. HAS NSPM EVER DIRECTED INVESTMENT AWAY FROM NORTH DAKOTA**
10 **TO OTHER SUBSIDIARIES OF XEL OR RECEIVED INVESTMENT FROM**
11 **OTHER XEL JURISDICTIONS AT THE EXPENSE OF THOSE OTHER**
12 **SUBSIDIARIES BECAUSE OF A DIFFERENCE IN RETURNS?**

13 A. NSPM was asked in Data Request No. 7-2 to provide examples of when it or XEL had
14 withheld capital funding from NSPM's North Dakota operations or had directed investment
15 to North Dakota away from other NSPM or XEL jurisdictions because of return
16 differences. The Company was also asked about the effect on NSPM's ability to provide
17 safe, adequate, and reliable service in North Dakota if either capital movement had
18 occurred.⁸¹

19 **Q. WHAT RESPONSE TO DATA REQUEST NO. 7-2 DID NSPM PROVIDE?**

20 A. NSPM's response discussed the financial needs budgeting process carried out by XEL
21 every year on behalf of NSPM and its other operating subsidiaries. It concluded the
22 response by stating the Company did not have any examples responsive to the request's

⁸⁰ D'Ascendis Direct Testimony, page 8, line 30-page 9, line 21.

⁸¹ Attachment ____ (MFG-23), pages 1-3.

1 inquiries about capital investment moving to or from North Dakota in response to rate of
2 return. It also did not provide any examples regarding the effect on NSPM's ability to
3 provide safe, adequate, and reliable service of capital movements.

4 **XII. SUMMARY**

5 **Q. WHAT ARE THE CRITERIA THE COMMISSION SHOULD CONSIDER IN**
6 **SETTING THE COMPANY'S ROE AND ROR?**

7 A. The Commission should only consider whether the ROE and ROR meet the *Bluefield* and
8 *Hope* criteria for a fair return. Recounting, these criteria include returns that are
9 commensurate with returns being earned on other investments with equivalent risks, a rate
10 of return sufficient to enable the utility to attract capital, and returns sufficient to enable the
11 regulated company to maintain its credit rating and financial integrity. The interpretation of
12 the *Hope* and *Bluefield* criteria is that a company should be given the opportunity to earn an
13 ROE and ROR sufficient to meet these standards.

14 **Q. PLEASE STATE YOUR RECOMMENDED RETURN ON EQUITY AND**
15 **OVERALL COST OF CAPITAL FOR NSPM?**

16 A. I estimated an ROE of 9.50 percent and an ROR of 6.818 percent.

17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

18 A. Yes.

19

